

The lexicon of Proto Oceanic

The culture and environment of
ancestral Oceanic society

6 People: society



Edited by Malcolm Ross, Andrew Pawley
and Meredith Osmond

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Volume 6 – People: society

The lexicon of Proto Oceanic: The culture and environment of ancestral Oceanic society.

Volume 6 – People: society

Malcolm Ross, Andrew Pawley and Meredith Osmond

People: society is the sixth and last volume in the series of six volumes of *The lexicon of Proto Oceanic*, the ancestor of the Oceanic branch of the Austronesian language family. Earlier volumes are: vol.1 Material Culture, vol. 2 The physical environment, vol. 3 Plants, Vol. 4 Animals and Vol. 5 People: body and mind. The present volume begins by listing the titles of the chapters of all six volumes.

Volume 6 begins with a general introduction to the series in Chapter 1, along with new findings about the origin of Proto Oceanic itself. Chapter 2 is a detailed reconstruction of Proto Oceanic (POc) kinship terms and structures. Chapter 3, by the late Per Hage, uses evidence from various disciplines to answer the question, “Was POc society matrilineal?” The POc terms for chieftainship and rank, and what can be gleaned from them about POc speakers’ social structure, are the topic of Chapter 4. Reconstructed terms are employed in Chapter 5 to investigate POc speakers’ settlement patterns. Chapter 6 concerns POc speakers’ probable recreational activities: music, song, dance and games. Their belief system provides the topics of chapters 7 to 10: the spirit world, magic, *mana* and *tabu*. Chapter 11 investigates how Oceanic speakers referred to the seasonal cycle and their use of the sun, moon and stars to regulate agricultural activity. Chapter 12 deals with the terms POc speakers used to refer to various aspects of speech. Terms to do with trade and with change of possession—giving, receiving and stealing—are the subject of Chapter 13. It also introduces ceremonial exchange practices, which play a role in chapter 14 on the POc decimal counting system and numeral classifiers. Chapter 15 suggests that POc speakers may also have used a digitally system for everyday counting. Finally, Chapter 16 deals with the subset of numeral classifiers used in measurement. Appendices list data sources and the languages mentioned in the volume, along with various kinds of information about them.

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Oceanic society

Volume 6 – People: society

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and Meredith Osmond

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The cover photo was generously supplied by Simon Foale, who explains that it shows a group of Dai Islanders selling green coconuts, cooked fish, crayfish, megapode eggs and other travel food to passengers on the ship he was aboard. Dai Island is located north of Malaita at latitude -7.906° longitude 160.6286° . The photo was taken in 1989.

Chapter titles of the six volumes

As this is the sixth and last volume of the series, the titles and authors of all chapters in the series are listed below.

Volume 1 MATERIAL CULTURE

- Ch.1 Introduction
- Ch.2 Proto Oceanic phonology and morphology
Malcolm Ross
- Ch.3 Architectural forms and settlement patterns
Roger Green and Andrew Pawley
- Ch.4 Household artefacts
Meredith Osmond and Malcolm Ross
- Ch.5 Horticultural practices
Meredith Osmond
- Ch.6 Food preparation
Frantisek Lichtenberk and Meredith Osmond
- Ch.7 Canoes and seafaring
Andrew Pawley and Medina Pawley
- Ch.8 Fishing and hunting implements
Meredith Osmond
- Ch.9 Acts of impact, force and change of state
Malcolm Ross, Ross Clark and Meredith Osmond

Volume 2 THE PHYSICAL ENVIRONMENT

- Ch.1 Introduction
- Ch.2 Locating Proto Oceanic
Andrew Pawley
- Ch.3 The landscape

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- Meredith Osmond, Andrew Pawley and Malcolm Ross
- Ch.4 The seascape
Meredith Osmond, Andrew Pawley and Malcolm Ross
- Ch.5 Meteorological phenomena
Malcolm Ross
- Ch.6 Navigation and the heavens
Meredith Osmond
- Ch.7 Properties of inanimate objects
Malcolm Ross
- Ch.8 Talking about space: terms of location and direction
Malcolm Ross
- Ch.9 Time
Malcolm Ross

Volume 3 PLANTS

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- Ch.2 Introducing Proto Oceanic plant names
Malcolm Ross
- Ch.3 Ethnobotanical classification
Bethwyn Evans
- Ch.4 Parts of plants
Bethwyn Evans
- Ch.5 Wild plants of the coastal strand
Malcolm Ross
- Ch.6 Wild plants of the coastal swamp
Malcolm Ross
- Ch.7 Wild plants of primary lowland tropical rain forest
Malcolm Ross
- Ch.8 Wild plants of secondary lowland rain forest and grassland
Malcolm Ross
- Ch.9 Staple foods: root crops, bananas, breadfruit and sago
Malcolm Ross
- Ch.10 Green vegetables and figs
Malcolm Ross
- Ch.11 Nut and fruit trees

Malcolm Ross

- Ch.12 The coconut palm
Malcolm Ross and Bethwyn Evans
- Ch.13 Other cultivated plants
Malcolm Ross
- Ch.14 Concluding notes
Malcolm Ross

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- Ch.2 Fish
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- Ch.3 Stability and change in Oceanic fish names
Andrew Pawley
- Ch.4 Aquatic invertebrates
Andrew Pawley
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Meredith Osmond and Andrew Pawley
- Ch.6 Birds
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- Ch.11 Describing people: stature, temperament, emotion and evaluation
Malcolm Ross and Meredith Osmond

Volume 6 PEOPLE: SOCIETY

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Malcolm Ross and Jeffrey C. Marck
- Ch.3 Was Proto Oceanic society matrilineal?
Per Hage
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Abbreviations

Abbreviations are listed below, except for the kinship notation used in Chapter 2 (see §2.2.2) and glosses of pronominals. Bound pronominals are glossed in accordance with the schema $X:nYZ$, where X is one of D (disjunctive = free), O (object), P (possessor), S (subject) A (agent subject); n is 1, 2 or 3, indicating person; Y is optional and is either I (inclusive) or E (exclusive); and Z is one of S (singular), D (dual), P (plural) or A (augmented).

*xxx	xxx is a reconstructed form	MM	Meso-Melanesia
†xxx	xxx is the expected but not attested form	N	noun
ACC	accusative	NCal	New Caledonia and Loyalty Islands
ACD	Blust & Trussel (2020)	NCV	North/Central Vanuatu
ADDR	kinship term used to address s.o.	NML	numeral
ADJ	adjective	NNG	North New Guinea
Adm	Admiralties and St Matthias	NOM	nominaliser
ART	article	PAdm	Proto Admiralty
ASSOC	associative marker	PAn	Proto Austronesian
ATTRIB	attributive	PCEMP	Proto Central/Eastern Malayo-Polynesian
C	complementiser	PCL	possessive classifier
CAUS	causative	PCP	Proto Central Pacific
CEMP	Central/Easter Malayo-Polynesian	PEMP	Proto Eastern Malayo-Polynesian
CJ	conjunction	PEOc	Proto Eastern Oceanic
CLF	numeral classifier	PEPn	Proto Eastern Polynesian
cMP	central Malayo-Polynesian	PGMic	Proto Greater Micronesian
CMP	Central Malayo-Polynesian	PL	plural
DEM	demonstrative	PMic	Proto Micronesian
DIR	directional (vol.2:267–282)	PMP	Proto Malayo-Polynesian
EOc	Eastern Oceanic	Pn	Polynesian
ePOc	early Proto Oceanic	PNCV	Proto North/Central Vanuatu
Fij	Fijian	PNGOc	Proto New Guinea Oceanic
HAB	habitual	PNNG	Proto North New Guinea
IRR	irrealis	PNPn	Proto Nuclear Polynesian
ITR	intransitive form	POc	Proto Oceanic
LIG	ligature	POLLEX	Clark & Biggs (2006)
Mic	Nuclear Micronesia	PPn	Proto Polynesian
		PREP	preposition

PROc	Proto Remote Oceanic
PSOc	Proto Southern Oceanic
PSV	Proto South Vanuatu
PT	Papuan Tip
PURP	purposive
PWOc	Proto Western Oceanic
R	realis
REDUP	reduplication
S	singular
SEQ	sequential
s.o.	someone
s.t.	something
SES	Southeast Solomonian
SHWNG	South Halmahera/West New Guinea
SJ	Sarmi/Jayapura
SV	South Vanuatu
TM	Temotu
TR	transitive marker
V	verb
VI	intransitive verb
VSt	stative verb
VT	transitive verb
WEA	<i>World Ethnographic Atlas</i>
wMP	western Malayo-Polynesian

Acknowledgments

Special thanks go to our co-editor, Andrew Pawley. His ostensible contributions to the volume are to chapters 4 and 5, but he has also spent many an hour reading version after version of our chapter drafts, giving insightful comments that have aided their improvement, adding data we had missed, and correcting error.

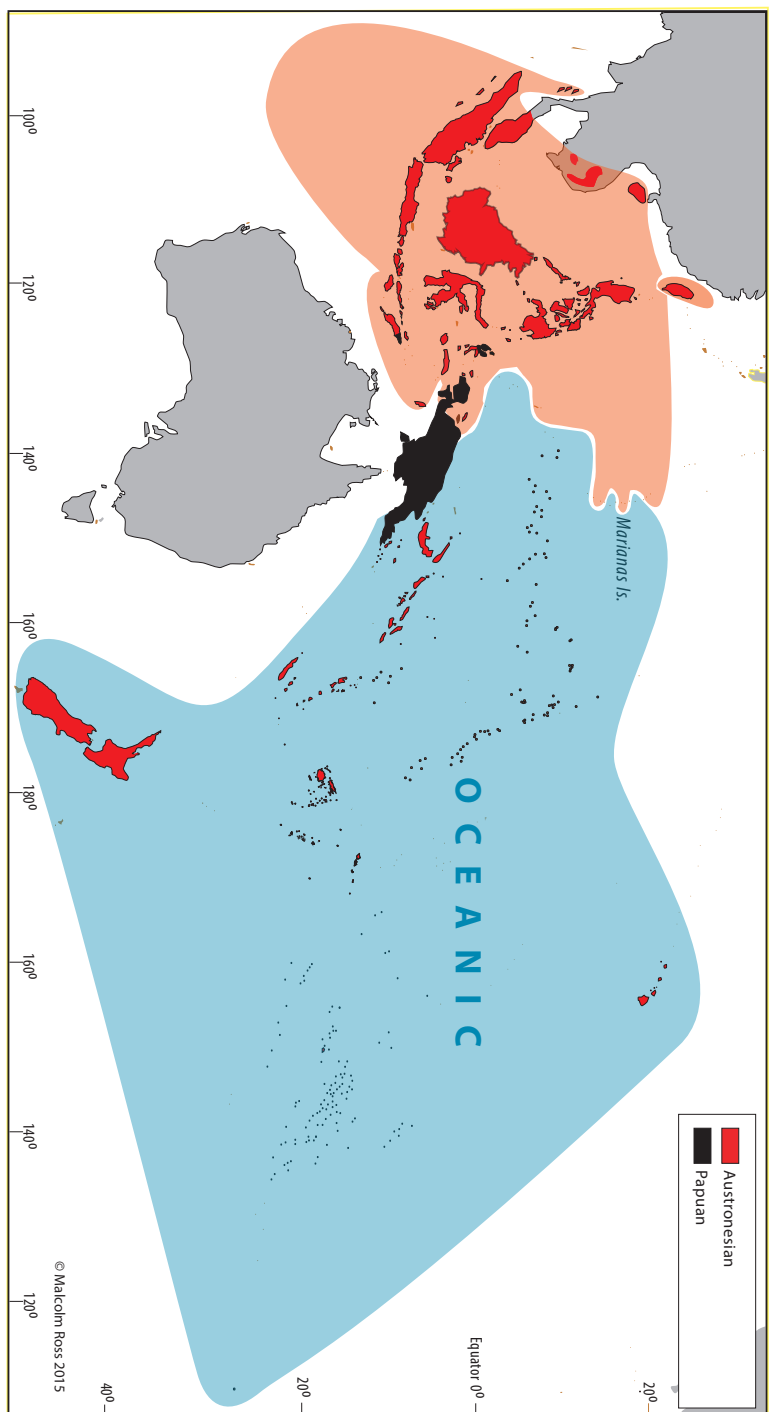
We also thank Alexandre François and the late John Lynch, who have generously contributed data and local reconstructions, improving the coverage of many cognate sets. Other scholars have made various contributions to individual chapters, and are acknowledged in the first footnote of the chapter.

We are grateful to Simon Foale for supplying the cover photo. Our thanks also go to James Ross for redrawing the fifteen maps in Appendix B.

Meredith Osmond and Malcolm Ross
Canberra, June 2023

As this project comes to an end, all three of us would like to acknowledge the longsuffering patience of our spouses—Andrew’s wife Medina, Meredith’s husband Len and Malcolm’s wife Ingrid—and our families as they have lived with this project since the early 1990s.

Andrew Pawley, Meredith Osmond and Malcolm Ross
Canberra, June 2023



Map 1.1 Oceanic and non-Oceanic Austronesian languages

1 *Introduction*

MALCOLM ROSS, ANDREW PAWLEY AND MEREDITH OSMOND

1.1 Aims¹

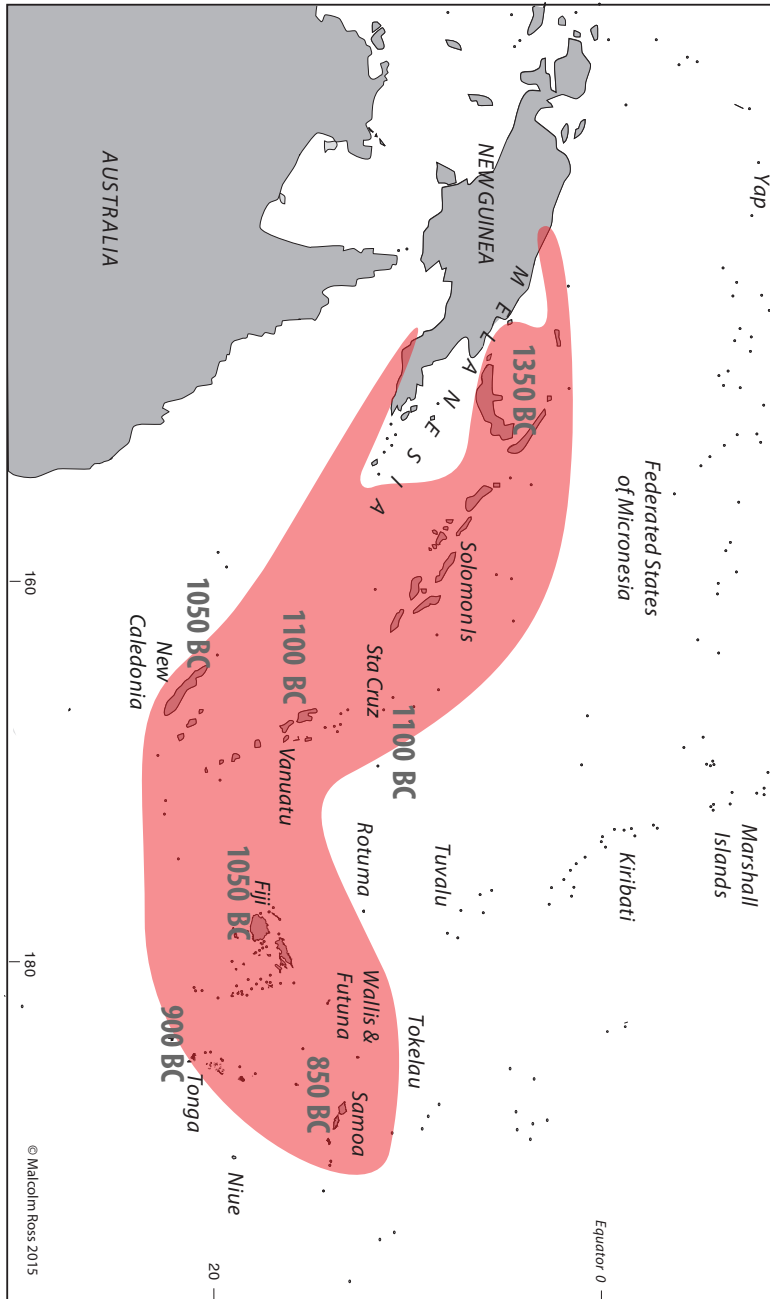
This is the sixth and last of a set of volumes on the lexicon of the Proto Oceanic (POc) language.² POc was the immediate ancestor of the Oceanic subgroup of the Austronesian language family. This subgroup consists of all the Austronesian languages of Melanesia east of 136° E, together with those of Polynesia and, with two exceptions, those of Micronesia—around 500 languages in all (see Map 1.1).³ Extensive arguments for the existence of Oceanic as a clearly demarcated branch of Austronesian were first put forward by Dempwolff (1927, 1937), and the validity of the subgroup is now recognised by probably all scholars working in Austronesian historical linguistics.

The development and break-up of the POc language and speech community were stages in a truly remarkable chapter in human prehistory—the colonisation by Austronesian speakers of the Indo-Pacific region in the period after about 2000 BC. The outcome was the largest of the world’s well-established language families and (until the expansion of Indo-European after Columbus) the most widespread. The Austronesian family comprises more than 1,000 distinct languages. Its eastern and western outliers, Madagascar and Easter Island, are two-thirds of a world apart, and its northernmost extensions, Hawai‘i and Taiwan,

¹ This introduction incorporates material in the introductions to Volumes 1–5, replicated so that each volume can be used independently, but also includes new material (§1.8 and §1.9). Our presentation of Oceanic subgrouping was revised in the introduction to volume 3, and this is largely retained here. We are indebted to Charles Grimes and Owen Edwards for their comments, especially on §§1.7–1.8.

² The project, the brainchild of Andrew Pawley, has been jointly directed by him and by Malcolm Ross, with research assistance from Meredith Osmond, in the Department of Linguistics of the Research School of Pacific and Asian Studies and its successor, the College of Asia and the Pacific, at the Australian National University.

³ *Ethnologue* (Eberhard et al. 2022) lists 513 Oceanic languages, *Glottolog 4.6* (Hammarström et al. 2022) lists 521. The two Micronesian exceptions are Chamorro in the Marianas and Palau, both apparently single-language branches within western Malayo-Polynesian (see Figure 1.5). There is broad agreement that speakers of pre-Chamorro migrated from the northern Philippines, but the origin of Palauan remains a mystery (Blust 2000a; Reid 2002; Smith 2017). Zobel 2002 gives an alternative view.



Map 1.2 Geographic limits of historically identified Lapita sites

are separated by 70 degrees of latitude from its southernmost outpost, Stewart Island in New Zealand.

A strong school of opinion associates the subsequent break-up of POc with the rapid colonisation of Island Melanesia and the central Pacific by bearers of the Lapita culture between about 1200 and 900 BC (see Map 1.2 and vol. 2, chapter 2).

The present project brings together a large corpus of lexical reconstructions for POc, with supporting cognate sets, organised according to semantic fields and using a standard orthography for POc. We hope that it will be a useful resource for culture historians, archaeologists and others interested in the prehistory of the Pacific region. The comparative lexical material should also be a rich source of data for various kinds of purely linguistic research, e.g. on subgrouping (as in §1.8 and §1.9), phonological change, semantic change and semantic structure (e.g. colexification) in the 500 or so daughter languages.

Volume 1 of *The lexicon of Proto Oceanic* reconstructs terms associated with material culture. Volumes 2, 3 and 4 examine relevant sets of cognate terms that provide insights into how POc speakers viewed their environment. Volume 2 deals with the geophysical or inanimate environment, and volumes 3 and 4 treat plants and animals respectively. Volume 5 and the present volume return to terminologies centring on people. Volume 5 concerns gender and age, the body, and human conditions and physical and cognitive activities that arise from nature rather than nurture. The present volume concerns culturally learned structures, including social organisation, beliefs in the supernatural, the seasons of the year, counting and other elements of non-material culture.

A consideration of the totality of our reconstructions across volumes 1 to 5 has led to an unexpected reassessment of the origin of Proto Oceanic (§§1.8–1.9) together with a small revision to its phonology (§1.8.2.4).

The editors had intended to provide a seventh volume that would perform several functions. It would treat closed classes of lexical roots; review the project's main findings concerning Proto Oceanic speakers' culture and environment and compare these findings with what archaeology tells us about the way of life and environment of the bearers of the Lapita culture. Some of these matters are partially folded into the chapters of the present volume, e.g. social anthropology into chapters 3 and 4, archaeology into chapter 5 and archaeogenetics briefly into chapter 15. Two factors have led to the decision not to proceed with volume 7 and to make this the last volume. Firstly, the editors are now octogenarians and would like to live somewhat less hectic lives. Secondly, and importantly, funds have been provided by the (Australian Research Council's) Centre of Excellence for the Dynamics of Language to set up a publicly accessible electronic database of the reconstructions from the six volumes along with their supporting data, thereby fulfilling at least the purposes of the cumulative indexes intended for volume 7. It will also provide a locus for updating the project's findings and for additions by other scholars.

This introduction follows a similar path to that taken in earlier volumes, but deviates in §1.8 and §1.9 to outline the fresh insights into the prehistory of Proto Oceanic itself based on the reconstructions in volumes 1–5. Section 1.2 gives an overview of this volume's contents. and §1.3 summarises its relationship to previous work. Section 1.4 examines the issues that arise in reconstruction. It falls into four main subsections. Subsection 1.4.1 sketches our approach to reconstruction. Section 1.4.2 is a brief introduction to sound correspondences. The third, §1.4.3 looks at the kinds of language grouping found

in Oceania, as this bears on the validity of our reconstructions. Section 1.4.4, sets out the criteria that we apply in making a reconstruction, and our answers to the challenges this raises. In section 1.5 we briefly explain the conventions used in the cognate sets that make up much of this and previous volumes. Section 1.7 brings us to Proto Oceanic itself and presents its phonology as it has been understood until now, and the two orthographies that have been used to represent it. After a short note on POc morphology in §1.6, section 1.8 takes us—we think appropriately in this our final volume—to the study of Proto Oceanic phonology and origins based on volumes 1–5 (Ross, in prep.). The results are summarised in §1.9.

1.2 The present volume

Inspection of the table of contents shows that the chapters in the present volume vary hugely in length. Each chapter concerns a semantic domain. For some of these domains—kinship, seasonal cycles, counting—we found a wealth of data and were dealing with internally structured closed classes of lexemes whose presentation required numerous tables (and diagrams in the case of kinship). For other domains—the spirit world, measurement—there was limited lexical material, and for yet others—**mana*, **tabu*—the author chose to limit domains to single concepts considered by others to be key cultural concepts in the Oceanic lexicon.

Chapters 2 to 5 of this volume are concerned with POc speakers' social organisation. Chapter 2 is a detailed reconstruction of kinship terms and structures. Chapter 3, by the late Per Hage, is a slightly edited and abridged version of a paper first published in *The Journal of the Polynesian Society* in 2007. It complements chapter 2 by using evidence from disciplines other than linguistics to answer the question, “Was POc society matrilineal?” Chapter 4 returns to a much discussed issue, reconstructing terms associated with chieftainship and rank in POc and examining the consequences of this reconstruction.⁴ Chapter 5 uses reconstructed terms to investigate POc speakers' settlement patterns.

Chapter 6 concerns the probable recreational activities of POc speakers, looking at music, song, dance and games.

In chapters 7 to 10 we turn to topics that have to do with belief systems and the supernatural. Chapter 7 concerns the beings that inhabited the POc spirit world. Chapters 8 and 9 both deal with human manipulation of the supernatural. Chapter 8 takes a broad look at magic, while chapter 9 focuses on the reconstruction of PEOc **mana*, a term that has been much discussed by Pacific anthropologists and denotes the pervasive supernatural power given by ancestral spirits to certain powerful individuals to ensure their success. Chapter 10 analyses the meanings of the POc term **tabu*, which has reflexes throughout Oceanic. It meant ‘prohibited’, but in certain EOC languages it also attributes an aura of sanctity to the ‘prohibited’ person or object.

⁴ Terms for people (rather than for kinship or rank) are reconstructed in vol.5, ch.2. They include ‘person’, ‘woman’, ‘man’, age cohort terms from early childhood to old age, terms for people by absence or deprivation of relationship (‘orphan’, ‘unmarried adult’, ‘widow(er)’) and for twins.

Chapter 11 investigates in some detail the way that Oceanic speakers have referred to the cyclic nature of time and have used the sun, moon and stars to regulate the agricultural cycle.

The terms that POc speakers used to refer to various aspects of speech are the subject of chapter 12.

Chapter 13 reconstructs terms that had to do with trade and more generally with change of possession: giving, receiving and stealing. It also introduces the practice of ceremonial exchange, which plays a role in chapter 14 on counting. There it is argued that the POc decimal counting system and its associated complexities were kept alive by their use in ceremonial exchange feasts. Chapter 15 suggests that POc may also have had a digit-tally system used in everyday counting. One counting complexity covered in chapter 14 is the use of numeral classifiers, and chapter 16 deals with the subset of classifiers used in measurement.

Appendix A lists the data sources employed in this volume. Appendix B lists the languages from which data for this and previous volumes are drawn. It includes alternative names of languages, an index to languages, maps showing their approximate locations, and a list of their ISO codes, glottocodes and longitudes and latitudes.

1.3 The relation of the current project to previous work

Reconstructions of POc phonology and lexicon began with Dempwolff's pioneering work in the 1920s and 1930s. Dempwolff's dictionary of reconstructions attributed to Proto Austronesian (PAN) (Dempwolff 1938)—but equivalent in modern terms to Proto Malayo-Polynesian (PMP)—includes some 600 reconstructions with reflexes in Oceanic languages.

Since the 1950s, POc and other early Oceanic interstage languages have been the subject of a considerable body of research. However, relatively few new reconstructions safely attributable to POc were added to Dempwolff's material until the 1970s. In 1969 George Grace made available as a working paper a compilation of reconstructions from various sources amounting to some 700 distinct items, attributed either to POc or to early Oceanic interstages. These materials were presented in a new orthography for POc, based largely on Biggs' (1965) orthography for an interstage he called Proto Eastern Oceanic. Updated compilations of Oceanic cognate sets were produced at the University of Hawai'i in the period 1977–1983 as part of a project directed by Grace and Pawley. These compilations and the supporting data are problematic in various respects and we have made only limited use of them.

Comparative lexical studies have been carried out for several lower-order subgroups of Oceanic: for Proto Polynesian by Biggs (resulting in Walsh & Biggs 1966, Biggs, Walsh & Waqa 1970 and subsequent versions of the POLLEX file, including Biggs & Clark 1993, Clark & Biggs 2006 and online as Greenhill & Clark 2011); for Proto Micronesian by scholars associated with the University of Hawai'i (Bender et al. 1983, 2003a,b); for the ancestor of the Banks and Torres languages by Alexandre François (several unpublished manuscripts); for Proto North and Central Vanuatu by Clark (2009); for Proto Southern Vanuatu by Lynch (2001b); for New Caledonia by Ozanne-Rivierre (1992), Haudricourt & Ozanne-Rivierre (1982) and Geraghty (1989); for Proto

SE Solomonic by Levy (1980) and Lichtenberk (1988); for Proto Central Pacific by Hockett (1976), Geraghty (1983, 1986, 1996, together with a number of unpublished papers); for Proto Eastern Oceanic by Biggs (1965), Cashmore (1969), Levy (1980), and Geraghty (1990); and for Proto Central Papuan by Pawley (1975), Lynch (1978, 1980), and Ross (1994).

Robert Blust of the University of Hawai‘i, in a series of papers (1970, 1980a, 1983-84a, 1986, 1989) published extensive, alphabetically ordered, lexical reconstructions (with supporting cognate sets) for interstages earlier than POc, especially for Proto Austronesian, Proto Malayo-Polynesian and Proto Eastern Malayo-Polynesian. He has also written several papers investigating specific semantic fields (Blust 1980b, 1982b, 1987, 1994). Blust & Trussel had a major work in progress, the on-line *Austronesian Comparative Dictionary* (ACD), which brings together Blust’s reconstructions for Proto Austronesian and lower-order stages up to mid 2020, when the sudden death of Steve Trussel, who was responsible for the web interface and data input, brought this work to a sudden halt. With the passing of Robert Blust in January 2022, the ACD was bequeathed to Alexander Smith and found a new home with the Cross-Linguistic Linked Data project, where hopefully it will continue to grow.⁵

Several papers predating our project systematically investigated particular semantic domains in the lexicon of POc, e.g. Milke (1958a), French-Wright (1983), Pawley (1982, 1985), Pawley & Green (1984), Lichtenberk (1986), Walter (1989), and the various papers in Pawley & Ross (1994). Ross (1988) contained a substantial number of new POc lexical reconstructions, as well as proposed modifications to the reconstructed POc sound system and the orthography. However, previous Oceanic lexical studies were limited both by large gaps in the data, with a distinct bias in favour of ‘Eastern Oceanic’ languages, and by the technical problems of collating large quantities of data. Although many languages in Melanesia remain poorly described, there are now many more dictionaries and extended word lists, particularly for Papua New Guinea, than there were in the 1980s. And developments in computing hardware and software now permit much faster and more precise handling of data than was possible then. A list of sources is found in Appendix A.

Several compilations of reconstructions have provided valuable points of reference, both inside and outside the Oceanic group. We are indebted particularly to Bender et al. (2003a,b), two editions of POLLEX (Biggs & Clark 1993 and Clark & Biggs 2006), Blust & Trussel (2020 = ACD), Clark (2009) and Lynch (2001b).

In the course of planning the several volumes of the present project, we came to realise that the form in which preliminary publications were presented—namely as essays, each discussing cognate sets for a particular semantic field at some length—would also be the best form for the presentation of this set of volumes. A discursive treatment of individual terminologies, as opposed, say, to a dictionary-type listing of reconstructions with supporting cognate sets, makes it easier to relate the linguistic comparisons to relevant issues of culture history, language change, and methodology. Hence each of the present volumes has as its core a collection of analytic essays. Some of these have been published or presented elsewhere, but are included here in revised form.

⁵ The 2020 ‘frozen’ ACD continues to be stored at the University of Hawai‘i (<http://www.trussel2.com/acd/>), but is now also available and under development in somewhat different format as part of the Cross-Linguistic Linked Data project (<https://acd.clld.org/>).

In some cases we have updated the earlier versions in the light of subsequent research, and, where appropriate, have inserted cross-references between contributions. Authorship is in some cases hard to pin down, as a number of people have had a hand in collating the data, doing the reconstructions, and (re)writing for publication here. In most chapters, however, one person did the research which determined the structure of the terminology, and that person appears as the first or only author, and where another or others had a substantial part in putting together the chapter they appear as the second or further authors.

1.4 Reconstructing the lexicon

1.4.1 Terminological reconstruction

Our method of doing ‘terminological reconstruction’ is as follows. First, the terminologies of present-day speakers of Oceanic languages are used as the basis for constructing a hypothesis about the semantic structure of a corresponding POC terminology, taking account of (i) ethnographic evidence, i.e. descriptions of the lifestyles of Oceanic communities and (ii) the geographical and physical resources of particular regions of Oceania. For example, by comparing terms in several languages for parts of an outrigger canoe, or for growth stages of a coconut, one can see which concepts recur and so are likely to have been present in POC. Secondly, a search is made for cognate sets (§1.4.2), i.e. words from different languages that appear to be descended from the same protoform, from which forms can be reconstructed to match each meaning in this hypothesised terminology. The search is not restricted to members of the Oceanic subgroup; if a term found in an Oceanic language proves to have external (non-Oceanic) cognates, the POC antiquity of that term will be confirmed and additional evidence concerning its meaning will be provided. Thirdly, the hypothesised terminology is re-examined to see if it needs modification in the light of the reconstructions. There are cases, highlighted in the various contributions to these volumes, where we were able to reconstruct a term where we did not expect to do so and conversely, often more significantly, where we were unable to reconstruct a term where we had believed we should be able to. In each case, we have discussed the reasons why our expectations were not met and what this may mean for Oceanic culture history. We have set out to pay more careful attention to reconstructing the semantics of POC forms than has generally been done in earlier work, treating words not as isolates but as parts of terminologies.

Blust (1987:81) distinguishes between conventional ‘semantic reconstruction’, which asks, “What was the probable meaning of protomorpheme X? ”, and Dyen and Aberle’s (1974) ‘lexical reconstruction’, where one asks, “What was the protomorpheme which probably meant ‘X’?” At first sight, it might appear that terminological reconstruction is a version of lexical reconstruction. However, there are sharp differences. Lexical reconstruction applies a formal procedure: likely protomeanings are selected from among the glosses of words in available cognate sets, then an algorithm is applied to determine which meaning should be attributed to each set. This procedure may have unsatisfactory results, as Blust points out. Reconstructions may end up with crude and

overly simple glosses; or no meaning may be reconstructed for a form because none of the glosses of its reflexes is its protomeaning.

Terminological reconstruction is instead similar to the semantic reconstruction approach. In terminological reconstruction the meanings of protomorphemes are not determined in advance. Instead, cognate sets are collected and their meanings are compared with regard to:

- their specific denotations, where these are known;
- the geographic and genealogical distribution of these denotations (i.e. are the glosses from which the protogloss is reconstructed well distributed?);
- any derivational relationships to other reconstructions;
- their place within a working hypothesis of the relevant POc terminology (e.g., are terms complementary —‘bow’ implies ‘arrow’; ‘seine net’ implies ‘floats’ and ‘weights’? Are there different levels of classification—generic, specific, and so on?).

For example, it proved possible to reconstruct the following POc terms for tying with cords (vol.1:290–293):

POc **buku* ‘tie (a knot); fasten’

POc **p^wita* ‘tie by encircling’

POc **paqu(s)*, **paqus-i-* ‘bind, lash; construct (canoe +) by lashing together’

POc **pisi* ‘bind up, tie up, wind round, wrap’

POc **kiti* ‘tie, bind’

In each of the supporting cognate sets from contemporary languages there are a number of items whose glosses in the dictionaries or word lists are too vague to tell the analyst anything about the specific denotation of the item, and in the case of **kiti* this prevents the assignment of a more specific meaning. The verb **buku* can be identified as the generic term for tying a knot because of its derivational relationship (by zero derivation) with a noun whose denotation is clearly generic, **buku* ‘node (as in bamboo or sugarcane); joint; knuckle; knot in wood, string or rope’ (vol.1:85–86). Other senses are extensions of this meaning (vol.2:50, vol.5:159, 175–176, 341). Reconstruction of the meaning of **p^wita* as ‘tie by encircling’ is supported by the meanings of the Lukep, Takia and Longgu reflexes, respectively ‘tie by encircling’, ‘tie on (as grass-skirt)’, and ‘trap an animal’s leg; tie s.t. around ankle or wrist’: Lukep and Takia are North New Guinea languages, whilst Longgu is SE Solomonic. Reconstruction of the meaning of **paqu(s)*, **paqus-i-* as ‘bind, lash; construct (canoe +) by tying together’ is supported by the meanings of the Takia, Kiribati and Samoan reflexes, respectively ‘tie, bind; construct (a canoe)’, ‘construct (canoe, house)’, and ‘make, construct (wooden objects, canoes +)’: Takia is a North New Guinea language, Kiribati is Micronesian, and Samoan is Polynesian. The meaning of **pisi* is similarly reconstructed by reference to the meanings of its Mono-Alu, Mota, Port Sandwich, Nguna and Fijian reflexes.

Often, however, the authors have been less fortunate in the information available to them. For example, Osmond (vol.1:222–225) reconstructs six POc terms broadly glossed as ‘spear’. Multiple terms for implements within one language imply that these items were used extensively and possibly in specialised ways. Can we throw light on these specialised ways? Unfortunately, some of the word lists and dictionaries available

give minimal glosses, e.g. ‘spear’, for reflexes of the six reconstructions. What we need to know for each reflex is: what is the level of reference? Is it a term for all spears, or perhaps all pointed projectiles including arrows and darts? Or does it refer to a particular kind of spear? Is it noun or verb or both? If a noun, does it refer to both the instrument and the activity? Most word lists are frustratingly short on detail. For this kind of detail, ethnographies have proven a more fruitful source of information than many word lists.

Another problem is inherent in the dangers of sampling from some 500 languages. The greater the number of languages, the greater are the possible variations in meaning of any given term, and the greater the chances of two languages making the same semantic leaps quite independently. Does our (sometimes quite limited) cognate set provide us with a clear unambiguous gloss, or have we picked up an accidental bias, a secondary or distantly related meaning? Did etymon *x* refer to fishhook or the material from which the fishhook was made? Did etymon *y* refer to the slingshot or to the action of spinning round?

1.4.2 Sound correspondences

Phonological changes, whereby one sound evolves into another, are mostly regular. For example, the initial consonant of the reflexes of the three words below is the same for all three items (and for numerous others).⁶ In each language all instances of initial **p-* have evolved “regularly”, i.e., in the same way.

	POc	<i>*papine</i> ‘woman’	<i>*pisiko</i> ‘meat, flesh’	<i>*pat[i]</i> ⁷ ‘four’	<i>*p-</i>
Adm:	Aua	<i>pifine</i>	<i>pirio</i>	—	<i>p-</i>
Adm:	Baluan	<i>pein</i>	<i>pusio</i>	<i>pa-</i>	<i>p-</i>
NNG:	Numbami	—	<i>wiso</i>	<i>wata</i>	<i>w-</i>
PT:	Kilivila	<i>vivila</i>	<i>viliy-na</i>	<i>-vasi</i>	<i>v-</i>
PT:	Yamalele	<i>vavine</i>	<i>viyo</i>	—	<i>v-</i>
PT:	Sinaugoro	<i>vavine</i>	<i>vi-viyo</i>	<i>vasi-vasi</i>	<i>v-</i>
PT:	Motu	<i>hahine</i>	<i>hidio</i>	<i>hani</i>	<i>h-</i>
MM:	Tolai	<i>vavina</i>	<i>vio</i>	<i>-vat</i>	<i>v-</i>
MM:	Vaghua	<i>vavene</i>	<i>vəzəyo</i>	<i>-vac</i>	<i>v-</i>
SES:	Arosi	<i>hahine</i>	<i>hasi?o</i>	<i>hai</i>	<i>h-</i>
NCV:	Mota	<i>vavine</i>	<i>visoyo-i</i>	<i>vat</i>	<i>v-</i>
Mic:	Woleaian	<i>faifile</i>	<i>fitixo</i>	<i>faa-</i>	<i>f-</i>
Fij:	Wayan	<i>vavine</i>	<i>viðiko</i>	<i>vā</i>	<i>v-</i>
Pn:	Samoan	<i>fefine</i>	—	<i>fā</i>	<i>f-</i>

The grouping to which each language belongs is indicated by an abbreviation on the left (§1.5.1).

The “sound correspondence” that concerns us here, the initial consonant correspondence, is shown on the right. Reconstructing forms in a protolanguage depends

⁶ Differences in meaning are ignored here, but see §1.4.1.

⁷ A hyphen before or after a form for ‘four’ indicates the addition of a numeral classifier (§14.1.1).

on working out the systematic sound correspondences among cognate vocabulary in contemporary languages and on having a working hypothesis about how the sounds of POc have changed and are reflected in modern Oceanic languages. Working out sound correspondences even for twenty languages is a large task, and so we have relied heavily on the work of others and our own previous work. The sound correspondences we have used are as follows: Ross (1988) for Western Oceanic and Admiralties; Ross (1996a) for Yapese; Ross (1996b) for Oceanic languages of Indonesian Papua; Pawley (1972) for Eastern Oceanic; Levy (1979, 1980) for SE Solomonian and Lichtenberk (1988) for Cristobal-Malaitan; Pawley (1972) and Tryon & Hackman (1983) for SE Solomonian; Ross & Næss (2007) for Temotu; François (pers. comm.) for the Banks and Torres Islands of Vanuatu; Tryon (1976) and Clark (2009) for North and Central Vanuatu; Lynch (2001b) for Southern Vanuatu; Geraghty (1989), Haudricourt & Ozanne-Rivierre (1982), Ozanne-Rivierre (1992, 1995) and Lynch (2015) for New Caledonia; Jackson (1986) and Bender et al. (2003a,b) for Micronesian; Geraghty (1986) for Central Pacific; and Biggs (1978) for Polynesian. We have also done additional work on North and Central Vanuatu and New Caledonia ourselves.

For non-Oceanic languages we have referred to sound correspondences given by Tsuchida (1976) for Formosan languages; by Zorc (1977, 1986) and Reid (1982) for the Philippines; by Adelaar (1992) and Nothofer (1975) for Malay and Javanese; by Sneddon (1984) for Sulawesi; by Collins (1983) for central Maluku; by Grimes & Edwards (in prep.) for what is conventionally known as CMP; and by Blust (1978a) and Kamholz (2014) for SHWNG.

Regular sound correspondences can be interfered with in various ways: by phonetic conditioning that the analyst has not identified (see, e.g., Blust 1996), by borrowing (for an extreme Oceanic case, see Grace 1996), or by the frequency of an item's use (Bybee 1994). We have tried at least to note, and sometimes to account for, irregularities in cognate sets.

1.4.3 The internal structure of the Oceanic subgroup of the Austronesian family

Figure 1.1 shows nine primary subgroups of Oceanic. Its rake-like structure indicates that no convincing body of shared innovations has been found to allow any of the nine subgroups to be combined into higher-order groupings. Section 1.4.3.1 explains the theory that underlies the formulation of Figure 1.1, which is important to the practice of reconstruction. Sections 1.4.3.2 and 1.4.3.3 offer some commentary on our subgrouping, and in §1.4.4 we explain how our criteria for making a reconstruction and attributing it to a protolanguage are related to subgrouping issues.

1.4.3.1 Subgroups and linkages

In Figure 1.1 each node is, with one minor exception, either a single language, usually a reconstructed protolanguage, or, in italics, a group of languages. The exception is the two very closely related languages *Mussau* and *Tench*.

Where a node is a protolanguage, its descendants form a subgroup. The only descendant languages shown in Figure 1.1 are reconstructed protolanguages, but Appendix B lists by grouping the descendant languages referred to in these volumes. A subgroup is identified by

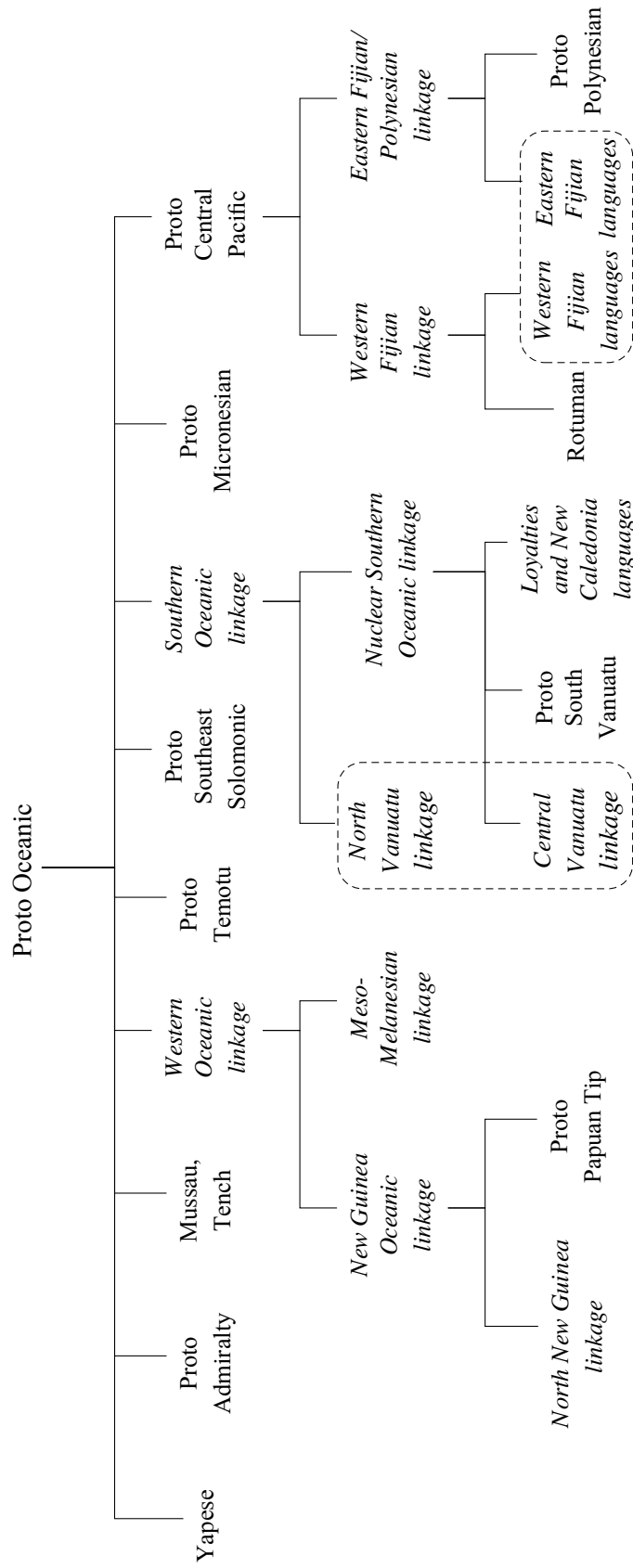


Figure 1.2 Schematic diagram showing the subgrouping of Oceanic Austronesian languages.

innovations shared by its member languages, i.e. it is ‘innovation-defined’ in the terminology of Pawley & Ross (1995). These innovations are assumed to have occurred just once, in the subgroup’s protolanguage, i.e. the exclusively shared ancestor of its members. Thus languages of the large Oceanic subgroup of Austronesian share a set of innovations relative to the earlier Austronesian stages shown in Figure 1.5. By inference these innovations occurred in their common ancestor, POc, and the claim that they are innovations is based on a comparison of reconstructed POc with reconstructed PMP. The phonological innovations of POc were identified by Dempwolff (1934), and have been somewhat modified by subsequent research (§1.8.1). POc also reflects morphosyntactic innovations (Lynch et al. 2002: ch.4), morphological innovations (e.g. POc acquired a morphological distinction between three kinds of alienable possessive relationship: food, drink and general; Lichtenberk 1985), and lexical innovations (e.g. PMP **limaw* ‘citrus fruit’ was replaced by POc **molis*; Lynch 1984).

Italics are used in Figure 1.1 to indicate a group of languages that is not a subgroup, i.e. has no identifiable *exclusively* shared parent. Thus *Southern Oceanic linkage* in Figure 1.1 indicates a collection of languages descended from POc (Ross 1988). They comprise the languages of Vanuatu, the Loyalties and New Caledonia, but they do not form a subgroup. There was no “Proto Southern Oceanic”, as no convincing innovation has been identified that is reflected by all Southern Oceanic languages. Nonetheless, there are innovations which chain various, sometimes overlapping, groups of Southern Oceanic languages together (§1.4.3.2). Some of these innovations are inherited, i.e. they define smaller subgroups within Southern Oceanic. Of these, Southern Vanuatu is the best known example (Lynch 2001b:181–184). Others are probably the result of contact between fairly similar languages. The recently discovered fact that there were multiple immigrations by, we take it, speakers of early Oceanic languages probably gave rise to this kind of contact (see the discussion in §15.8.1).

The term “linkage” occurs in several of the italicised labels in Figure 1.1. The distinction between a subgroup and a linkage is important in reconstruction.⁸

A **subgroup** is defined by a set of coterminous innovations that are inferred to have occurred in its common ancestor (its protolanguage).⁹ By “coterminous” is meant that all the innovations are shared by all the languages of the group.¹⁰ This is the situation in Figure 1.2.¹¹ Languages A and B share a set of innovations and form one subgroup. Languages C–J share another set of innovations and form another subgroup. The processes of language change that give rise to innovations are continuous, meaning that subgroup formation is recursive. Within the subgroup CDEFGHJ are two (sub)subgroups CDE and FG, alongside two languages H and J. This situation can be represented in two ways: by a tree (left) or a maplike representation (right). The tree, like Figure 1.1, also displays the protolanguages from which the languages of each subgroup are inferred to be descended.

⁸ For a lucid and concise account of the history of the matters we touch on here, and of the matters themselves, see François (2014).

⁹ In previous volumes, Appendix B, showing the groupings of Oceanic languages, followed Ross (1988), using the term *family* as a synonym for *subgroup*. This confusing usage is abandoned here.

¹⁰ In the jargon of biological phylogenetics a shared innovation is a *synapomorphy*.

¹¹ Figure 1.4 and the right-hand diagram of Figure 1.2 were inspired by François’ (2014) diagram 6.3.

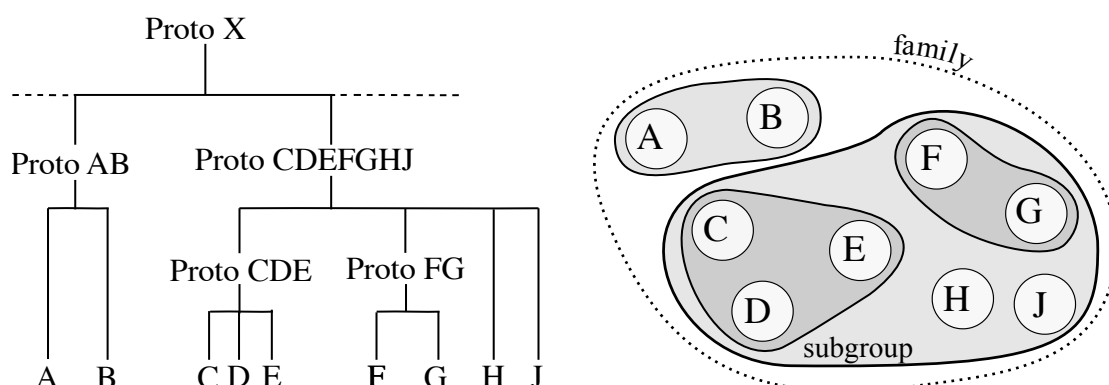


Figure 1.2 Schematic diagram of a subgroup

Figure 1.4 shows the same subgroup AB as figure 1, but languages C–J display a pattern of intersecting subgroups.¹² Languages CDEF form a “subgroup” on the basis of a set of coterminous innovations, and languages CDE form one on the basis of a further set. But E and F also share innovations with G, H and J, forming a subgroup EFGHJ that intersects with CDEF. What is more, E and F share further innovations with H and G respectively; that is, E and F each reflect innovations that are coterminous neither with those that define CDEF, nor with those that define EFGHJ. This intertwining of groups formed by intersecting innovation domains is a **linkage** (an ‘innovation-linked group’ in Pawley & Ross 1995). Its boundary can be defined, but no tree that accounts for all innovations can be drawn. If no tree can be drawn, then no protolanguage can be posited, and, since a reconstruction must belong to a protolanguage, strictly speaking no reconstructions can be made. We return to this matter in §1.4.3.2.

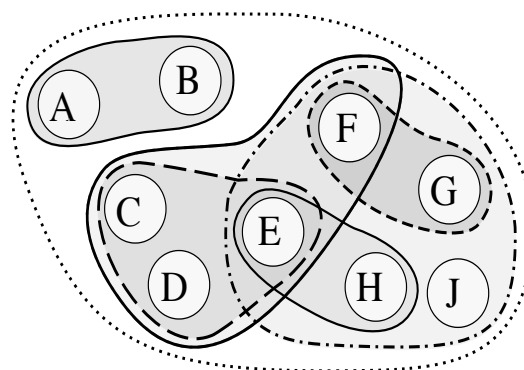
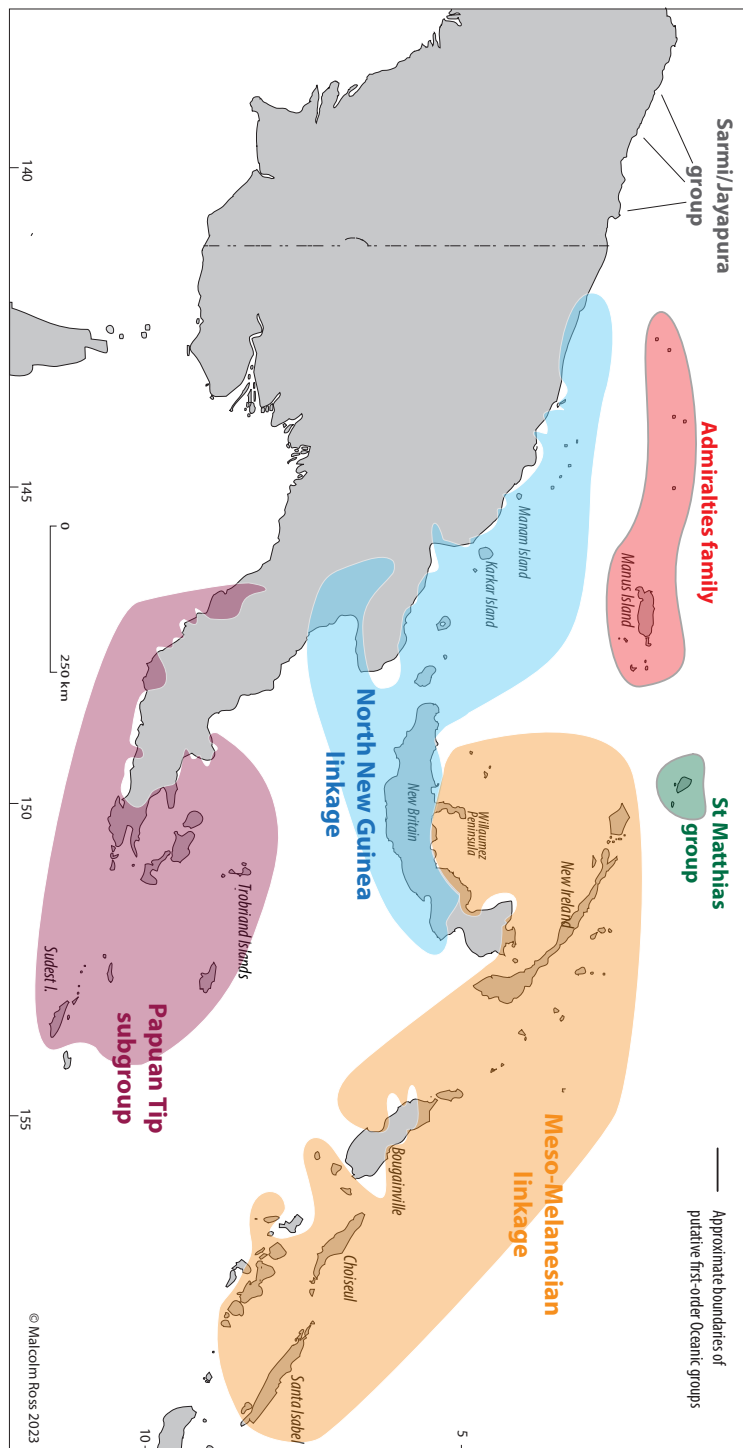


Figure 1.4 Schematic diagram of a linkage

Innovations begin as changes that occur in the language of an individual speaker, and some of these changes spread across the community. As long as languages are mutually intelligible, changes continue to spread. Their places of origin, and directions and extents of spread, may differ, so that the resulting innovations are not coterminous but instead intersect. And over time, social relationships may change, so that changes arrive from new origins. The outcome of these processes is a linkage.

However, untangling the history of a linkage is difficult, and sometimes impossible. In the “worst-case” scenario one or more innovations spreads right across the languages of the linkage. In this case it becomes virtually impossible to distinguish it from a subgroup. But returning to Figure 1.4, perhaps EFGHJ in fact reflects innovations that occurred in Proto EFGHJ. If so, then we cannot posit Proto CDEF or Proto CDE. Instead, we infer that at some date relationships were realigned so that speakers of pre-C and pre-D came into intimate enough contact with speakers of Proto EFGHJ or one of its

¹² In this discussion of linkages, ‘language’ is used to mean ‘language or dialect’.



Map 13 Oceanic language groups in northwest Melanesia: the Admiralties and St Matthias groups and the subgroups of Western Oceanic

descendants for innovations to pass between them, creating the illusion of a subgroup CDEF. But, with a little thought one could come up with a good number of scenarios that result in the pattern in [Figure 1.4](#), and determining which reflects the actual history can be difficult.

It is tempting to see a subgroup and a linkage as opposing patterns, but comparison of [Figure 1.4](#) with the righthand diagram of [Figure 1.2](#) shows that a subgroup is a subtype of a linkage, one in which the ranges of innovations happen not to intersect (François 2014:171). Nonetheless, we maintain the distinction between a subgroup and a linkage, as the former reflects a reconstructable protolanguage but the latter does not (or sometimes, as emerges below, does so more weakly).

1.4.3.2 Oceanic linkages

A number of Oceanic linkages have been recognised by scholars. They include Fijian (Geraghty 1983), the Caroline Islands (Jackson 1983), Vanuatu (Tryon 1976; Clark 1985; Lynch 2000a; 2004; François 2011, 2014), NW Melanesia (Ross 1988), the SE Solomons (Lichtenberk 1988, 1994; Pawley 2011c) and E Polynesian (Walworth 2014). In some of these there is evidence for events that would further complicate the description of a linkage in §1.4.3.1.

One such event sequence is indicated in [Figure 1.1](#) by a dashed line around the relevant groups of languages. These are instances of a group of languages undergoing a division and then coming back into contact to form a grouping in a different constellation from before. The best researched of these is the Fijian linkage, which represents the partial resynthesis of the Fiji-based descendants of earlier Western Central Pacific and Eastern Central Pacific linkages after Rotuman and Polynesian had split off from them (Geraghty & Pawley 1981; Geraghty 1983; Pawley 1996).¹³ Geraghty reconstructed the history of the Fijian linkage by painstaking analysis of innovations from at least two stages in its history. From the earlier period Western Fijian languages share innovations with Rotuman and Eastern Fijian with Polynesian. From a more recent period Western Fijian and Eastern Fijian languages share innovations with each other, reflecting their reintegration into a single linkage, within which the present Western/Eastern boundary has shifted relative to the (fuzzy) boundary of the earlier period. This kind of process also forms part of the history of the Guadalcanal-Gelic subgroup within SE Solomonian (Pawley & Green 1984).

A linkage sometimes consists of some but not all of the languages descended from a single parent. The Western Oceanic linkage (reflects the innovations of POc, but no innovation is exclusive to the whole of Western Oceanic (although the merger of POc *r and *R comes close). However, the languages of its three component linkages ([Map 1.1](#))—North New Guinea, Papuan Tip and Meso-Melanesian—display complex patterns of intersecting innovations.¹⁴ The WOc linkage is evidently descended from the dialects of POc that were left behind in the Bismarck Archipelago after speakers of the languages ancestral to the other eight primary subgroups in [Figure 1.1](#) had moved away

¹³ ‘Eastern Fijian languages’ in [Figure 1.1](#) is our label for Geraghty’s (1983) ‘Tokalau Fijian’.

¹⁴ WOc also includes the Sarmi/Jayapura (SJ) group (see [Map 1.1](#)). It may belong to the NNG linkage, but this is uncertain Ross (1996b).

to the north or east (Ross 2014, 2017). After these departures various innovations occurred. Each arose somewhere in the Western Oceanic dialect network and spread to neighbouring dialects without reaching every dialect in the network.

The Southern Oceanic linkage as proposed by Lynch (1999, 2000a, 2001a, 2004) is characterised by complex overlapping innovations, but by none that are reflected in all its member languages and would qualify it as a subgroup (see discussion in Lynch, Ross & Crowley 2002:112–114).

1.4.3.3 Oceanic subgroups

Figure 1.1 also shows a number of Oceanic groups for which a protolanguage is reconstructable. By definition these are subgroups. They are Admiralty (Ross 1988: ch.9), SE Solomonian (Pawley 1972:98–110; Levy 1979, 1980, n.d.; Tryon & Hackman 1983; Lichtenberk 1988), Temotu (Ross & Næss 2007; Næss & Boerger 2008; Lackey & Boerger 2021), S Vanuatu (Lynch 2001b:181–184), Micronesian (Jackson 1983, 1986; Bender et al. 2003a), and Papuan Tip (Ross 1992)

Central Pacific is also a subgroup, but one defined by only a handful of shared innovations, indicating that the period of unity was short (Geraghty 1996). The high-order subgrouping of Central Pacific is due to Geraghty (1983), except for the position of Rotuman (Pawley 1996b). Within Central Pacific is another long recognised subgroup, Polynesian, for which Pawley (1996a) lists diagnostic innovations.

1.4.4 Criteria for reconstruction

1.4.4.1 The distributional criterion

The strength of a lexical reconstruction rests crucially on the distribution of the supporting cognate set across language groups. The *distribution* of cognate forms and agreements in their meanings is much more important than the *number* of cognates. It is enough to make a secure reconstruction if a cognate set occurs in just two languages in a family, with agreement in meaning, with two provisos. The first is that the two languages belong to different primary groups, and the second that there is no reason to suspect that the resemblances are due to borrowing or chance. The PMP term **(h)abij* ‘twins’ is reflected in several western Malayo-Polynesian languages (e.g. Batak *apid* ‘twins, double (fused) banana’) but, when the reconstruction was made, only one Oceanic reflex was known,¹⁵ namely Roviana *avisi* ‘twins of the same sex’ (vol. 5, §2.6). Because Roviana belongs to a different first-order branch of Malayo-Polynesian from the western Malayo-Polynesian witnesses (cf Figure 1.5) and because there is virtually no chance that the agreement is due to borrowing or chance similarity, this distribution was enough to justify the reconstruction of PMP **(h)abij*, POc **apic* ‘twins’.

¹⁵ A second Oceanic reflex, ‘Are’are *rapi* ‘a twin; two stones in one fruit’, was later added in the ACD.

1.4.4.2 Which protolanguage? Handling the Oceanic tree's rakelike structure

Here we deal with two issues relating to the question, To which protolanguage should a reconstruction be assigned? In this section we explain how we handle the rake-like structure of the Oceanic tree in [Figure 1.1](#). In §1.4.4.3 we respond to the fact that a linkage has no identifiable protolanguage (§1.4.3.2).

The rake-like form of [Figure 1.1](#) almost certainly reflects the very rapid settlement of Oceania out of the Bismarcks,¹⁶ but it confronts us with a methodological question. If we follow the standard rubric that we make a reconstruction if a cognate set occurs in languages of just two primary language groups (§1.4.4.1), then reflexes of an etymon in, say, a SE Solomonic language and a Micronesian language would be sufficient evidence for a POc reconstruction and the absence of reflexes in Admiralty and Western Oceanic would be irrelevant. Given what we know about the location of the POc homeland (in the Bismarcks; vol.2, ch.2) and the early eastward spread of Oceanic speakers, this is too loose a criterion. Instead, we assume two hypothetical nodes not shown in the tree in [Figure 1.1](#).¹⁷ These are

- Remote Oceanic, comprising Southern Oceanic, Micronesian and Central Pacific;
- Eastern Oceanic, comprising SE Solomonic and Remote Oceanic.¹⁸

If a cognate set occurs in two or all three of the groups in Remote Oceanic, the reconstruction is attributed to Proto Remote Oceanic (PROc). If a cognate set occurs in one or more of the groups in Remote Oceanic and in SE Solomonic, it is attributed to Proto Eastern Oceanic (PEOc). In this way we acknowledge that such reconstructions may represent an innovation that postdates the spread of the early Oceanic speech community. There are enough PROc and PEOc reconstructions to suggest that such lexical innovations indeed occurred. This in turn provides evidence for Remote Oceanic and Eastern Oceanic subgroups, but evidence that is too weak to be relied on, for at least two reasons. First, it is quite possible that some of our PROc and PEOc reconstructions will be promoted to POc as more Admiralty and Western Oceanic data become available. Second, it is reasonable to assume that some of our PROc and PEOc etyma are of POc antiquity but happen to have been lost in Proto Admiralty and Proto Western Oceanic. Without supporting phonological or morphological evidence we are unwilling to treat PROc or PEOc as anything other than

¹⁶ Bearers of the Lapita culture had settled various parts of the Bismarck Archipelago by around 1400 BC (Specht 2007) and colonised the Reefs and Santa Cruz Is. in the Temotu Archipelago, Vanuatu and New Caledonia by about 1000 BC (Green 2003; Green, Jones & Sheppard 2008; Sand 2001b). Maybe a century later they settled in Fiji (Nunn et al. 2004; Clark & Anderson 2009). They reached Tonga by 850 BC (Burley & Connaughton 2007), Samoa by 750 BC (Clark and Anderson 2009).

¹⁷ We included these nodes in the corresponding tree in Figure 1 of volumes 1 and 2, but this was too easily interpreted as a statement of our views on subgrouping..

¹⁸ The term 'Eastern Oceanic' and the search for evidence of an Eastern Oceanic subgroup has a relatively long pedigree in Oceanic linguistics (Biggs 1965; Pawley 1972, 1977; Lynch & Tryon 1985; Geraghty 1990). However, by the time volume 1 of the present work was published in 1998 it was evident that no convincing evidence supported an Eastern Oceanic subgroup. Our use of the term here is more inclusive than most, resembling the 'Central/Eastern Oceanic' of Lynch & Tryon (1983) (the 1985 published version is less inclusive) and of Lynch, Ross & Crowley (2002:94–96), who express reservations about its status.

convenient hypothetical groups which allow us to retain conservative criteria for a POc reconstruction.

A reconstruction here labelled ‘PROc’ was labelled ‘PEOc’ in volume 1 or 2, but if it lacks SE Solomonic reflexes, it is labelled as a PROc reconstruction in volumes 3–6. Two factors have led to the distinction between PEOc and PROc in more recent volumes. One is that the historical separateness of SE Solomonic both from Western Oceanic and from groups treated as Remote Oceanic has become increasingly clear through recent research (Pawley 2009). The other, especially relevant to volume 3 on plants and to volume 4 on animals, is that the primary biogeographic divide in Oceania is between Near and Remote Oceania (see vol. 2, Map 5), i.e. between the main Solomons archipelago and the Temotu islands. Whether or not a plant or animal name has a SE Solomonic reflex is thus significant. Many plant names do not, and are thus attributed in volume 3 to PROc.

Our criterion for attributing a reconstruction to POc is that the cognate set must include data from at least two out of three criterial groupings: Admiralties (or Yapese or Mussau), Western Oceanic, and our hypothetical Eastern Oceanic. Both here and at the hypothetical interstages defined above, no reconstruction is made if there are grounds to infer borrowing from one of these groupings to another.¹⁹ We also reconstruct an etymon to POc if it is reflected in just one of the four criterial groupings and in a non-Oceanic Austronesian language (a member of one of the lefthand branches in Figure 1.5), as illustrated above by the reconstruction of POc **apic* ‘twins’.

There are indications that Yapese (a single-language “subgroup”) and Mussau and Tench (a subgroup with two closely related languages) may be more closely related to Admiralty than to any other Oceanic subgroup,²⁰ and for this reason they are tentatively treated as Admiralty languages for the purposes of reconstruction. That is, the presence of a reflex in one or more of these languages and in Admiralty does not support a POc reconstruction, but the presence of a reflex in one or more of these languages and one of Western Oceanic or Eastern Oceanic does support one.

In chapter 2 (§4) of volume 2 Pawley discusses Blust’s (1998b) proposal that the primary split in Oceanic divides Admiralty from a subgroup embracing all other Oceanic languages. Pawley dubs the latter ‘Nuclear Oceanic’. If Blust’s subgrouping were accepted, then an etymon which lacked cognates outside Oceanic would need to be reflected both in an Admiralties language and in a non-Admiralties language for a POc reconstruction to be made. Etyma with reflexes in both Western and Eastern Oceanic, but not in the Admiralties, would be reconstructed as Proto Nuclear Oceanic. Under the criteria outlined above, however, we attribute these reconstructions to POc. These criteria were used in volumes 1 and 2, and we have thought it wise to maintain them throughout the volumes of this work. The reader who wishes to single out reconstructions attributable to a putative Proto Nuclear Oceanic (rather than to POc) can easily recognise them. They are those POc reconstructions for which (i) there are no

¹⁹ Cases where such an inference can be made occur mostly at the boundary (in the Solomon Islands) between Western and Eastern Oceanic. Borrowing is likely (and is often reflected in unexpected sound correspondences) where an etymon occurs (i) in Western Oceanic and only in SE Solomonic languages or (ii) in SE Solomonic languages and only in the NW Solomonic languages (a subgroup within the Meso-Melanesian linkage of Western Oceanic).

²⁰ On the positions of Yapese and Mussau, see respectively Ross (1996a) and Ross (1988:315–316, 331).

Admiralties reflexes, and (ii) there is no higher-order reconstruction (i.e. PEMP, PCEMP, PMP or PAn).

1.4.4.3 Which protolanguage? Handling linkages

The languages of a linkage have no identifiable exclusively shared parent. Yet we have found many instances in which a cognate set is limited to one of the linkages in [Figure 1.1](#): Western Oceanic, New Guinea Oceanic, Southern Oceanic or the reintegrated North and Central Vanuatu linkage. By the logic of §1.4.3.2 a form reconstructed from a cognate set restricted to a linkage should be reconstructed to the next protolanguage node up the tree. For a Western Oceanic cognate set, for example, this would mean reconstructing it to POc—this would defy the condition that a POc cognate set must be spread over at least two out of the four criterial groupings (§1.4.4.2).

As with PEOc and PROc (§1.4.4.2), we think it is more realistic to attribute these reconstructions to a hypothetical protolanguage rather than to a higher node in the tree. Hence there are reconstructions labelled PWOc and so on. Again these apparent lexical innovations offer only weak evidence for the protolanguage to which they are attributed. In addition to the explanations of the kinds offered above for PEOc and PROc etyma, it is possible, for example, that an innovatory ‘PWoc’ etymon arose when the Western Oceanic dialect network was still close-knit, and spread from dialect to dialect before the network broke into the two networks ancestral to its present-day first-order subgroups.

It is probable that the NNG and PT linkages form a grouping within WOc, separate from MM. We call this grouping the New Guinea Oceanic linkage, and so etyma reflected only in NNG and PT languages are attributed to a weakly supported Proto New Guinea Oceanic (Milke 1958b, Pawley 1978), and etyma reflected in either NNG or PT (or both) and in MM are labelled PWOc.

1.5 Conventions common to the series

1.5.1 Presentation of reconstructions

Each of the contributions to these volumes concerns a particular POc ‘terminology’. Generally, each contribution begins with an introduction to the issues raised by the reconstruction of its particular terminology, and the rest consists of reconstructed etyma with supporting data and a commentary on matters of meaning and form.

The reconstruction of POc **pale* below, abbreviated from Chapter 5, shows how reconstructions and supporting cognate sets are presented. Above it is a superordinate (PMP) reconstruction drawn from published sources. Below it are supporting reflexes. Sometimes a lower-order reconstruction like PMic **fale* below is included, either in acknowledgment of others’ work, or because it reflects a significant change in form or meaning.

PMP **balay* ‘public building’ (Blust 1987), ‘unwalled building’ (Waterson 1993)

POc **pale* ‘building for storage or public use, open-sided building, shed’

Adm:	Lou	<i>pal</i>	‘canoe hut’
Adm:	Mussau	<i>ale</i>	‘house’
NNG:	Yabem	<i>ale</i>	‘house’
NNG:	Lukep (Pono)	<i>para</i>	‘yam house’
MM:	Tolai	<i>pal</i>	‘house, room’
MM:	Mono-Alu	<i>hale-hale</i>	‘public building’
SES:	Arosi	<i>hare</i>	‘shed for yams’ (E Arosi), ‘house with side of roof only, made in garden’ (W Arosi)
SES:	Bauro	<i>hare</i>	‘canoe house, men’s house’
SES:	Sa’a	<i>hale</i>	‘yam shed outside a garden’
SES:	Kwaio	<i>fale</i>	‘hut for childbirth’
MM:	Gela	<i>hale</i>	‘house’
NCV:	Raga	<i>vale</i>	‘house, hut, garden house’
NCV:	Nokuku	<i>vale</i>	‘shelter’
		<i>val-val</i>	‘garden shelter’

PMic **fale* ‘meeting house’ (Bender et al. 2003a)

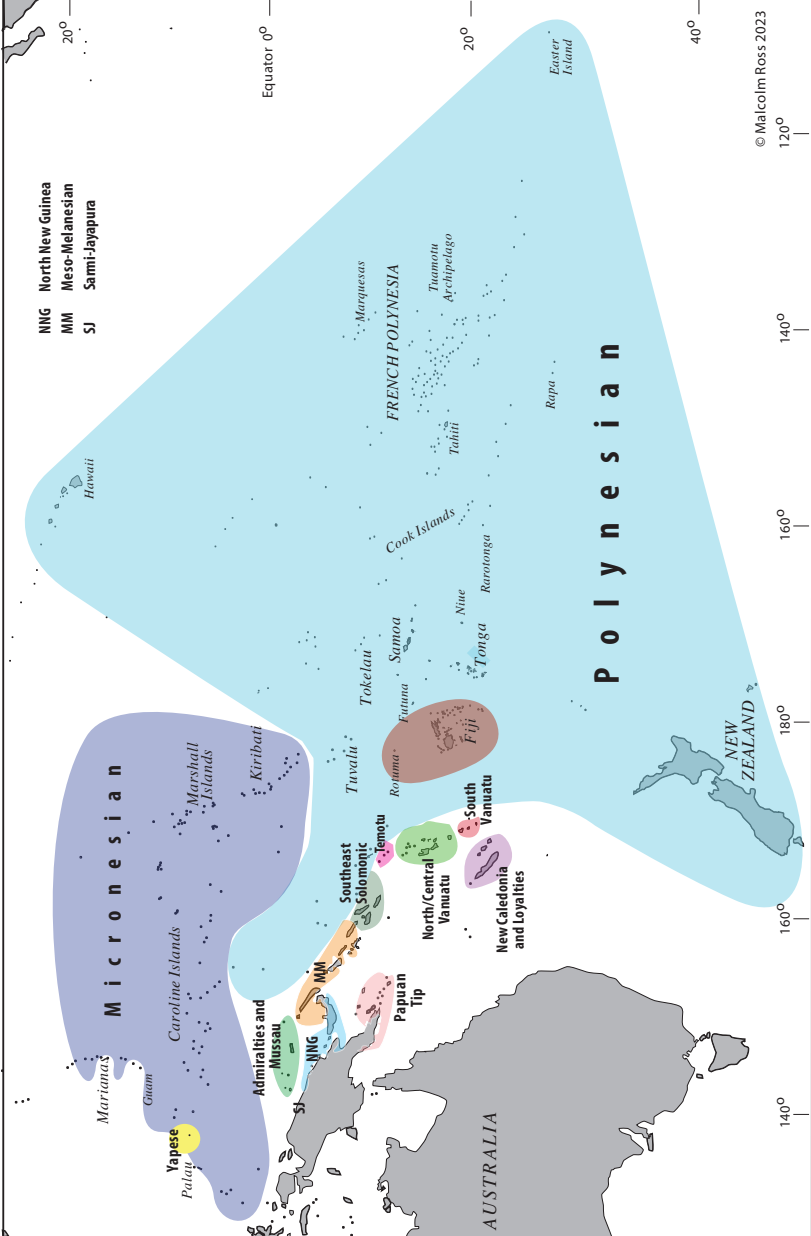
Mic:	Puluwat	<i>fæl</i>	‘meeting house’
Mic:	Woleai	<i>fal, fale-</i>	‘men’s house, club house’
Fij:	Bauan	<i>vale</i>	‘house’
Pn:	Samoan	<i>fale</i>	‘house’
Pn:	Hawaiian	<i>hale</i>	‘house’

In putting together cognate sets, we have sometimes found apparent or uncertain reflexes which do not quite ‘fit’ the set: either they display a phonological irregularity or their meaning is just a little too different from the rest of the set for us to assume cognacy. Rather than eliminate them, we often include them below the cognate set under the rubric ‘cf. also’.

Because our supporting data are drawn from such a wide range of languages, the convention is adopted of prefixing each language name with the abbreviation for the genealogical or geographic group to which the language belongs, so that the distribution of a cognate set is more immediately obvious. The abbreviations are:

Yap:	Yapese (one language)	TM:	Temotu
Adm:	Admiralty and Mussau/Tench	NCV:	North/Central Vanuatu
NNG:	North New Guinea	SV:	South Vanuatu
SJ:	Sarmi/Jayapura	NCal:	New Caledonia and Loyalties
PT:	Papuan Tip	Mic:	Micronesian
MM:	Meso-Melanesian	Fij:	Fijian and Rotuman
SES:	Southeast Solomonian	Pn:	Polynesian

We have sought to be consistent in always listing these groups in the same order, but contributors vary in the ordering of languages within groups.



Map 1.4 Groups of Oceanic languages used in cognate sets

Lynch's research on Southern Oceanic (§1.4.3.2) renders the NCV group mildly anomalous, although there is no doubt that it reflects an integrated dialect network. There are a number of etyma whose reflexes are confined to North and Central Vanuatu, and so we continue to include 'Proto North/Central Vanuatu' reconstructions. These perhaps represent a Southern Oceanic term that has been lost in southern Vanuatu and New Caledonia. Where the distribution of reflexes requires it, the chapters in this volume include reconstructions for PROc and for PSOc. Etyma with these distributions were attributed to PEOc in volumes 1 and 2, but the distributions are transparent, thanks to the presence of the group labels in cognate sets (cf §1.4.4.2).

In the interests of space we do not give the history of the reconstructions themselves, as this would often require commentary on the modifications made by others and by us, and on why we have made them. Where a reconstruction is not new, we have tried to give its earliest source, e.g. 'Blust 1987' above, but this is difficult when earlier reconstructions differ in form and meaning and when their sources are not reported.

In general, the contributions to these volumes are concerned with items reconstructable in POc, PWOc, PEOc, PROc and occasionally Proto New Guinea Oceanic (PNGOc). Etyma for PWOc, PNGOc and PEOc are reconstructed because these may well also be POc etyma for which known reflexes are not well distributed (see discussion in §1.4.4). Reconstructions for lower-order interstages are decreasingly likely to reflect POc etyma and may be the results of cultural change as Oceanic speakers moved further out into the Pacific.

Contributors to these volumes have usually not made fresh reconstructions at interstages superordinate to POc. What they have done, however, is to cite other scholars' reconstructions for higher-order interstages, as these represent a summary of the non-Oceanic evidence in support of a given POc reconstruction. These interstages are shown in [Figure 1.5](#).

Sometimes non-Oceanic evidence has been found to support a POc reconstruction where no reconstruction at a higher-level interstage has previously been made. In this case a new higher-order reconstruction is made, and the non-Oceanic evidence is given in a footnote.

Whilst we have tried to use the internal organisation of the lexicons of Oceanic languages themselves as a guide in setting the boundaries of each terminology, we have inevitably taken decisions which differ from those that others might have made. There are, obviously, overlaps and connections between various semantic domains and therefore between the contributions here. We have done our best to provide cross-references, but we have sometimes duplicated information rather than ask the reader repeatedly to look elsewhere in the book. Indexes at the end of each volume and in the final volume are intended to make it easier to use the volumes collectively as a work of reference.

1.5.2 Data

Data sources are listed in Appendix A.

For some reconstructed etyma only a representative sample of reflexes is given. We have endeavoured to ensure, however, that in each case this sample not only is geographically and genealogically representative, but also provides evidence to justify

the reconstruction's shape and gloss. Where only a few reflexes are known to us, this is usually noted.

Although there are accepted or standard orthographies for a number of the languages from which data are cited here, all data are transcribed as far as possible into a standard phonemic orthography based on that used by Ross (1988:3–4) in order to facilitate comparison.²¹ 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 *ʔ* and so on; the *ng* of English-based orthographies becomes *ŋ*; and Fijian *g*, *q* and *c* become *ŋ*, *g* and *ɔ̃* respectively.

The following symbols have more or less their usual IPA (International Phonetic Association) values: *ɔ̃*, *ɠ*, *ɣ*, *h*, *k*, *l*, *ʌ*, *ʎ*, *ʟ*, *ʟ*, *ʟ*, *ʟ*, *m*, *n*, *ŋ*, *ɲ*, *p*, *q*, *χ*, *ʀ*, *r*, *s*, *t*, *w*, *x*, *z*, *ʔ*, *a*, *æ*, *e*, *ɛ*, *ə*, *i*, *ɪ*, *o*, *œ*, *ɔ̃*, *ʌ*, *u*, *u*. As far as possible, however, our orthography is phonemic and does not show allophonic variation, so that there are instances where a symbol does not have its usual phonetic value. For example, Wayan Fijian *k* is a voiceless stop word-initially but [k] is in free or stylistic variation with [ɣ] word-medially. The voiced stops *b*, *d*, *g* and the voiced bilabial trill *B* are prenasalised in some languages, but prenasalisation is not written unless it is phonemically distinctive. Where a language has just one rhotic, we usually write *r*, despite the fact that that rhotic is sometimes a flap. Other orthographic symbols (with values in IPA) are:

<i>f</i>	[ɸ, f]	voiceless bilabial or (less often) labio-dental fricative
<i>v</i>	[β, v]	voiced bilabial or (less often) labio-dental fricative
<i>c</i>	[ts], [tʃ]	voiceless alveolar or palatal affricate
<i>j</i>	[dʒ], [dʒ]	voiced alveolar or palatal affricate
<i>y</i>	[j]	palatal glide
<i>dr</i>	[ʀr]	prenasalised voiced alveolar trill (as in Fijian)
<i>õ</i>	[ø]	rounded mid front vowel
<i>ü</i>	[y]	rounded high front vowel

Other superscripts and diacritics are as follows:

- contrastive long vowels are represented by a macron, e.g. *ā*;
- contrastive vowel nasalisation is represented by a tilde, e.g. *ã*;
- high and low tone are represented respectively by an acute and a grave accent, e.g. *é*, *è*;²²
- labialisation is marked by a superscript w, e.g. *p^w*;
- velarisation is marked by a superscript u, e.g. *p^u*;
- contrastive aspiration is marked by a superscript h, e.g. *p^h*;
- contrastive devoicing is marked by a small circle beneath, e.g. *ŋ̥*;
- apicolabials are represented by the corresponding apical symbol and the linguolabial diacritic (the 'seagull'), e.g. *t̪̥*;

²¹ The main reason for retaining Ross's orthography was that the electronic files initially used in this project were drawn in large part from those used in the research reported in Ross (1988).

²² Tone is rare in Oceanic languages, and very rare in the data in this volume. Tonal languages are Yabem, Bukawa (both NNG), Cèmuhî, Paicî, Drubea, Kwênnyii, Numèè (all five NCal).

- retroflexes are represented by the corresponding apical symbol with a dot beneath, e.g. *r̥*.

Except for inflexional morphemes, non-cognate portions of reflexes, i.e. derivational morphemes and non-cognate parts of compounds, are shown in parentheses (...). Where an inflexional morpheme is an affix or clitic and can readily be omitted, its omission is indicated by a hyphen at the beginning or end of the base. This applies particularly to possessor suffixes on directly possessed nouns (see §2.2). Where an inflexional morpheme cannot readily be omitted, it is separated from its base by a hyphen. This may happen because of complicated morphophonemics or because the morpheme is always present, like the attributive *-n* in some NNG and Admiralties languages and prefixed reflexes of the POc article **na* in scattered languages. When a reflex is itself polymorphemic (i.e. the morphemes reflect morphemes present in the reconstructed etymon) or contains a reduplication, the morphemes or reduplicates are also separated by a hyphen.

Languages from which data are cited in this volume are listed in Appendix B in their subgroups or linkages, together with an index allowing the reader to find the subgroup to which a given language belongs. Appendix B also includes alternative language names. The difficulty of deciding where the borderline between dialect and language lies, combined with the fact that these volumes contain work by a number of contributors, has resulted in some inconsistency in the way dialects are labelled in cognate sets. Some occur in the form ‘Lukep (Pono)’, i.e. the Pono dialect of the Lukep language, whilst others are represented simply by the dialect name, e.g. Iduna, noted in Appendix B as ‘Iduna (= dialect of Bwaidoga)’.

1.5.3 Conventions used in representing reconstructions

Reconstructions are marked with an asterisk, e.g. **Rumaq* ‘dwelling house’, in keeping with the standard convention in historical linguistics. POc reconstructions, and also PWOc and PNGOc reconstructions, are given in the orthography of §1.7. For reconstructions at higher-order interstages the orthographies are those used by Blust in his various publications and the ACD. Reconstructions at lower-order interstages are given in the standard orthography adopted for data (§4.2). Geraghty’s (1986) PCP orthography, for example, is based on Standard Fijian spelling, and is converted into our standard orthography in the same way as Fijian spelling is. In practice, this means that the orthographies for PEOc, PROc and PCP are the same as for POc, except that a distinction between **p* and **v* is recognised and **R* is generally absent from PCP.²³ Biggs and Clark’s PPn reconstructions are in any case written in an orthography identical to our standard. Bracketing and segmentation conventions in protoforms are shown in Table 1.1.

PMP final consonants are usually retained in POc in absolute word-final position. In many cases decisive evidence for retention or loss can be found in those Oceanic languages that usually retain final consonants. However, there are some cases where it is uncertain whether POc kept a PMP final, as when a PMP etymon is not attested in an Oceanic language that consistently retains POc final consonants. An example is

²³ Geraghty (1990:91) records a small number of cases where certain Fijian dialects retain POc **R* as *l*, indicating that it was retained sporadically in PCP. It is always lost in his ‘Tokalau Fijian’ and in Polynesian.

Table 1.1. Bracketing and segmentation conventions in protoforms

(x)	it cannot be determined whether <i>x</i> was present
(x,y)	either <i>x</i> or <i>y</i> was present
[x]	the item is reconstructable in two forms, one with and one without <i>x</i>
[x,y]	the item is reconstructable in two forms, one with <i>x</i> and one with <i>y</i>
x-y	<i>x</i> and <i>y</i> are separate morphemes
x-	<i>x</i> takes an enclitic or a suffix
<x>	<i>x</i> is an infix

*-*d* in PMP **palahud* ‘go down to the sea or coast’, a term reflected in Oceanic only in languages that regularly lose POc final consonants. In such cases the consonant is reconstructed in parentheses, e.g. POc **palau(r)* ‘go to sea, make a sea voyage’.

In presenting words that display anomalies of form, it is often necessary to posit an expected form. For example, in §14.6.5.1, the Banoni term *raus* ‘100’ is accompanied by the note “metathesis of †*rasu*”, i.e. ‘metathesis of expected *rasu*’. In this volume we use a less widely employed convention and mark expected forms with a dagger, to distinguish an expected form both from reconstructions and real data.²⁴ Sometimes we need to refer to a reconstructed form that one would expect as the regular reflex of an established POc etymon, but which does not occur because an irregular sound change has occurred. In such cases the dagger and asterisk conventions are used together. For example, in vol. 5:99, we reconstruct PNCV **kaRo* ‘vine, rope; vein’. It is descended, however, from POc **waRo(c)* ‘vine, creeper; string, rope; vein, tendon’, and the expected PNCV form, referred to in our discussion there, would be †**waRo*. The dagger marks it as expected but unattested.

When historical linguists compile cognate sets they commonly retain word for word the glosses given in the sources from which the items are taken. However, again in the interests of standardisation, we have often reworded (and sometimes abbreviated) the glosses of our sources, while preserving the meaning. Where glosses were in a language other than English we have translated them. In the interests of space and legibility, and because data often have multiple sources, we have given the source of a reflex only when it is not included in the listings in Appendix A.

Sometimes our authors use the convention of providing no gloss beside the items in a cognate set whose gloss is identical to that of the POc (or other lower-order) reconstruction at the head of the set, i.e. the reconstruction which they reflect.

Where necessary, we use ‘(N)’ to indicate that a gloss is a noun, and ‘(v)’, ‘(vi)’, ‘(vt)’ or ‘(vst)’ to indicate that it is a verb, intransitive verb, transitive verb or stative verb. Because in many environments transitive verbs were regularly formed from the intransitive stem by adding the suffix **-i-* (vol. 5:24), in many cases the intransitive and transitive verbs are simply shown in sequence, e.g. POc **qalo(p)*, **qalop-i-* ‘beckon with the palm downward, wave’. In such cases, the first verb is always intransitive, the second (in **-i-*) transitive.

Within glosses we use the conventional abbreviations ‘k.o.’ (as in ‘k.o. yam’) for ‘kind of’, ‘s.o.’ for ‘someone’ and ‘s.t.’ for ‘something’.

²⁴ Another convention sometimes used for this purpose is a double asterisk, e.g. ***tau*: we prefer the dagger on aesthetic grounds.

Table 1.2. POC consonants used in reconstructions in the six volumes of this work
Shadings are explained in §1.8.2

	labialised						labialised	uvular
	bilabial	bilabial	dental	alveolar	palatal	velar	velar	
stop voiceless	*p ^w	*p	*t		*c	*k	*k ^w	*q
stop voiced	*b ^w	*b		*d	*j	*g		
trill				*r				
prenasalised trill				*dr				
nasal	*m ^w	*m		*n	*ñ	*ŋ		
fricative				*s				
lateral				*l				
approximant	*w				*y			

1.6 Proto Oceanic bound morphology

Proto Oceanic bound morphology is not discussed in this volume, other than in §2.2, as the use of possessor suffixes with inalienably possessed nouns plays a role in reconstructions in chapter 2.

An account of aspects of POC morphology, especially verbal derivational morphology, is given in vol.5:21–26, where it is followed by some comments on the fossilisation of earlier morphology in POC forms (vol. 5:26–30).

1.7 Proto Oceanic phonology and orthography

Work based on the sound correspondences of both Oceanic and non-Oceanic languages has resulted in the reconstructed paradigm of POC consonants shown in Table 1.2. A number of Oceanic (and non-Oceanic) languages attest to the facts that *t was dental, *d alveolar. This is significant in the prehistory of POC discussed below (§1.8.2.3). The POC vowels that occur in our reconstructions are *i, *e, *a, *o, *u.

In the light of recent work it is likely that both the consonant and vowel sets require some revision. We return to this in sections 1.8.2 and 1.8.3.

Lynch (2000b) concludes that POC stress fell on the penultimate mora. Each vowel counted as one mora, and so did the final consonant if there was one. Hence the stress of a word that ended in a vowel like *kutu ‘head louse’ (a mora is indicated by an underscore) fell on its penultimate syllable: *kútu. The stress of a word that had a final consonant, like *manuk ‘bird’, fell on the final syllable: *manúk. Note that an inalienably possessed noun (§2.2) took a possessor suffix, and that this must have resulted in stress shift: *máta ‘eye’, but *matá-gu ‘my eye’. Inalienably possessed nouns are marked with a final hyphen in our reconstructions: *mata- ‘eye’.

Table 1.3. POc orthographies after Grace (1969) and Ross (1988)

Grace		*p	—	*t	*d/*r	*s	*j	*k	—	
Ross	<i>oral grade</i>	*p	*p ^w	*t	*r	*s	*c	*k	*k ^w	
Grace		*mp	*ŋp/*mpw	*nt	*nd		*nj	*ŋk		
Ross	<i>nasal grade</i>	*b	*b ^w	*d	*dr/*nr		*j	*g		
Grace	*m	*ŋm/*mw	*n	*ñ	*ŋ	*w	*y	*l	*q	*R
Ross	*m	*m ^w	*n	*ñ	*ŋ	*w	*y	*l	*q	*R
Grace		*i	*e	*a	*o	*u				
Ross		*i	*e	*a	*o	*u				

Table 1.3 shows two POc orthographies. The first was established by Biggs (1965) for PEOc and applied to POc by Grace (1969). It was used with a number of variants, separated by a slash in Table 1.3. The second orthography, used here and in the POc reconstructions in these volumes is from Ross (1988, 1989), with the addition of *p^w (introduced without comment by Blust 1984) and *k^w (Ross 2011). The terms “oral grade” and “nasal grade” belong to the terminology of Oceanic historical phonology (§1.8.1 and §1.8.2).

1.8 The phonological prehistory of Proto Oceanic

In section 1 we expressed the hope that the material would be a rich source of data for historical linguistics. Section 1.8.2 and its subsections, along with §1.9, report on research based on the POc reconstructions in volumes 1–5. First, however, we recapitulate the currently conventional view of POc phonology.

The widely accepted hypothesis about the provenance of Proto Oceanic is shown in Figure 1.5. It is due to Robert Blust, originally presented in Blust (1977a) and repeated with modifications and accumulated supporting evidence in subsequent publications (Blust 1978a, 1982a, 1983–84b, 1993, 2009). New research based on the reconstructions in volumes 1–5 and summarised in §1.8.2 and its subsections, §1.9.1 proposes that this hypothesis—we will call it the “accepted hypothesis”—should be retired. The fresh research confronts us with the need to reassess the part of the tree that is headed by Proto Central/Eastern Malayo-Polynesian. This leads to a re-evaluation in §1.9.3 of where Proto Oceanic came from.

The conventions used in Figure 1.5 are those outlined in §1.4.3.1 for Figure 1.1. Thus *Formosan languages* in Figure 1.5 indicates a collection of languages descended (along with PMP) from PAn (Blust 1999). They are spoken in Taiwan, but do not form a subgroup. There was no “Proto Formosan”, as Formosan languages and language groups are all descended directly from PAn. Despite references to “Proto Western Malayo-Polynesian”, *Western Malayo-Polynesian languages* have never been seriously considered a subgroup of Austronesian (Ross 1995; Adelaar 2004). Smith (2017) provides a set of hypotheses

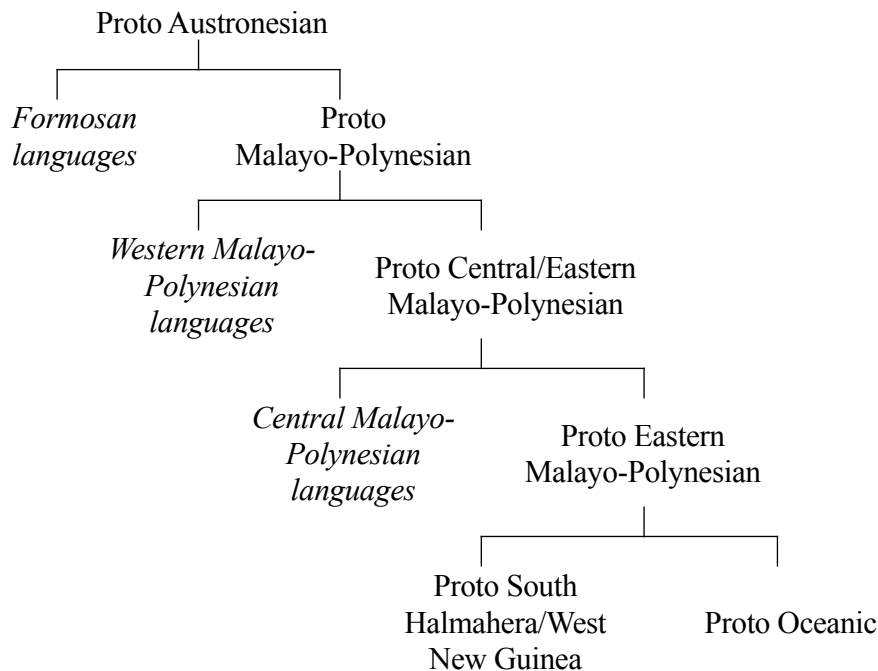


Figure 1.5 Schematic diagram showing the widely accepted genealogy of the Austronesian family

about the groups that make up wMP.²⁵ Their common ancestor is PMP. Recent years have seen renewed research into the Central Malayo-Polynesian languages and those of South Halmahera/West New Guinea, and we turn to this in §1.9.

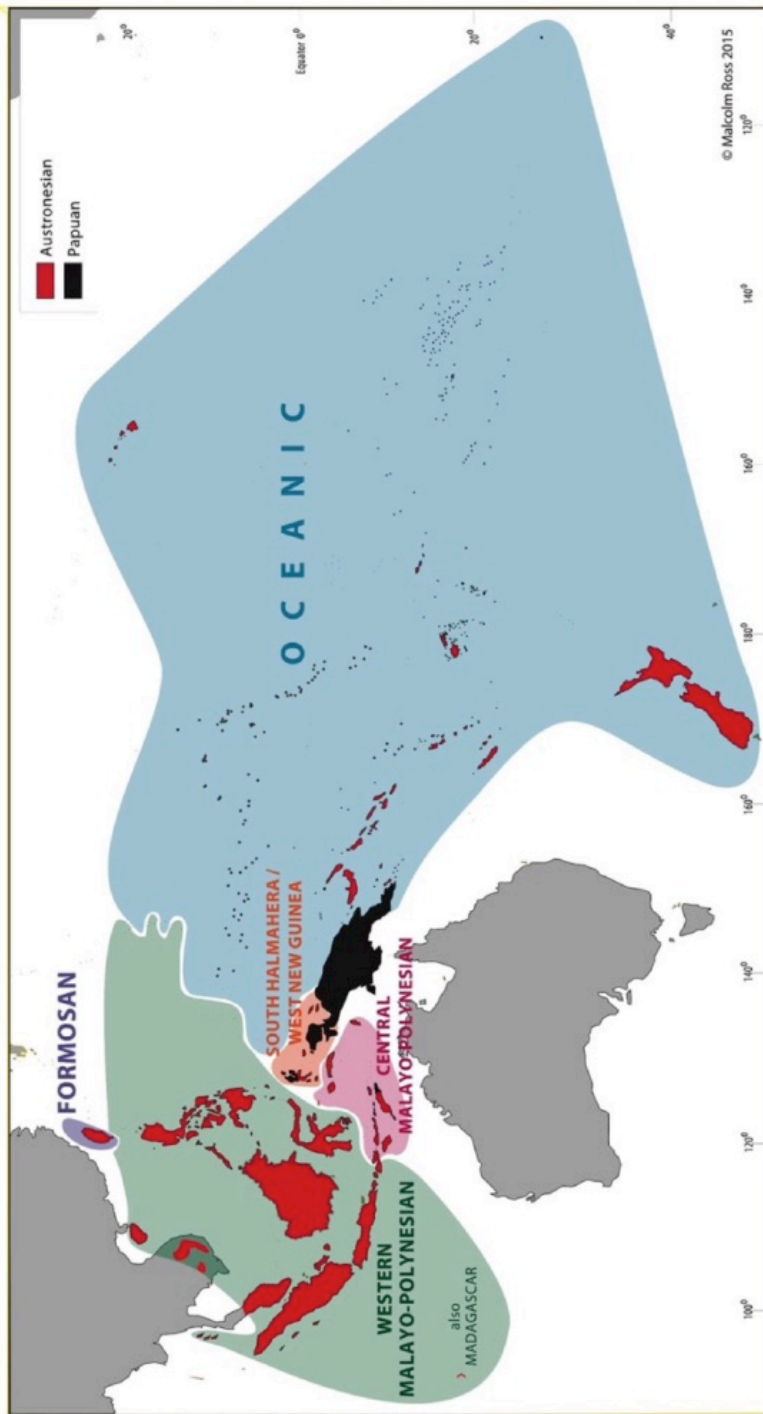
1.8.1 The Proto Austronesian and Proto Malayo-Polynesian antecedents of Proto Oceanic phonology

First, though, it is noteworthy that much research on the prehistory of the POc lexicon has focussed on phonological changes that occurred between PMP and POc. This is because PMP and POc are protolanguages clearly defined by shared innovations, the bedrock of the linguistic comparative method, whereas Blust’s two proposed interstages, PCEMP and PEMP (Blust 1978), are only weakly defined.

We give here a conventional account of POc innovations, before revising this history in §1.8.2 in the light of research based on the reconstructions in volumes 1–5.

The Oceanic subgroup is defined by a set of shared innovations relative to PMP. It was on the basis of some of these that Dempwolff (1927, 1937) first recognised his *Urmelanesisch* (‘Proto Melanesian’) as a major Austronesian subgroup. In the 1937 work he also recognised that Polynesian languages shared the innovations of *Urmelanesisch*, and so the concept of an

²⁵ We use Blust’s abbreviations for the groupings he discusses, including “CMP”. We use “central Malayo-Polynesian”, abbreviated “cMP” and “wMP” respectively for the languages of his CMP and Western Malayo-Polynesian when we want to refer to them without Blust’s subgrouping assumptions.



Map 1.5 The Austronesian language family and major subgroups according to the accepted hypothesis

Table 1.4. Correspondences between PMP and POc protofonemes as currently understood

PAn		*p, *b	—	*t, *C	*d, *r	*s, *z	*j	*k, *g	—		
PMP		*p, *b	—	*t	*d, *r	*s, *z	*j	*k, *g	—		
POc	oral grade:	*p	*p ^w	*t	*r	*s	*c	*k	*k ^w		
	nasal grade:	*b	*b ^w	*d	*dr	*j		*g	—		
PAn	*m	—	*n, *-L(-)	*ñ	*ŋ	*w	*y	*l, *L-	*q	*R	*S
PMP	*m	—	*n	*ñ	*ŋ	*w	*y	*l	*q	*R	*h
POc	*m	*m ^w	*n	*ñ	*ŋ	*w	*y	*l	*q	*R	*∅
PAn/PMP	*i, *-uy(-)	*e [ə], * -aw		*-ay	*a	*u					
POc	*i	*o		*e	*a	*u					

Oceanic subgroup entered the literature. However, naming it took a while. Grace (1955) defined the borders of the new subgroup and called it “Eastern Malayo-Polynesian”.²⁶

Meanwhile, Milke (1958b) made frequent reference to *ozeanisch-austronesische Sprachen* (‘Oceanic-Austronesian languages’) and in 1961 finally adopted the terms *ozeanische Sprachen* and *proto-Ozeanisch* (‘Oceanic languages’, ‘Proto Oceanic’), which were soon adopted by his colleagues.

Correspondences between PAn, PMP and POc protofonemes are shown in Table 1.4. PAn protofonemes are shown for reference, as the volumes of this work cite PAn reconstructions fairly often.

Certain POc innovations exclusive to Oceanic languages are immediately visible in the form of a number of mergers and splits, highlighted in colour in Table 1.4.

- The PMP voiced/voiceless pairs **p*/**b*, **k*/**g* and **s*/**z* and the PMP pair **d*/**r* each merged respectively as **p*, **k*, **s* and **r* in an interstage that we label ‘Proto X’
- Proto X **p*, **k*, **s* and **r* then split to give POc “oral-grade” **p*, **k*, **s* and **r* and “nasal-grade” **b*, **g*, **j* and **dr* (the “grade” terms are explained in §1.8.2). Although **t* did not participate in the merger in (a), **t* did participate in the split, with POc oral-grade **t* and nasal-grade **d*.
- A small complication is that PMP **j* did not participate in the merger in (a), but did participate in the split in (b), its POc nasal grade merging with that of **s*.

Ozanne-Rivierre (1992) suggests that the corresponding **t*/**d* merger was hindered by the mismatch in point of articulation between dental **t* and alveolar **d*, a mismatch attested in many non-Oceanic Austronesian languages.

Table 1.5 is a corrected and expanded version of the table in Blust (2013:599) showing examples of PMP reconstructions and their POc continuations. It illustrates the combined effect of (a) and (b): each of the PMP pairs **p*/**b*, **k*/**g*, **s*/**z* and **d*/**r* first merged and then split. The set of changes in (a) and (b) alone is unusual enough to be strong evidence for the integrity of the Oceanic subgroup.

Another set of innovations is the introduction of the labiovelars **p^w*, **b^w*, **m^w* and **k^w* into Proto Oceanic (Blust 1981b; Lynch 2002; Ross 2011). Many items containing a

²⁶ Blust (1978a) redefined this label as also including the SHWNG languages.

Table 1.5. Examples of PMP reconstructions and their POc continuations showing the effects of the mergers and splits giving rise to POc consonant grade

segment	PMP	POc	grade	gloss
*p-	<i>pitu</i>	<i>pitu</i>	oral	seven
*p-	<i>punay</i>	<i>bune</i>	nasal	pigeon
*-p-	<i>hapuy</i>	<i>api</i>	oral	fire
*-mp-	<i>t-umpu</i>	<i>tubu</i>	nasal	ancestor
*b-	<i>bulan</i>	<i>pulan</i>	oral	moon
*b-	<i>beRek</i>	<i>boRok</i>	nasal	pig
*-b-	<i>qabu</i>	<i>qapu</i>	oral	ashes
*-mb-	<i>ambit</i>	<i>abit</i>	nasal	hold in hand
*t-	<i>taqun</i>	<i>taqun</i>	oral	year
*t-	—	—	(nasal)	—
*-t-	<i>qutin</i>	<i>qutin</i>	oral	penis
*-nt-	<i>-nta</i>	<i>-da</i>	nasal	P: 1 INC.PL
*-nt-	<i>punti</i>	<i>pudi</i>	nasal	banana
*d-	<i>duha</i>	<i>rua</i>	oral	two
*d-	<i>daRaq</i>	<i>draRaq</i>	nasal	fresh water
*-d-	<i>kuden</i>	<i>kuron</i>	oral	cooking pot
*-nd-	<i>pandan</i>	<i>padran</i>	nasal	pandanus
*s-s-	<i>susu</i>	<i>susu</i>	oral	breast
*s-	<i>siRi</i>	<i>jiRi</i>	nasal	a shrub: Cordyline
*-s-	<i>ηusuq</i>	<i>ηuju-</i>	nasal	lips, snout, beak
*z-	<i>zaqat</i>	<i>saqat</i>	oral	bad
*-z-	<i>quzan</i>	<i>qusan</i>	oral	rain
*z-	<i>zalan</i>	<i>jalan</i>	nasal	path, road
*-z-	<i>tazim</i>	<i>tajim</i>	nasal	sharp
*k-	<i>kali</i>	<i>kali</i>	oral	dig
*k-	<i>kumuR</i>	<i>gumu</i>	nasal	gargle, rinse mouth
*-k-	<i>seka</i>	<i>soka</i>	oral	pierce, stab
*-ηk-	<i>lankaw</i>	<i>lago</i>	nasal	tall, long
*g-	<i>gaway</i>	<i>kawe</i>	oral	octopus tentacle
*g-	<i>gemgem</i>	<i>gogom</i>	nasal	hold in fist
*-g-	<i>liget</i>	<i>likot</i>	oral	turn, rotate
*-g-	—	—	(nasal)	—

labiovelar lack non-Oceanic cognates, and some, at least, must have been borrowed into POc from neighbouring Papuan languages. For example, **m^wapo(q)* ‘taro’ was apparently borrowed by POc speakers as they copied taro-growing techniques from Papuan speakers (vol.3, p267). In some inherited items a labial became a labiovelar next to a round vowel, but it is not clear whether the labiovelar actually occurred in POc. Thus a number of Oceanic languages reflect **tam^wata* ‘man, husband’, derived from **tau* ‘body, person’ + **mataq* ‘unripe, immature, young’, but we cannot be sure whether **tam^wata* or **taumata(q)* was the POc form (vol. 5:43–44).

Collectively, innovations affecting the vowels are also exclusive to Oceanic, although individually each of them occurs in various non-Oceanic languages:

- (i) PMP **e*, phonetically [ə], became POc **o*.
 (ii) PMP word-final diphthongs **-uy(-)*, **-aw* and **-ay* were simplified to POc **-i*, **-o* and **-e* respectively, the first two thereby merging with plain vowels.²⁷

A further innovation that has come to light during work on these volumes concerns certain PMP trisyllabic roots with **-e-* ([ə]) as the nucleus of their penultimate syllable. These trisyllables lost **-e-* in POc, along with one consonant of the resulting consonant cluster:

PMP <i>*biseqak</i>	POc <i>*pisa(k)~*pisak-i-</i> ‘split’ (vol. 1:261)
PMP <i>*ma-udehi</i>	POc <i>*muri</i> ‘be behind’ (vol. 2:251)
PMP <i>*tuqelan</i>	POc <i>*tuqan</i> ‘bone’ (vol. 5:85)
PMP <i>*baReqaŋ</i>	POc <i>*paRa(ŋ)</i> ‘molar tooth’ (vol. 5:133),
PMP <i>*buteliR</i>	POc <i>*putiR</i> ‘wart’ (vol. 5:344).
PMP <i>*buqeni</i>	POc <i>*puni</i> ‘ringworm, <i>Tinea imbricata</i> ’ (vol. 5:346)
PMP <i>*ma-heyaq</i>	POc <i>*maya(q)</i> ‘shy, embarrassed; ashamed’ (vol. 5:585).

The conditioning of this change remains unclear, as it did not affect the etyma below:

PMP <i>*maqesak</i>	POc <i>*maosak</i> ‘ripe, cooked’ (vol.1:157),
PMP <i>*baqeRu</i>	POc <i>*paqoRu</i> ‘new’ (vol.2:203),
PMP <i>*qateluR</i>	POc <i>*qatoluR</i> ‘egg’ (vol.4:278)
PMP <i>*qulej-an</i>	POc <i>*quloc-a(n)</i> ‘maggoty’ (vol.4:415).

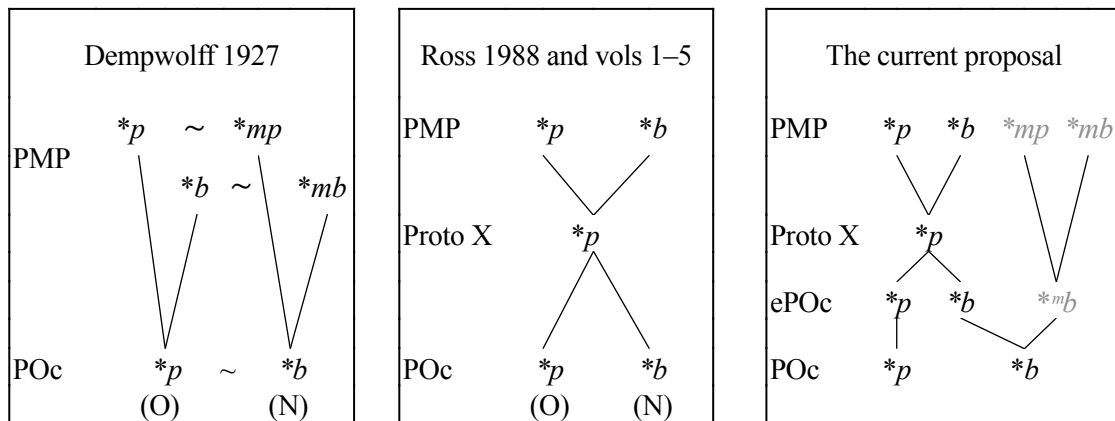
PMP **qalejaw*/POc **qaco* ‘daylight, sun’ (vol. 2, pp153–155) appears exceptionally to have lost the first consonant of the cluster, but there is evidence that a PAn variant **qajaw* was ancestral to POc **qaco*.

1.8.2 Reinterpreting the origins and distribution of POc oral- and nasal-grade consonants

This section presents a revision of the history sketched in §1.8.1, as promised there.

Figure 1.6 diagrams three accounts of the history of POc **p* and **b*. In the first two accounts ‘(N)’, ‘nasal grade’, implies that POc **b* reflected an earlier nasal + obstruent sequence (**mp*, **mb*) and was perhaps prenasalised (POc **[mb]*). The terms ‘oral grade’ and ‘nasal grade’ were coined by Grace (1959:27) to refer to the pairs of POc obstruents that had been recognised by Dempwolff (1927).

²⁷ The notation **-uy(-)* reflects the fact that there is one known case where the change to **i* occurred word-medially: PMP **kamuihu* (independent 2PL pronoun) > **kamuyu* > POc **kamiu*.



(O) = “oral grade”; (N) = “nasal grade”.

Figure 1.6 Three analyses of the phonological history of POc **p* and **b*

Dempwolff inferred that PMP **p* and **b*, for example, merged as POc **p*, while PMP **mp* and **mb* merged as POc **b*.²⁸ He made parallel assumptions about PMP **k/*g* versus PMP **ŋk/*ŋg*, and PMP **s/*z/*j* versus PMP **ns/*nz/*nj*.²⁹ He also assumed that, e.g., PMP **p* and **mp*, or **b* and **mb*, were in free variation and that they became fossilised randomly in each Oceanic daughter-language, such that a word might begin with a reflex of **p* in one daughter-language but a reflex of **mp* in another.

Despite the obvious improbability of this assumption and the frequent discussions of consonant grade, reviewed by Grace (1990), the randomness assumption was maintained in some form until the publication of Ross (1988).³⁰ The latter found that in the vast majority of POc etyma with one or more “graded” consonants, the grade of each consonant can be reconstructed unambiguously because its Oceanic reflexes agree in grade, a finding supported by the cognate sets in the present work. The illusion of randomness had two sources. First, although Milke (1968) had correctly identified POc **j* (his **nj*) as the nasal-grade consonant paired with oral-grade **s*, most scholars assumed that various lenited reflexes of **s* reflected the nasal grade, so that the pair of **s* grades seemed almost chaotic (Ross 1988:71–93; 1989). Second, various regular local processes such as Admiralties secondary nasal grade (Ross 1988:337–341) and Eastern Fijian apical prenasalisation (Geraghty 1983:74–96) had masked consonant grade in some languages.

The fact that consonant grade can be reconstructed without ambiguity in most POc etyma largely rids POc of Dempwolff’s posited randomness, but, as the middle panel in Figure 1.6 indicates, PMP **p* and **b* must have merged as Proto X **p*, which then split into POc **p* and **b*. Similar processes applied to PMP **k/*g* and **s/*z/*j*. This is the position adopted in the introductions to volumes 1 to 5 of this work. Ross (1988) retained the assumption that the POc voiced obstruents were “nasal grade”, i.e. reflected nasal +

²⁸ We replace Dempwolff’s orthographies with those of Table 1.4.

²⁹ Dempwolff (1927, 1937) and Milke (1961) both used the term *Nasalverbindung* for **mp*, **mb* etc, translated as ‘nasal cluster’ by Milner (1965). Grace coined terms that expressed the pairedness of **p/*mp* etc. The assumption that a “nasal grade” consonant reflected an earlier nasal cluster is enshrined in his POc orthography (Table 1.3).

³⁰ Grace notes in his 1990 paper that he had written the latter before he had access to Ross (1988).

obstruent sequences. He attempted unsatisfactorily to explain the splits as the effects of derivational morphology (Reid 2000).

This still leaves two questions about the origin of POc consonant grade unanswered:

- (a) How did the POc splits come about?
- (b) Do POc “nasal-grade” consonants have a nasal origin?

As a result of new research based on the POc reconstructions in volumes 1–5, we have a partial answer to (a) and a definitive answer to (b), shown in the righthand panel of [Figure 1.6](#). Following Proto X (§1.8.1), this panel shows two further interstages, “ePOc” and POc. “POc” denotes the language reconstructed in these volumes, equated with its state immediately before its break-up into daughter-languages (Pawley 2008a); and “ePOc” denotes “early POc”, a stage sometime before POc, but after its speakers settled in the Bismarck Archipelago.

Comparing reconstructions in previous volumes with their ancestral PMP forms in the acd, we find that ePOc had *three* grades of obstruent: voiceless, voiced and prenasalised. Its voiceless obstruents are Grace’s oral-grade segments, but a majority of his “nasal-grade” segments reflect plain voiced obstruents. The prenasalised obstruents are true nasal-grade obstruents, reflecting inherited nasal + obstruent clusters. They may be inherited from PMP or from a more recent ancestor. This is the situation depicted in the righthand diagram of [Figure 1.6](#), where the grey of the prenasalised obstruents indicates their rarity.

1.8.2.1 The POc voiceless and voiced obstruents

Our database of POc reconstructions from volumes 1–5, along with their PMP ancestral forms (drawn directly from the ACD), contains 729 etyma.³¹ In total these reconstructions contain 429 initial and medial instances of the the PMP obstruents listed in the leftmost column of [Table 1.6](#). The columns headed ‘> POc’ show the voiceless and voiced outcomes of the PMP phonemes (prenasalised ePOc outcomes are discussed in the next subsection). To the right of each POc obstruent in [Table 1.6](#) are shown its number of instances as an absolute figure and as a percentage of the PMP obstruent in the leftmost column.

Table 1.6. Instances of PMP obstruents and their POc voiceless and voiced reflexes

PMP	total	POc voiceless reflexes			POc voiced reflexes		
		> POc	total	%	> POc	total	%
*p	94	*p	82	87.2	*b	12	12.8
*b	128	*p	101	78.9	*b	27	21.1
*s	75	*s	69	92.0	*j	6	8.0
*z	14	*s	10	71.4	*j	4	28.6
*-j-	17	*-c-	13	76.5	*-j-	4	23.5
*k	93	*k	91	97.8	*g	2	2.2
*g	8	*k	8	100.0	(*g)	0	
*C	429	*C _{voiceless}	374	87.2	*C _{voiced}	55	12.8

³¹ This total excludes POc reconstructions for which no ancestor was found in the ACD.

The table tells a somewhat unexpected story. Only 13 per cent of the instances of PMP obstruents end up as POc voiced obstruents. It is also unclear whether Proto X **k* actually split into POc **k* and **g*. PMP **p/*b*, **k/*g* and **s/*z* each evidently merged as the Proto X phonemes **p*, **k* and **s*. Proto X **p* and **s* then split into POc **p/*b* and **s/*j* respectively. If Proto X **k* split, the outcome is inconsequential. Only eight instances of PMP **g* occur in the first place, against 93 instances of PMP **k*. No instances of PMP **g* end up as POc **g*, and just two instances of PMP **k* do so.

As noted above, PMP **t* (129 instances) did not participate in these processes and is always reflected as POc **t*. PMP **r*, with 27 instances, is omitted from the table because all its POc outcomes are **r*. PMP **d* probably underwent a split, but the split was in prenasalisation, not in voicing (§1.8.2.3).

1.8.2.2 The POc prenasalised obstruents

POc reflexes of PMP nasal + obstruent clusters are omitted from Table 1.6, as the numbers of reflexes are generally few and would skew the table's percentages. Instead, POc reflexes of these PMP clusters are shown separately in Table 1.7. The instances are all in etyma drawn from the ACD (and found among the POc reconstructions in volumes 1-5). Instances of nasal + obstruent clusters that arose sometime between the break-up of PMP and the break-up of POc are not shown in Table 1.7, as they would obscure the relationship between PMP and POc.

PMP nasal + obstruent clusters are reflected as POc unitary phonemes. In fact their POc outcomes appear to be the same as those of PMP voiceless and voiced obstruents in Table 1.6, but we argue below in §1.8.2.4 that this is incorrect, and reconstruct ePOc prenasalised rather than voiced outcomes in Table 1.7. The PMP clusters are shown in the table as **-Np-/*-Nb-* etc as there are instances where the cluster is not homorganic. Some are the result of reduplication of a monosyllable, e.g., PAN/PMP **demdem* 'dark, gloomy, overcast', attested with *-md-* in Formosan and many Philippine reflexes (ACD), but becoming **dendem* at some intermediate interstage and thence POc **rodrom* (vol.2:308). POc **-dr-* is a unitary phoneme reflecting earlier **-nd-* (PCEMP **-nd-* according to Blust 1977b).

Table 1.7. Instances of PMP nasal + obstruent clusters and their POc reflexes

PMP	total	POc voiceless reflexes		ePOc prenasalised reflexes	
		> POc	total	> ePOc	total
<i>*-Np-</i>	4	<i>*-p-</i>	2	<i>*-^mb-</i>	2
<i>*-Nb-</i>	12	<i>*-p-</i>	5	<i>*-^mb-</i>	7
<i>*-Nk-</i>	13	<i>*-k-</i>	8	<i>*-^ŋg-</i>	5
<i>*-Ng-</i>	2	<i>*-k-</i>	0	<i>*-^ŋg-</i>	2
<i>*-Nt-</i>	6	<i>*-t-</i>	3	<i>*-ⁿd-</i>	3
<i>*-Nd-</i>	3	<i>*-r-</i>	1	<i>*-ⁿr-</i>	2
<i>*-Ns-</i>	2	<i>*-s-</i>	1	<i>*-^ŋj-</i>	1
<i>*-Nz-</i>	1	<i>*-s-</i>	1	<i>*-^ŋj-</i>	0
totals	44		21		22

Blust (2022) shows that homorganic nasal + obstruent clusters were present in PMP, but were rare, as Table 1.7 confirms. Their very rarity has meant that scholars have paid little attention to them as a discrete category (Collins 1983 and Mills 1991 are exceptions). Further, reconstructions in the ACD for PCEMP, the next node below PMP in Blust’s tree (Figure 1.5), show little sign of acquiring nasal + obstruent clusters, other than those resulting from reduplications.

The ACD includes just four PCEMP items which contain nasal + obstruent clusters and have no cognates outside CEMP. They are:³²

PCEMP <i>*tambu</i>	POc <i>*tabu</i>	‘forbidden, taboo’ (this volume, chapter 10)
PCEMP <i>*kandoRa</i>	POc <i>*kadroRa</i>	‘cuscus’ (vol. 4:225)
PCEMP <i>*wan̄ka</i>	POc <i>*waga</i>	‘canoe’ (vol. 1:178)
PCEMP <i>*mans[ə,a]r</i>	POc <i>*m^waja(r,R)</i>	‘bandicoot’ (vol. 4:228)

Table 1.5 illustrates the fact that voiced and prenasalised obstruents are conventionally treated as a single—nasal-grade—POc category, as their reflexes in almost all Oceanic languages are identical. Of the POc medial nasal-grade items in that table, those reflecting PMP **t-umpu*, **ambit*, **-nta*, **punti*, **pandan* and **lan̄kaw* ancestrally had a nasal + obstruent cluster, while those reflecting **ŋusuq* and **tazim* did not. Only 22 POc “nasal-grade” consonants in our database were descended from nasal + obstruent clusters (Table 1.7). Fifty-five reflect PMP plain voiceless or voiced obstruents (Table 1.6).

Table 1.6 allows us finally to understand where POc voiced initial consonants came from. Ever since Dempwolff (1927) the default assumption has been that they reflected nasal + obstruent clusters, with scholars trying—and failing—to find grounds to reconstruct ancestral initial nasal + obstruent clusters (Milner 1965; Ross 1988:39–43; Grace 1990; Reid 2000). The reason for the failure is now evident: POc initial “nasal-grade” obstruents actually reflect PMP plain voiceless or voiced obstruents (Table 1.6). PMP nasal + obstruent clusters were always medial (Table 1.7). They never occurred initially.

1.8.2.3 PMP **t*, **d* and **r*

We have seen that PMP **t* and **d* did not form a voiceless/voiced pair, as they had different points of articulation.

With regard to PMP **t*, there is a mismatch between the findings reported in Table 1.6 and Table 1.7. The former reports that PMP **t* did not undergo the merger-and-split sequence that affected PMP **p* and **s*, and therefore did not give rise to POc “nasal-grade” (voiced) reflexes. Hence PMP initial **t* is never reflected as POc **d*. But Table 1.7 reports three POc etyma reflecting PMP **-nt-*, namely the P:1INC.PL suffix **-ⁿda* (< PMP **-nta* < **=ni-ta*; Blust 1977a), **puⁿdi* ‘banana’ (< PMP **punti*) and **maⁿdala(q)* ‘the morning star’ (< PMP **mantalaq-*). This was the sole source of “nasal-grade” reflexes of **t*, and the overall rarity of earlier nasal + obstruent sequences explains why POc has so few reflexes of **-nt-*.

POc **r* and **dr*, outcomes of the split of PMP/Proto X **d*, have conventionally been treated as one of the POc oral-/nasal-grade phoneme pairs (§1.8.2.1). Within the earlier

³² We are aware that the PCEMP reconstructions for ‘cuscus’ and ‘bandicoot’ are controversial. The POc reconstructions, however, are well supported. See further Grimes & Edwards, in prep.

framework this characterisation was correct, as the POc phonological contrast was evidently *[r] vs *[n^(d)r].³³ However, we have above recast the conventional POc oral-/nasal-grade pairings as voiceless/voiced pairings. But the feature that distinguishes **dr* from **r* is prenasalisation, not voicing, so it does not belong to this pair set.

Our database has 40 instances of PMP **d*, of which 33 are reflected as POc **r* and seven as POc **dr*. PMP **r*, with 27 instances, is omitted from Table 1.6 because all its POc outcomes are **r*. At some point the **r* reflexes of PMP **d* and **r* merged as POc **r*.

1.8.2.4 More evidence for POc prenasalised obstruents

In most Oceanic languages the proposed POc voiced (§1.8.2.1) and prenasalised (§1.8.2.2) phonemes at each point of articulation have merged. The evidence that they were once separate is based primarily on the different sources of each and on the fact that the theory accounts neatly for the relative rarity of reflexes of PMP *-*nt*-. Had they already merged in POc? In this section we propose that they had not, because there is evidence from five Western Oceanic languages that the distinction between voiced and prenasalised obstruents posited for ePOc was retained in POc.

We know of five Western Oceanic languages that contrast voiceless, plain voiced and prenasalised voiced obstruents. They are Mangap (now better known as Mbula), Sio, Tami, Numbami and Sudest. The only close examination of the contrasts that persist in one of these languages is Bradshaw (1978) on Numbami. The first four languages are located in the area of greatest diversity within the North New Guinea cluster, and are not especially closely related, making them possible candidates for retaining an ancient feature. Sudest is a Papuan Tip language. Contra Ross (1988:192) the immediate ancestor of Sudest and Nimowa now appears to have been the first language to break away from the rest of the early Papuan Tip family, making Sudest another candidate for ancient retentions.³⁴ We refer to these five languages as the “distinction-retaining languages”.

The obstruent series in the distinction-retaining languages are:

Mangap			Sio				Tami					
<i>p</i>	<i>t</i>	<i>k</i>	<i>p^w</i>	<i>p</i>	<i>t</i>	<i>k</i>	<i>p^w</i>	<i>p</i>	<i>t</i>	<i>s</i>	<i>k</i>	<i>k^w</i>
<i>b</i>	<i>d</i>	<i>g</i>	<i>b^w</i>	<i>b</i>	<i>d</i>	<i>g</i>	<i>b^w</i>	<i>b</i>	<i>d</i>	<i>j</i>	<i>g</i>	<i>g^w</i>
<i>^mb</i>	<i>ⁿd</i>	<i>^ŋg</i>	<i>^mb^w</i>	<i>^mb</i>	<i>ⁿd</i>	<i>^ŋg</i>	<i>^mb^w</i>	<i>^mb</i>	<i>ⁿd</i>	<i>^{nj}</i>	<i>^ŋg</i>	<i>^ŋg^w</i>
Numbami				Sudest								
<i>p</i>	<i>t</i>	<i>s</i>	<i>k</i>	<i>p^w</i>	<i>p</i>	<i>t</i>	<i>s</i>	<i>k</i>	<i>k^w</i>			
<i>b</i>	<i>d</i>	<i>z</i>	<i>g</i>	<i>b^w</i>	<i>b</i>	<i>d</i>	<i>j</i>	<i>g</i>	<i>g^w</i>			
<i>^mb-</i>	<i>ⁿd-</i>	<i>ⁿz-</i>	<i>^ŋg-</i>	<i>^mb^w</i>	<i>^mb</i>	<i>ⁿd</i>	<i>^{nj}</i>	<i>^ŋg</i>	<i>^ŋg^w</i>			

A preliminary search for cognate sets reflecting POc etyma that include prenasalised consonants reveals an interesting pattern. A small group of etyma is almost always reflected with the prenasalised consonant intact, while a larger collection of etyma is

³³ The POc digraph <dr> was adopted from Fijian orthography to represent POc *[n^dr], the reflex of **dr* in some Admiralties languages (Ross 1988:322) and in most Fijian dialects (Geraghty 1983:184).

³⁴ From the small amounts of data in Sheppard (2020), Nimowa appears not to have prenasalised consonants.

reflected unpredictably with a mixture of plain voiced and prenasalised voiced reflexes. This larger collection suggests that in these items, plain and prenasalised consonants are gradually falling together into a single category. The membership of the small group of cognate sets is significant, as its members include some sets that reflect POC etyma that on independent evidence contained prenasalised obstruents in PMP or PCEMP.

Thus Blust (1977a) reconstructs PMP possessor suffixes that were prenasalised because they consisted of the morph *ni* + pronoun. They retain their prenasalised obstruents in ePOc:

*- <i>ŋgu</i>	P:1SG	< PMP *- <i>ŋku</i> < *= <i>ni-ku</i>
*- <i>nda</i>	P:1INC.PL	< PMP *- <i>nta</i> < *= <i>ni-ta</i>
*- <i>dra</i>	P:3PL	< PMP *- <i>nda</i> < *= <i>ni-da</i>

The first two of these are reflected in the distinction-retaining languages. The P:3PL suffix was replaced by PWOc *-*dri*.³⁵ At some point prenasalisation has been copied onto this etymon.

	P:1SG	P:1INC.PL	P:3PL
PMP	*- <i>ŋku</i>	*- <i>nta</i>	*- <i>nda</i>
ePOc	*- <i>ŋgu</i>	*- <i>nda</i>	*- <i>ra</i>
POc	*- <i>gu</i>	*- <i>da</i>	*- <i>dra</i> , PWOc *- <i>dri</i>
Mangap	- <i>ŋ</i>	- <i>ndV</i>	- <i>n</i>
Sio	- <i>ŋgu</i>	- <i>nda</i>	- <i>nzi</i>
Tami	- <i>ŋ</i>	- <i>n</i>	- <i>n</i>
Numbami	- <i>ŋgi</i>	- <i>ndi</i>	- <i>ndi</i>
Sudest	- <i>ŋgu</i>	- <i>nda</i>	- <i>nji</i>

Further etyma with independent evidence of PMP or PCEMP prenasalised obstruents and reflected in the distinction-retaining languages are given below. A few comments are necessary. The blanks represent cases where, as far as we know, the etymon is not reflected in the relevant language. This pattern reflects the level of lexical replacement in Oceanic languages around the coasts of New Guinea.

	‘pandanus’	‘sago’	‘canoe’	‘betelnut’	‘banana’
PMP/PCEMP	* <i>paŋdan</i>	* <i>R(a,u)mbia</i>	* <i>wan̄ka</i>	* <i>buaq</i>	* <i>punti</i>
ePOc	* <i>paⁿran</i>	* <i>Ra^mbia</i>	<i>waⁿga</i>	* <i>mbuaq</i>	<i>puⁿdi</i>
POc	* <i>padran</i>	* <i>Rabia</i>	* <i>waga</i>	* <i>buaq</i>	* <i>pudi</i>
Mangap	<i>pānda</i>	—	<i>wōŋgo</i>	<i>mbu</i>	<i>pin</i>
Sio	<i>ponda</i>	<i>rambia</i>	<i>won̄ga</i>	—	—
Tami	—	<i>lambi</i>	<i>wan̄</i>	<i>mbu</i>	<i>pun</i>
Numbami	—	—	<i>wan̄ga</i>	<i>buwa</i>	<i>undi</i>
Sudest	—	<i>mbi</i>	<i>wan̄ga</i>	—	—

PMP **paŋdan* acquired its nasal + stop sequence by losing *-*u-* from PAN **paŋudaN*, leaving no doubt that the POc form had a prenasalised consonant. The evidence for the

³⁵ PWOc *-*dri* reflects the nonhuman member of a human/nonhuman distinction found in the pronominal systems of a number of island languages to the west of New Guinea and adopted in Western Oceanic languages as the ordinary 3pl pronoun.

other forms above is less pressing, but they all have so many wMP reflexes with a nasal + stop cluster that one can be confident that the PMP or PCEMP form had the cluster, which was inherited into ePOc as a prenasalised obstruent (**wanga* is PCEMP). This is true of **punti*, but if the argument about PMP **-nt-* in §1.8.2.3 holds, then the POc form can only be a prenasalised stop.

POc **mbuaq* appears to be unique in having a prenasalised initial. The story of this form is difficult to reconstruct. According to the ACD's version, PAn **buaq* continued until POc, where it split into oral-grade-initial **puaq* 'fruit (including betelnut)' and nasal-grade-initial **buaq* 'betelnut'. The mechanism of the split is unknown, but evidence shows that it occurred earlier than POc, as it is reflected in some Wallacean languages.³⁶

These cognate sets attest to the presence of ePOc **mb*, **nd* and **ng* in addition to the consonants in Table 1.2. Given that this preliminary search in distinction-retaining languages was confined to the 200-word lists in the Austronesian Basic Vocabulary Database (Greenhill et al. 2008) with some small additions from single-language sources,³⁷ the result is quite telling.

How do we account for the data from the distinction-retaining languages, four belonging to NNG, one to PT? More research is needed, but the account with the best fit says that they retain a distinction that was present in early POc, but lost in the vast majority of its daughter-languages. This represents drift, i.e. independent parallel innovation, probably due to the paucity of lexical items containing a prenasalised obstruent. Because almost all Oceanic languages lack the distinction between plain voiced and prenasalised voiced obstruents, researchers, including ourselves, have reconstructed POc without it. But since a few WOc languages retained the distinction at the time POc broke up, it should be reconstructed for POc. That is, "ePOc" and "POc" in the righthand panel of Figure 1.6 need to be recalibrated. "ePOc" is the real Proto Oceanic, and "POc" reflects the merger that by the time of its break-up had probably occurred in the dialects ancestral to all non-WOc languages, and in many WOc dialects too.

1.8.3 Revising the history of Proto Oceanic vowels?

Lynch (2022) argues entirely on the basis of Oceanic evidence that the POc vowel system was not the neat conventionally accepted five-vowel system shown in §1.8.1, but a system partway between the PMP four-vowel system of **i*, **e* [ə], **a*, **u* and the five-vowel system that emerged later in most Oceanic languages. We showed in §1.8.1 that in the conventional view the sources of POc vowels were as follows:

POc **i* < PMP **i*, **-uy(-)*
 POc **u* < PMP **u*
 POc **a* < PMP **a*
 POc **-e* < PMP **-ay*

³⁶ The **b-* vs **mb-* split is reflected, for example, in Dena-Oenal (Rote-Meto) *boa?* vs *mbua*; Tetun (Timor) *fua-n* vs *bua*; Uruangnirin (STB) *pua-n* vs *buok*; Masiwang (STB) *fua-n* vs *bua*; E Kola (Aru) *fūi* vs *būi*; but not in Buru-Lisela (Sula-Buru) *fua-n* 'fruit', *fua* 'betelnut'.

³⁷ Bradshaw (1978), Bugenhagen & Bugenhagen (2007a), Anderson (2007), Anderson & Ross (2002), Lincoln (1978), Ross's fieldnotes.

POc **o* < PMP **ə*, -*aw*

Lynch suggests that the POc system of non-final vowels (i.e. discounting POc **-ay* and **-o* from PMP **-ay* and **-aw*) was one of the following three:

(A)	* <i>i</i>	* <i>u</i>	(B)	* <i>i</i>	* <i>u</i>	(C)	* <i>i</i>	* <i>u</i>
	* <i>ə</i>			* <i>ə</i>	* <i>o</i>		* <i>e</i>	* <i>ə</i>
	* <i>a</i>			* <i>a</i>			* <i>a</i>	* <i>o</i>

Lynch’s revision suggests no change to the origins of high **i* and **u* or low **a*. It is the mid vowels that changed, but he is uncertain when. His system A infers that there had been no change in the PMP system by the time POc broke up. Systems B and C both assume that PMP **ə* was in the process of becoming **o* when POc dispersed, and C assumes that **ə* also became POc **e* under certain conditioning.

1.9 Where did Proto Oceanic come from?

The conventional answer to the question, “Where did Proto Oceanic come from?”, is the accepted hypothesis in [Figure 1.5](#). It says that POc is the sibling of PSHWNG, and the two are the only children of PEMP (Blust 1978). PEMP in its turn is a sibling of the CMP languages, and they are all children of PCEMP (Blust 1982a, 1983–84b, 1993). The latter is a sibling of wMP languages and a child of PMP. To our knowledge, no scholar disputes the claim that POc is descended from PMP. However, two recent pieces of research raise the need to look more closely at the intervening stages between PMP and POc.

The first, Kamholz (2014), uses a much larger body of evidence to establish the integrity of Blust’s (1978) PSHWNG on the basis of shared innovations. Kamholz does not examine the probity of PEMP, but the innovations that define his PSHWNG are different enough from those defining POc to invite a re-examination of the PEMP hypothesis.

The other work is Grimes & Edwards’ (in prep.) analysis of available cMP data. They identify eight cMP subgroups on the basis of mostly shared phonological innovations. They find areal similarities, some of them probably consequences of one or more Papuan substrates (see also Schapper 2015; 2018), but no significant exclusively shared innovations across subgroups, and thus no evidence for a putative Proto Central Malayo-Polynesian.

Blust (1993, 2009) views the cMP languages as a linkage on the basis of innovations that chain (§1.4.3.1) various groups together,³⁸ but Grimes & Edwards find little evidence to support such an analysis. Blust’s arguments for PCEMP have evoked vigorous criticism (Donohue & Grimes 2008; Schapper 2011) and responses (Blust 2009, 2012). The lack of evidence for Proto Central Malayo-Polynesian logically entails abandoning PCEMP as well, and this leaves a gap in the the prehistory of POc according to the accepted hypothesis.

Kamholz and Grimes & Edwards indirectly prompt a further look at two POc-related questions:

(a) Are the SHWNG languages the closest relatives of Oceanic?

³⁸ Blust offers Proto Central Malayo-Polynesian reconstructions. We take this to be a convenient fiction to accommodate the reconstruction of etyma that are reflected only in CMP languages, similar in status to PWOc and PSOc reconstructions in the present work (§1.4.4.3).

(b) How are SHWNG and Oceanic related to cMP groups?

Our answer to (a) is, no, the SHWNG languages are probably not the closest relatives of Oceanic. Our answer to (b) is that SHWNG appears more closely related to some of the cMP groups than to Oceanic, while the relationship of Oceanic to cMP languages is ambiguous, implying that it may have branched off the Austronesian tree separately from cMP, perhaps at a node from which various cMP groups branched, or perhaps at a higher node. We can only give a summary of findings here (for more detail see Ross, in prep.).

One other answer to the question, “Where did Proto Oceanic come from?” is implicit in the literature, and it would be remiss of us not to mention it. Bellwood (2011) suggests that Lapita pottery displays a likeness to contemporaneous pottery from the Marianas Islands in Micronesia. As far as we know, the only language then spoken in the Marianas was an earlier form of Chamorro, which originated in the northern Philippines (Blust 2000a). Bellwood’s hypothesis might imply a flow of early Chamorro speakers into the Bismarck archipelago, but there is no linguistic indication of such a presence in POc or its descendants.³⁹

1.9.1 Blust (1978) on PEMP

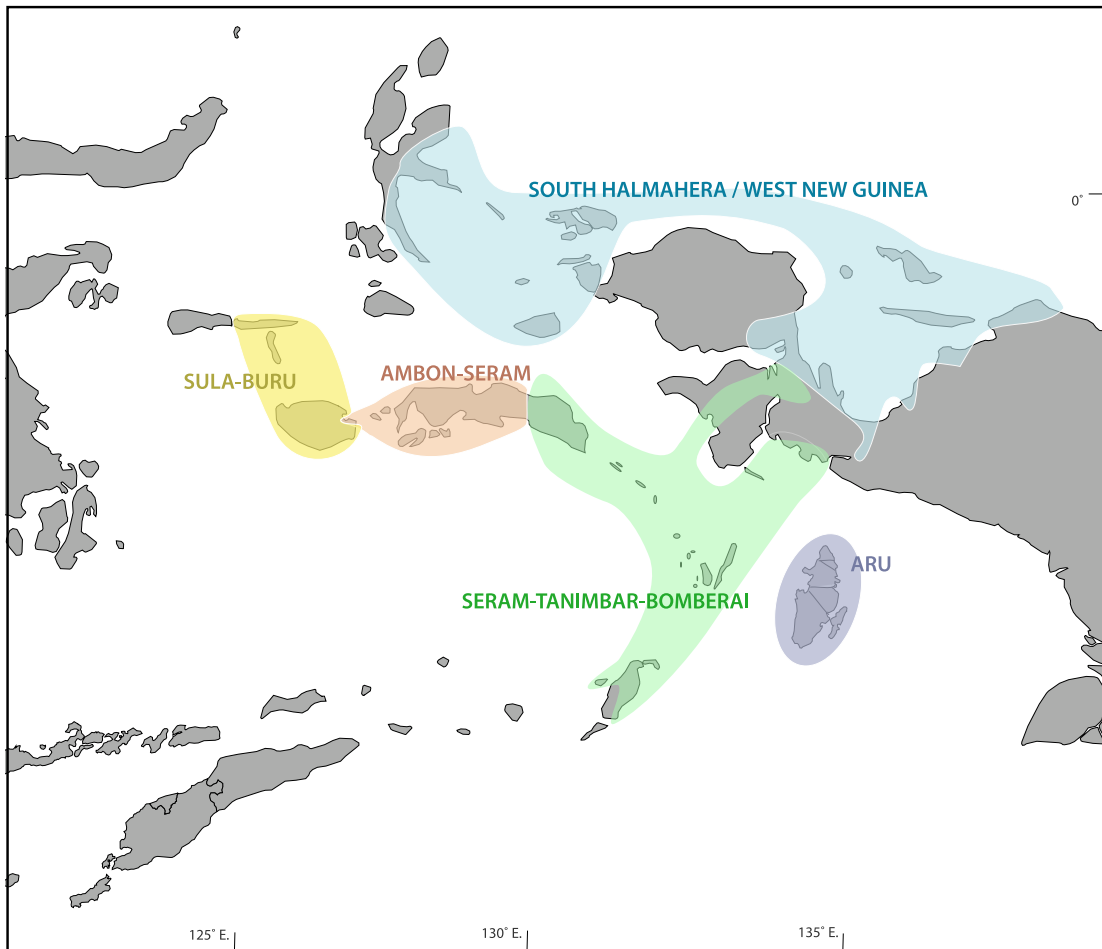
Much of Blust (1978), the seminal work on PEMP, is devoted to demonstrating the integrity of SHWNG. Kamholz’s (2014) analysis agrees. A smaller part of Blust’s paper is devoted to PEMP, i.e. to innovations shared by SHWNG and POc. Blust offers 53 shared lexical innovations, but no shared phonological or morphosyntactic innovation

Claiming an exclusively shared lexical innovation carries with it an inherent risk. Might not the next dictionary of a non-EMP language include a cognate that renders the innovation non-exclusive and thereby non-probative? Of the 53 innovations, Ross (in prep.) rejects 32, or 60%, for the following reasons:

- Eight are also found in one of the cMP groups to the west and south of SHWNG. The groups are, in Grimes & Edwards’ terminology, Seram-Tanimbar-Bomberai (6 innovations), Ambon-Seram (2), and Sula-Buru (1) (Map 1.6).⁴⁰
- Seven have cognates in wMP languages.
- For 14, Ross was unable to verify the supporting data. Their PMP reconstructions are absent from the ACD, implying that Blust later abandoned them.
- One, **ma-* ‘directional particle’, is likely to be the result of drift, i.e. independent parallel innovation.
- One, **dui* ‘dugong’, is interpreted as an idiosyncratic innovation in the word form, but it is the outcome of regular phonological changes.
- One, **mawa* ‘enclosed space’, appears to be a chance resemblance.

³⁹ The archaeology of Bellwood’s hypothesis is called into question by Clark & Winter (2019).

⁴⁰ One innovation, **sakaRu* ‘reef’, is found in Ambon-Seram and in Chamorro.



Map 1.6 Grimes & Edwards' Wallacean groups mentioned in the text

1.9.2 Phonological innovations in Oceanic and Wallacean languages

It is convenient to refer to cMP and SHWNG languages together as the Austronesian languages of “linguistic Wallacea” (Schapper 2016), or, more simply in the present context, as Wallacean.

Table 1.8 shows innovations in consonants in the protolanguages of Oceanic and various Wallacean subgroups including SHWNG and others clustered close to it.⁴¹ The table makes no reference to innovations that occur in smaller subgroups within those shown. Often one or more of the innovations listed in the table does not occur in a subgroup’s parent language but does occur in lower-order subgroup(s) within it. This is part and parcel of the Wallacean pattern of shared innovations whereby isoglosses intersect, forming possible linkages. However, close inspection of the innovations shows that they affect certain PMP

⁴¹ Many of these innovations are identified by Kamholz (2014) for SHWNG and by Grimes & Edwards (in prep.) for cMP languages. Four of the latter’s eight subgroups are shown. The others are the large and internally diverse Flores-Lembata and Timor-Babar subgroups with few shared innovations, the tiny Central Timor group, and their Taliabo group, related to languages of mainland Sulawesi either genealogically or through contact.

Table 1.8. Consonant innovations in the parent languages of Oceanic and Wallacean subgroups (key beneath table)

PMP >	Oc	SH- WNG	AS	STB	Aru	SuBu
*p > *f		yes	yes	yes		init
*p > *f > *h						med
*p > *b	some					
*b > *p | *β	some	yes		yes		yes
*t > *s / *i		yes				
*mp / *mb > *mb	some	yes		yes		?
*mp / *mb > *mp			yes			
*nt / *nd > *nd		yes	yes	yes		yes
*d > *d-r-	some	yes	yes			
*d > *r	some			yes	yes	yes
*d > *dr [ʳ]	some					
*d / *z > *d			yes			
*d / *z > *r			yes			
*d / *l > *r		yes				
*-j- / *s > *s		yes				
*-j- / *s > *j [j]	some					
*-j- / *l > *l			yes			some
*-j- > ∅						some
*-j- / *R > *R			yes		yes	
*z / *s > *s	yes					
*z / *y merge					yes	
*η > *n			yes			
*q > *∅		yes	some		yes	yes
*qa- etc lost		yes	some		yes	yes

- Oc = Oceanic; AS = Ambon-Seram; STB = Seram-Tanimbar-Bomberai; SuBu = Sula-Buru.
- ‘some’ indicates that the change unpredictably applies to some etyma but not others;
- an empty cell means ‘no’.

consonants across two or more Wallacean groups, suggesting that drift resulting from pressures on similar consonant systems is as likely a cause as shared inheritance.

The innovation listed as ‘*qa- etc lost’ in the bottom row of Table 1.8 needs an explanation. It refers to the fact that words of three or more syllables of which the first PMP syllable was *qa- or *ha- regularly lose that syllable in most Wallacean languages. This loss is probably associated with the loss of *q- or *h-, which is almost universal in Wallacean languages. Just one language, Watubela of the Seram-Tanimbar-Bomberai group, clearly retains *q as *k*, meaning that its retention must be reconstructed to Proto

Seram-Tanimbar-Bomberai. Thus, for example, PMP **qateluR* ‘egg’ is regularly reflected as POc **qatoluR* (vol.4:278–279) and Watubela *katlu*, but as PSHWNG **tolo* (Taba *tolo*, Mayá *tól*, Umar *tor*), Uyir *tuli* (Aru), Maswiang *tolin* (STB), Paulohi *terur* (AS).

What mainly concerns us in [Table 1.8](#) is not the details of the innovations but their patterning and particularly the considerable differences between Oceanic and the Wallacean groups. It is immediately clear that SHWNG innovations pattern more closely with those of other Wallacean subgroups, and barely at all with Oceanic.

As for the innovations of Oceanic, only one, the merger of PMP **s* and **z* as POc **s*, is shared with a Wallacean group, Central Timor, far away from Oceanic. This is presumably a case of independent parallel innovation.

An obvious feature of POc in [Table 1.8](#) is the number of cells containing ‘some’, indicating that the change applied to only some etyma. These refer to the obstruent splits noted in [Table 1.6](#) and the associated discussion in §1.8.2.1 and §1.8.2.3.

Their significance here is that the merger-then-split pattern that gave rise to POc obstruent pairs has not occurred in the history of any Wallacean group. [Table 1.9](#) shows PMP obstruents along with their PSHWNG and POc reflexes. The PSHWNG column shows one reflex for each PMP obstruent and for each PMP pair of nasal + obstruent clusters. This organisation is representative of all Wallacean groups as Grimes & Edwards (in prep.) reconstruct their histories. The POc column, however, shows the pairs of reflexes discussed earlier.

As an example, [Figure 1.7](#) sets out the changes in PMP **p* and **b*, as they are reflected in PSHWNG and in POc. The PSHWNG changes are simple, and are similar to those in other Wallacean languages. The POc changes are more complex. Both PSHWNG and ePOc have three labial consonants, but they have developed along different routes.⁴²

Table 1.9. PMP obstruents and their PSHWNG and POc reflexes

	PMP	PSHWNG	POc
Bilabial	<i>*p</i>	<i>*f</i>	<i>*p/*b</i>
	<i>*b</i>	<i>*p</i>	<i>*p/*b</i>
	<i>*-Np-/*-Nb-</i>	<i>*b</i>	<i>*p/*mb</i>
Dental	<i>*t</i>	<i>*t</i>	<i>*t</i>
	<i>*-Nt-</i>	<i>*d</i>	<i>*nd</i>
Alveolar	<i>*d</i>	<i>*r</i>	<i>*r/*dr</i>
	<i>*-Nd-</i>	<i>*d</i>	<i>*dr</i>
Alveolar	<i>*s</i>	<i>*s</i>	<i>*s/*j</i>
	<i>*z</i>	<i>*z</i>	<i>*s/*j</i>
	<i>*-Ns-/*-Nz-</i>	?	<i>*s/*^ñj ?</i>
Velar	<i>*k</i>	<i>*k</i>	<i>*k/*g ?</i>
	<i>*g</i>	?	<i>*k</i>
	<i>-Nk-/*-Ng-</i>	<i>*g</i>	<i>*^ñg</i>

⁴² The term “various” in [Figure 1.7](#) refers to the fact that phonemes reflecting PMP nasal + obstruent clusters have at various times in their various Wallacean and their Oceanic histories acquired new members by various processes, for example by abbreviating the PMP stative prefix **ma-* to **m-* or by reduplication of a syllable with a final nasal (§1.8.2.2).

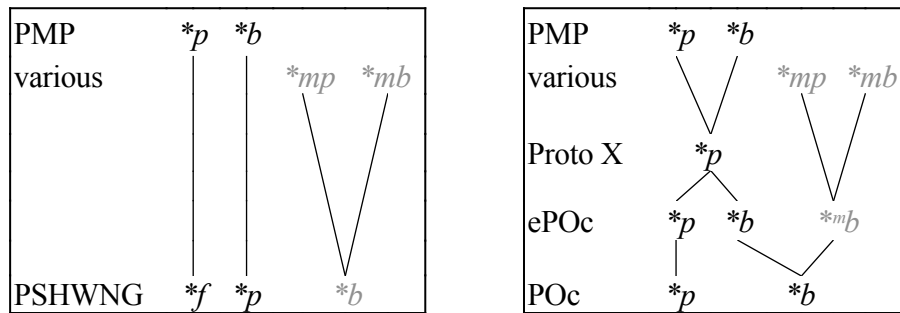


Figure 1.7 The phonological histories of PSHWNG and POc reflexes of PMP *p and *b

1.9.3 Conclusion: so where did Proto Oceanic come from?

Where then did Proto Oceanic come from? The phonological history that gave rise to the patterns in Table 1.9 is unlike that of the Wallacean languages and significantly more complicated. No Wallacean language—and as far as we know, no wMP language—underwent a set of obstruent mergers like those that gave rise to Proto X, followed by the set of splits that gave rise to the POc. Wallacean languages other than the Sula-Buru group, however, display a merger, of PMP *-Nt- and *-Nd-, where POc has no merger. This implies that the ancestor of POc was separate from the ancestor(s) of the Wallacean languages when the Wallacean merger occurred.

These differences, along with those in Table 1.8, indicate that POc has a history that is markedly different from those of the Wallacean languages, including SHWNG, and that Blust’s PEMP hypothesis is not valid, even though it was perfectly reasonable when it was proposed forty-five years ago. The question is, what do we replace it with? It is now obvious that it is not a Wallacean offshoot, so where did it come from, genealogically? We don’t know.

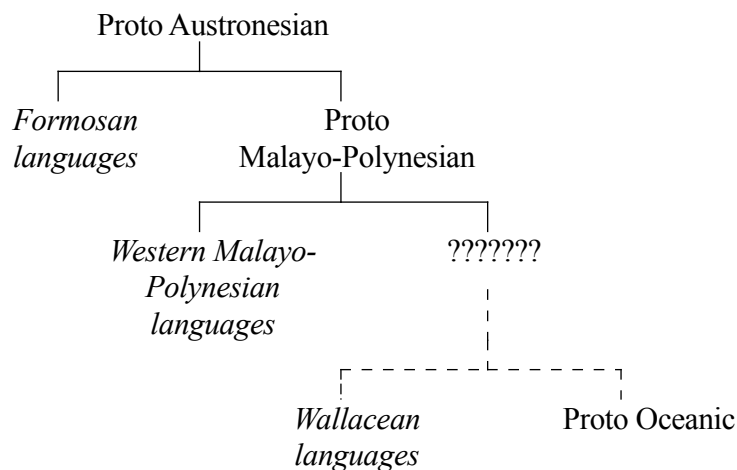


Figure 1.8 Schematic diagram showing the implications of our analysis for the genealogy of the Austronesian family.

Figure 1.8 shows our dilemma. Do the Wallacean languages and POc have a common ancestor? There is some lexical evidence that they do, in the shape of the PCEMP etyma in the ACD and the 1978 PEMP etyma that are now known to have Wallacean cognates (§1.9.1), but, as we have observed, using lexical data in this way has disadvantages. These are matters for future research.

Meanwhile, we can say that using the lexical reconstructions in volumes 1–5 as sources for phonological history has proven to be a fitting conclusion to the present work.

2 *Kinship terms*

MALCOLM ROSS AND JEFFREY C. MARCK

2.1 Introduction¹

Kinship terms are terms used to address or refer to one's relatives, e.g. 'mother', 'son', 'grandfather' and the like. Unlike the lexical items discussed elsewhere in these volumes, a language's kinship terms form a more or less closed system. The system determines what distinctions its terms encode, and the definitions of terms are largely constrained by the system they belong to—'largely' because a system's terms sometimes overlap in meaning. The goal of this chapter is to reconstruct early Oceanic kinship terms and to hypothesise the system to which they belonged.

A number of linguists and anthropologists have treated kinship terms as a window into the social organisation of present and past kinship systems. Works that reconstruct Oceanic social organisation in this way include Rivers (1914), Blust (1981a), Pawley & Green (1984), Hage (1999, 2001a, ch.3 of this volume) and Turner (2007). Moving further back in time, early Austronesian kinship systems are reconstructed by Blust (1980a, 1980b, 1994).

In this chapter we touch on the reconstruction of social organisation only as it relates to lexical reconstruction. A kinship terminology and the social organisation of its users are often not in a one-to-one relationship. A terminology may retain terms that reflect past social conditions. For example, a number of Oceanic kinship terminologies indicate that their communities once practised a form of cross-cousin marriage whereby a man's preferred potential wife was his mother's brother's daughter. (§2.4.1.2.5). Some communities still practised it at first contact with Europeans. Others apparently did not, yet the terms implying it still persisted, perhaps because the terminology continues to enshrine what members of the community regard as an ideal (McKinley 1971). A paper on the matrilineality of early Oceanic social structure by the late Per Hage, an anthropologist with linguistic interests, is reprinted as chapter 3 of this volume.

This chapter builds on earlier attempts to reconstruct a POc kinship terminology. Wilhelm Milke's 1938 paper on POc sibling terms built on a collection of data remarkable at the time,

¹ We thank James J. Fox for sharing his collection of Oceanic kinship terminologies with us, the late John Lynch for access to Southern Oceanic data and reconstructions, and Raymond Johnston and John Brownie for sharing with us their firsthand knowledge of Nakanai and Mussau kinship respectively. Any errors are, of course, our own.

and was expanded twenty years later (Milke 1958a) into a full reconstruction of the POc terminology. He further added to it in later papers (Milke 1965:345–346; 1968:158–161, 167). Pawley (1981) and Pawley & Green (1984) provide a listing of POc kinship terms which largely follows Milke's. Chowning (1991) includes a critique of previous reconstructions and presents a modified version of the POc terminology. The present chapter is based on a fresh analysis of a larger database that digitisation makes possible, with the consequence that its results sometimes differ from its predecessors.²

Qualitatively, the data collected for this chapter fall into three rough categories. In the first category are the reasonably comprehensive accounts of kinship terminologies and associated practices that are found in some ethnographies. The second category comprises incomplete terminologies constructed from lists of kinship terms in some ethnographic writings and a few ethnographically informed dictionaries and grammars. In the third category are individual terms collected from dictionaries and wordlists. These are often glossed only vaguely, e.g., 'uncle', ambiguous because Oceanic languages tend to label a paternal uncle (father's brother) and a maternal uncle (mother's brother) differently. The sources of the first two data categories are listed in an appendix at the end of the chapter. The sources of the third kind of data are those used in chapters throughout these volumes, listed in Appendix A towards the back of the volume.

This chapter falls into four parts. The introduction continues in §2.2 with a description of two Oceanic terminologies, Nakanai and NE Ambae, providing a framework for what follows. The second (§2.3) is a typological overview of Oceanic kinship terminologies, based as far as possible on comprehensive terminologies. This leads to §2.3.5, describing the probable structure of the POc kinship terminology and the forms of its terms. The last and longest part (§2.4) reconstructs POc kinship terms themselves.

2.2 Introducing Oceanic kinship terminologies

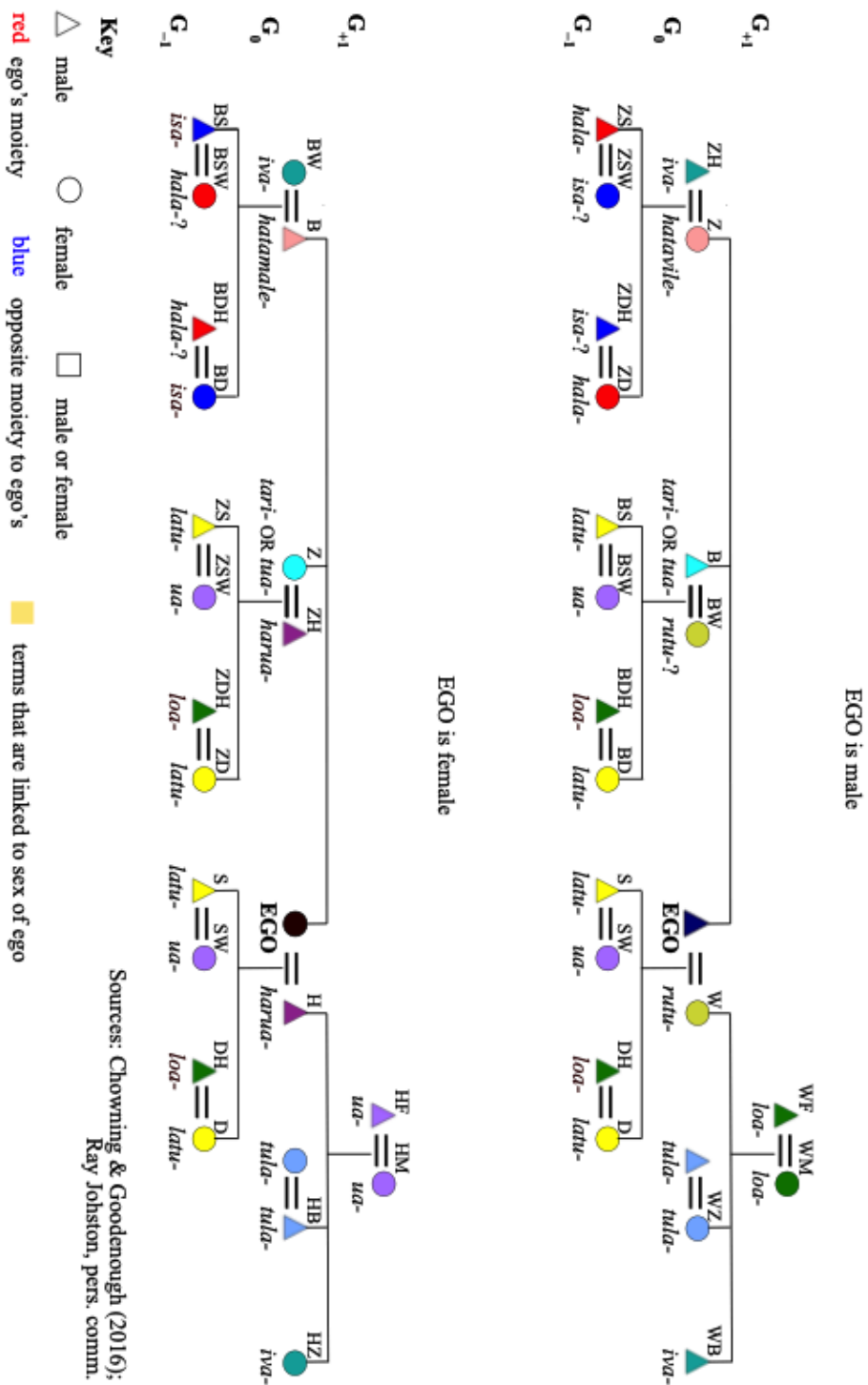
This section examines the terminology in Nakanai,³ a MM language of New Britain, as an example of the distinctions often encoded in Oceanic terminologies. Figure 2.1 shows the Nakanai terms for blood relatives, Figure 2.2 for in-laws.

Before turning to Nakanai, two matters need an explanation. First, as explained in vol.1:32 and in vol.5:75-76, most Oceanic languages outside Polynesian⁴ reflect a POc grammatical distinction between directly and indirectly possessed nouns (Lichtenberk 1985). A directly possessed POc noun took a possessor suffix, marked here with a following hyphen (e.g. **tama-* 'father': **tama-gu* 'my father', **tama-mu* 'your (singular) father', **tama-ña* 'his/her father' etc), whereas an indirectly possessed noun required no suffix. Directly possessed nouns are inalienable; that is, they are items that usually do not exist without a possessor.

² Marshall (1984) brings together plenty of data, but he reconstructs the history of Oceanic kinship from the structure of terminologies, ignoring kinship terms except as indicators of synchronic structure. Bender, Blust, Chowning, and Clark all mention this flaw in the comments that follow the paper.

³ The data are drawn from Chowning & Goodenough (2016) and were checked by Ray Johnston.

⁴ On Pn reflexes of direct possession, see §2.4.



Sources: Chowning & Goodenough (2016);
Ray Johnston, pers. comm.

Figure 2.2 Terms for in-laws in Nakanai (after Chowning & Goodenough 2016)

They include many kinship terms. But the converse is not true: not all kinship terms are directly possessed.

Secondly, in the middle of the figures is a person labelled ‘EGO’. EGO (Latin ‘I, me’) is ‘the speaker’, i.e. the person in relation to whom some other person, ALTER (Latin ‘other’), is labelled. Thus if I am EGO, *my father* is an ALTER labelled in relation to me. If he is defined in relation to some other EGO, he might then be *my brother*, *my son*, *my grandson*, and so on.

2.2.1 Attributes encoded in a kinship terminology

Figure 2.1 shows that a male EGO distinguishes between brothers who are older than him (*tua-*) and those who are younger (*tari-*), whereas English has no term with a meaning that depends on the age of ALTER relative to EGO.

Figures 2.1 and 2.2 show Nakanai terms from the perspectives of both a male and a female EGO.⁵ The differences between them take two forms. First, a male EGO refers to his brother as *tua-* or *tari-*, whereas a female EGO uses *tua-* or *tari-* for her sister. That is, Nakanai *tua-* and *tari-* must be glossed ‘sibling of same sex as EGO’ (usually abbreviated ‘same-sex sibling’ or ‘s.s. sibling’), not ‘brother’ or ‘sister’. The sex of *tua-* or *tari-* depends on EGO’s sex. Second, a male EGO labels his opposite-sex sibling *hataville-*, but a female EGO refers to her opposite-sex sibling as *hatamale-*. We prefix the conventional ‘female’ and ‘male’ symbols to a gloss to indicate who uses it: thus *hataville-* ‘♂sister’ and *hatamale-* ‘♀brother’. In English, however, no distinction between terms depends on EGO’s sex. The distinction between English *wife* and *husband* encodes ALTER’s sex, not EGO’s. Indeed, ALTER’s sex plays a significant role in the English terminology, with six basic pairs: *mother/father*, *aunt/uncle*, *sister/brother*, *daughter/son*, *niece/nephew* and *wife/husband*. Nakanai has only one: *tila-/tama* ‘mother/father’. Note, too, that EGO distinguishes among s.s. siblings by age relative to EGO, but labels o.s. siblings by their (ALTER’s) own sex.

In the figures and elsewhere, generations are indicated with, e.g., G_0 ‘EGO’s generation’, G_{+1} ‘one generation above EGO’, G_{-2} ‘two generations below EGO’, and so on. In Figure 2.1, *tubu-* appears against G_{+2} , indicating that all members of G_{+2} are *tubu-* in Nakanai. It also exemplifies the classificatory nature of Oceanic kinship terms. The term *tubu-* labels all members of G_{+2} . Most kinship terminologies include classifying terms. English has some too: *uncle* labels EGO’s father’s brothers, father’s sisters’ husbands, mother’s brothers and mother’s sisters’ husbands. *Aunt* and *cousin* are also classifying. Nakanai and English classify siblings-in-law in the same way: English *brother-in-law* refers to EGO’s wife’s brother and to EGO’s sister’s husband, and Nakanai *iva-* does the same.

Some kinship terms in Oceanic languages are used reciprocally. A Nakanai EGO refers to his/her mother’s brother as *hala-* and, when EGO is a child’s *hala-*, he refers to his sister’s child as *hala-*. That is, the term is reciprocal across generations. Figure 2.1 also shows that some grandparents and grandchildren refer to each other reciprocally as *tubu-*.

The Nakanai terminology classifies blood relatives of G_{+1} in a particular way. EGO’s father’s brother is labelled with the same term as EGO’s father, and EGO’s mother’s sister with the same term as EGO’s mother. This has two consequences. One is that father’s brother’s descendants have the same labels as father’s descendants, and mother’s sister’s descendants the same labels as mother’s. The other consequence is that what in English would be *cousins* fall into two Nakanai categories. Father’s brother’s and mother’s sister’s children are labelled

⁵ Many available terminologies, especially older ones, are unfortunately restricted to a male ego.

as if they were EGO's siblings, but father's sister's and mother's brother's children have a different label, *lavo-*. In the kinship literature the former are labelled 'parallel cousins', the latter 'cross-cousins'. 'Cross' here refers to the fact that cross-cousins are related to EGO via opposite-sex parents. The classifying attribute of Oceanic kinship terms is discussed further in §2.2.3.

The last few paragraphs have touched on various attributes of kinship terminologies in general. Their presence or absence in Nakanai and English is summed up in Table 2.1. Presence is shown by a tick. A particular attribute may or may not be reflected in a terminology.⁶ For example, English has no terms that depend on sex relative to EGO.

'Sex of linking relative' refers to the contrast between, e.g. '*father's* brother' and '*mother's* brother'.

Table 2.1 Attributes and values of Nakanai and English terms

Attribute	Nakanai	English	values of terms
generations distinguished	✓	✓	-2, -1, 0, +1, +2 etc
sex of ALTER	✓	✓	male, female, either
sex relative to EGO	✓		same, opposite, either
sex of linking relative	✓		same, male, female
seniority within generation	✓		elder, younger, none
reciprocity across generations	✓		yes, no
affinity	✓	✓	blood relative, in-law

2.2.2 'Parallel', 'cross' and kinship notation

As noted above, ethnographers use the terms 'parallel cousin' for cousins related to EGO via mother's sister or father's brother and 'cross-cousin' for those related to EGO via mother's brother or father's sister.⁷ Similar terms are sometimes used of siblings, such that a 's.s. sibling' is a sibling of the same sex as EGO and a 'cross-sibling' or 'cross-sex sibling' is of the opposite sex to EGO. This usage is inconsistent, as 'parallel cousin' and 'cross-cousin' refer to their parent's sex, not their own, and the latter sometimes needs to be stipulated as in 'same-sex cross-cousin' or 'opposite-sex cross-cousin'. For consistency's sake, we follow Murdock (1949, 1968a), replacing 'cross-sibling' by 'opposite-sex sibling' ('o.s. sibling').

Table 2.2 Abbreviating kinship terms

M	mother	(NB not 'Male')	Z	sister	(Z, as S is reserved for 'son')
F	father	(NB not 'Female')	B	brother	
P	parent		G	sibling	(Latin <i>germāna</i> , <i>germānus</i>)
W	wife		D	daughter	
H	husband	(French <i>épouse</i> , <i>époux</i>)	S	son	
E	spouse		C	child	

⁶ Kroeber (1909) proposed the original list of attributes, put to use with small modifications in Murdock's (1949) monumental survey of kinship terminologies.

⁷ The term 'cross-cousin' was introduced by Rivers (1914, vol.1:13), based on Tylor's (1889:263) neologism 'cross-cousin marriage'. The origin of 'parallel cousin' is unknown to us. The earliest use we have found is in Kirchoff (1931).

In the interests of space, glosses in cognate sets (§2.4) and figures employ a version of the conventional ethnographic abbreviations for kinship terms. Its basic building blocks are shown in Table 2.2. In each of the four quadrants of the table, the third abbreviation, an innovation borrowed from Hage (2001b), embraces the two categories above it. These capture Oceanic categories and reduce abbreviations so that, for example, ‘parent’s sibling’ is expressed as ‘PG’, instead of the more conventional ‘FB, MB, FZ, MZ’. The syntax of these terms is straightforward, e.g. MZ ‘mother’s sister’, EGC ‘spouse’s sibling’s child’, and so on.

There are four modifiers, each abbreviated as a lower-case letter preceding one of the letters in Table 2.2. They are:

- s same sex as EGO
- o opposite sex to EGO
- y younger than EGO within EGO’s generation
- e elder than EGO within EGO’s generation

Thus oC ‘opposite sex child’; ysG ‘younger same-sex sibling’.

Relative sex is reckoned relative to EGO in order to avoid ambiguity. Hence EGsC ‘spouse’s sibling’s child of EGO’s sex’, not ‘spouse’s siblings’s child of spouse’s sibling’s sex’. However, there are terms that encode sex relative to someone other than EGO, and in these cases curly brackets are used, e.g. {PsG}C ‘child of parent’s same-sex sibling’,⁸ i.e. ‘parallel cousin’, as opposed to PsGC ‘child of parent’s sibling of EGO’s sex’.

2.2.3 Nakanai terms and their definition

Like a good many other societies in Oceania, Nakanai society has divisions based on descent (Chowning 1965 calls them ‘sibs’). Some societies, like Tolai (Fingleton 1986), have just two divisions or ‘moieties’. Others, like Nakanai, have several divisions. In many Oceanic societies descent is matrilineal (see ch 3). In other words, a child belongs to its mother’s lineage. Since marriages are between members of different divisions, this means that a father’s children belong to his wife’s division. Among EGO’s closer relatives the only members of EGO’s generation who are of another division are cross-cousins. Being of a different division from EGO, they are possible marriage candidates.

Nakanai kin terms for members of EGO’s generation as are shown in Table 2.4. The values of the four relevant attributes (see Table 2.1) are shown in the four rightmost columns. Each term is defined by a unique set of values. The cross-cousin term *lavo-* encodes neither referent’s sex nor relative sex. Its salient feature is a social one: a *lavo-* can be married by EGO.

The terms for members of G_{+1} and G_{-1} are shown in Table 2.4. Of the seven terms, four are reciprocal, giving two entries, ‘+1’ and ‘-1’ in the ‘Generation’ column.’ Notably the terms in Table 2.3 are defined by a different set of attributes from those in Table 2.4, i.e. they make different distinctions.

Terms at G_{+1} in Figure 2.3 and at G_{-1} in Figure 2.4 follow a rule. The wife of any *tama-* is a *tila-* and vice versa. The wife of any *hala-* is an *isa-* and vice versa. This accounts, for example, for the fact that in Figure 2.3 father’s sister’s husband is labelled *hala-* and mother’s sister’s husband *tama-*.

⁸ In conventional notation, FBS, FBD, MZS, MZD.

Table 2.3 Nalakanai kinship terms of *zəw*'s generation

Term	Narrow sense(s)	Sex of <i>Amra</i>	Sex relative to <i>zəw</i>	Seniority	affinity
<i>buŋ-</i>	elder s.s. sibling, elder s.s. parallel cousin	female	same	elder	blood
<i>kaŋ-</i>	younger s.s. sibling, younger s.s. parallel cousin	female	same	younger	blood
<i>kaŋaŋaŋe-</i>	sisiter	female	opposite	irrelevant	blood
<i>kaŋaŋaŋe-</i>	phrother	male	opposite	irrelevant	blood
<i>kaŋa-</i>	cross-cousin	either	either	irrelevant	blood
<i>kaŋa-</i>	wife	female	opposite	irrelevant	in-law
<i>kaŋaŋa-</i>	husband	male	opposite	irrelevant	in-law
<i>kaŋa-</i>	spouse's sibling of s.s. s.s. <i>kaŋa</i> ; spouse of <i>kaŋa</i> 's o.s. sibling	either	opposite	irrelevant	in-law
<i>kaŋa-</i>	spouse's sibling of s.s. s.s. <i>kaŋa</i> ; spouse of <i>kaŋa</i> 's o.s. sibling	female	same	irrelevant	in-law

Table 2.4 Nalakanai kinship terms of *Q₁* and *Q₂*

Term	Generation	Narrow sense(s)	Sex of <i>Amra</i>	Sex of <i>Amra</i>	Affinity
<i>kaŋa-</i>	11	mother, mother's sister	female	female	blood
<i>kaŋaŋa-</i>	11	father, father's brother	male	male	blood
<i>kaŋa-</i>	11	father's sister	female	female	blood
<i>kaŋa-</i>	-1	phrother's child	male	either	blood
<i>kaŋaŋa-</i>	11	mother's brother	female	male	blood
<i>kaŋaŋa-</i>	-1	father's child	female	either	blood
<i>kaŋaŋa-</i>	-1	child, s.s. sibling's child, s.s. parallel cousin's child	s.s.	either	blood
<i>kaŋa-</i>	11	phrother's parent	male	either	in-law
<i>kaŋa-</i>	-1	son's wife, s.s. sibling's son's wife	female	female	in-law
<i>kaŋa-</i>	11	wife's parent	female	either	in-law
<i>kaŋa-</i>	-1	daughter's husband, s.s. sibling's daughter's husband	female	male	in-law

In Figure 2.1 there is just one reciprocal term for members of G_{+2} and G_{-2} . This is *tubu-* ‘grandparent/grandchild’. However, at G_{-2} *tubu-* is restricted to the grandchildren of EGO’s s.s. siblings and s.s. parallel cousins, whilst the grandchildren of o.s. siblings and o.s. parallel cousins are labelled *lavo-*. This also seems to be rule-governed. Because Nakanai society is matrilineal and EGO’s spouse is of a different division from ego, male EGO’s *latu-* ‘children’ are not of his lineage or division, but his sister’s children, *hala-*, are. The situation is reversed if EGO is female: *latu-* are of her division, but *isa-* are not. The rule then stipulates one uses *tubu-* for the child of one’s *latu-*, but *lavo-* for the child of one’s *hala-* or *isa-*.

The application of *tubu-* to the children of one’s cross-cousins, i.e. relatives of the same generation as one’s children, not one’s grandchildren, is obscure, but is touched on in §2.3.3.

In many Oceanic cultures the mother’s oldest living brother has the greatest authority within his matriline to instruct his sister’s children on societal matters and to make decisions about matters such as their marriages. The way in which this authority relates to that of the father, who does not belong to his children’s division, varies from society to society. The role of the mother’s oldest brother means that there is typically a dedicated term for mother’s brothers. In Nakanai this is *hala-*. The fact that in many Oceanic cultures mother’s oldest brother had or has significant responsibilities towards his sister’s children (♂ZC) is enshrined in a special term that a male EGO uses to refer to those children. It also captures the fact that in a matrilineal society a man’s sister’s son is his heir. The special term for sister’s son/sister’s child is sometimes the term for MB, used reciprocally, as it is in Nakanai (see further §2.3.2.2).

Figures 2.1 and 2.2 and Tables 2.3 and 2.4 are unavoidably limited in scope, and the classificatory senses of the terms are not presented fully. Classifying terms are wide in scope. Indeed, most cover a theoretically unbounded set of relationships. How can one capture the sets that these glosses represent? For *tama-*, for example, an exhaustive definition might be:

- male blood relative of EGO’s father’s generation, related to EGO through EGO’s father’s male ancestors and their male descendants; *and*
- husband of female blood relative of EGO’s mother’s generation; the female relative is related to EGO through EGO’s mother’s female ancestors and their female descendants.

This definition includes ‘father’ and ‘father’s brother’ as primary referents. Both are grandfather’s sons, or FFS. They and grandfather’s brother’s son are *great-grandfather’s grandsons*—and so on. Tracking back through ego’s ancestry using the first part of the definition gives a set of glosses for *tama-*: FFS, FFFSS, FFFFSSS and so on, abbreviated as F_nFS_n , where the two instances of n are equal. Doing the same with the second part gives M_nMD_nH . Glosses of this kind, not used elsewhere in this chapter, serve to show that classifying terms denote theoretically unbounded but definable classes in many Oceanic languages, and are in this respect fundamentally different from English. The Tolai (MM), for example, who number in the tens of thousands, see themselves as all related⁹ and as members of one of the two Tolai divisions (moieties), and therefore as having a kin relationship with every other Tolai (Epstein 1969:122; Fingleton 1986:304).

⁹ As do the Takia and Waskia of Karkar Island (Ross, fieldnotes), the hill peoples of NE Guadalcanal (Hogbin 1937:67), the peoples of the northern Vanuatu islands (Torres and Banks Islands, Maewo, Ambae and north Pentecost; Codrington 1891:24; Allen 1964a:321), the inhabitants of Tanna (S Vanuatu; Lindstrom 1981:37), all Fijians (Sahlins 1962:154–155), and the Micronesian clans of Ponape, Mokil, Ngatik, and Pingelap, plus some in the Mortlocks and Chuuk (Riesenberg 1968:7).

Ethnographers argue over whether a term like Nakanai *tama-* has one meaning or more than one.¹⁰ Those who argue for two or more meanings (polysemy) distinguish between a narrow sense, ‘father’, and a classificatory sense, F_nFS_n (Malinowski 1929:442, 495–96, 513, 527; Lounsbury 1965; Scheffler 2003; Shapiro 2018). Those who argue for one meaning (monosemy) regard something like the definitions above as the appropriate gloss of *tama-* (Leach 1958, attacking Malinowski; Schneider 1984). The question for a linguist is, What would a dictionary definition look like, and why? Pawley & Sayaba’s draft dictionary of Wayan Fijian has the following (edited and reordered):

- tama-* 1. Father.
- 2. Classificatory father, one who is brother or classificatory brother to one’s father.
- 3. Uncle, specifically the husband of one’s mother’s sister or classificatory sister.

This is clearly a polysemous definition. It is perhaps a linguistic universal that speakers often use a term with a narrow sense for a larger class of which the narrow-sense referent is perceived as the most salient member. How this occurs in folk classifications of plants and animals is discussed by Evans (2008) and Pawley (2011b) respectively. The definition above is an example of this broad phenomenon in the context of a kinship terminology.

Ethnographic accounts indicate that, for example, ‘father’ in the narrow sense typically has a relationship with his offspring that is closer to them than that of his brothers and other classificatory ‘fathers’, and that speakers certainly understand and act on a difference between the two senses (Codrington 1891:36–37; Humphreys 1926:34; Malinowski 1929:442–443; Powdermaker 1933:137–138; Mead 1934:220; Blackwood 1935:59–60; Fischer 1966:117; Hogbin 1964a:17; Scheffler 1965:75–76; Wagner 1986: xvi, 62).

This issue leads into another ethnographic question. Are definitions of kinship terms cognitively real? Do they reflect speakers’ concepts? Goodenough (1956, 1965) answered ‘yes’; Burling (1964) vigorously ‘no’. A dictionary-maker would argue that dictionary definitions should be a good approximation of cognitive reality, otherwise speakers cannot agree (or disagree) with them.

2.3 The typology of Oceanic kinship terminologies

The typology of Oceanic kinship terminologies briefly presented here is based on 139 cases where a complete or near-complete terminology is available covering ego’s parents and their siblings and the parents’ and siblings’ children. Ideally each terminology should also include all their children, but many otherwise detailed ethnographies omit terms for the children of some or all of ego’s cousins. The terminologies also cover members of the grandparent and grandchild generations. Sources are in the appendix to this chapter.

These 139 languages are referred to below as ‘the sample’, but they are not a sample chosen for statistical purposes. They are simply the languages for which relevant data are available. NCV is under-represented, New Caledonia and Fiji over-represented. Nonetheless, they are distributed throughout Oceanic.

The typological investigation in §2.3.1–4 does not cover in-law terms.

¹⁰ The collection of papers in Shapiro (ed., 2018) is devoted to the topic.

2.3.1 Bifurcate merging and its modifications

The Nakanai terminology in §2.2.3 exemplifies the fact that a terminology’s semantic structure determines the meaning of each term. Conversely, each term covers one or more kinship slots, e.g. *tama-* covers F, FB and MZH (and more). If the slots covered by each term laterally as far as and including ego’s parents’ siblings are diagrammed, we have a visual representation of a terminology’s structure, as in Figures 2.3 and 2.4.

Lowie (1928) categorised kinship terminologies, based on how they treat G₊₁. He called terminologies like Nakanai ‘**bifurcate merging**’—‘bifurcate’, because the terms for ‘mother’ and ‘father’ are distinct, and ‘merging’ because each parent and her/his s.s. siblings are merged terminologically (called by the same term), but o.s. siblings are labelled differently (§2.2.3).

Lowie’s ‘**generational**’ category, where *all* uncles and aunts are treated as parents, turns up in a sprinkling of Oceanic languages (see later in this section).

English, on the other hand, Lowie classed as ‘**lineal**’ because terms for ego’s ancestors and descendants (‘lineal kin’), as well as siblings, are distinct from those for uncles, aunts and

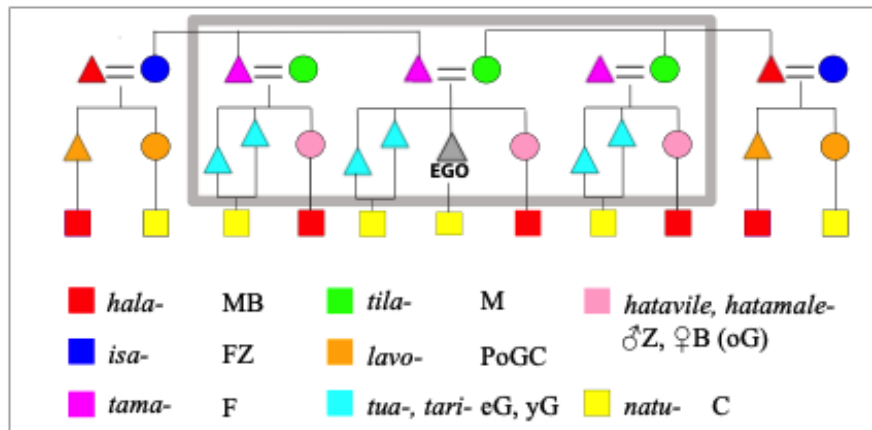


Figure 2.3 Structure of the Nakanai terminology, showing bifurcate merging terms

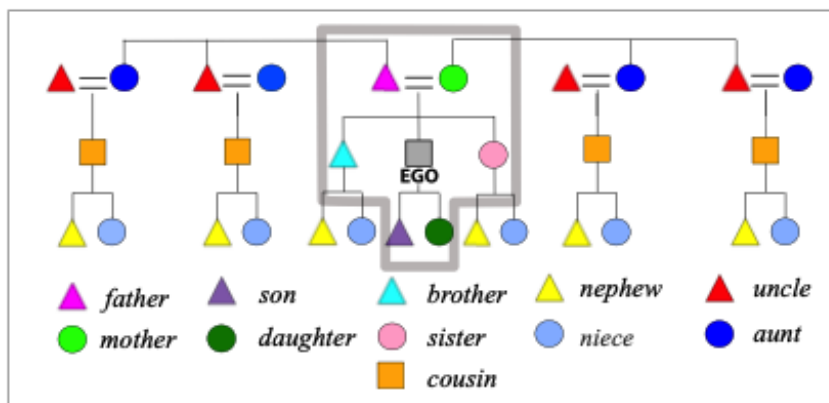


Figure 2.4 Structure of English terminology, showing lineal terms

cousins ('collateral kin'), which are all categorised by generation. There are no Oceanic lineal terminologies.¹¹

Murdock (1949) extends Lowie's definitions by including G_0 as well as G_{+1} . Thus a bifurcate merging terminology is one in which is

1. bifurcate: there are distinct terms for 'mother' and 'father' ($M \neq F$);
2. merging:
 - a. EGO's father and father's brother are both called 'father' and EGO's mother and mother's sister are both called 'mother' ($FB = F, MZ = M$);
 - b. EGO's father's brother's and mother's sisters children, EGO's parallel cousins, are called by the same terms as EGO's siblings ($FBC = MZC = G$).
3. laterally restricted:
 - a. EGO's mother's brother is called by a term other than 'father' and EGO's mother's sister by a term other than 'mother' ($MB \neq F, FZ \neq M$);
 - b. EGO's mother's brother's and father's sisters children, ego's cross-cousins, are called by terms other than those for ego's siblings ($MBC \neq G, FZC \neq G$).

The grey rectangle in [Figure 2.3](#) encloses the part of the terminology that is 'merged'.

A working definition of 'merging' is needed here. Sources sometimes give binomials (terms consisting of two lexical items), like Sye (SV) *drimme-pelay* 'mother's sister', where *drimme-* is 'mother' and *pelay* apparently means 'removed', 'apart' or, with kinship terms, 'adoptive' (there is no *pelay* entry in Crowley 2000). Because the second, modifying, part of many binomials is omitted in daily use, a kinship binomial like *drimme-pelay* is counted for analytic purposes as 'the same' as *drimme-* 'mother', i.e., as merged.

Of the 139 sample languages, 65 (47%) are bifurcate merging in accordance with the definition above.

At the core of a bifurcate merging structure are the mergers in (2) above and, remarkably, they are found in 137 of the 139 sample languages. One language, Sye, lacks one of the mergers in (2a), and two, Sye and Nadrau Fijian, lack (2b).¹² However, whereas the mergers in (2) are near-universal in Oceanic, there are numerous languages that do not conform to the definitions in (3), because at least one term for a merged category is extended to include a G_{+1} or G_0 term outside the rectangle. In some languages the restriction in (3a) is breached, in others the restriction in (3b), and in yet others both restrictions in (3). The languages in which each breach occurs are shown in [Table 2.5](#).

¹¹ Lowie's was a four-way categorisation. The fourth category, 'bifurcate collateral', is not found in Oceanic, Lowie's terms are used here, rather than Iroquois, Crow, Hawaiian etc (Murdock 1949) and Dravidian (Lounsbury 1964b), because popular presentations imply that every kinship terminology has one of these structures. However, some terminologies are at best transitional between two types. In any case, Iroquois, Dravidian and Crow are all bifurcate merging. The first two are distinguished by relationships that lie beyond the scope of our diagrams. Crow is the topic of §2.3.3.

¹² Sye *etme-* F and *itviroy* FB display no merger, but *viroy* 'small' suggests that *itviroy* once realised a common pattern whereby FB was 'small father'. The languages that lack (2b) both use a term for 'child', Sye *alwo-*, Nadrau *lve-*, for ego's parallel cousins (Capell & Lester 1945:191; Crowley 2000).

Table 2.5 Oceanic terminologies with bifurcate merging and breaches thereof

	Bifurcate merging	FZ = M	FZ = M and MB = F	PGC = G
Adm	Mussau, Sori, Lele, Pak, Baluan, Lou	Yapese	—	—
SJ and NNG	Yabem, Bukawa, Middle Watut	Sobei, Wogeo, Mapos Buang	—	<i>o.s.</i> : <i>Takia, Adzera, Mapos Buang</i>
PT	Kilivila, Muyuw, Dobu, Galea, Sudest,	Kalauna, Tubetube	N Mekeo	Bwaidoga, Sinaugoro (Saroa), Motu, Roro, N Mekeo
MM	Nakanai, W Kara, Lakurumau, Nalik, Lihir, Notsi, Lamusong, Lelet, Usen Barok, Sursurunga, Patpatar, Tolai (both)	Nehan, Petats, Hahon, Mono-Alu, Nduke, Roviana, Marovo, Varisi	Simbo	<i>Vitu</i> (o.s.), Mono- Alu, Varisi, Simbo, Nduke, Roviana
SES	NWGR, ^a Baegu, E Arosi	Bugotu, Gela, Lengo, Birao, Longgu, Kwaio, Sa'a, Fagani, W Arosi, Owa	—	W Guadalcanal (Gae), Lengo, To'aba'ita, Kwaio, Fagani, W Arosi, Owa
NCV	Araki, Raga, Big Nambas, N Ambrym, Nguna,	Loh, Mota, Akei, NE Ambae, Nduindui, Vao, Ninde, Sinesip	—	Loh
SV	Kwamera	Anejom	—	—
NCal	Belep, Nyelâyu, Yuanga, Kumak, Fwai, Pwaamei, Bwato, Wahmwaang, Cèmuhi, Paicî, Arhâ, Ajië, Xârâcùù, Xaragure, Numèè, Kwenyii	—	—	Nengone, Drehu, Iaa
Mic	—	Nauruan, Marshallese, Satawalese	Chuukese	<i>Marshallese</i> (s.s.), Satawalese, Chuukese, Lamotrek
Fij	Wayan, Vuda, NW Viti Levu, Deuba, Kadavu, Bauan, Nadrau, Tokatoka, Moala, Matailobau, Lakeba	Cakaudrove, Macuata	—	Tavua, Macuata Tokatoka
Pn exc EPn	Ifira-Mele, W Futunan	Rennellese, Takuu, Luangiua, Sikaiana	Pukapuka	Tongan, Tokelau, E Futunan, <i>Rennellese</i> (s.s.), Anuta, Tikopia, Pileni, Luangiua, Sikaiana
EPn	—	—	Tahitian, Māori, Rapa, Hawaiian	Rapa, Maori, Tahitian, Marquesan, Hawaiian

a. NWGR = Rivers' (1914) Northwest 'Guadalcanar'.

Taking (3a) first, two breaches occur:

- i. EGO's father's sister is called by the term for mother/mother's sister (FZ = M: 44 cases);
- ii. EGO's father's sister and mother's brother are called respectively by the terms for mother/mother's sister and father/father's brother (FZ = M, MB = F: 8 cases);

The case numbers tells us that FZ = M occurs far more often than MB = F. Furthermore, there is an implicational relationship such that MB = F only occurs where FZ = M occurs, but never vice versa. The distinctiveness of the 'mother's brother' category is almost as durable as the mergers in (2), whereas the 'father's sister' category is readily lost.

However, the loss of an FZ term has perhaps not occurred as frequently as [Table 2.5](#) might imply. The MM languages split into two groupings. Those listed under 'Bifurcate merging' are all located in New Britain and New Ireland. Apart from Vitu, those listed in the other three columns are all members of the well established NW Solomonic subgroup (Ross 1988, chapter 7), and the innovation extending POc **tina-* 'mother' to MZ probably happened in Proto NW Solomonic and was inherited by its member languages.

Turning to (3b), three breaches occur:

- iii. EGO's cross-cousin is called by a term for sibling/parallel cousin (MBC = FBC = FZC = MZC = G, i.e. PGC = G); this may apply to
 - only s.s. cross-cousins (2 cases);
 - only o.s. cross-cousins (4 cases);
 - all cross-cousins (40 cases).

Terminologies in which the breach applies only to s.s. or only to o.s. cross-cousins are shown in italics in the rightmost column of [Table 2.5](#).¹³

Each of these breaches brings a system nearer to Lowie's generational category. The outcome of (i) above is that all female members of G_{+1} are called 'mother', of (ii) that all members of G_{+1} are called 'mother', 'father' or 'parent'. The outcome of (iii), when it applies to all cross-cousins, is that all members of G_0 are called by sibling terms. Note that (i), (ii) and (iii) do not affect distinctions of sex (absolute or relative-to-ego) or relative age that a terminology may make.

[Table 2.6](#) shows the terminologies with tendencies toward a generational structure. Column 4 adds (1), M = F, i.e. a uninomial term for 'parent', with 'mother'/'father' distinction. A terminology that lacks this distinction is not bifurcate. There is no implicational relationship between the breaches in (2) and (3) above, but there is a strong tendency that if in a language FZ = M & MB = F, then PGC = G ([Table 2.5](#)). The converse is not true.

Of the 46 languages where PGC = G ([Table 2.5](#), rightmost column), 22 have no other tendency toward a generational structure ([Table 2.6](#), column 1).

¹³ It is possible that Middle Watut also belongs here rather than under 'Bifurcate merging': o.s. cross-cousin terms are missing.

Table 2.6 Oceanic kinship terminologies that tend toward Lowie's generational structure

	1 Only PGC = G	2 Only PGC = G and FZ = M	3 PGC = G and FZ = M and MB = F	4 PGC = G and FZ = M and MB = F and M = F
Adm	—	—	—	—
SJ and NNG	<i>Takia, Adzera</i> (o.s.)	<i>Mapos Buang</i> (o.s.)	—	—
PT	Bwaidoga, Sinaugoro (Saroa), Motu, Roro	—	N Mekeo	—
MM	<i>Vitu</i> (o.s.)	Mono-Alu, Nduke, Roviana, Varisi	Simbo	—
SES	W Guadalcanal (Gae), To'aba'ita,	Lengo, Kwaio, Fagani, W Arosi, Owa	—	—
NCV	Loh	Loh	—	—
SV	—	—	—	—
NCal	Nengone, Drehu, Iaai	—	—	—
Mic	Lamotrek	<i>Marshallese</i> (s.s.), Satawalese	Chuukese	—
Fij	Tavua,	Macuata, Koroalau	—	—
Pn exc EPn	Tongan, Tokelau, E Futunan., Anuta, Tikopia, Pileni,	—	<i>Rennellese</i> (s.s.), W Futunan, Takuu, Luangiua, Sikaiana	Pukapuka
EPn	Marquesan	—	Rapa, Maori	Tahitian, Hawaiian

Two groups in [Table 2.6](#) deserve comment. The first of these is the Central Papuan subgroup of PT. Sinaugoro, Motu, Roro and North Mekeo are the Central Papuan languages in the sample. The Roro structure is shown in [Figure 2.5](#). Sinaugoro, Motu and Roro retain bifurcate merging in the parental generation but have generational terminology in ego's generation, i.e. all ego's siblings and cousins are identically labelled, according to seniority. This was probably the situation in Proto Central Papuan. North Mekeo, however, adds generational terminology at G_{+1} , shown in [Figure 2.6](#). This is almost a full-blown generational terminology, as are the others listed in column 3 of [Table 2.6](#).

The other group in need of comment is Polynesian. Only Ifira-Mele and West Futuna (= Futuna-Aniwa) are listed in [Table 2.5](#) as bifurcate merging. There is good reason to infer that the structure of the Ifira-Mele terminology is the result of contact with NCV languages of Nguna (§2.3.3). The same may be true of West Futuna, which has had contact with the languages of Tanna (SV). (Lynch & Fakamuria 1994). It is probable that PPn had a terminology like that of Tongan and similar to Roro ([Figure 2.5](#)), in which all blood-relatives of ego's generation were labelled in the same way as ego's siblings, but the parental generation had dedicated terms for FZ and MB (Marck 1996). Loss of FZ and MB terms in various of the outliers and in PEPn resulted in structures like that in North Mekeo. However,

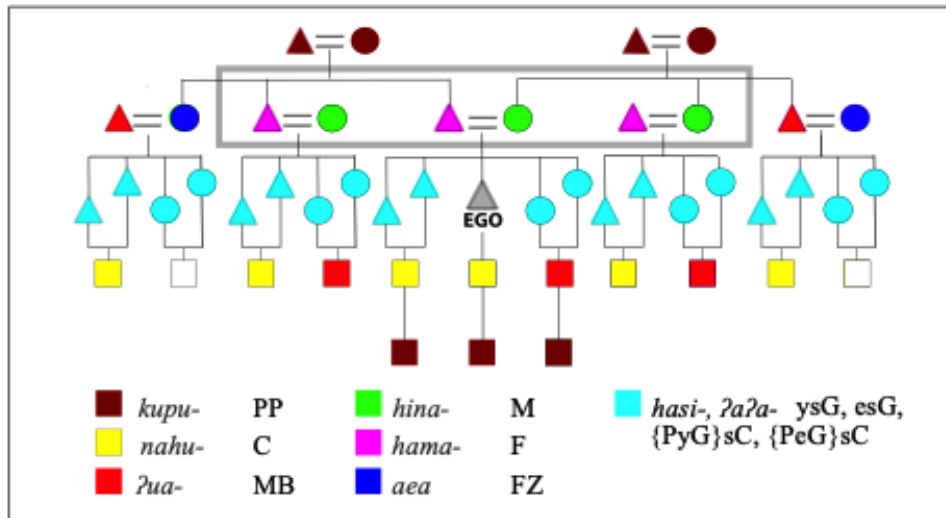


Figure 2.5 Structure of the Roro terminology, showing bifurcate merging terms

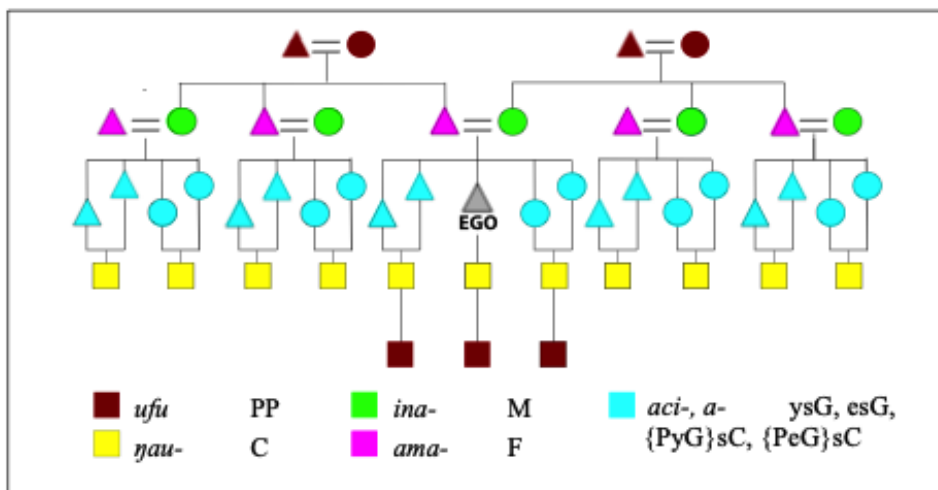


Figure 2.6 Structure of the N Mekeo terminology

Pukapuka, Tahitian and Hawaiian have also replaced PPn **tina-* ‘mother’ (§2.4.1.2.1) and **tama-* ‘father’ (§2.4.1.2.1) with a reflex of **matuqa-* ‘parent’ (§2.4.1.2.3). The elimination of the sex distinction in the parental generation has resulted in a purely generational structure in Lowie’s (1928) sense, leading to the adoption of ‘Hawaiian’ as the term for a generational structure in Murdock’s (1949) classification of kinship terminologies.

2.3.2 Other structural features involving ego's blood relatives

2.3.2.1 Ego's siblings and parallel cousins

Bifurcate merging means that in almost every Oceanic terminology, EGO's parallel cousins, i.e. EGO's father's brother's and mother's sister's children, are labelled with the same terms as EGO's siblings (§2.3.1). However, there is considerable variation in this labelling. For example, there may be a terminological distinction between s.s. and o.s. siblings/parallel cousins; or a seniority distinction among siblings/parallel cousins.¹⁴

These distinctions are structurally independent of bifurcate merging. The most frequently found distinction is between s.s. and o.s. siblings/parallel cousins. Following this pattern, speakers of earlier New Guinea Pidgin took the terms *susa* and *brata* from English *sister* and *brother* but used them in an Oceanic manner. If I was female, my *brata* was my sister (s.s. sibling) and my *susa* was my brother (o.s. sibling). These two categories are further subdivided in many Oceanic terminologies. A common pattern is illustrated by Nakanai (§2.2.3; Figure 2.3), where s.s. siblings are divided into those elder (*tua-*) or younger (*tari-*) than EGO, but o.s. siblings are divided into female (*hatavile-*) and male (*hatamale-*).

There are thus three sibling distinctions in Oceanic languages:

- relative sex: same sex as EGO vs opposite sex from EGO (sG vs oG)
- seniority: younger than EGO vs elder than EGO (yG vs eG)
- ALTER's sex (Z vs B)

Eleven configurations of these distinctions occur in Oceanic languages, and Table 2.7 shows the number of times each configuration occurs in the sample.¹⁵ Column 1 shows whether

Table 2.7 Distributions of sibling distinctions across Oceanic languages

config.	1 sG/oG	2 ysG/esG	3 sZ/sB	4 yoG/eoG	5 oZ/oB	Totals
1	y	n	n	n	n	42
2	y	n	n	n	y	9
3	y	n	n	y	n	2
4	y	n	y	n	n	3
5	y	y	n	n	n	38
6	y	y	n	n	y	17
7	y	y	n	y	n	1
8	y	y	y	n	y	1
9	y	y	n	?	?	8
10	n	n	n	—	—	5
11	n	y	n	—	—	12
Total y	121	77	4	3	27	
Total n	17	61	134	110	86	
	Grand total:					138

¹⁴ As shown in Table 2.5 some languages extend the terms used for siblings and parallel cousins to cross-cousins, but this is discussed in §2.3.1.

¹⁵ The sample has 138 languages rather than 139, as sibling data for Akei are inadequate.

Table 2.8 Terminologies according to the better represented configurations in [Table 2.7](#)

	Config 1	Config 2	Config 5	Config 6	Config 10	Config 11
Adm	Sori, Lele		Pak	Baluan, Lou	Yapese	Mussau
SJ and NNG	Takia, Adzera	Mapos Buang, Lakurumau, Roviana, Marovo, Big Nambas, Anejom	Wogeo, Yabem, Middle Watut			
PT	Dobu, Galea, Tubetube, Sudest		Kilivila, Muyuw, Kalauna, Bwaidoga, Sinaugoro			Motu, Roro, N Mekeo
MM	Vitu, W Kara, Nalik, Lihir, Notsi, Lamusong, Madak, Barok, Sursurunga, Nehan, Petats, Hahon, Mono-Alu	Lakurumau, Roviana, Marovo	Varisi, Nduke, Simbo	Nakanai		
SES	Gae, Lengo, Sa'a, W Arosi, E Arosi		Bugotu, Gela, Birao, Longgu, To'aba'ita, Baegu		NWGR	Kwaio, Fagani, Owa
NCV	Loh, Araki, Nduindui, N Ambrym, Nguna	Big Nambas	Mota, NE Ambae, Raga, Vao, Ninde	Sinesip		
SV		Anejom		Kwamera		
NCal			Drehu, Iaii	Kumak, Ajië, Xârâcùù, Nengone	Belep, Jawe	Nyelâyu, Cèmuhî, Paicî
Mic	Satawalese, Lamotrek	Chuukese		Marshallese	Nauruan	
Fij	Moala		most Fijian languages			Matailobau, Koroalau
Pn exc EPn	E Futunan, Anuta, Tikopia, Ifira-Mele, W Futunan, Takuu, Luangiua, Sikaiana	Tokelau, Rennellese	Pukapuka,	Tongan, Pileni,		
EPn				Rapa, Maori, Tahitian, Marquesan, Hawaiian		

a terminology makes the relative sex distinction (y[es] or n[o]). If it does, then there are entries in columns 2 to 5. Columns 2 and 4 show whether the seniority distinction is applied respectively to s.s. and o.s. siblings. Columns 3 and 5 do the same for ALTER's sex. But if column 1 shows that a terminology lacks the relative sex distinction, then columns 4 and 5 are blank, because o.s. siblings are referred to by the same terms as s.s. siblings. For example, Nakanai makes the s.s./o.s. distinction (column 1), the seniority distinction for s.s. siblings (column 2), and uses different o.s. terms according to ALTER's sex (column 5). It is thus one of the 17 languages with the configuration in row 6. The column totals show that only four terminologies distinguish ALTER's sex in the terms for s.s. siblings, and that only three distinguish seniority of o.s. siblings. The four configurations that include one of these distinctions are shown in grey and are presumably the outcomes of local accidents.¹⁶ Theoretically, 20 configurations are possible, but only 11 occur in Table 2.7—or more properly ten, as row 9 contains question marks for unknown values.¹⁷ Whilst one can speculate about the reasons for the absence or near-absence of certain configurations, it is clear that they reflect absences from the POC terminology (§2.3.5). Table 2.8 shows the languages in the six most attested categories in Table 2.7.

In the vast majority of Oceanic languages, terms for parallel cousins are identical to those for siblings, but there is a dimension that is not represented here. In some languages, as one might expect, terms for EGO's younger and elder siblings are applied to EGO's younger and elder parallel cousins. In other languages, however, the terms make reference not to EGO's seniority but to seniority of the cousin's parent relative to EGO's parent. For example, if the parallel cousin is EGO's mother's sister's child, the choice of the 'younger' or 'elder' term depends on whether the cousin's mother is younger or elder than EGO's mother. This matter is not pursued here, as the data often do not allow us to determine who seniority refers to in a given terminology.

2.3.2.2 Children

Strangely, perhaps, discussion of terms for children is necessarily preceded by a short return to terms for father's sister and mother's brother, a topic in the discussion of bifurcate merging (§2.3.1). Their relevance here is that 'mother's brother' and 'sister's child' are the same (reciprocal) term in some languages. In other scattered languages, 'mother's brother' is the same term as 'father's sister'.¹⁸ However, these two categories almost never overlap: that is, there is no language in the sample in which 'mother's brother', 'father's sister' and 'sister's child' are all the same term. Two exceptions are the Fijian dialects Moala and Lakeba, where FZ, MB and ♂ZC are all *vujō-*.

¹⁶ They are Sye (SV) and Nakoroka Fijian (config. 3), Patpatar and both Tolai dialects (MM, config. 4), Sobei (SJ, config. 7) and Bukawa (NNG, config. 8).

¹⁷ The eight languages to which row 9 refers are all from New Caledonia. Wedoye (1989) only gives terminologies for a male speaker, and uses address terms, which are known sometimes to be distributed differently in NCal languages from the corresponding reference terms.

¹⁸ The languages are Yabem, Bukawa (NNG), Rivers' Northwest 'Guadalcanar' and To'aba'ita (SES), Ajië (NCal), Tavua and Deuba (Fij), and Marquesan (EPn). It can be assumed that in each case FZ and MB have come (independently) to be perceived as the mirror-images of each other in the kinship system.

The role of mother's brother and his relationship with his sister's children are discussed briefly at the end of §2.2.3. In 52 terminologies each refers to the other by the same dedicated term (column 1 of Table 2.9). In 55 others, there is a separate term for each relationship (column 2). In yet others, there is no dedicated term for 'sister's child' and the latter is not distinguished from other children. It is either referred to simply as a 'child' or by another kinship term, the narrow meaning of which is shown in parentheses (column 3). Among the items in column 2, in Simbo (MM), Pukapuka, Rapa and Māori (EPn) the MB term is the term for 'father'.

An odd phenomenon, commented on several times in the literature, occurs in certain SES languages. In Bugotu, Gela, Lengo and Owa, the MB term reflects POc **tubu-* 'grandfather' but does not retain this meaning. It is also used reciprocally for ♂ZC.

In a few WOC languages an apparent mirror-image of the MB/♂ZC relationship is enshrined in the terminology: FZ and ♀BC are referred to by the same term. These languages are Muyuw, Galea, and Motu (PT), and Vitu and Nakanai (MM). However, terms used only by

Table 2.9 Terms for male EGO's sister's child

	1 MB = ♂ZC	2 MB, ♂ZC	3 MB, ♂ZC = C
Adm	Yapese, Mussau, Lele, Pak,	Baluan, Lou	Sori (sG)
SJ and NNG	Sobei, Wogeo, Takia, Mapos Buang	Yabem, Bukawa, Middle Watut	
PT	Kilivila, Muyuw, Kalauna, Dobu, Galea, Sinaugoro, Motu, Roro	Tubetube	Bwaidoga, N Mekeo
MM	Vitu, Nakanai, W Kara, Lakurumau, Nalik, Lamusong, Barok, Sursurunga, Trivett's Tolai, Matupit Tolai, Nehan, Hahon, Mono-Alu, Nduke, Marovo	Patpatar, Petats, Simbo	Lihir (oGC) Notsi (oGC), Varisi (CC), Roviana
SES	NWGR, Birao, Longgu, To'aba'ita, Kwaio, Sa'a, Fagani, W Arosi, E Arosi		
NCV	Loh , Araki, Vao	Mota, Raga, N Ambrym, Akei, NE Ambae, Nduindui, Big Nambas, Ninde, Sinesip, Nguna	
SV		Sye, Kwamera	Anejom
NCal	Nyelâyü , Kumak, Fwai, Pwaamei, Wahmwaang, Cèmuhi	Yuanga, Bwato, Arhâ, Ajië, Paici, Xârâcùù, Xaragure, Nengone, Drehu	Kwenyii
Mic	Nauruan	Marshallese, Satawalese, Lamotrek	Chuukese
Fij	Bauan	Vuda, Wayan, Nadrau, Tokatoka, Matailobau, Tavua, Deuba, Nakoroka, Cakaudrove , Moala, Lakeba, Lau,	Koroalau (CC), Macuata
Pn exc EPn		Tongan, Tokelau, E Futunan, Anuta, Tikopia, Ifira-Mele, W Futunan	
EPn	Marquesan	Pukapuka Rapa Maori	Tahitian, Hawaiian

a female ego and terms for children other than ego's child and ego's sister's child are often not recorded, so we do not know how widespread this reciprocal usage is.

In a scattering of languages the children of EGO's male blood relatives and those of female blood relatives are referred to by different terms. In these languages the term for the children of females is usually the term used for ♂ZC. Our data are in this respect too incomplete for a listing of languages to be meaningful.

In a relatively small number of languages a sex distinction is made among children. There are dedicated kinship terms for female and male children in Pak, Baluan and Lou (Adm), Lihir, Notsi, Lamusong, Barok and Patpatar (MM, New Ireland), N Ambrym (NCV) and Tongan, Tokelau, E Futuna and Rennellese (Pn).

2.3.2.3 Grandparents and grandchildren

Some Oceanic languages have a dedicated term for mother's mother's brother (e.g. Tolai *kaku-*; see also §2.3.3), but a majority encode all grandparents and members of EGO's grandparents' generation with a single term (often a reflex of POc **tubu-*; §2.4.1.4.1). Other languages do make a distinction between female and male members of the grandparent generation. Our data are incomplete in this regard, but these languages include: Notsi, Sursurunga and Mono-Alu (MM); Bugotu, Sa'a, W Arosi and Fagani (SES); Akei, Big Nambas, Ninde and Nguna (NCV); almost all NCal languages (exceptions are Belep in the north, Kwenyii in the south, and the languages of the Loyalties); Marshallese, and Lamotrek (Mic), numerous and scattered Fijian languages, and Ifira-Mele (Pn).

Owa (SES) has a general term *p^wāp^wā* for members of the grandparent generation as well as *wauwa-* 'grandfather' and *tura-* 'grandmother'. It is quite possible that there are other languages with a similar configuration that do not show up in the sample. Sori and Pak (Adm) are recorded with separate terms for PF, MM, FM. On the other hand, a few languages have no 'grandparent' terms, instead using 'mother' and 'father' for both parents and grandparents. They are Simbo, Nduke and Roviana (MM), Numèè (NCal) and Satawalese and Chuukese (Mic).

Data on 'grandchild' terms are more complete, and fall into two categories:

- a 'grandparent' term is used reciprocally of both grandparents and grandchildren;
- there is a dedicated 'grandchild' term.

These categories mostly follow genealogical boundaries. A 'grandparent' term is used reciprocally to refer to grandchildren in Mussau, NNG, PT, MM, SES and Marshallese (Mic). A dedicated grandchild term is used in Yapese, Adm, NCal including the Loyalties, and throughout Fiji and Polynesia. NCV languages in the sample are divided. Most have a 'grandchild' term, but the northern languages Loh, Mota and Araki use 'grandparent' reciprocally.

Languages that also use 'mother' and 'father' for grandparents are exceptions to these generalisations. Roviana uses 'father' reciprocally for a grandchild, Nduke has 'child's child', and Numèè (along with Kwenyii), Satawalese and Chuukese use 'child' for grandchildren as well as children.

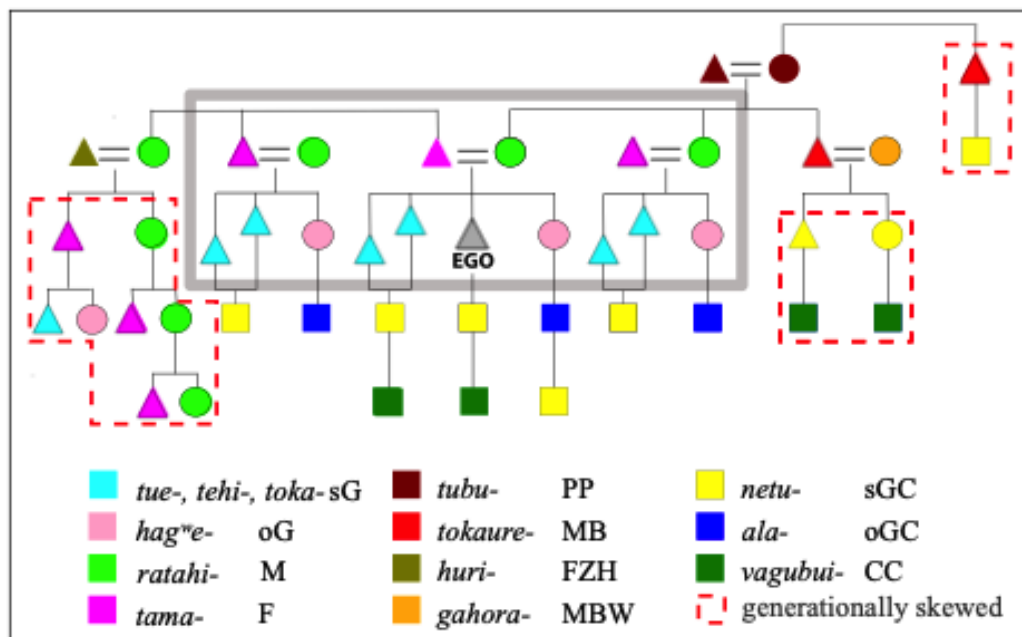


Figure 2.7 Structure of the NE Ambae terminology, with bifurcate merging terms

2.3.3 Generational skewing

A small number of languages in the sample have ‘cross’ terms with extended meanings that are mostly quite unlike those in Nakanai. These are exemplified by NE Ambae, a north Vanuatu language (Figure 2.7).¹⁹

Within the merged portion of the terminology, the structure of NE Ambae (Figure 2.7) differs from Nakanai (Figure 2.3) only in the unusual addition of *tue-* ‘s.s. sibling’ as a cover term for both *tehi-* ‘younger s.s. sibling’ and *toka-* ‘elder s.s. sibling’.

It is the ‘cross’ portion of the NE Ambae terminology in Figure 2.7 that is of particular interest. On the left-hand side of the figure, father’s sister is also called *ratahi-* ‘mother’, and so are the female descendants in her matriline, i.e. FZD, FZDD, FZDDD. Their brothers (FZS, FZDS, FZDDS) are all called *tama-* ‘father’. The children of each *tama-* are labelled in the same way as the children of the three *tama-* in the merged portion of the figure.

The right-hand ‘cross’ portion of the terminology is different. The children of EGO’s mother’s brother are called *natu-* ‘child’, and their children *vagabui-* ‘grandchild’.

The technical term for this phenomenon is ‘**generational skewing**’. On the left of the figure, ‘mother’, ‘father’ and the two sibling terms are used of women a generation or more below EGO’s mother. On the right of the figure, ‘child’ and ‘grandchild’ are used of individuals a generation above EGO’s child and grandchild. Skewing is also found in various locations outside the Austronesian family (see Lounsbury 1964a and the contributions to Trautmann & Whiteley 2012).

¹⁹ NE Ambae data are drawn mainly from Allen (1964a) and Lovell (1980), for the Lobaha and Longana dialects respectively.

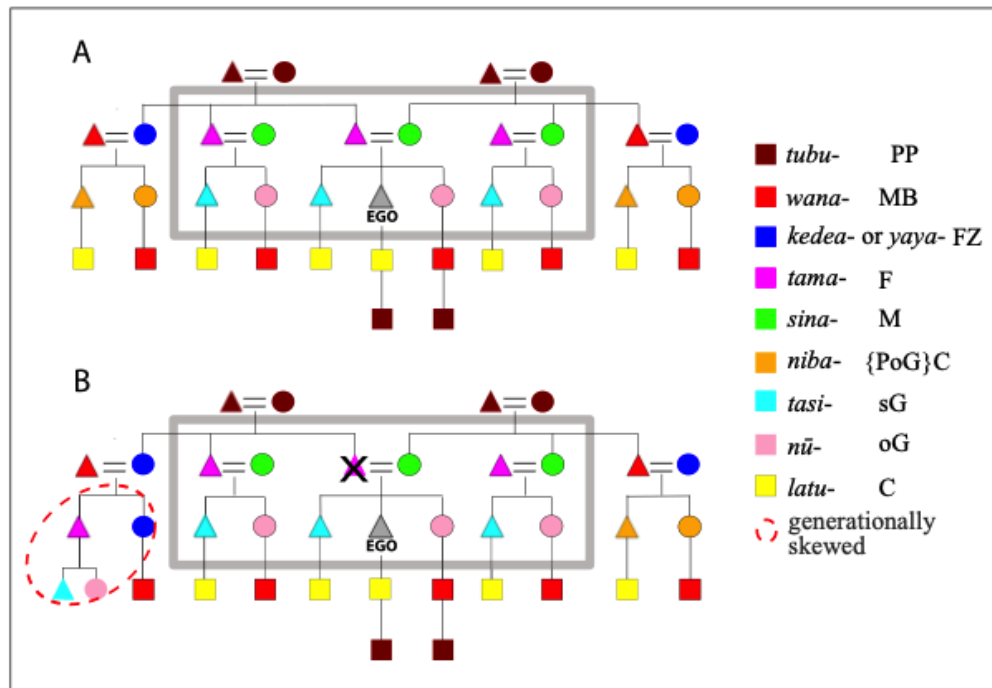


Figure 2.8 The structures of the two states of the Dobu kinship terminology

There is a plentiful literature on generationally skewed terminologies, asking how they come into being and what function they serve. However, a few things seem reasonably clear. There are two varieties of generational skewing. One is like NE Ambae, in Murdock's terms a 'Crow' terminology. Its mirror-image, 'Omaha', is not represented in Oceanic. Kohler (1897) found that 'Crow' terminologies were correlated with matrilineal societies, 'Omaha' with patrilineal. This correlation stands as a high probability, but not an absolute, as examples of patrilineal Crow and matrilineal Omaha have since been found. The converse does not hold, i.e. unilineal (matri- or patrilineal) descent is not a good predictor of generational skewing. For example, Nakanai society is matrilineal but its terminology is not skewed.

The witness of speakers of languages with a skewed terminology gives us some indication of how skewing happens. Deacon's 'best' informant for Semiang (= Sinesip, NCV) volunteered the information that if a male EGO's mother's brother died, by custom EGO would marry the MB's widow, thereby becoming 'father' to MB's children, and calling them 'child', accounting for the right-hand side of Figure 2.7. Conversely, if EGO is among the children of the deceased, then their cross-cousin becomes their 'father', accounting for the left-hand side (Deacon 1934:77-78). It seems that these uses in this circumstance have become entrenched, resulting in the skewed terminology.

Fortune's (1932) description of Dobu (PT) kinship is significant in two ways. The Dobu terminology has two states, A and B in Figure 2.8.. State A resembles the Nakanai structure of Figure 2.3. There are dedicated terms for mother's brother and father's sister, and a single term for cross-cousins. After father's death, state B becomes the norm, with generational skewing on the father's side. FZD inherits her mother's label, and her husband receives the label 'father'. Fortune (1932:37-38) provides the reason for this. The father's place in the matriline is taken by his heir. The heir is the father's sister's son, so he assumes the title

‘father’, and his sister becomes ‘father’s sister’. Fortune’s consultants’ explanation of the generationally skewed state B closely resembles that of Deacon’s Sinesip consultant. As their locations are 1950 km apart as the crow flies, they are clearly independent pieces of evidence as to the reason for generational skewing.

This explains how generational skewing arises. But the fact that two terminological states coexist(ed) in Dobu society also explains how Oceanic comes to have terminologies like state A alongside terminologies like state B, not to mention terminologies with fossil fragments of state B (see below). No other Oceanic terminologies with two states are known to us, but we infer that they must exist or have existed in order for the transition between the two states to take place.

Kronenfeld (2012) describes a two-state terminology in the Fanti language of Ghana. The situation is similar to that in Dobu. Kronenfeld takes issue with the concept of a ‘Crow’ terminology, viewing it as a generally skewed overlay on an existing bifurcate merging (‘Iroquois’) terminology. The Fanti two-state terminology can be taken as corroborating Fortune’s account of Dobu and its historical role.

To ‘qualify’ as a fully skewed system the changes illustrated by NE Ambae in [Figure 2.7](#) are expected:

1. on the father’s side
 - a. father’s sister’s matrilineal female descendants (FZD, FZDD, FZDDD) are referred to with the same term as FZ;
 - b. father’s sister’s matrilineal male descendants (FZS, FZDS, FZDDS) are called ‘father’;
 - c. the children of father’s sister’s matrilineal male descendants (FZSC, FZDSC, FZDDSC) are called by the same terms as EGO’s siblings (i.e. as the children of a ‘father’)
2. on the mother’s side
 - a. mother’s brother’s child is called by the term for EGO’s child’;
 - b. mother’s brother’s grandchild is called by the term for EGO’s grandchild.

Twenty-one languages in the sample show signs of generational skewing, but only three, Mota, NE Ambae and Nguna (all NCV) qualify fully. The evidence is set out schematically in [Table 2.10](#).²⁰ The abbreviations in the first row are relationships in a genealogical tree. The abbreviations beneath them represent the narrow sense of the term that is used for that relationship. In NE Ambae, for example, the relationship of father’s sister (FZ) is referred to by the term for mother (M), the relationship of father’s sister’s son (FZS) by the term for father (F), and so on. Terms that do not reflect generational skewing are omitted for readability’s sake.

²⁰ The languages listed in the table are only those included in the sample. It seems that almost all languages of Malakula have skewed terminologies. Data supporting this generalisation are from Uripiv, Malua Bay, Big Nambas, Larēvat, Neve’ei, Naman, Avava (Niviar dialect), Ninde, Sinesip and Naha’ai. The only Malakula terminology that is not obviously skewed is that of Vao. Skewed systems are also reported by Fischer (1966:117-120) in the eastern Carolines, but he offers neither data nor references.

Table 2.10 Oceanic languages reflecting generational skewing

gloss	FZ	FZS	FZD	FZSC	FZDS	FZDD	MBS	MBD	MBSC	MBDC
Yapese	M	F	M	G	G		C	C		CC
Sori	FZ	F	FZ					C		
Lele	FZ ¹	F	FZ			FZ		D		
Pak	FZ	FZS	FZ	G	FZS	FZ		D	CC	
Kilivila	PP	F	PP		FZ	FZ	C	C		
Dobu state B	FZ	F	FZ							
Sudest	FZ						C ²	C ²		
Nakanai				<i>PP</i>	<i>PP</i>				PP	PP
Notsi				<i>PP</i>	<i>*PP³</i>				PP	<i>*PP³</i>
Lamusong	FZ			G	FZ				G	<i>FZ</i>
Usen Barok				G					G	
Trivett's Tolai	PP		PP			PP		F		PP
Mota	M	F	M	G	F	M	C	C	PP	PP
Akei	M	F	M				C	C	CC	
NE Ambae	M	F	M	G	F	M	C	C	CC	CC
Nduindui	M	F	M	G	<i>G</i>		C	C	CC	CC
Raga	FZ	F	FZ		F	FZ	C	C		CC
Ninde	FZ	F	FZ	G	<i>G</i>		C			CC
Sinesip	M	F	M				C	C		
Nguna	FZ	F	FZ	G	F	FZ	C	C	G	G
Ifira-Mele	FZ	F	FZ				C	C		

¹ Father's mother is also called by the FZ term.

² Alternates with the term for cross-cousin.

³ The term is *tubo-*, reflecting POc **tubu* PP, not reflected as PP in Notsi.

The backbone of the skewed system is the terms for the matrilineal female, FZ, FZD and FZDD, shown in grey. The observation here is that whatever term is used for FZ is also used for FZD, FZDD and FZDDD (FZDDD is not shown; cf Figure 2.7). In some languages, e.g. Lele (Adm), the same term is projected upwards, i.e. used for FM. The matrilineal female's brother (FZS, FZDS) is labelled as 'father' (F). In Pak (Adm) a special term is used for FZS, which is then also used for FZDS.

Abbreviations in italics represent terms that have evidently been copied from elsewhere in the paradigm. For example, Nduindui terms are almost identical to those of its neighbour, NE Ambae, but the term used for FZDS is not the expected term 'father' but 'sibling', copied from FZSC. In Nduindui matrilineal moieties have been replaced by patrilineal sections. The Nduindui terms for father's sister's children retain the old nomenclature, but it is lost in the following generations (Allen 1964a).

Nakanai and Notsi (both MM) show only a fragment of an assumed formerly skewed system. In a terminology with skewing on the mother's side, mother's brother's children (MBS and MBD) are called 'child' (C), and their children (MBSC and MBDC) are called 'grandchild'. The latter are, however, of the same generation as EGO's children. Nakanai and Notsi retain only this peculiarity of a skewed system, and have copied the 'grandchild' term to the children of the paternal cross-cousins.

The sample languages include two Tolai dialects, Matupit Tolai and an unlocated dialect described by Trevitt (1940). This pair is interesting in that Matupit Tolai is unskewed, whereas 'Trevitt's Tolai' (labelled thus in Table 2.10) shows signs of skewing. Both dialects are shown in Figure 2.9. Assuming the hypothesis that unskewed and skewed versions of a terminology initially coexist, Matupit Tolai represents the unskewed version, Trevitt's Tolai a frozen

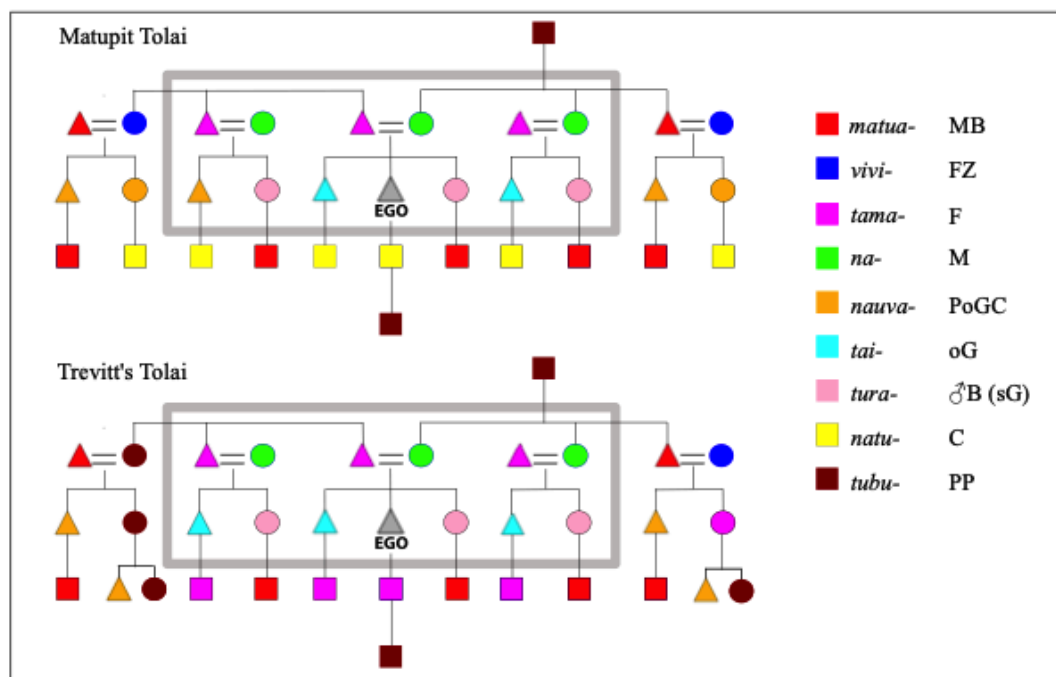


Figure 2.9 Two dialects of Tolai

skewed version. Trevitt's Tolai uses the term *tubu-* 'grandparent' for FZ, FZD and FZDD, presumably because, working upward, FM is *tubu-*.²¹ FZS and FZDS are not called by the expected term 'father', but instead *nauva-*. FZS is extended to FZDS. A peculiarity of Trevitt's Tolai is that it uses *tama-* reciprocally of 'father' and 'child', and this is then predictably extended to mother's brother's daughter (but not son), whose daughter is then labelled *tubu-* 'grandchild'.

The only Pn language with skewing is Ifira-Mele, and we attribute this to contact with neighbouring Nguna on the island of Efate.

2.3.4 The geography of typology

A review of Tables 2.5 to 2.10 reveals that typology rarely follows geographic or genealogical boundaries closely. This is scarcely surprising, as changes in terminological structure are likely to occur independently in different places. Without the terms themselves, changes do not provide a secure basis for determining shared innovations, as some of the comments published with Marshall (1984) explain. But this does not mean that the typological investigation above is irrelevant to the reconstruction of POc and the subsequent history of Oceanic languages.

The distribution of bifurcate merging (Table 2.5) is significant. It is strong in the Admiralties, in the New Britain/New Ireland area of MM, in New Caledonia other than the Loyalties, and in most of Fiji. This distribution, coupled with the fact that it is easier to derive other structures from bifurcate merging than vice versa, suggests that the POc terminology

²¹ The Kilivila cognate *tabu-* behaves identically.

Table 2.11 Reconstructed POc kinship terms

Gloss	Reference terms	Address terms
‘father, father’s brother, mother’s sister’s husband’	*tama- *ama	*mama
‘mother, mother’s sister, father’s brother’s wife’	*tina-, *kina- *ina	*(ñ,n)ana, *nai
‘mother’s brother’	*matuqa-	*wawa
‘child of ego, s.s. sibling or parallel cousin’	*natu-, *tu-	
‘♂sister’s child’	*[qa]lawa	
‘♂sister’s child’ (?)	*pa(s,c)u, *pa(s,c)ua-	
‘kin of grandparent and grandchild generations’	*tubu- *ubu *bubu, *[bu]bui *tabu- *abu[a]	
	*wawa[-]	*tete
‘kin of grandchild generation’	*makubu-	
‘great-great-grandparent, great-great-grandchild’	*bawa[-]	*sese-
‘younger s.s. sibling, younger s.s. parallel cousin’	*taci-, *kaci-	
‘elder s.s. sibling, elder s.s. parallel cousin’	*tua-, *tuaka-	*kaka
‘♂sister’, ♂female parallel cousin’	*papine-	
‘♀brother’, ♀male parallel cousin’	*m ^w aqane-	
‘friend, companion; relative of ego’s generation’	*tuRaŋ	
‘spouse’	*qasawa-	
‘woman, wife’	*pine	
‘s.s. sibling-in-law’	*ipaR/*ipa-	
‘o.s. sibling-in-law, younger than ego’	*taci-	
‘o.s. sibling-in-law, older than ego’	*tua-	
‘parent- or child-in-law’	*rawa	

had bifurcate merging. However, it was lost among the small islands of Micronesia and eastern Polynesia.

The data supporting generational skewing are admittedly found in only a small minority of Oceanic languages, but their presence in quite widely distributed languages of the Admiralties, PT, the New Britain/New Ireland area of MM, and NCV points to the presence of skewing in POc.

The relabelling of father’s sister as ‘mother’ was seemingly a shared innovation in Proto NW Solomonic (MM). It is an areal tendency in SES (Table 2.5). On the other hand the naming of all siblings and cousins, including cross-cousins, by the same terms seems to be a broad tendency that operates sporadically everywhere except SV and mainland New Caledonia. Change towards a generational structure went furthest in eastern Polynesia (Table 2.6).

2.3.5 Reconstructing the Proto Oceanic kinship terminology

The POc kinship terms reconstructed in the subsections of §2.4.1 (blood relatives) and §2.4.2 (in-laws) are listed in Table 2.11 and plotted as a tree diagram in Figure 2. First, POc kinship terms in §2.4 were reconstructed. Then the terminology was assembled from the terms and their reconstructed glosses, but with an eye on the typology of terminologies presented in §2.3. On the division of terms into reference and address terms, and the division of certain reference terms into **t*-initial and **t*-less, see §2.4.1.1.

The glosses of the terms for ‘father’ and ‘mother’, based on glosses of their reflexes, support the typological evidence above that POc terminology was bifurcate merging (§2.3.1). The s.s. sibling terms distinguished **taci*- ‘younger s.s. sibling’ from **tua-* or **tuaka-* ‘elder s.s. sibling’. The o.s. sibling terms differentiated between the directly possessed terms **papine-* ‘♂o.s. (female) sibling’ and **m^waqane-* ‘♀o.s. (male) sibling’. These were also the POc terms for ‘wife’ and ‘husband’ (vol.5:50–55), but when they referred to spouses they were indirectly possessed. Putative **lopu-* ‘o.s. sibling’ is omitted from both the figure and the table as its POc status is uncertain (§2.4.1.5.3).

There is broad agreement that early Oceanic society was matrilineal. In his survey of earlier findings of Oceanic matrilineality Blust (1981a:70–72) notes that Codrington (1891:30), Deacon (1934:705), and Capell and Lester (1945–46, part 4:315) had all suggested that at least in some parts of Melanesia, where societies with moieties are interspersed with societies that lack them, moieties are a retention, a view that Blust endorses. In his 1994 paper he shows that POc matrilineality was inherited from PMP, and points to Murdock’s (1968a) survey of sibling terminologies, which finds that the same-sex/opposite-sex opposition is correlated with the presence of descent groups and especially with matrilineality. More recently Hage (1999; this volume), Hage & Marck (2003) and Marck (2008) have also argued vigorously in favour of POc matrilineality, partly on genetic grounds.

If POc was indeed matrilineal, then it presumably had two moieties like those of Tolai, NE Ambae and a number of other Oceanic languages (§2.2.3). Symptomatic of this is the presence of two terms for ‘child’. POc **[qa]lawa-* denoted in its narrow sense ‘sister’s child’ (i.e. the one to whom EGO was mother’s brother) and in its classificatory sense ‘female parallel cousin’s child’. The default term was **natu-*, the only term that, as in Tolai, switches moiety according to EGO’s sex: opposite moiety to EGO if EGO is male, same moiety as EGO if EGO is female.

The existence of a dedicated term, **matuqa*, for EGO’s mother’s brother (literally ‘the old one’) reflects his role among his kin (§2.2.3) and is further evidence of matrilineality. If the society were patrilineal, the leading male among his relatives would be his father.

2.3.6 Generational skewing in Proto Oceanic

Previous reconstructions of POc kinship terms seem to have assumed that there must have been a separate term for EGO’s father’s sister. Perhaps there was, but one cannot reconstruct it (§2.4.1.2.6). Given that most other terms for blood relatives are easily reconstructable, this blank in the terminology demands an explanation, and a fairly straightforward one emerges from the discussion of generational skewing in §2.3.3. Like Dobu, POc apparently had two states, a state A in which there were dedicated terms for father’s sister and for cross-cousins and their children, and a state B in which these terms were replaced by generationally skewed terms. Assuming that early Oceanic speakers lived

in small hamlets with perhaps one or two extended families scattered along coastlines (vol. 1:62), it is possible that children rarely heard the state A terms, rendering them liable to the replacement which is visible in the data. The few generationally skewed terminologies that exist today reflect a freezing of all or parts of state B (Table 2.10, plus others not included in the sample), but most Oceanic terminologies reflect state A, with variations resulting from a past two-state situation.

In the POc terminology in Figure 2 the slots with terms in square brackets are essentially gaps. No distinct terms can be reconstructed for them. They are in the lineages that involve cross-cousins: father's sister and her descendants and mother's brother's descendants. The terms in the brackets are the generationally skewed terms that would have been used in state B, with the exception of 'father's sister'. This is shown as [**FZ*] because the POc term is unknown. It was perhaps **tina-* 'mother' or **tubu-* 'grandparent', both discussed below.

The evidence of the languages listed in Table 2.10, like NE Ambae (Figure 2.7) and Trevitt's Tolai (Figure 2.9), leads us to expect that EGO's mothers' brother's children will be called 'child', despite the fact that they are of EGO's generation. This extract from the data for 'child' in §2.4.1.3.1 confirms this. Glosses not relevant to generational skewing have been removed. A majority of the reflexes are from NCV languages. This is not surprising, as generational skewing, at least in the north of the region, is mentioned in the ethnographic literature. The presence of reflexes from the Admiralties, PT, MM (western Solomons), the Loyalties and Micronesia makes it likely that the sense 'mother's brother's child' is of POc antiquity.

POc **natu-* 'child, s.s. sibling's child, parallel cousin's child, **mother's brother's child**'

Adm: Pak	<i>naro-</i>	'child', ♀MBC
PT: Kilivila	<i>latu-</i>	'child', ♂MBC
MM: Tolai	<i>tama-</i>	'father, child', MBC (Trevitt 1940)
MM: Marovo	<i>tu-</i>	'child', MBC
NCV: Mota	<i>natu-</i>	'child', MBC
NCV: Raga	<i>nitu-</i>	'child', MBC
NCV: Akei	<i>natu-</i>	'child', BC, MBC
NCV: Daakaka	<i>nate-</i>	'♂child', MBC
NCV: Ninde	<i>nitu-</i>	'child', ♂BC, ♂MBC
NCV: Naman	<i>netu-</i>	'child', MBC (Deacon 1934:104–106)
NCV: Uripiv	<i>natu-</i>	'child', MBC
NCV: Neve'ei	<i>natu-</i>	'child', MBC
NCV: Nguna	<i>natu</i>	'child', MBC (Facey 1989)
NCal: Iaa	<i>noko-</i>	'child', MBC (Ray 1917)
Mic: Puluwatese	<i>nawi-</i>	'child', MBC

One would also expect that the children of EGO's MBC would be called by the same term as 'grandchild', and the data give some support to this notion. POc apparently used two terms for 'grandchild'. POc **tubu-* 'grandparent' was used reciprocally of 'grandchild'. POc **makubu-* was not reciprocal and meant 'grandchild; kin two generations below ego'. The terms in the set below reflect a variety of 'grandchild' terms, but have in common the fact that

they are also used for mother's brother's grandchild, who was of EGO's child's generation, not EGO's grandchild's.

POc **tubu-* 'grandparent, grandchild'

POc **makubu-* 'grandchild; kin two generations below ego'

Adm: Yapese	<i>tujin</i>	'grandchild', BCC, MBDC
Adm: Pak	<i>makapu-</i>	'grandchild', SGCC, MBSC
MM: Tolai	<i>tubu-</i>	'grandchild', FZ, FZD, FZDD, MBDS (Trevitt 1940)
MM: Babatana	<i>bazu-</i>	'grandchild', ♂ MBDC
NCV: Akei	<i>mab^{wi}-</i>	'grandchild', BCC, MBSC
NCV: Mota	<i>tupu-</i>	'grandparent, grandchild', MBCC , FZCC
NCV: Naman	<i>nābu-</i>	'grandchild', MBSS
NCV: Neve'ei	<i>nābu-</i>	'grandchild', MBSS
NCV: Nguna	<i>sūli</i>	'grandchild', BCC, ♀ MBCC
NCV: Ninde	<i>neibū-</i>	'grandchild', MBDS , ♂ MBSS
Fij: Lautoka	<i>viaŋo-</i>	'grandchild', WZC, MBCC
Fij: Tavuki	<i>makubu</i>	'grandchild', BCC, MBCC ,

NE Ambae and Trevitt's Tolai also suggest that father's mother, father's sister (FZ), FZD, FZDD and so on, i.e. father's maternal line, were either labelled 'mother' or 'grandparent' in POc. The evidence for this is less than the set above, but the strength of the 'mother' set below (from §2.4.1.2.2) is reinforced by the Nduindui and Chuukese glosses, which include both FZD and FZDD. The POc term was presumably the well supported **tina-* 'mother', despite the fact that Lele, Mota and Nduindui all have another term for 'mother'. The evidence for POc **tubu-* in this role is thinner but the glosses are convincing.

Adm: Yapese	<i>ci-tini(ŋo)-</i>	'mother, mother's sister', FBW, FZ, FZD
Adm: Lele	<i>nane-</i>	'mother, mother's sister', FZD
NCV: Mota	<i>veve-</i>	'mother, mother's sister', FBW, FZD (Codrington 1891)
NCV: Nduindui	<i>re-tahi-</i>	'mother', PZ, FZD , FZDD
NCV: Akei	<i>tina-</i>	'mother', PZ, FZD
Mic: Puluwatese	<i>yīn</i>	'mother', PZ, FZD
Mic: Chuukese	<i>yine-y</i>	'mother', PZ, PM, FZD , FZDD
PT: Kilivila	<i>tabu-</i>	'grandparent', FZ , FZD , FZDD (Malinowski 1929; Lounsbury 1965)
MM: Tolai	<i>tubu-</i>	'grandparent', FZ , FZD , FZDD (Trevitt 1940)

In NE Ambae the brother of the father's lineal female is called **tama-* 'father', i.e. FMB, F (and FB), FZS, FZDS and FZDDS are all **tama-*. Again there is respectable evidence for this among the data in §2.4.1.2.1

POc **tama-* 'father, father's mother, mother's sister's husband, **father's sister's son, father's sister's daughter's son, father's sister's daughter's daughter's son**'

Adm: Yapese	<i>ci-timo(ŋo)-</i>	'father', FB, MZH, FZS
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Adm: Pak	<i>dramo-, tamo-</i>	‘father’, FB, ♀ FZS (Mead 1934:347–349)
Adm: Bipi	<i>tama</i>	‘father’, FB, ♀ FZS (Mead 1934:350–351)
PT: Kilivila	<i>tama-</i>	‘father’, FB, PZH, FZS (Malinowski 1929; Lounsbury 1965)
NCV: Mota	<i>tama-</i>	‘father’, FB, MZH, FZS
NCV: Lombaha	<i>tama-</i>	‘father’, FB, FZS
NCV: Longana	<i>tama-</i>	‘father’, FB, FZS
NCV: Akei	<i>tama-</i>	‘father’, FB, FBS, FZS
NCV: Daakaka	<i>timya-</i>	‘father’, FB, FZS
NCV: Ninde	<i>tama-</i>	‘father’, FB, MZH, FZS
NCV: Nguna	<i>mama</i>	‘father’, MZH, FZS, FZDS, FZDDS
Mic: Chuukese	<i>seme-</i>	‘father’, PB, FZS, FZDS

Collectively, the evidence above is respectable support for the hypothesis that the gaps in the POc tree are there because POc has a stage B. Some of the bracketed terms in Figure 2 are reconstructed not by the comparative method but by local inference. For example, if mother’s brother’s child was labelled **natu-*, otherwise ‘child’, then mother’s brother’s child’s child was probably labelled **makubu-*, otherwise ‘grandchild’.

2.4 Reconstructing Proto Oceanic kinship terms

In this section POc terms are presented with supporting evidence. Among other things, we were interested in ascertaining whether a reconstructed term was a POc innovation or an inheritance from an earlier Austronesian interstage. As in other chapters of these volumes, we often rely on others’ reconstructions of PAN, PMP or PEMP terms as evidence of inheritance. Where a relevant reconstruction has not been made, however, we have explored SHWNG languages to see whether a term is reconstructable to PEMP—and therefore inherited into POc—and have cited relevant SHWNG data. SHWNG languages fall into four subgroups: South Halmahera (SH), Raja Ampat (RA), Bomberai (Bom) and Cenderawasih Bay (CB).

Some PPn kin terms are shown with two forms, like **tina-* and **tinana* ‘mother’ (Pawley 1967:262–263; Wilson 1982:35–60, 96–99). The first term of the pair, like other items ending in a hyphen, retained POc direct possession of kin terms whereby the possessor suffix was added directly to the stem (vol.1:32; vol.5:75–76), but this occurred only with a singular possessor.²² With a non-singular possessor and optionally with a singular possessor an indirect possession construction was used, e.g. PPn **t-o-tā tama-na* [ART-PCL-P:1PL father-P:3SG] ‘our father’ (Wilson 1982:97). In the indirect construction the possessed noun retained a fossil reflex of the POc **-ña* P:3SG, giving the second term of the pair.

There are several pitfalls associated with the glossing of kinship terms. At one end of the continuum, a term is glossed with a single term, e.g. ‘father’, yet, given that Oceanic kinship

²² The PPn suffixes were **-ku* P:1SG, **-u* P:2SG and **-na* P:3SG, reflecting POc **-gu*, **-mu* and **-ña*. Loss of POc **-m* in the PPn P:2SG form is irregular. All Pn languages retain PPn **-na* P:3SG in the terms under discussion, at least as a fossil. PPn **-u* P:2SG is reflected in the Pn Outlier languages Rennellese, Mae, Tikopia, Pileni, Ifira-Mele and W Futunan. The last three also reflect **-ku* P:1SG. In vol 5:75 Ross writes, ‘Most Oceanic languages outside Polynesia make a grammatical distinction between directly and indirectly possessed nouns....’ This implies that Pn languages do not make this distinction, but this discussion shows that some do, albeit within narrow bounds.

terminologies are classificatory, it is almost certain that a ‘father’ term has wider reference that includes ‘father’s brother’ and ‘mother’s sister’s husband’. However, defining the ‘father’ term as denoting F, FB and MZH in many cases does not cover the term’s actual denotation, which may well be potentially boundless (see §2.2.3). A few publications, e.g. Fingleton (1986) on Tolai, offer definitions of this kind. The usual ethnographic gloss, however, is a long string of relatives, like Elbert & Monberg’s (1965:13) gloss of Rennellese *tama-/tamana*: F, FB, FZH, FFBDH, FFBS, FMZS, MH, FMZDH, MZH, MMZDH, HF, WF. A string of this kind is sometimes difficult to interpret, as it omits a relationship that is implied if the term denotes a boundless class. Does this mean that the authors have omitted a possible gloss? We cannot tell, as ethnographers do not always explicate the structure of the kinship system, but instead focus on the behaviours of various kin towards each other. In any case, the interpretation of a gloss list like the one for Rennellese ‘father’ is dependent on an understanding of the structure of the kinship system.

Often when the long-list glosses in a cognate set are compared, we find that perhaps only the first three items on the list agree across cognates. Beyond these it is impossible to draw any conclusion about the larger category denoted by the reconstruction.

In light of these considerations and to save space, long lists of glosses are generally not given in the definitions below. These can sometimes be found in the ethnographies listed in the appendix to this chapter. Instead, we restrict ourselves to the most straightforward glosses, like ‘father, father’s brother,’ FZH. In the interests of readability the first gloss (or two) is given in plain English and subsequent glosses as abbreviations. On occasion, a definition of the whole category is provided, like the one above (‘Father or any male blood relative...’).

To avoid too much clutter in the cognate sets below, we have not given the source of most cognates. As with other chapters and volumes, the lexical source(s) for most languages are listed in Appendix A. The present chapter also draws on the ethnographic sources listed at the end of the chapter. The source of a cognate is given only where (a) we have consulted two or more works for that language; (b) the source is itself a comparative work dealing with a number of languages; or (c) only one item in the chapter is drawn from that source.

In some Oceanic languages, there are two terms for the same ALTER, a reference term used in talking about that ALTER, e.g. ‘my father’ or ‘your child’, and an address (or vocative) term used to indicate whom one is talking to, e.g. ‘*Dad*, may I go outside?’ Address terms are marked with the abbreviation ADDR. However, there are languages in which this distinction is not made, i.e. one says, ‘*My father*, may I go outside?’ Diachronically, it is quite common to find a reference term that reflects an early address term.

2.4.1 Blood relatives (consanguineal kin)

2.4.1.1 Origins

POc forms denoting certain close blood relatives appear to form a (defective) paradigm, shown in Table 2.12. The distribution of their reflexes across Oceanic subgroups is shown in Table 2.13. The most widely reflected forms are those with **t-* (column 2 of Table 2.12). They were evidently reference forms and usually took a possessor suffix (§2.2). The forms in column 4 were address forms, apart from **kaka*, which has a long history as both an address

Table 2.12 POc variant terms for close blood relatives

	1	2	3	4	
‘father’	<i>*ama</i>	<i>*tama-</i>	(<i>*kama</i>)	<i>*mama</i>	(§2.4.1.2.1)
‘mother’	<i>*ina</i>	<i>*tina-</i>	<i>*kina</i>	<i>*nana</i>	(§2.4.1.2.2)
‘grandparent, grandchild’	<i>*ubu</i>	<i>*tubu-</i>	<i>*kubu</i>	<i>*bubu</i>	(§2.4.1.4.1)
	—	<i>*tibu-</i>	—		
	<i>*abu</i>	<i>*tabu-</i>	—		
‘younger s.s. sibling’	<i>*aci</i>	<i>*taci-</i>	<i>*kaci</i>	—	(§2.4.1.5.1)
‘elder s.s. sibling’	—	<i>*tua-</i> , <i>*tuaka-</i>	—	<i>*kaka</i>	(§2.4.1.5.2)

Table 2.13 Distribution by Oceanic subgroups/regions of POc variant terms for close blood relatives

column:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
SHWNG	y	y	y	y	y	y	y	y	y	y	y	y		y	y	y					
POc	<i>*ama</i>	<i>*tama-</i>	<i>*kama</i>	<i>*mama</i>	<i>*ina</i>	<i>*ina-</i>	<i>*kina</i>	<i>*ñaña</i>	<i>*ubu</i>	<i>*kubu-</i>	<i>*tubu-</i>	<i>*ububu</i>	<i>*tibu-</i>	<i>*abu</i>	<i>*tabu-</i>	<i>*aci</i>	<i>*taci-</i>	<i>*kasi-</i>	<i>*tua-</i>	<i>*tuaka-</i>	<i>*kaka</i>
Mussau		y					y				y						y		y		
Adm		y			y	y	y				y	y		y	y		y				
NNG	y	y	y	y	y	y	y	y	y		y	y	y	y	y	y	y		y	y	y
PT	y	y	y	y	y	y				y	y	y					y		y	y	
Kb		y			y	y	y	y			y			y			y		y	y	
MM		y	y		y	y	y				y	y	y				y	y	y	y	
NWS		y	y				y		y		y	y	y			y	y	y		y	y
SES		y	y				y	y									y	y	y	y	y
NCV		y	y		y	y	y		y		y	y	y	y	y				y	y	
SV		y	y				y				y						y		y		
NCal		y	y				y	y			y			y			y		y	y	
Mic		y					y				y						y				
Fij		y					y	y			y	y					y		y	y	
Pn		y					y	y	y	y	y	y					y			y	

‘y’ means ‘yes, there are reflexes of the item at the head of the column’.

and a reference form. In some Oceanic languages reflexes of the other items in column 4 are also reference forms, and it is quite likely that this extension of function had already begun in POc. However, it is impossible to identify a functional difference between the forms in column 2 and the less widely reflected forms in column 1 or the rarely reflected forms in column 3 (Table 2.13).²³

The relationships among the forms in Table 2.12 are obvious, but gaps and irregularities, absences of functional contrasts between forms, and three rows of ‘grandparent/grandchild’ forms instead of one all suggest that this is not entirely a paradigm in the usual morphological sense, but in part a set of relationships (re)created by analogical innovations.

This hypothesis is reinforced when the POc reconstructions are compared with their PMP ancestors in Table 2.14. POc forms in **k-* (column 3 of Table 2.12) are missing from Table 2.14, because no PMP forms in **k-* are reconstructed. The only **k-* form for which there is non-Oceanic evidence is **kama* ‘father’, and this can be reconstructed only to PEMP.²⁴ On the other hand, Blust (1979, ACD) shows that ‘basic’ forms like **ama* and **t-* forms like **tama* did form a paradigm in PMP, resulting from the prefixation of PAN **ta-* to basic forms, the latter becoming POc reference terms. Blust (1979) also proposes that PMP created address forms by shifting stress to the final syllable of the basic form. Hence, e.g., PMP **áma* (reference) vs **amá* (address).²⁵ He suggests that this led to initial-vowel loss, giving **ma* and reduplicated **mama*, the PMP address term reflected in Oceanic.

Blust’s reduplication hypothesis certainly appears to explain **mama*, **nana* and **bubu*, but

Table 2.14 PMP and POc variant terms for close blood relatives

	PMP	POc	PMP	POc	PMP	POc
‘father’	<i>*ama</i>	<i>*ama</i>	<i>*tama</i>	<i>*tama-</i>	<i>*mama</i>	<i>*mama</i>
‘mother’	<i>*ina</i>	<i>*ina</i>	<i>*tina-</i>	<i>*tina-</i>	<i>*nana</i> ^a	<i>*nana</i>
‘grandparent, grandchild’	<i>*umpu</i>	<i>*ubu</i>	<i>*tumpu</i>	<i>*tubu-</i>	<i>*bubu</i>	<i>*bubu</i>
	(<i>*impu</i>)	—	(<i>*timpu</i>)	<i>*tibu-</i>		
	<i>*ampu</i>	<i>*abu</i>	— ^b	<i>*tabu-</i>		
‘younger s.s. sibling’	<i>*huaji</i> , <i>*haji</i> ^c	(<i>*aci</i>)	<i>*tuaji</i> , <i>*taji</i> ^c	<i>*taci-</i>	—	—
‘elder s.s. sibling’	<i>*aka</i>	—	(<i>*teka</i>)	<i>*tua-</i> , <i>*tuaka</i>	<i>*kaka</i>	<i>*kaka</i>

Note: Parentheses indicate that a form is very weakly attested, i.e. 2-3 wMP reflexes in ACD.

Bolding indicates that a PAN form can be reconstructed.

^aACD: Proto Philippine **nana* ‘term of address for older female relative’.

^b**tumpu* is reconstructed only as far back as PEMP (ACD).

^cUnder the ACD entry for PAN **Suaji* is a note thaty irregular reflexes leave open the possibility that we should reconstruct both **Suaji* and **Saji*. The reconstructions shown here follow from this.

²³ Blust (1979:217–218) notes that the Formosan language Paiwan has *t-* and *k-*initial nouns, the former treated as proper names (‘Dad’ etc) and the latter as common nouns as in, e.g., ‘your father’.

²⁴ The historical evidence indicates a high probability that **kaka* belongs in column 4 of Table 2.14, even though it is a form that might also be expected in column 3 (see §2.4.1.5.2).

²⁵ Blust (1979) also reconstructs the PMP variants **amáŋ*, **amáq* and **amáy*, all ‘father’, as address terms (along with parallel variants for ‘mother’ etc), but these did not survive into Oceanic.

it doesn't work for **kaka* (and Blust doesn't suggest that it does). The latter is of PAN antiquity, yet the corresponding reference form **tuaka* is apparently a POc innovation, so **kaka* cannot be derived from it.

The origin of **tuaka* is puzzling. It consists of **tua-* and **-ka*, and seems to be an analogical creation to fill the previously empty slot in column 2 of Table 2.12 with a **t-* form. The second element, **-ka*, is an obvious abbreviation of **kaka*. The first element, **tua-*, perhaps already existed. It is reflected in many Oceanic languages with a possessor suffix. Its origin is not clear. Milke's (1958a) reconstruction of **tuqaka* with **-q-* implies he thought **tuqa-* was POc **tuqa* 'old' (vol.2:204–205; vol.5:68; see §2.4.1.5.2). He had toyed with this thought in his 1938 paper, but in 1958a, with more data and better reconstructions, he explicitly denies it in a footnote, but leaves **-q-* in place.²⁶

An alternative hypothesis—that **tuaka* reflects PMP **teka* and its POc continuation **toka*, both in the ACD—is beset with difficulties. First, PMP **teka* is supported by only one non-Oceanic reflex (Bintulu *təka* 'elder sibling') and, as noted in the ACD entry, no corresponding basic PMP form †**eka* can be reconstructed. The ACD lists several reflexes of putative POc **toka* (see §2.4.1.5.2 for data). However, deriving **tuaka* from **toka* implies an otherwise unknown change **-o- > -ua-*. As the converse change, **-ua- > -o-*, vowel coalescence in unstressed syllables, is far more natural, the many apparent reflexes of putative **toka* can more economically be explained as reflexes of POc **tuaka*, and this is how they are treated in §2.4.1.5.2).

The use of 'appears to', 'seems to' and 'apparently' in the foregoing paragraphs indicates that we are dangerously close to speculation, and the evidence points only to probable conclusions. Pages could be spent speculating about matters raised by Tables 2.13 and 2.14, but we restrict ourselves here to just one further question: Why are there apparently three rows for 'grandparent, grandchild'?

According to the ACD, PMP had basic forms with the three vowels **u-*, **i-* and **a-* (Table 2.12).²⁷ However, the distribution of reflexes of the **i-* row reconstructions suggests that the latter are an artefact of the comparative method. There are no known Oceanic reflexes of PMP **impu*. Table 2.13 shows that Oceanic forms apparently reflecting POc **tibu-* only occur in subgroups where POc **tubu-* is also reflected. This suggests that these forms are actually reflexes of POc **tubu-* in which **-u-* has become *-i-* in the unstressed first syllable, e.g. **tubú-gu > *tibú-gu* 'my grandparent'. For this reason, in §2.4.1.4.1 POc **tubu-* and **tibu-* are treated as a single cognate set. We lack the data to comment on non-Oceanic forms, but note that the PMP forms in the **i-* row are poorly supported in the ACD, **impu* with two wMP and one cMP reflex and **timpu* with one western MP and the Oceanic reflexes mentioned above.

This leaves a contrast between the forms in the **u-* row and the **a-* row. There is no functional distinction between them, and both are well attested in Oceanic (Table 2.13).

Table 2.14 shows that PMP **bubu* is of PAN antiquity and had a different labial consonant from the **-mp-* of forms in the other columns of the 'grandparent/grandchild' rows. However, if Blust's reduplication hypothesis applies here, it will have generated POc forms indistinguishable from those descended from PMP **bubu*.

²⁶ Thus we do not know why Milke (1958a) reconstructs this term with **-q-*.

²⁷ It also had forms in **e-*, not reflected in Oceanic.

2.4.1.2 Parent and child generations

2.4.1.2.1 *Father, father's brother*

The three terms for ‘father’ shown in Table 2.14, **tama-*, **ama* and **mama*, are presented first. These are followed by a further term, **tata*, that is either an address term or derived from one. There are numerous reflexes of an apparent **papa* in the data, but it is impossible to determine in many cases whether these are loans from European colonial languages or not, and they are omitted here.

The POc reference term for ‘father’ was **tama-*. Many glosses reflect the fact that POc kinship terminology was bifurcate merging (see §2.3.1), i.e. terms for ‘father’ also denoted father’s brothers (FB). A common third gloss is ‘mother’s sister’s husband’ (MZH). In a bifurcate merging terminology a mother’s sister is also a ‘mother’, and the husband of any ‘mother’ is a ‘father’.

PAn **ta-ama* ‘father’ (ACD)

PMP **t-ama* ‘father, father’s brother’ (Blust 1980a)

POc **tama-* ‘father, father’s brother, mother’s sister’s husband’ (Milke 1958a; ACD)

Adm: Yapese	<i>ci-timo(ŋo)-</i>	‘father’, FB, MZH, FZH, FZS
Adm: Mussau	<i>tama-</i>	‘father, father’s brother’, MZH
Adm: Baluan	<i>tama-</i>	‘father, father’s brother’, FFBS
Adm: Lele	<i>tam-</i>	‘father, father’s brother’
Adm: Drehet	<i>teme</i>	‘father, father’s brother’, MZH, PGC, FGSC, ♀ZH
SJ: Sobei	<i>tema-</i>	‘father, father’s younger brother’
NNG: Tuam	<i>tama-</i>	‘father, father’s brother’
NNG: Mangap	<i>tama-</i>	‘father, father’s brother’
NNG: Lukep (Pono)	<i>tama-</i>	‘father’
NNG: Mengen	<i>tama-</i>	‘father’
NNG: Takia	<i>tama-</i>	‘father, father’s brother’, FFBS, MZH etc
NNG: Wogeo	<i>tama-</i>	‘father, father’s brother’, PZH
NNG: Manam	<i>tama-</i>	‘father, father’s brother’, EF, FBS
NNG: Yabem	<i>tama-</i>	‘father’
NNG: Adzera	<i>rama-</i>	‘father, father’s brother’, MZH
NNG: Mapos Buang	<i>ama-</i>	‘father, father’s brother’, GF
NNG: Patep	<i>ma</i>	‘father, father’s brother’
PT: Sudest	<i>rama-</i>	‘father’
PT: Kilivila	<i>tama-</i>	‘father’, FB, FZS, PZH (Malinowski 1929; Lounsbury 1965)
PT: Dobu	<i>tama-</i>	‘father, father’s brother’ etc, MZH etc
PT: Yamalele	<i>tama</i>	‘father, father’s brother’, MZH
PT: Sinaugoro	<i>tama-</i>	‘father, father’s brother’, MZH
PT: W Mekeo	<i>ama</i>	‘father, parent’s brother’, ZH
MM: Vitu	<i>tama-</i>	‘father, parent’s brother’, MH
MM: Nakanai	<i>tama-</i>	‘father, father’s brother’, HB, MZH, FEB, MEZH
MM: E Kara	<i>tama-</i>	‘father’
MM: Lamusong	<i>tama-</i>	‘father, father’s brother’, MZH, FFF, MMF

MM:	Tolai	<i>tama-</i>	‘father, father’s brother’, ♂MZH (Fingleton 1986)
MM:	Nehan	<i>tama-</i>	‘father, father’s brother’ etc (Nachman 1978)
MM:	Hahon	<i>tama-</i>	‘father, father’s brother’, FZH
MM:	Banoni	<i>tama-</i>	‘father, father’s brother’, F{PsG}S, MZH)
MM:	Varisi	<i>tama-</i>	‘father, father’s brother’, FZH, MZH
MM:	Marovo	<i>tama-</i>	‘father, father’s brother’, FZH, FZS
MM:	Maringe	<i>kma-</i>	‘father, father’s brother’+
SES:	Bugotu	<i>tama-</i>	‘father’, PB (Bogesi 1948)
SES:	To’aba’ita	<i>(θa)ama-</i>	‘father’
SES:	Kwara’ae	<i>ama-</i>	‘father, father’s brother’, MZH (nearly obsolete)
SES:	Sa’a	<i>ama-</i>	‘father’, FZH
SES:	Bauro	<i>(w)ama</i>	‘father, father’s brother’ etc (<i>wa-</i> MASC)
PNCV * <i>tama-</i> ‘father, father’s brother’ (Clark 2009)			
NCV:	Mota	<i>tama-</i>	‘father, father’s brother’, MZH, FZS, FZDS, FMB, BS (Needham 1960; Vienne 1984)
NCV:	Lombaha	<i>tama-</i>	‘father, father’s brother’, FZS, BS (Allen 1964a)
NCV:	Raga	<i>tama-</i>	‘father’, FZS, FZDS, ZDH, ♀DH
NCV:	Akei	<i>tama-</i>	‘father, father’s brother’, FGS, FGSS, FZSS, FZH, MZH (Guiart 1958)
NCV:	Araki	<i>ranna-</i>	‘father, father’s brother’, MZH
NCV:	SE Ambrym	<i>tamo</i>	‘father’ (Lynch 1996)
NCV:	Neve’ei	<i>teme-</i>	‘father’, FB, FZS
NCV:	Namakir	<i>tama-</i>	‘father’
PSV * <i>e-tme-</i> ‘father, father’s brother’ (Lynch 2001b)			
SV:	Sye	<i>e-tme-</i>	‘father, father’s brother’
SV:	Lenakel	<i>rəmə-</i>	‘father, father’s brother’
SV:	Anejom	<i>e-tma-</i>	‘father’, FB, FZH
PNCal * <i>tama-</i> ‘father, father’s brother’ (Ozanne-Rivierre 2000)			
NCal:	Belep	<i>cama-</i>	‘father, father’s brother’, MZH
NCal:	Nêlêmwa	<i>kāmā</i>	‘father, father’s brother’
NCal:	Drubea	<i>tē-</i>	‘father, father’s brother’
NCal:	Iaai	<i>kame-</i>	‘father, father’s brother’
PMic * <i>tama</i> ‘father, father’s brother’ (Hage & Marck 2002)			
Mic:	Kiribati	<i>tama</i>	‘father, father’s brother’, ♂EF (Lambert 1981)
Mic:	Marshallese	<i>cema-</i>	‘father, father’s brother’, ♂EF, ♂EFB (Spoehr 1949a)
Mic:	Puluwatese	<i>hām, hæmæ-</i>	‘father, father’s brother’, FZS
Mic:	Woleaian	<i>tama-</i>	‘father’ (Hage & Marck 2002)
Mic:	Chuukese	<i>seme-</i>	‘father, parent’s brother, PF, FZS, FZDS, EF, EPB, EPF, EPMH, PMH, PZH, MH’ (Goodenough 1951)
Fij:	Wayan	<i>tama-</i>	‘father, father’s brother’, MZH
Fij:	Bauan	<i>tama-</i>	‘father, father’s brother’
Fij:	Moala	<i>tama-</i>	‘father, father’s brother’, P{PsG}S, FMZS, MH, WMB

PPn **tama-*, **tama-na* ‘father, father’s brother’ (Pawley 1981:284; Marck 1996)

Pn:	Tongan	<i>tama(i)</i>	‘father, father’s brother’ (Völkel 2015)
Pn:	Samoan	<i>tamā</i>	‘father, father’s brother’ etc (Holmes 1957)
Pn:	Rennellese	<i>tama-</i> , <i>tamana</i>	‘father, father’s brother’, FZH, FFBDH, F {PsG}S, MH, MZH, EF
Pn:	Pileni	<i>tamo</i>	‘father, father’s brother’, MZH

Reflexes of **ama* ‘father, father’s brother’ are few and restricted to PNGOc. It is only the presence of non-Oceanic reflexes that allows us to reconstruct this term to POc.

PAn **amax* ‘father’ (ACD)

PMP **ama* ‘father, father’s brother’ (Blust 1994)

POc **ama* ‘father, father’s brother’

NNG:	Tuam	<i>ama</i>	‘father’
NNG:	Tami	<i>ama(?)</i>	‘father’
NNG:	Medebur	<i>ama</i>	‘father’ (Z’graggen 1974a)
NNG:	Labu	<i>ama</i>	‘father’
PT:	Tawala	<i>ama-</i>	‘father’

POc **mama* either was an address term or was descended from one, as the ACD gloss notes. Chowning (1991) also thinks that POc **mama* was an address term, as it has this function all along the north coast of Papua New Guinea.

It seems that the denotation of **mama* changed in Proto New Caledonian to ‘elder s.s. sibling’. Indeed, the change may have been earlier, as this is also its meaning in Neve’ei. This appears to be an extension of seniority status to elder s.s. siblings which also affects **tata* below.

PAn **mamah* ‘father, father’s brother’ (ACD: ‘father’s brother’)

PMP **mama* ‘father, father’s brother’ (ACD: ‘a young child’s term of address for his father, vocative of **ama*, parent’s younger sibling, junior uncle’)

POc **mama* ‘father, father’s brother’ (Chowning 1991; ACD)

SJ:	Sobei	<i>mam</i>	‘father, father-in-law’ (ADDR) (Sterner 1992)
NNG:	Gitua	<i>mama</i>	‘father’
NNG:	Sio	<i>mama</i>	‘father’
NNG:	Mindiri	<i>mamə</i>	‘father’
NNG:	Wogeo	<i>mam</i>	‘father, father’s brother’
NNG:	Kairiru	<i>mam</i>	‘father’
NNG:	Yabem	<i>mama</i>	‘father’
NNG:	Numbami	<i>mama</i>	‘father, father’s brother’, MZH
NNG:	Silisili	<i>mama</i>	‘father’
PT:	Gapapaiwa	<i>mama(i)</i>	‘father’
PT:	W Motu	<i>mama</i>	‘father, father’s brother’, MZH (Lister-Turner & Clark 1954)
MM:	Lavongai	<i>mama(i)</i>	‘father’ (Fast & Fast 1989)
MM:	Nalik	<i>mama-</i>	‘father’ (Volker 2020)
MM:	Usen Barok	<i>mama</i>	‘father, father’s brother’

MM:	Patpatar	<i>mama-</i>	‘father, father’s brother’, MZH, FZ
MM:	Varisi	<i>mamae</i>	‘father, father’s brother’, FZH, MZH
MM:	Roviana	<i>mama</i>	‘father’ (Waterhouse 1949)
MM:	Kokota	<i>mama</i>	‘father, father’s brother’, PZH
SES:	Bugotu	<i>mama</i>	‘father’, PB (ADDR) (Bogesi 1948)
SES:	Lengo	<i>mama</i>	‘father, father’s brother’
SES:	Longgu	<i>mama</i>	‘father, father’s brother’, PZH
SES:	Baegu	<i>mā</i>	‘father, father’s brother’
SES:	Kwaio	<i>maʔa</i>	‘father, father’s brother’, FZH, MZH, MH
SES:	Sa’a	<i>mamaʔa, ma’a</i>	‘father’, FZH

PNCV **mama* ‘father’ (Clark 2009; Proto North Vanuatu **mama*)

NCV:	Mota	<i>mama</i>	‘father’ (REF and ADDR) (§ 1882:67)
NCV:	Nduindui	<i>mama</i>	‘father, father’s brother’, FZS, BS, FZH, FZDH
NCV:	Neve’ei	<i>mameh</i>	‘elder brother’, ♂{FeB}S, {WeZ}♀H
NCV:	Nguna	<i>mama</i>	‘father’, FZS, MZH, FMB, FZDS, FZDDS, FZDDDS (Facey 1989)
NCal:	Fwâi	<i>māma</i>	‘elder brother’
NCal:	Kwênyii	<i>môm^wã</i>	‘elder s.s. sibling’
NCal:	Nengone	<i>mama</i>	‘elder s.s. sibling’ (Ozanne-Rivierre 2000)
Mic:	Mokilese	<i>m^wām^wa</i>	‘father’

A more widely distributed POC address term is **tata*, used for anyone called ‘father’ (F, FB, MZH etc) and by extension for other senior males, primarily elder s.s. siblings and any mother’s brother. In some languages this extension has become entrenched. In Notsi, for example, the term denotes both ‘mother’s brother’ and his reciprocal, ‘sister’s child’.

POC **tata* ‘address term for any male called “father” and for other senior males’ (ADDR)

NNG:	Kove	<i>tata</i>	‘father, father’s brother’ (ADDR) (Chowning 2009)
NNG:	Sio	<i>tata</i>	‘elder s.s. sibling’
PT:	Yamalele	<i>tata</i>	‘elder s.s. sibling’
MM:	Vitu	<i>tata</i>	‘father’, FG, MH, MB, (ADDR)
MM:	Notsi	<i>tata</i>	‘mother’s brother’, ♂ZC, ♂MMZS, ♂WFB, ♂MMBDH, ♀HFZS, ♀HZH
MM:	Lamusong	<i>tata</i>	‘mother’s brother’, ♂ZC, MMBB, ♂ZDDC, ♂{PsG}DC
MM:	Siar	<i>tata</i>	‘father’ (Frowein 2011)
MM:	Uruava	<i>tatá-</i>	‘elder s.s. sibling’
NCV:	Raga	<i>tata</i>	‘father’, FZS, FZDS, ZDH, ♀DH
NCV:	Araki	<i>ta</i>	‘father, father’s brother’, MZH
NCV:	Apma	<i>tata</i>	‘father’
NCV:	N Ambrym	<i>tāta, teta</i>	‘father, father’s brother’, ♂S, BS, FFF, FFBS, MFZDS, MFMB, MH, MZH (Franjieh 2012)
NCV:	S Paamese	<i>tātā</i>	‘father’
NCV:	Big Nambas	<i>tatei</i>	‘father, father’s brother’
NCV:	Neve’ei	<i>tate</i>	‘father, father’s sister’s son’

NCV: South Efate	<i>tata</i>	‘father’ (Lynch 2004)
SV: Ura	<i>dera</i>	‘father, father’s brother’ (ADDR)
SV: Lenakel	<i>tata</i>	‘father, father’s brother’ (ADDR)
NCal: Belep	<i>caca</i>	‘father, father’s brother’, MZH
NCal: Fwâi	<i>tāra, tāru</i>	‘father, father’s brother’
NCal: Drehu	<i>kakā</i>	‘father, father’s brother’
Mic: Carolinian	<i>tāta</i>	‘father, father’s brother’, EF
Fij: Tavuki	<i>tata</i>	‘father, father’s brother’
Pn: Samoan	<i>tā</i>	‘father, father’s brother’ (Milner 1966)
Pn: Aniwa	<i>tata</i>	‘father, father’s brother’, MZH (Guiart 1961)

2.4.1.2.2 *Mother, mother’s sister*

The first four terms below are those shown in Table 2.14: POc **tina-*, **ina*, **kina-* and **(ñ,n)ana*. These are followed by two address terms, POc **nai* and **nene*, and finally PPn **faqe(e)*.

Lynch (1996) provides commentary on the fact that POc **tina-* is more frequently replaced by another lexical item than POc **tama-* ‘father’. This is especially so in EOC languages.

PAn **ta-ina* ‘mother’ (ACD)

PMP **tina* ‘mother, mother’s sister’ (ACD, Blust 1980a)

POc **tina* ‘mother, mother’s sister’ (Milke 1958a: ‘mother’)

Adm: Baluan	<i>tina-</i>	‘mother, mother’s sister’, MFBD, etc.
Adm: Pak	<i>hi-rino-</i>	‘mother’, PZ, FZD, FZDD, FFBD, FFBDD
Adm: Bipi	<i>tine</i>	‘mother, mother’s sister’, ♀MFZSD, ♂ZW
Adm: Nyindrou	<i>tine-</i>	‘mother, mother’s sister’
SJ: Sobei	<i>tina-</i>	‘mother’ mother’s younger sister
NNG: Tuam	<i>tina-</i>	‘mother’
NNG: Sio	<i>tino-</i>	‘mother, mother’s sister’ etc (Groves 1934b)
NNG: Lukep (Pono)	<i>tina-</i>	‘mother’
NNG: Aria	<i>tna-</i>	‘mother, mother’s sister’, F{PsG}D
NNG: Takia	<i>tna-</i>	‘mother, mother’s sister’ etc
NNG: Wogeo	<i>tina-</i>	‘mother’, PZ, PBW, WZ, ♂BW
NNG: Yabem	<i>tna-</i>	‘mother’
NNG: Adzera	<i>rina-</i>	‘mother, mother’s sister’, FBW
PT: Sudest	<i>tāna-</i>	‘mother’
PT: Yamalele	<i>ina</i>	‘mother’
PT: Sinaugoro	<i>sina-</i>	‘mother, mother’s sister’, FBW
PT: W Mekeo	<i>ina-</i>	‘mother’, PZ, BW
MM: Vitu	<i>tina-</i>	‘mother’
MM: Nalik	<i>dina</i>	‘mother’
MM: Patpatar	<i>e-tna-</i>	‘mother’
MM: Tolai	<i>tina-</i>	‘mother, mother’s sister’ (Trevitt 1940)
MM: Nehan	<i>tina-</i>	‘mother’ (Glennon & Glennon 2006)
MM: Hahon	<i>cina-</i>	‘mother’, PZ, FBW
MM: Banoni	<i>cinna</i>	‘mother, mother’s sister’, M{PsG}D, FW, FBW

MM:	Varisi	<i>sina-</i>	‘mother, mother’s sister’, MBW, FZ,FBW
MM:	Marovo	<i>tina-</i>	‘mother, mother’s sister’, BW
SES:	Gela	<i>tina-</i>	‘mother, mother’s sister’, FZ
SES:	Lengo	<i>tina-</i>	‘mother’
SES:	To’aba’ita	<i>θa-ina-</i>	‘mother’
SES:	E Arosi	<i>ina-</i>	‘mother, mother’s sister’ etc
SES:	Bauro	<i>ka-ina-</i>	‘mother’ (<i>ka-</i> FEM)
PNCV <i>*tina</i> (Clark 2009), <i>*ra-tina-</i> ‘mother, mother’s sister’			
NCV:	Vurës	<i>re-tna-</i>	‘mother’
NCV:	Nokuku	<i>tina-</i>	‘mother’
NCV:	Araki	<i>ra-rna-</i>	‘mother, mother’s sister’, FBW
NCV:	Lonwolwol	<i>i-rña-</i>	‘father’s sister’
NCV:	S Paamese	<i>la-tino-</i>	‘mother’
NCV:	Neve’ei	<i>sena-</i>	‘mother, mother’s sister’, FZSW
PSV <i>*ri-(t,c)inV-</i> ‘mother, mother’s sister’ (Lynch 2001b)			
SV:	Sye	<i>n-rin(me)-</i>	‘mother, mother’s sister’
SV:	Kwamera	<i>ri-nṅu-</i>	‘mother, mother’s sister’, FW, FBW, EFZ, FFZD
SV:	Anejom	<i>ri-si-</i>	‘mother, mother’s sister’, MBW
PNCal <i>*tina-</i> ‘mother, mother’s sister’ (Ozanne-Rivierre 2000)			
NCal:	Nemi	<i>tne-</i>	‘mother, mother’s sister’
NCal:	Fwâi	<i>tʰẽ-</i>	‘mother, mother’s sister’
NCal:	Drubea	<i>ñā</i>	‘mother, mother’s sister’
NCal:	Iaai	<i>hiñe</i>	‘mother, mother’s sister’
PMic <i>*tina</i> ‘mother, mother’s sister’ (Bender et al. 2003a)			
Mic:	Kiribati	<i>tina-</i>	‘mother’ (Groves et al. 1985)
Mic:	Marshallese	<i>cine-</i>	‘mother, mother’s sister’, MBW, ♂EM, ♂EMZ, ♀HZ (Spoehr 1949a)
Mic:	Puluwatense	<i>yīn, yina-</i>	‘mother’, PZ, FZD (Elbert 1974)
Mic:	Woleaian	<i>sila-</i>	‘mother’ (Hage & Marck 2002)
Fij:	Tokatoka	<i>tina-</i>	‘mother’, FZ, M{PsG}oG
Fij:	Bauan	<i>tina-</i>	‘mother, mother’s sister’
Fij:	Moala	<i>tina-</i>	‘mother, mother’s sister’, M{PsG}D, MM{PsG}DD, MFF{PsG}D, F{PsG}D, HFZ, HF{PsG}D, F{PsG}SW, FF{PsG}SSW
PPn <i>*tina-</i> , <i>*tinana</i>			
Pn:	Samoan	<i>tinā-</i>	‘mother’ (Milner 1966)
Pn:	Rennellese	<i>tina-u, tinana</i>	‘mother’, PZ, MBW, P{PsG}D, F{PsG}SW, FBW, EM
Pn:	Pileni	<i>hina-</i>	‘mother’
Pn:	Rarotongan	<i>tīnana</i>	‘mother’

Reflexes of **ina* are somewhat thinly spread, but their distribution indicates that the term was present in POC. It is not clear how this might have differed from **tina-*.

PAn **ina* ‘mother, mother’s sister’ (ACD)

PMP **ina* ‘mother, mother’s sister’ (ACD)

POc **ina* ‘mother, mother’s sister’

Adm:	Titan	<i>ina</i>	‘mother’
NNG:	Sengseng	<i>ina</i>	‘mother’ (ADDR) (Chowning 1991)
PT:	Bwaidoga	<i>ina-</i>	‘mother, mother’s sister’, FZ
PT:	W Motu	<i>ina</i>	‘mother, mother’s sister’, FBW (Lister-Turner & Clark 1954)
MM:	Maututu Nakanai	<i>ila</i>	‘mother’ (Goodenough 1997)
MM:	Meramera	<i>ina</i>	‘mother’ (Goodenough 1997)
MM:	W Kara	<i>ina</i>	‘mother’
SES:	Gela	<i>ino</i>	‘mother’, PZ

PNCV **ina* ‘mother, mother’s sister’

NCV:	N Ambrym	<i>ina</i>	‘father’s sister’, BD, MFM, {PSG}SD, FFFZ, BSSD, ZSDD, MFZDD, {POG}ZDDD, MBW, FFMBW, ZDSW, SSD, EMM, ♂D, ♂DSSW, ♂SWBW, ♀SDD, ♀DSW, HZD (Franjeh 2012:226, 371)
NCV:	Port Sandwich	<i>ina</i>	‘mother’
SV:	Lenakel	<i>inə-</i>	‘mother, mother’s sister’

Only three Oceanic reflexes of **kina-* occur in the available data, but their distribution points to their presence in POc. Again, there is no obvious functional difference from **tina-*.

POc **kina-* ‘mother’

Adm:	Mussau	<i>kina-</i>	‘mother, mother’s sister’, FBW
NNG:	Rauto	<i>kina</i>	‘mother’ (Ross, fieldnotes)
MM:	Bola	<i>kina-</i>	‘mother’

Chowning (1991) reconstructs *(*ñ,n*)*ana* as an address term. Although few of our examples are explicitly glossed as addressed terms, she is very probably right. Several Fijian and Pn languages reflect **nau* ‘mother’, an apparent Proto Central Pacific innovation

PMP **nana* ‘mother’ (ACD: Proto Philippine **nana* ‘term of address for older female relative’)

POc **ñañā* ‘mother, mother’s sister’ (Chowning 1991)

Adm:	Lele	<i>nane-</i>	‘mother, mother’s sister’, FZD
NNG:	Gitua	<i>nana</i>	‘mother’
NNG:	Sio	<i>nana</i>	‘mother’
NNG:	Megiar	<i>naŋ</i>	‘mother’ (Z’graggen 1974a)
NNG:	Bam	<i>nan</i>	‘mother’ (Z’graggen 1974b)
NNG:	Ali	<i>ñān</i>	‘mother’ (Z’graggen 1974b)
MM:	Bola	<i>nana</i>	‘mother’ (Goodenough 1997)
MM:	E Kara	<i>nina-</i>	‘mother’
MM:	Nalik	<i>nana</i>	‘mother’ (Volker 1998)
MM:	Sursurunga	<i>nana</i>	‘mother’
MM:	Siar	<i>nana</i>	‘mother’, MB (Frowein 2011)

MM:	Hahon	<i>na</i>	‘mother’, PZ, FBW
MM:	Banoni	<i>nana</i>	‘mother’
MM:	Kubokota	<i>ñaña</i>	‘mother’
SES:	Tolo	<i>nana-</i>	‘mother, mother’s sister’
SES:	Owa	<i>nana</i>	‘mother’
NCV:	Neve’ei	<i>nane, na-</i>	‘mother, mother’s sister’, FZSW
NCal:	Nêlêmwa	<i>ñaña, ñaña</i>	‘mother, mother’s sister’
NCal:	Fwâi	<i>ñaña</i>	‘mother, mother’s sister’
NCal:	Kwênyii	<i>ñã</i>	‘mother, mother’s sister’
NCal:	Drehu	<i>nene</i>	‘mother, mother’s sister’ (ADDR)
NCal:	Nengone	<i>ne-</i>	‘mother’ (ADDR) (Ray 1917)
Mic:	Carolinian	<i>nāna</i>	‘mother’

Proto Central Pacific **nana, nau* ‘mother, mother’s sister’ (ADDR) (Chowning 1991)

Fij:	Vuda	<i>nana</i>	‘mother’
Fij:	Tavuki	<i>nau</i>	‘mother, mother’s sister’
Fij:	Tokatoka	<i>nana</i>	‘mother’
Fij:	Bauan	<i>nana</i>	‘mother’ (Capell 1941)
Fij:	Moala	<i>nana, na, nau</i>	‘mother’ etc
Pn:	Anuta	<i>nau</i>	‘mother-in-law’, SW
Pn:	Tikopia	<i>nana, nau</i>	‘mother’
Pn:	Pileni	<i>nana</i>	‘mother’

Blust (1979) reconstructs a set of PMP address terms in *-y, continued as POc *-i, whence POc **ina*. Normally, PMP *-ay becomes POc *-e (Table 1.4 in §1.8.1), but this is apparently a case where an often-used address term does not undergo a regular phonological change (cf de Carvalho 2020).

PMP **ina-y* ‘mother (ADDR)’ (Blust 1979)

PEMP **nai* ‘mother (ADDR)’

CB:	Warembori	<i>nai</i>	‘mother’
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POc **nai* ‘mother (ADDR)’

NNG:	Dami	<i>nai</i>	‘mother’
NNG:	Takia	<i>nei</i>	‘mother, mother’s sister’, FBW
PT:	Sudest	<i>noi</i>	‘mother, mother’s sister’, FBW (Lepowsky 1981)
MM:	Babatana	<i>nai</i>	‘mother’

PEMP/POc **nene* below may reflect reduplication(s) of **nai* above.

PEMP **nene* (ADDR) ‘mother’

SH:	Sawai	<i>nene</i>	‘mother’ (Whisler 1996)
RA:	Ambel	<i>nén</i>	‘mother, mother’s sister’, FBW

POc **nene* ‘mother’

NNG:	Mindiri	<i>nen</i>	‘mother’
NNG:	Kaiep (Terebu)	<i>nen</i>	‘mother’
SJ:	Sobei	<i>nen</i>	‘mother’
MM:	Usen Barok	<i>nene-</i>	‘mother, mother’s sister’

NCal:	Kwênyii	<i>nènè-</i>	‘mother, mother’s sister’
NCal:	Nengone	<i>nene</i>	‘mother, mother’s sister’ (Ozanne-Rivierre 2000)
Fij:	Nadi	<i>nēnē</i>	‘mother’

In a number of forms in the **tina-* and **(ñ,n)ana* cognate sets above the term for ‘mother’ is preceded by a proclitic or prefix that reflects putative POc **drV-* (Lynch 1996).²⁸ These forms are repeated together below. In Lavongai and Tigak, at least, this morpheme is still productive, and precedes any noun that denotes a mother, e.g. Lavongai *ri tasi-m* [HON parallel.sibling-P:2SG] ‘your sister’ (speaker is female, and her sister is a mother) (Fast 1990). Beaumont (1979) shows that Tigak *ri-* also precedes a mother’s proper name. Fast and Beaumont both gloss it as a prefix denoting respect for a mother. Lynch (1996) notes, on the other hand, that the SV reflexes are only found on the noun ‘mother’.

Adm:	Pak	<i>hi-rino-</i>	‘mother’
MM:	Lavongai	<i>ri-nnə</i>	‘mother’ (Fast 1990)
MM:	Tigak	<i>ri-na-</i>	‘mother’
NCV:	Vurës	<i>re-tna-</i>	‘mother’
NCV:	Lolsiwoi	<i>ri-si-</i>	‘mother’ (Lynch 1996)
NCV:	Araki	<i>ra-rna-</i>	‘mother, mother’s sister’, FBW
NCV:	S Paamese	<i>la-tino-</i>	‘mother’
SV:	Kwamera	<i>ri-nŋu-</i>	‘mother, mother’s sister’, FW, FBW, EFZ, FFZD
SV:	Anejom	<i>ri-si-</i>	‘mother, mother’s sister’, MBW

Reflexes of this same morpheme are also in north Vanuatu, prefixed to other terms referring to a mother.

NCV:	Mota	<i>ra-veve-</i>	‘mother, mother’s sister’, FZD, FBW
NCV:	Mota	<i>r-aso-</i>	‘wife (who is a mother)’ (Vienne 1984)
NCV:	Merei	<i>ra-^mbui-</i>	‘mother’ (ADDR) (Lynch 1996)
NCV:	Marino	<i>ra-veve-</i>	‘mother’ (Lynch 1996)
NCV:	Baetora	<i>ra-ve</i>	‘mother’ (Lynch 1996)
NCV:	Lombaha	<i>ra-tahi-</i>	‘mother, mother’s sister’
NCV:	Lolovoli	<i>re-tahi-</i>	‘mother, mother’s sister’
NCV:	Raga	<i>ra-tahi</i>	‘mother’, MMM, ZDDD

Presumably the three last examples, from the Lombaha and Lolovoli dialects of NE Ambae and from Raga, use reflexes of POc **taci-* ‘younger s.s. sibling’ originally made reference to a mother’s sibling.

In a number of Pn languages **tina-* is replaced by a reflex of PPn **faqe(e)*. The second list of terms below, extracted from POLLEX, suggests that it may derived from PPn **faqe* ‘woman who is pregnant or has recently given birth’.

PPn **faqe(e)* ‘mother, mother’s sister’

Pn:	Tongan	<i>faʔē</i>	‘mother, mother’s sister’ (Völkel 2015)
		<i>faʔē taŋata</i>	‘mother’s brother’ (lit. ‘male mother’)
Pn:	E Uvean	<i>faʔe</i>	‘mother, MZ’
Pn:	Anuta	<i>pae</i>	‘mother, mother’s sister’, MPGD

²⁸ The one reflex that does not fit this consonant correspondence is Paamese *la-*, for †*ra-*.

Pn:	Māori	<i>φaea</i>	‘mother’
PPn <i>*faqele</i> ‘woman who is pregnant or has recently given birth’			
Pn:	Samoa	<i>failele</i>	‘mother with newborn child’
Pn:	E Futuna	<i>faʔele-ʔele</i>	‘woman who has had first child’
Pn:	Māori	<i>φaere-ere</i>	‘mother of one’s children, dam’

2.4.1.2.3 *Parent*

As far as we can tell, POC did not have a dedicated term for ‘parent’. PPn **matuqa* meant ‘parent’ but, as a number of the glosses below show, it also retained its earlier sense ‘old, mature (of a person)’ (vol.4:68). There is just one clue that reflexes of **matuqa* may have meant ‘parent’ earlier than PPn. This is Gapapaiwa (PT) **madua* ‘mother’.

Further below are reflexes of the distinct PPn form **mātuqa* ‘parents’.

PPn **matuqa* ‘parent’ (Marck 1996)

Proto Tongic **motuqa* ‘parent, parent’s sibling; old, mature (of a person)’

Pn:	Tongan	<i>motuʔa</i>	‘parent; old (of people); old person’
Pn:	Niue	<i>matua</i>	‘parent, uncles and aunts’ (apparently a non-Tongic loan)

PNPn **matuqa* ‘parent, parent’s sibling; old, mature (of a person)’ (Marck 1996)

Pn:	Samoa	<i>matua</i>	‘parent, old person’ (Williamson 1924, vol 2)
Pn:	E Futunan	<i>matua</i>	sometimes ‘parent’, generally ‘old’
Pn:	Rennellese	<i>matuʔa</i>	‘husband’
Pn:	Tikopia	<i>matua</i> ²⁹	‘parent’
Pn:	Pukapuka	<i>matua</i>	‘parent; adult’

PEPn **matuqa* ‘parent, parent’s sibling’ (Marck 1996)

Pn:	Rapanui	<i>matuʔa</i>	‘father, mother, parents’ (POLLEX)
Pn:	Māori	<i>matua</i>	‘parent; parent’s sibling’
Pn:	Tahitian	<i>metua</i>	‘parent; parent’s sibling’
Pn:	Marquesan	<i>motua</i>	‘father, father’s brother, father’s male cousin’
Pn:	Hawaiian	<i>makua</i>	‘parent’

PPn **mātuqa* ‘parents’ was the plural form of **matuqa* ‘parent’, as widespread reflexes demonstrate. In some languages **mātuqa* has lost the plural feature and become ‘parent[s]’, presumably to distinguish the ‘parent’ meaning from other meanings of **matuqa*: Tuvalu and Nukuoro ‘old’, Rennellese ‘husband’.

PPn **mātuqa* ‘parents’ (Marck 1996)

Pn:	Tongan	<i>mātuʔa</i>	‘parents; old people’ (Völkel 2015)
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PPn **mātuqa* ‘parents’ (Marck 1996)

Pn:	Samoa	<i>ātua</i>	‘parents’
Pn:	Tokelau	<i>mātua</i>	‘parents, mother, mother’s sister, older sister any senior female kin’ (Huntsman 1971)
Pn:	Tuvalu	<i>mātua</i>	‘mother’, PZ; PPGC

²⁹ Firth has *matūa*. This is an error (A. Pawley, pers. comm.)

Pn:	E Uvean	<i>mātuʔa</i>	‘parents’
Pn:	Rennellese	<i>mātuʔa</i>	‘parent, spouse’s parent’
Pn:	Anuta	<i>mātua</i>	‘parents’
Pn:	Takuu	<i>mātua</i>	‘parent; clan head’
Pn:	Luangiua	<i>mākua</i>	‘parents’
Pn:	Māori	<i>mātua</i>	‘parents, relatives of parent’s generation’

EPn languages have replaced dedicated terms for ‘father’ and ‘mother’ with a reflex of POc **matuqa* plus a term meaning ‘male’ or ‘female’, as shown here.

Pn:	Rapa	<i>metūa vahine</i>	‘mother’
Pn:	Rapa	<i>metūa tāne</i>	‘father’, FB
Pn:	Tahitian	<i>metua vahine</i>	‘mother’
Pn:	Tahitian	<i>metua tane</i>	‘father’
Pn:	Hawaiian	<i>makua-hine</i>	‘mother’
Pn:	Hawaiian	<i>makua-kāne</i>	‘father’

Niue and Pukapuka appear to have acquired their terms from an EPn languages. The Niue term *matua* is EPn in form, not Tongic.

Pn:	Niue	<i>matua fifine</i>	‘mother’
Pn:	Niue	<i>matua tāne</i>	‘father’
Pn:	Pukapuka	<i>matua wawine</i>	‘mother’
Pn:	Pukapuka	<i>matua tāne.</i>	‘father’

2.4.1.2.4 Parent’s sibling

A number of apparent reflexes of PEMP/POc **kaka* ‘elder s.s. sibling (ADDR)’ (§2.4.1.5.2) are used of a father’s or mother’s sibling. It is not clear whether there was a PEMP or POc term with this meaning, or whether an extension of the term to a parent’s sibling occurred independently in various languages.

Curiously, no SHWNG language reflects **kaka* ‘elder s.s. sibling’, but both **kaka* terms are reflected in Oceanic languages, although not in the same language.

The listing of definitions of the Kwamera term below from Lindstrom (1981) has been somewhat abbreviated. Lindstrom (1986) defines it as ‘person of first ascending generation, opposite marital moiety: uncle, aunt’.

PEMP **ŋkaŋka* ‘parent’s sibling’ (?)

RA:	Ambel	<i>kak</i>	‘mother’s brother’
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POc **kaka* ‘parent’s sibling’ (?)

MM:	Lavongai	<i>kakai</i>	‘mother’s brother’ (Fast & Fast 1989)
MM:	Sursurunga	<i>kəkə-</i>	‘father, father’s brother’
SES:	Tolo	<i>kaka</i>	‘father, father’s brother’
SES:	Kwara’ae	<i>ʔaʔai</i>	‘father’s sister’, ♀BC, MBW, ♀HZC
SV:	Kwamera	<i>kaka</i>	‘parent’s o.s. sibling’, {PoG}E, P{PoG}SC, EP, GEP

2.4.1.2.5 *Mother's brother*

Because the role of the mother's eldest living brother is an important one in many matrilineal Oceanic-speaking communities (§2.2.3), and sometimes in communities that are no longer matrilineal, there is often a dedicated term for 'mother's brother' (MB). Sometimes this term is also used for ♂sister's son (♂ZS) or ♂sister's child (♂ZC). That is, the term is used reciprocally.

Sometimes, the MB term is the one used by a man of his wife's father (WF) or by any EGO of her/his spouse's father (EF) (Blust 1980a, 1994). This seems odd until one recognises that in some communities—and evidently many more in the past—a man's preferred marriage partner was his female cross-cousin, i.e. his MB's daughter, so that after marriage his MB was his father-in-law (WF). This is/was the arrangement when cross-cousin marriage was asymmetric. In other communities, cross-cousin marriage was symmetric. One of the preferred marriage partners for both a woman or a man was a MB's child, so after marriage the MB was also the father-in-law (EF).

On occasion, MB seems to be or to have been grouped with other relations, so that in various locations the term for MB is the same as the term for some other relationship(s). These terms are listed as members of cognate sets in the relevant subsections.

In a number of SE Solomonic languages the term for MB and ♂ZC reflects POC **tubu-* 'grandparent, grandchild' (§2.4.1.4.1). In Lele (Adm) the **tubu-* reflex is used of MB, MF and MMB; in Malalamai (NNG) of MB; and in Drubea (NCal) of MB and EF. Since this term is often used for all members of the grandparent generation, it seems that MB has been promoted by a generation.

In a few languages a reflex of **tama-* or **tata* 'father' (§2.4.1.2.1) is applied to all blood relations of father's generation, including MB. Instances of **tama-* used in this way are Iduna and W Mekeo (both PT) and of **tata* Vitu (MM). There are also languages where a **tata* reflex specifically denotes MB. In Notsi and Lamusong (MM) it denotes MB and ♂ZC, in Vurës (NCV) MB and FZH.

In Chuukic (Mic) languages, reflexes of POC **m^waqane* '♀brother' have lost the o.s. sibling sense, but are combined with the term for 'big' in a compound literally meaning 'big brother (of female)' but actually denoting MB (§2.4.1.5.3). Ali (NNG) *māne-*, Kwara'ae (SES) *wai* and Tavuki (Fij) *ɣane*, all 'mother's brother', are also reflexes of **m^waqane*, and one may speculate that they too once co-occurred with a term for 'big'. Conversely the terms for MB in two languages of the New Ireland region, Lavongai *lavə* and Ramoaina *ləba*, both reflect POC **lap^wat* 'big', and perhaps reflect a similar compound but with loss of the **m^waqane* element.

Although few, there are also MB terms that seem once to have more literally meant 'brother of mother'. In the Loyalty Islands (NCal) we find Iai *ma-hiñe-* and Drehu *mā-θin*, both 'MB' (Ozanne-Rivierre 2000), where *hiñe-* and *θin* respectively mean 'mother'. PPn **tuqa-tina* is presumably derived from POC **tuqa* 'mature, full-grown, ripe, old' (vol.5:67–68)³⁰ and **tina-* 'mother' (§2.4.1.2.2). Note that PPn **tuqa-* here is not the same element as **tua-* (< POC **tuRan*) in PPn o.s. sibling terms (§2.4.1.5.3). It is, however, the root of PPn **ma-tuqa* below.

PPn **tuqa-tina* 'mother's brother' (Pawley 1981:284)

In: Tongan *tuʔasina* 'mother's brother' (Douaire-Marsaudon 2015)

³⁰ A less probable source is PPn **tuqa* 'back, outer side' (vol.5:86).

Pn:	Tuvalu	<i>tuātina</i>	‘mother’s brother’, MPGS etc.
Pn:	East Uvean	<i>tuʔasina</i>	‘mother’s brother’
Pn:	Rennellese	<i>tuʔātina</i>	‘mother’s brother’, M{PsG}S
Pn:	Tikopia	<i>tiatina</i>	‘mother’s brother’

Blust (1980b) argues that **matuqa* was the PMP term for ‘mother’s brother, wife’s father’. Blust (1994) extends the definition to include any parent-in-law. The Oceanic evidence for this extension is not substantial. Instead, MM and SES reflexes of POc **matu(q)a-* more often reflect the reciprocal extension to ♂ZC. However, as many data are given a simple gloss without an expansion, one cannot put much weight on this fact.

PPn **matuqa-* was the term for ‘parent’ (§2.4.1.2.3). Probably this is not derived from POc **matu(q)a* ‘mother’s brother’. Rather, both terms ultimately reflect ‘old, mature (of a person)’ (vol.4:68).

PMP **matuqa* ‘mother’s brother, mother’s brother’s wife, wife’s parent’ (Blust 1980b, 1994)

PEMP **[ma]tuqa* ‘mother’s brother’ (Blust 1980b)

SH: Sawai *tua* ‘mother’s brother’ (CAD)

POc **[ma]tuqa-* ‘mother’s brother’ (Milke 1958a)

MM:	Usen Barok	<i>marua-</i>	‘mother’s brother, sister’s child
MM:	Patpatar	<i>matuə</i>	‘mother’s brother, FZH
MM:	Tolai	<i>matua-</i>	‘mother’s brother’, ♂sister’s child (Fingleton 1986)
MM:	Halia (Hanahan)	<i>tua-</i>	‘♂mother’s brother’
MM:	Hahon	<i>coa</i>	‘mother’s brother’
MM:	Varisi	<i>tueta-</i>	‘mother’s brother’, MFBS, MFZS
SES:	E Arosi	<i>mau</i>	‘mother’s brother, sister’s child
SES:	Bauro	<i>ma-māu</i>	‘mother’s brother, ♂sister’s child
SES:	Owa	<i>maua-</i>	‘mother’s brother, MMB, ♂sister’s child

PNCV **matu(q)a-* ‘mother’s brother’ (Lynch 2001b)

NCV:	Araki	<i>n̄para-</i>	‘mother’s brother’
NCV:	Apma	<i>mitue-</i>	‘mother’s brother’
NCV:	Lonwolwol	<i>mis'o-</i>	‘mother’s brother’
NCV:	S Paamese	<i>matuo-</i>	‘mother’s brother’
NCV:	Ninde	<i>mitua-</i>	‘mother’s brother’
NCV:	Rano	<i>metuo-</i>	‘mother’s brother’ (ACD)
NCV:	Bieria	<i>metua</i>	‘mother’s brother’ (Lynch 2004)

PSV **mata-* ‘mother’s brother, spouse’s father, parent’s sister’s husband’ (Lynch 2001b)

SV:	Sye	<i>meta-</i>	‘mother’s brother’, MBW, BW, FZH,
SV:	Kwamera	<i>mare-</i>	‘mother’s brother’, FZH, EF, P{PoG}S, FFBDH, GEF
SV:	Anejom	<i>mata</i>	‘mother’s brother’, MZH, EF

The term **wawa* occurs both as grandparent (§2.4.1.4.1) and as MB. The set supporting **wawa* ‘MB’ is considerable. Possibly **wawa* ‘grandparent’ and **wawa* ‘MB’ were homophones with separate origins, rather than one being extended to include the other, as the sets are largely distinct in geographic distribution, and no reflex of **wawa* has both senses.

Terms consisting of a reduplicated syllable tend to have originated as address terms derived from the final syllable of the reference term. In this case the possible source of **wawa* is phonetic rather than phonemic, as **matua* was phonetically **[matuwa]*.

POc **wawa* ‘mother’s brother’ (Milke 1965: PNGOc)

SJ:	Sobei	<i>wawa</i>	‘mother’s brother, ♂sister’s child’, MBW (ADDR)
NNG:	Gitua	<i>wawa</i>	‘mother’s brother’
NNG:	Mangap	<i>wo-</i>	‘mother’s brother, o.s. sibling’s child’
NNG:	Sio	<i>wawa</i>	‘mother’s brother, ♂sister’s son’
NNG:	Avau	<i>ava</i>	‘mother’s brother, MBC
NNG:	Poeng	<i>wowo</i>	‘mother’s brother’
NNG:	Mindiri	<i>wau</i>	‘mother’s brother’
NNG:	Wogeo	<i>wawa</i>	‘mother’s brother’
NNG:	Tumleo	<i>wau, wuoyie</i>	‘mother’s brother’ (Milke 1965:345)
NNG:	Yabem	<i>wawa</i>	‘mother’s brother’
NNG:	Numbami	<i>wowa</i>	‘mother’s brother’, M{PoG}S
NNG:	Patep	<i>vəwa</i>	‘mother’s brother, ♂sister’s child’
PT:	Dobu	<i>wa</i>	‘mother’s brother’ (Milke 1965:345)
PT:	Tawala	<i>au-, auau-</i> (PL)	‘mother’s brother’
PT:	Sinaugoro	<i>ywa</i>	‘mother’s brother, ♂sister’s child’, FZH, FZDC
PT:	Motu	<i>vava</i>	‘mother’s brother’ (Milke 1965:345)
MM:	Vitu	<i>vava</i>	‘mother’s brother, ♂sister’s child’
MM:	Bola	<i>ya</i>	‘mother’s brother’

PNCV **v^wav^wa* ‘mother’s brother, father’s sister’

NCV:	Raga	<i>v^wav^wa</i>	‘mother’s brother, father’s sister’
NCV:	Big Nambas	<i>vavei-</i>	‘father’s sister’
NCV:	Neve’ei	<i>vav^we</i>	‘father’s sister’, MBW, FZD
NCV:	Nguna	<i>wāwa</i>	‘mother’s brother’, FZH (Facey 1989)

cf. also:

NNG:	Tuam	<i>waya-</i>	‘mother’s brother, (♂?)sister’s child’
PT:	Iduna	<i>yau-</i>	‘mother’s brother, ♂sister’s child’
PT:	Sudest	<i>ya-</i>	‘mother’s brother’

Scattered across PT and MM are reflexes of PWOC **varis*. Its original meaning was presumably ‘mother’s brother’, which in accordance with cross-cousin marriage simultaneously meant ‘♂father-in-law’. Its reflexes have undergone various restrictions or extensions of meaning.

PWOC **varis* ‘mother’s brother, ♂father-in-law’

PT:	Misima	<i>valehe</i>	‘mother’s brother’
PT:	Wagawaga	<i>warihi</i>	‘mother’s sibling’s child’
MM:	Nehan	<i>warihi</i>	‘♂father- or son-in-law’ (Glennon & Glennon 2006)
MM:	Halia (Hanahan)	<i>halis</i>	‘♂father- or son-in-law’
MM:	Teop	<i>warihi</i>	‘wife’s brother’

MM: Hahon	<i>waris</i>	‘♂father- or son-in-law’
MM: Banoni	<i>vanisi</i>	‘parent- or child-in-law’

2.4.1.2.6 *Father’s sister and POC *aya*

Milke (1958a) believed that POC had no term for ‘father’s sister’ (FZ). Blust (1980a) argued that PMP **aya* had this meaning, but this attribution is not supported by any non-Oceanic reflex glossed ‘father’s sister’. Chowning rejects PMP **aya* in her comment on Blust (1980a), and omits POC **aya* ‘father’s sister’ from her list of POC kinship terms in Chowning (1991). Blust and Chowning both argue their case on anthropological grounds. The case based on lexical data is presented below and shows that POC **aya* seems to have been a respect term mainly denoting members of the parental generation.

Blust (1980a, 1994) has argued that PMP **aya-* meant ‘FZ, FZH’. However, he admits that this is less secure than other reconstructions for members of the parental generation, and the ACD shows as broad a range of meanings. Reflexes in wMP languages have glosses that include ‘mother’s brother’, ‘father’, ‘mother’, ‘aunt’, ‘uncle’ (the last two without further specification). CMP glosses include ‘father’, ‘mother’ and ‘uncle’.³¹ Oceanic reflexes of POC **aya-* fall into five groups according to their glosses: father’s sister, mother’s brother, mother, father and grandparent.

Reconstructing more than one homophonous POC term is not an option, as four of the five glosses refer to members of the parents’ generation. Blust (1980a:216) points out that if cross-cousin marriage were symmetrical and **aya* meant FZ, then it would have had the secondary sense ‘spouse’s mother’, but there is no evidence that it did (cf **matuqa* ‘MB’ in §2.4.1.2.5).

The ACD cites instances from geographically dispersed wMP languages and Kei (cMP) where a reflex of PMP **aya* was a respect term, sometimes a term of great respect:

Tausug (NW Borneo)	<i>aya</i>	‘term of respect for male nobility (sultan, <i>datuq</i>) of the same generation as one’s father (including father)’
Iban (C Borneo)	<i>aya?</i>	‘term of address for men of speaker’s father’s generation; term of reference for the hearer’s father’
Malay	<i>ayah</i>	‘father; sire; more respectful than <i>bapa?</i> ’
Balinese	<i>ayah</i>	‘father’ (refined speech)
Dampelas (Sulawesi)	<i>aya</i>	‘mother’ (address form)
Makassarese (Sulawesi)	<i>aya</i>	‘mother’ (for persons of high rank), ‘mother’s younger sister’
Kei	<i>yai</i>	‘father’ (address form used by small children, and in mourning songs)

A reasonable hypothesis is that POC **aya* too was a respectful address term used of a member of EGO’s parents’ generation, and that its application has tended to be narrowed in different ways in various regions. This leaves one puzzle: why do none of the reflexes embrace, say, both ‘mother’ and ‘father’, or both FZ and MB?

Several reflexes have accreted *y-*, but this is as expected for a term with initial **a-*.

³¹ Limited Formosan data suggest that PAn **aya* may have meant ‘mother’.

PMP **aya* ‘respect term for a member of ego’s parents’ generation’ (Blust 1980a, 1994: FZ, FZH)

PEMP **aya-* ‘father’s sister, mother’

SH: Buli	<i>aya, aye</i>	‘mother’ (Maan 1951)
SH: Taba	<i>yoyo</i>	‘father’s sister’ (Collins 1982)
Bom: Arguni	<i>yai</i>	‘mother’ (ACD)
CB: Ambai	<i>ai</i>	‘mother, mother’s sister’
CB: Wandamen	<i>yai</i>	‘father’
CB: Biak	<i>yai</i>	‘father’
CB: Serui-Laut	<i>ai</i>	‘mother’ (Anceaux 1961)
CB: Warembori	<i>ai</i>	‘father’

POc **aya* ‘member of EGO’s parents’ generation (respectful address term)’

Adm: Lele	<i>yaya-</i>	‘ancestor’
Adm: Titan	<i>yaye-</i>	‘mother, mother’s sister’, MMyZ, ♀EZ, (Mead 1934:218–225)
Adm: Loni	<i>yaya</i>	‘mother’
NNG: Bariai	<i>aia</i>	‘mother, mother’s sister’
NNG: Sio	<i>yaya</i>	‘mother’s brother’
NNG: Sissano	<i>aiyia</i>	‘mother’
NNG: Roinji	<i>yaye</i>	‘mother’s brother’
NNG: Wab	<i>yai</i>	‘mother’s brother, (♂?)sister’s son’
NNG: Patep	<i>yih</i>	‘mother’s brother’, FZH
NNG: Aria	<i>aia</i>	‘grandparent’
NNG: Avau	<i>aye</i>	‘father’, FB
	<i>aiyɔ</i>	‘father’s sister’, FZC
PT: Dobu	<i>yaya-</i>	‘female of the parental generation of one’s father’s village’
PT: Ubir	<i>ayo-</i>	‘mother’ (anonymous Ubir wordlist)
PT: Tawala	<i>eya-</i>	‘father’s sister, ♂brother’s child’
PT: Sinaugoro	<i>iaia-</i>	‘father’s sister’, MBW
PT: W Motu	<i>lala-</i>	‘father’s sister’, MBW, ♀BC, HZC (Groves 1958)
MM: E Kara	<i>yəyə</i>	‘grandparent, grandchild’
MM: Nalik	<i>yaya</i>	‘grandparent, grandchild’ (Volker 1998)
MM: Siar	<i>yai(nan)</i>	‘mother’s grandchild’ (Rowe 2005)
MM: Babatana	<i>zai</i>	‘grandmother’ (McClatchey 2007.)
SES: Lau	<i>aia</i>	‘father’s sister, ♀brother’s child’ (ADDR)
SES: Kwara’ae	<i>ʔaiʔa</i>	‘father’s sister’ (Deck 1934)
TM: Buma	<i>aya</i>	‘father’ (Tryon and Hackman 1983)
NCV: Lewo	<i>aya</i>	‘mother’
NCal: Xârâcùù	<i>yāya</i>	‘grandmother’
NCal: Kwênyii	<i>yéyé</i>	‘father’s sister, spouse’s mother’

Only one Oceanic FZ term is well supported, namely PPn **masakitaja*.

PPn **masakitaja* ‘father’s sister’ (Marck 1996)

Proto Tongic **mahakitaja* ‘father’s sister’

Pn: Tongan *meheketaja* ‘father’s sister; patrilineal female kin at G₊₁’ (Churchward 1959; Völkel 2015)

Pn: Niue *mahakitaja* ‘♂sister’

PNPn **masakitaja* ‘father’s sister’ (Marck 1996)

Pn: E Uvean *mahikitaja* ‘father’s sister’

Pn: E Futunan *masaki[taja]* ‘father’s sister’

Pn: Anuta *makitaja* ‘father’s sister, father’s cousins’

Pn: Tikopia *masakitaja* ‘father’s sister’

Pn: Pukapuka *māyakitaja* ‘sacred maid; chief’s eldest daughter’

2.4.1.3 Children’s generation

2.4.1.3.1 Child

The English term *child* has two distinct senses: an age-cohort sense indicating a young person’s approximate age (‘He is a child’) and a kinship sense indicating a person’s relationship to ego (‘He is my child’). The age-cohort sense is discussed in vol. 5:60–65, along with the POC term **meRa* ‘newborn; young person from birth to onset of adulthood’. Although reflexes of **meRa* have sometimes become kinship terms, for example, in SES languages, they are not further discussed here.

POC **natu* ‘child, offspring’ is widely reflected, as the cognate set below attests. It applied to ego’s children and those of s.s. siblings/parallel cousins, but not to a man’s sister’s child, on which see §2.4.1.3.2. This appears to leave a gap where a term for woman’s brother’s child is expected, but no dedicated term can be reconstructed.

POC had no dedicated terms for ‘son’ or ‘daughter’. Many Oceanic languages use the term for ‘child’ plus a term for ‘male’ or ‘female’ where specification is needed.

PEMP **natu* ‘child, offspring’ (ACD)

POC **natu-* ‘child, s.s. sibling’s child, s.s. parallel cousin’s child’ (Milke 1958a)

Adm: Mussau	<i>natu-</i>	‘child’, sGC
Adm: Baluan	<i>naru-</i>	‘child’, ♂PBS, HMBS (Mead 1934:228–342)
Adm: Titan	<i>nat, natú-</i>	‘child’
Adm: Pak	<i>naro-</i>	‘child’, SGC, ♀BC, ♀MBC
SJ: Sobei	<i>natu-</i>	‘child’, OGC, {PeG}CC, P{PeG}CCC, {HeB}C, H{PeG}SC
NNG: Tuam	<i>natu</i>	‘child’
NNG: Sio	<i>natu-</i>	‘child’
NNG: Lukep (Pono)	<i>natu</i>	‘child’
NNG: Mindiri	<i>nalu-</i>	‘child’
NNG: Wogeo	<i>natu-</i>	‘child’, sGC, {PsG}CC, EG, EGC,
NNG: Sissano	<i>a-nto-</i>	‘child’
NNG: Numbami	<i>natu</i>	‘child, son’
NNG: Adzera	<i>naru-</i>	‘child’, sGC, {PsG}CC, {{PoG}SC}C, EoGC

NNG:	Mangga Buang	<i>natu-</i>	‘child’ (Ross’ fieldnotes)
PT:	Misima	<i>natu-</i>	‘child’
PT:	Kilivila	<i>latu-</i>	‘child’, sGC, ♂MBC, ♂ZSC, WBC (Malinowski 1929; Lounsbury 1965; Lawton f.c.)
PT:	Iduna	<i>natu-</i>	‘child’, GC, PGCC, EGC
PT:	Tawala	<i>natu-</i>	‘child, younger s.s. sibling’
PT:	W Motu	<i>natu-</i>	‘child, s.s. sibling’s child’, {EsG}C (Groves 1958)
MM:	Meramera	<i>natu</i>	‘child’ (Ross, fieldnotes)
MM:	Lavongai	<i>nat</i>	‘child’ (Ross’ fieldnotes)
MM:	Tabar	<i>natu</i>	‘child’
MM:	Sursurunga	<i>natu-</i>	‘child’
MM:	Siar	<i>nat, natu-</i>	‘child’ (Frowein 2011)
MM:	Tolai	<i>natu-</i>	‘child’, sGC, ♂ZSC, ♀BSW (Fingleton 1986)
MM:	Banoni	<i>nacu-</i>	‘child’, sGC, {PsG}C
NCV:	Mota	<i>natu-</i>	‘child’, BC, MBC (Codrington 1891)
NCV:	Raga	<i>nitu-</i>	‘child’, DDC, MBC, MBDDD, MMBC, MMBDDC, WM, WMB
NCV:	Araki	<i>naru-</i>	‘child’, BC, WBC, {PsG}DD, FBSC, WZC
NCV:	Apma	<i>natu-</i>	‘child’
NCV:	Daakaka	<i>nate-</i>	♂child, BC, ZDC, MBC (von Prince 2012: 112-117; Deacon 1927)
NCV:	S Paamese	<i>natu-</i>	‘child’
NCV:	Ninde	<i>nitu-</i>	‘child’, ♂BC, ♂MBC, ♀ZC, SSSS, EBS, WZS (Deacon 1934:91–96)
NCV:	Uripiv	<i>natu-</i>	‘child’, sGC, ♀BC, MBC, {EoG}C (Deacon 1934:124)
NCV:	Lewo	<i>nari-</i>	‘child’
NCV:	Nguna	<i>natu</i>	‘child’, sGC, MBC, ♂ZSC, MZCC (Facey 1989)
PSV * <i>natu-</i> ‘child’ (Lynch 2001b)			
SV:	Sye	<i>nitu-</i>	‘child, s.s. sibling’s child’
SV:	Lenakel	<i>nerə-</i>	‘child’
POc * <i>natu-</i> ‘child’ (Ozanne-Rivierre 2000)			
NCal:	Nyelâyü	<i>nae-</i>	‘child’
NCal:	Cèmuhî	<i>nai-</i>	‘child’
NCal:	Iaai	<i>noko-</i>	‘child’, BC, FC, MBC (Ray 1917)
Mic:	Nauruan	<i>ŋai-</i>	‘child’, sGC, ♀BC (Wedgwood 1936)
PMic * <i>natu</i> ‘child’ (Hage & Marck 2002)			
Mic:	Kosraean	<i>nætɿ-</i>	‘child’
Mic:	Kiribati	<i>nāti, nati-</i>	‘child’ (Bender et al. 2003a)
Mic:	Marshallese	<i>næci-</i>	‘child’, ♀HBC, ♂BC, ♂FGCC, ♂MZSC, ♂MBCC (Spoehr 1949a)
Mic:	Puluwatese	<i>nawi-</i>	‘child’, {PsG}CC, MBC
Mic:	Satawalese	<i>nāy, nayi-</i>	‘child’, BC, FGCC, MBCC, CC, ZCC, EGC

cf. also:

Adm: Loniu	<i>ñetu</i>	‘child’
Adm: Bipi	<i>ñato</i>	‘child, husband’s brother’
NNG: Roinji	<i>namu-</i>	‘child’
NNG: Takia	<i>nanu-</i>	‘child, s.s. sibling’s child’

The Loniu and Bipi forms above, with initial *ñ-*, are anomalous (see Blust 1978b:48–51).

There are two variant forms of POc **natu-*, both probably present in POc. The first is **qatu*, the other **tu*. The latter is readily understood as an abbreviation of **natu-*, with stress falling on penultimate *-u-* when a possessor affix is added. Its Oceanic reflexes are restricted to WOc.

PEMP **qatu* ‘child, offspring’

CB: Wandamen	<i>atu</i>	‘child’, GC, EGC
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POc **qatu-* ‘child: offspring of ego or of s.s. sibling’

NNG: Bukawa	<i>atu-i</i>	‘child’ (-i PL)
MM: Bali	<i>yatu</i>	‘child’
MM: Torau	<i>atu</i>	‘child, s.s. sibling’s child’

PEMP **tu* ‘child, offspring’

SH: Gane	<i>tu</i>	‘child’ (ACD)
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POc **tu-* ‘child: offspring of ego or of s.s. sibling’

NNG: Mengen	<i>tu-</i>	‘child’
PT: Dobu	<i>-tu-</i>	‘child’, {PsG}C, {PoG}SC
MM: Vitu	<i>tu-</i>	‘child, sibling’s child’
MM: Bola	<i>tu</i>	‘child’
MM: Nehan	<i>tu-</i>	‘child’ (Glennon & Glennon 2006)
MM: Babatana	<i>tu-</i>	‘child’
MM: Marovo	<i>tu-</i>	‘child’, BC, BDC, ♀ZS, {PsG}C, WZ, EoGC

The generic PPn term for ‘child’ was **tama*. Its reflexes in languages outside EPn indicate that more specifically it denoted ‘♀child’, and especially ‘♀son’. This implies a dedicated term for ‘♂son’ or ‘♂child’, and this space was evidently filled by PPn **fosa* ‘♂son’ (Marck 1996).

PPn **tama* is identical in form to the root of PPn **tama-/*tamana* ‘father’ (§2.4.1.2.1). Since reciprocal uses of terms are frequent in Oceanic—‘grandparent’/‘grandchild’, ‘mother’s brother’/‘sister’s child’—it is reasonable to suppose that in some immediate ancestor of PPn the reflex of POc **tama* came to be used reciprocally, and a distinction arose between suffixed **tama-/*tamana* ‘father’ and unsuffixed **tama* ‘child’.

PPn **tama* ‘woman or couple’s child or classificatory child, esp. son’ (Marck 1996)

Pn: Tongan	<i>tama</i>	‘woman or couple’s child, esp. son’; ♀ZS; HGC; colloquially ‘fellow, lad, chap, man’
Pn: Samoan	<i>tama</i>	‘♀child, ♀grandchild; child, boy; chief’
Pn: Tokelau	<i>tama</i>	‘woman or couple’s child; boy’

Pn:	Rennellese	<i>tama</i>	‘child, ♀father’
Pn:	Tikopia	<i>tama</i>	‘child, son; sibling’s children other than <i>irāmutu</i> ’
Pn:	Rapanui	<i>tama</i>	‘child’ (Churchill 1912)
Pn:	Māori	<i>tama</i>	‘son, nephew; eldest son; child (son or daughter)’
Pn:	Tahitian	<i>tama</i>	‘child, young people in general’
Pn:	Hawaiian	<i>kama</i>	‘child, person’

From the kinship term **tama* evidently developed the PPn age cohort terms **tama-qiti* ‘child’ and **tama-riki* ‘children’ (Marck 1996), the second element of each was the reflex of a POc term for ‘small’ (vol.2:193–194). Additionally PPn innovated the term **fosa* ‘♂son’ (Marck 1996).

PPn **fosa* ‘♂son, ♂brother’s son’ (Marck 1996)

Pn:	Tongan	<i>foha</i>	‘♂son’, ♂BS, ♂WGS (Völkel 2015; Marck 1996)
Pn:	E Uvean	<i>foha</i>	‘♂son’, BS (Tongan loan?) (Burrows 1938)
Pn:	E Futunan	<i>vosā</i>	‘son’, GS (Burrows 1936)
Pn:	Rennellese	<i>hosa</i>	‘son’, ♂BS, ♂MBSS, ♂ _F {PsG}CSS, ♂{PoG}DS, ♂{PsG}CDS
Pn:	Tikopia	<i>fosa</i>	‘♂child’, ♂BC (some speakers hold that <i>fosa</i> applied only to brother’s child)

2.4.1.3.2 ♂Sister’s child

POc **[qa]lawa* has been regularly offered in the literature as the term for ‘♂sister’s child’ (♂ZC). A number of its reflexes are glossed ‘mother’s brother’ (MB), whilst three widely spaced languages—Wogeo, Nakanai and Nauruan—use it reciprocally for both ♂ZC and MB (the Nakanai form is under ‘cf. also’ because it is not a regular reflex). If extended senses were recorded for all reflexes, one could be more confident about the gloss of the POc reconstruction. As things stand, POc **[qa]lawa* probably meant ♂ZC, but because ♂ZC/MB was a recognised relationship from very early Oceanic, one cannot be sure whether it already referred to MB in POc.

POc **[qa]lawa* ‘♂sister’s child, (?) mother’s brother’ (Pawley 1981:284: **(qa)lawa*; Milke 1958a: **(a)lava*; 1968: **qalawa*)

Adm:	Mussau	<i>aloo-</i>	‘mother’s brother’, FZH, oGC
SJ:	Sobei	<i>ewo-</i>	‘mother’s brother, ♂sister’s child’, MBW, ♂PGDC ♂PPGCD, ♀HZC, ♀HPGDC
NNG:	Wogeo	<i>kalawa</i>	‘mother’s brother, ♂sister’s child’, ♂FBDC, ♂MZDC, ♂MBDC, ♂FZDC
NNG:	Manam	<i>elua</i>	‘mother’s brother’, MBS etc
PT:	Sudest	<i>loyai</i>	‘mother’s brother’ (Lepowsky 1981)
MM:	Meramera	<i>loa</i>	‘mother’s brother’ (Ross, fieldnotes)
MM:	Patpatar	<i>lauə</i>	‘♂sister’s child’
MM:	Ririo	<i>aluwa</i>	‘♂sister’s child’ (Milke 1958a)

PNCV **(q)alawa* ‘sister’s child’ (Clark 2009: **alawa*)

NCV:	Lombaha	<i>alao-</i>	‘♂sister’s child’
NCV:	Raga	<i>alao</i>	‘♂sister’s child’
NCV:	Araki	<i>elua-</i>	‘mother’s brother’, FZW, HMB, FBDS, MZDS
NCV:	Tamambo	<i>alua</i>	‘sister’s child’
NCV:	Apma	<i>olao-</i>	‘sister’s son’
NCV:	Ninde	<i>lowo-</i>	‘♂sister’s child’
NCV:	Lendamboi	<i>alawa</i>	‘sister’s child’
NCV:	Nguna	<i>alao</i>	‘mother’s brother’, FZH, MZH (Guiart 1964)

PSV **alwə-* ‘♂sister’s son’? (Lynch 2001b)

SV:	Sye	<i>alwo-</i>	‘cross-cousin’ (Lynch 2001b)
SV:	Ura	<i>alwi-</i>	‘nephew’
Mic:	Nauruan	<i>aroe-</i>	‘mother’s brother, ♂sister’s child’ (Wedgwood 1936)

cf. also:

MM:	Nakanai	<i>hala-</i>	‘mother’s brother, ♂sister’s child’, FZH; ♀HF (ADDR) (for † <i>halaua-</i>)
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Micronesian and Central Pacific languages share a term reflecting a putative POC **pa(s,c)u/*pa(s,c)ua-* ‘♂sister’s child’—“putative” because there is only one reflex outside Mic and CP languages, and because there is some evidence that the term refers or referred to the relationship between MB and ♂ZC rather than to the person of the ♂ZC (Douaire-Marsaudon 2015; Pauwels 2015). The items listed under ‘cf. also’ are not cognate with the set above them, but are perhaps the result of borrowing.

POc **pa(s,c)u, *pa(s,c)ua-* ‘♂sister’s child’ (?)

MM:	Hahon	<i>pasu-</i>	‘sister’s child’
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PMic **fa(s,S)ua* ‘o.s. sibling’s child’ (Bender et al. 2003a)

Mic:	Satawalese	<i>fatiw, fatiwa-</i>	‘sister’s child’, MZDC, MMZDDC
Mic:	Woleaian	<i>fatuwe-</i>	‘sister’s child’ (Burrows & Spiro 1957)
Mic:	Ulithian	<i>faθie</i>	‘sister’s child’

PCP **vasu* ‘♂sister’s child’ (Hage & Marck 2002)

Fij:	Tavuki	<i>vasu</i>	‘sister’s child’
Fij:	Bauan	<i>vasu</i>	‘sister’s child’ (Capell 1941)

PPn **fasu* ‘♂sister’s child’ (Hage & Marck 2002)

Pn:	Tongan	<i>fahu</i>	‘sister’s child’ (Douaire-Marsaudon 2015)
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cf. also:

Fij:	Wayan	<i>batuvu</i>	‘sister’s child’
Fij:	Tavuki	<i>vaturu</i>	‘sister’s child’
Fij:	Tokatoka	<i>vaturu</i>	‘sister’s child’

Another regional set consists of reflexes of Proto Central Vanuatu **matailau* ‘♂sister’s child’. The term appears to break down into **mata i lau* ‘eye of the sea’, but this makes no obvious sense.

Proto Central Vanuatu **matailau* ‘♂sister’s child’

NCV: Apma	<i>metulu</i>	‘sister’s son’
NCV: Daakaka	<i>met̩</i>	‘sister’s child’ (von Prince 2012:112-117; Deacon 1927)
NCV: Lonwolwol	<i>metelo</i>	‘♂sister’s son’
NCV: S Paamese	<i>meteilau</i>	‘sister’s son’
NCV: Big Nambas	<i>məriri-</i>	‘sister’s child’
NCV: Neve’ei	<i>metelau</i>	‘sister’s child’, WBC

The PPn term for ‘♂sister’s child’ was **qilāmutu*. It has no known non-Pn reflexes, but is widely reflected in Polynesia. The Tuvalu, Takuu, Nukumanu and Luangiua reflexes also mean ‘mother’s brother’.

PPn **qilāmutu* ‘♂sister’s child’ (Marck 1996: **qilamutu*)

Pn: Tongan	<i>qilamutu</i>	‘♂sister’s child’ (Völkel 2015)
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PNPn **qilāmutu* ‘♂sister’s child’ (Marck 1996)

Pn: Samoan	<i>ilāmutu</i>	‘descendants in female line’
Pn: Tokelau	<i>ilāmutu</i>	‘♂sister’s child; ♂descendants of sister’s children; any kinsman who is an offspring of a female sibling of any male forebear’ (Huntsman 1971)
Pn: E Futuna	<i>ilamutu</i>	‘♂sister’s child’ (Burrows 1936)
Pn: Rennellese	<i>qijāmutu</i>	‘♂sister’s child, ♂father’s parallel cousin’s daughter’s child’
Pn: Tikopia	<i>iramutu</i>	‘♂sister’s child’
Pn: Pileni	<i>ilamutu</i>	‘♂sister’s child’
Pn: Takuu	<i>[i]lāmōtu</i>	‘mother’s brother; ♂sister’s child’
Pn: Luangiua	<i>lamoku</i>	‘mother’s brother; ♂sister’s child’

PEPn **irāmutu* ‘sibling’s child’ (Marck 1996)

Pn: Māori	<i>irāmutu</i>	‘sister’s child (traditional sense)’
Pn: Marquesan	<i>i?amutu</i>	‘sibling’s child’
Pn: Mangareva	<i>iramutu</i>	‘sibling’s child’ (Hīroa 1938:136)

2.4.1.4 Grandparent and grandchild generations and beyond

2.4.1.4.1 *Grandparent, grandchild (reciprocal)*

The terms reconstructed in this subsection were evidently used reciprocally in POc, as they are in many modern Oceanic languages. Many of them are glossed ‘grandparent, grandchild’ (PP, CC), but others have a narrower definition, e.g. ‘mother’s father’. Here one is again up against the fact that extended senses are often not recorded. It is likely that many more should have been recorded as ‘grandparent, grandchild’. Many ethnographers indicate that these terms apply to all (or almost all) members of the grandparent and grandchild generations, so that a wider definition, ‘kin of the grandparent and grandchild generations’, would in many cases be appropriate. In some languages the definition is wider still, as the term applies to ancestors including grandparents and all their forebears (see §2.4.1.4.3).

Members of the grandparent and grandchild generations are not usually differentiated by gender, but sometimes a modifier is added. This seems to be particularly the case in EPn languages, e.g., Hawaiian *kupuna kane* ‘grandfather, grand-uncle’ vs *kupuna wahine* ‘grandmother, grand-aunt’, and cognate forms in other EPn languages.

In some languages a grandparent term is used for the mother’s brother, as the glosses indicate. Blust (1980a:214–215) sees the association as ‘due to the notion of kin-based sovereignty common to the life-giving clan ancestors (**ampu*, etc.) and the life-perpetuating wife-giving group (**ma[n]tuqa*), i.e. a matter of power’.

Terms apparently reflecting POc †**tibu-* are also included here (see discussion in §2.4.1.1).

PMP **tumpu* ‘grandparent, grandchild’ (ACD)

POc **tibu-* ‘grandparent, grandchild’, MB (?) (ACD; Milke 1958a: ‘grandparent’)

Adm: Mussau	<i>tuvu-</i>	‘grandparent, grandchild’
Adm: Wuvulu	<i>ʔupu-</i>	‘grandparent, grandchild’
Adm: Baluan	<i>tupu-</i>	‘all relatives in the grandparent generation’
Adm: Lele	<i>tubu</i>	‘mother’s brother’, MF, MMB (Mead 1934:345–347)
Adm: Nyindrou	<i>tubu-</i>	‘grandparent’
SJ: Sobei	<i>tapu-</i>	‘((great-)great-)grandparent’
NNG: Malalamai	<i>ti^mbu</i>	‘mother’s brother’
NNG: Bariai	<i>tibu-</i> , <i>i-tub</i> 3SG	‘grandparent, grandchild’
NNG: Mangap	<i>tumbu-</i>	‘grandparent, grandchild’
NNG: Sio	<i>timbu</i>	‘grandparent, grandchild’
NNG: Lukep (Pono)	<i>tibu-</i>	‘grandchild’
NNG: Atui	<i>tivi-</i>	‘grandparent’
NNG: Poeng	<i>sivu-</i>	‘grandchild’
NNG: Takia	<i>tbu-</i>	‘grandparent, grandchild’
NNG: Manam	<i>tubu-</i>	‘grandparent, grandchild’
NNG: Yabem	<i>dibu-</i> <i>dibu-ò</i>	‘parent’s father’, CS, MMZH ‘parent’s mother’, CD, FFBW (-ò FEM)
NNG: Wampar	<i>ro^mpo-</i>	‘grandparent, grandchild’
NNG: Numbami	<i>tubu</i>	‘grandparent’
PT: Sudest	<i>rumbu-</i>	‘grandparent, grandchild’
PT: Dobu	<i>tubu-</i>	‘grandparent, grandchild’
PT: Sinaugoro	<i>tubu-</i>	‘grandparent, grandparent’s sibling, grandchild’
PT: Roro	<i>kupu-</i>	‘grandparent, grandchild’
MM: Vitu	<i>tubu</i>	‘grandparent, grandchild’; PPP, CCC
MM: Bola	<i>tubu</i>	‘grandparent, grandchild’
MM: Lavongai	<i>tivu</i>	‘grandparent, grandchild’ (Fast & Fast 1989)
MM: Siar	<i>tubu-</i>	‘grandparent, grandchild’ (Frowein 2011)
MM: Tolai	<i>tubu-</i>	‘grandparent, grandchild’, PPG (Fingleton 1986)
MM: Nehan	<i>tubu-</i>	‘grandparent’ (Nachman 1978); PPP, CCC (Glennon & Glennon 2006)
MM: Halia	<i>tubu-</i>	‘grandparent, ancestor’

- SES: Bugotu *tubu-* ‘mother’s brother, ♂sister’s child’ (Ivens 1940a)
 SES: Lengo *tubu-* ‘mother’s brother, ♂sister’s child’
 SES: Bauro *wa-upu* ‘mother’s brother’ (*wa-* ‘male’)
- PNCV **tubu-* ‘grandparent, grandchild’ (Clark 2009)
- NCV: Mota *tupu-* ‘grandparent, grandchild’ (Codrington 1891)
 NCV: Lolovoli *tubu-* ‘grandfather’
 NCV: Raga *sibi* ‘mother’s father, sister’s husband’
 NCV: Araki *tapu-* ‘grandfather’
 NCV: Sa *tibi-* ‘grandfather’
 NCV: N Ambrym *tuvyu-* ‘grandparent, grandchild’, PPE, CE (Franjeh 2012:226, 371; Löffler 1960)
- NCV: S Paamese *tevi-* ‘grandparent’
 NCV: Neve’ei *cube-* ‘grandparent, grandchild’
 NCV: Lewo *repi-* ‘grandparent’
 NCV: Nguna *topu-* ‘grandfather’
- PSV *[*e*]*t(p,b)u-* ‘grandparent’ (Lynch 2001b)
- SV: Sye *re-tpo-* ‘wife’
 SV: Lenakel *rəpə-* ‘grandparent’
 SV: Anejom *e-tpo-* ‘grandparent’
- PNCal **tu^mbu-* ‘grandparent’ (Ozanne-Rivierre 2000)
- NCal: Nêlêmwa *kibu-* ‘grandparent’
 NCal: Fwâi *sĩũ-* ‘grandparent’
 NCal: Kwênnyii *tũ-* ‘grandparent, mother’s father, spouse’s father’
 NCal: Iaaï *kibe-* ‘grandparent’
- PMic **tup^wu* ‘grandparent, grandchild’ (Hage & Marck 2002)
- Mic: Kiribati *tipu-* ‘grandparent, grandchild’ (Groves et al. 1985)
 Mic: Marshallese *cip^wi-* ‘grandparent, grandchild’ (Hage & Marck 2002)
 Mic: Woleaian *subu* ‘grandparent, grandchild’ (Hage & Marck 2002)
 Fij: Wayan *tubu-* ‘grandparent, classificatory grandparent, ancestor’
 Fij: Tokatoka *tubu-* ‘father’s father’, FFB, FFFBS, FFF etc.
- PPn **tupu-*, *tupuna* ‘kin of the second and further ascending generations’ (Marck 1996)
- Pn: Niue [*matua*] *tupuna* ‘ancestor’ (*matua* ‘parent’; Sperlich 1997)
- PNPn **tupu-*, *tupuna* ‘kin of the second and further ascending generations’ (Marck 1996))
- Pn: Tuvalu *tupuna* ‘grandparent, grand-uncle/-aunt’
 Pn: Rennellese *tupuna* ‘(great-)grandparent’
 Pn: Pileni *t^hupu-* ‘grandparent (ADDR)’
 Pn: Takuu *tipuna*, (pl) *tippuna* ‘relative by blood or marriage two or more ascending generations’
- Pn: Pukapuka *tupuna* (pl) *tūpuna* ‘ancestor, grandparent’
- PEPn **tupuna* ‘kin of two or more ascending generations’ (Marck 1996))
- Pn: Rapanui *tupuna* ‘grandparent’ (Churchill 1912)
 Pn: Māori *tupuna*, *tipuna* ‘grandparent, ancestor’
 Pn: Tahitian *tupuna* ‘grandparent, ancestor’

Pn:	Marquesan	<i>tupuna</i>	‘(great-)grandparent, etc’
Pn:	Hawaiian	<i>kupuna</i>	‘grandparent’

It was noted in §2.4.1.1 that there are also the variants **ubu-* and **kubu-*. The latter has only two reflexes, both *kubu-* ‘grandparent, grandchild’, in two closely related PT languages, Bwaidoga and Iduna. The former is a little more convincingly attested.

PMP **umpu* ‘grandparent, grandchild’ (ACD)

POc **ubu* ‘grandparent, grandchild’

MM:	Torau	<i>up-</i>	‘grandparent’
NCV:	Neve’ei	<i>vub^wu</i>	‘grandfather’, FFZS
Mic:	Mortlockese	<i>up^wu(-tiw)</i>	‘grandparent, grandchild’ (Hage & Marck 2002)

In §2.4.1 forms were noted form reflecting POc **tabu-* and **abu*. They do not differ in meaning from **tubu-* and **ubu*, and no known phonological rule accounts for them. The ACD records no reconstruction earlier than PEMP.

PEMP **tampu* ‘grandparent, grandchild’ (ACD)

POc **tabu-* ‘grandparent, grandchild’

Adm:	Ponam	<i>tābu</i>	‘grandparent, ancestor’
Adm:	Leipon	<i>jābu</i>	‘grandparent, ancestor’
NNG:	Tuam	<i>tapu-</i>	‘father, parent’s brother’, PGS, PPGCS
NNG:	Sissano (Arop)	<i>tapu-</i>	‘grandparent’
MM:	Tangga	<i>tabu- -lik</i>	‘grandchild’
		<i>tabu- -tamat</i>	‘mother’s father’
NCV:	Araki	<i>tapu-</i>	‘grandparent, grandchild’, SW, SWB, HP
NCV:	Neve’ei	<i>tabu-</i>	‘grandfather’, FFZS

PMP **ampu* ‘grandparent, grandchild’ (ACD)

POc **abu[a]* ‘grandparent, grandchild’ (ACD)

Adm:	Baluan	<i>apua</i>	‘members of G ₊₃ and G ₋₃ ’
NNG:	Tuam	<i>abu</i>	‘grandparent, grandchild’
NNG:	Mangap	<i>abu</i>	‘grandmother, granddaughter’
NNG:	Sio	<i>ābu</i>	‘grandchild’
NNG:	Amara	<i>avu</i>	‘mother’
NNG:	Kis	<i>abu</i>	‘elder o.s. sibling’ (Z’graggen 1974b)
NNG:	Bukawa	<i>abu-ŋga?</i>	‘grandfather, grandson’
		<i>abu-wi</i>	‘grandmother, granddaughter’
NNG:	Numbami	<i>abu</i>	‘grandparent’

PNCV **abu[a]* ‘grandparent, grandchild’

NCV:	Apma	<i>apu</i>	‘grandparent’
NCV:	S Paamese	<i>avue</i>	‘grandparent, spouse’s parent’
NCV:	Uripiv	<i>apu</i>	‘grandparent’
NCV:	Lewo	<i>apua</i>	‘grandparent’
NCV:	Nguna	<i>pua</i>	‘mother’s father’, MFB (Facey 1989)

NCal:	Iaai	<i>ɔb^{wi}-</i>	‘grandchild’
NCal:	Nengone	<i>abu-n</i>	‘grandchild’ (Ozanne-Rivierre 2000)

The ancestors of POc **bubu* date back to PAn. Historically they have nothing to do with the forms above, but **bubu* now fits into the quasi-paradigm of terms for blood relatives described in §2.4.1.1 and in some languages serves as an address term.

Reflexes in languages that have lost final *-u* have become **[^mbu^mb]* and then lost the final **[b]* giving the forms in Wogeo, Ulau-Suain, Sissano and Avava. Other languages reflect an abbreviation of **bubu* to **bu*.

PAn **bubu* ‘grandparent, grandchild’ (ACD)

PMP **bubu* ‘grandparent, grandchild’ (ACD)

POc **bubu* ‘grandparent, grandchild’ (Blust 1980a; Chowning 1991)

NNG:	Sio	<i>mbupu</i>	‘grandchild’
NNG:	Mindiri	<i>bu-</i>	‘great-grandparent’
NNG:	Wogeo	<i>bum</i>	‘grandfather’
NNG:	Sissano	<i>(a)pum</i>	‘grandfather’
NNG:	Adzera	<i>bu-</i>	‘spouse’s parent, child’s spouse’
NNG:	Mapos Buang	<i>bu</i>	‘grandparent, grandchild’
PT:	Sudest	<i>bubu</i>	‘grandparent, father’s brother’
PT:	Kilivila	<i>bubu</i>	‘grandparent, grandchild’ (Lawton f.c.)
PT:	Molima	<i>bubu</i>	‘grandparent’
MM:	E Kara	<i>bu-</i>	‘ancestor’
MM:	Petats	<i>bubu</i>	‘grandparent, grandchild’
NCV:	Mota	<i>pupu-a</i>	‘grandparent, grandchild’
NCV:	Lolovoli	<i>bubu</i>	‘grandparent’
NCV:	Raga	<i>bibi</i>	‘grandfather’, PFZ, H
NCV:	Apma	<i>bua-</i>	‘grandparent’
NCV:	Neve’ei	<i>bubu</i>	‘grandparent, grandchild’
NCal:	Iaai	<i>buba-</i>	‘grandparent’
Mic:	Marshallese	<i>pipi</i>	‘child’s term for grandfather’, PGCC (Spoehr 1949a)
Fij:	Bauan	<i>bu-</i>	‘grandfather’
Pn:	W Futuna	<i>pu-a</i>	‘grandparent’
Pn:	Pileni	<i>pu-</i>	‘grandparent, grandparent’s sibling, ancestor’

As noted in §2.4.1.2.2 with regard to **inai* ‘mother (ADDR)’, Blust (1979) reconstructs a set of PMP address terms in **-y*, continued as POc **-i*. POc **[bu]bui* is also one of these, and it too fails to undergo a regular sound change. Normally, PMP **-uy* becomes POc **-i* (§1.3.4.2), but this seems to be another instance of an address term resisting change (cf. §2.4.1.2.2).

The reflexes under ‘cf. also’ refer to female kin of the parent generation, and have presumably come to be applied to them as a matter of respect. The *ra-* of Merei *ra-^mbui-* is a respect prefix used on terms for senior women (§2.4.1.2.2).

PMP **bubu-y* ‘grandparent, grandchild’ (Blust 1979)

POc **/bu/bui* ‘grandparent, grandchild’

NNG:	Takia	<i>bui</i>	‘grandchild’
MM:	Lavongai	<i>vuvui</i>	‘grandparent, grandchild’ (Fast & Fast 1989)
NCV:	Nokuku	<i>pui-</i>	‘grandparent, grandchild’
Fij:	Moala	<i>bui</i>	‘grandmother’; rarely ‘wife’

cf. also:

NCV:	Longana	<i>bui</i>	‘mother, mother’s sister’
NCV:	Wusi	<i>pui</i>	‘mother’ (Lynch 1996)
NCV:	Merei	<i>ra-^mbui-</i>	‘mother’ (Lynch 1996)
NCV:	Akei	<i>b^wi-</i>	‘mother’s brother’

POc **wawa[-]* ‘grandparent, grandchild’ is of only PEMP antiquity, does not belong to the paradigm in §2.4.1 and is homophonous with POc **wawa* ‘mother’s brother’ (§2.4.1.2.5). The reduplicated form suggests that it probably originated as an address term.

PEMP **wawa* ‘grandparent, grandchild’

CB:	Ambai	<i>wawa</i>	‘ancestor’
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POc **wawa* ‘grandparent, grandchild’

NNG:	Singorakai	<i>wau</i>	‘grandparent, grandchild’
PT:	Ubir	<i>wawa-</i>	‘grandfather’ (Ubir wordlist)
PT:	Dawawa	<i>waya</i>	‘(great-)great-grandparent’
MM:	Sursurunga	<i>wowo</i>	‘mother’s mother, o.s. sibling’
MM:	Siar	<i>wɔwɔ</i>	‘grandmother’ (Frowein 2011)
MM:	Varisi	<i>vavae</i>	‘grandfather, male of G ₊₂ ’
SES:	Longgu	<i>vua</i>	‘grandparent, grandchild’
SES:	’Are’are	<i>wauwa-</i>	‘grandparent, grandchild’
SES:	Sa’a	<i>waue[-]</i>	‘grandfather, grandson’
SES:	Bauro	<i>wa-uwa</i>	‘grandfather’, ESG, PGESC (<i>wa-</i> MALE)
SES:	Owa	<i>wauwa</i>	‘grandfather’
		<i>wauwa-</i>	‘grandson’
NCal:	Drehu	<i>wɣawɣa</i>	‘grandfather’ (Ray 1917)

2.4.1.4.2 Grandchild (non-reciprocal)

Although a grandchild is often referred to by the reciprocal grandparent/grandchild terms listed in the previous subsection one non-reciprocal term is found, POc **makubu-* ‘grandchild’, or more properly ‘kin two generations below ego’. It is not reflected in WOc or SES, but there are reflexes in Admiralties languages, as well as non-Oceanic cognates, listed in the notes beneath the ACD’s entry for PMP **empu*. These are from three Sulawesi languages: Bare’e *makumpu opu* ‘great-grandchild’, Dampelas *maɽupu* ‘grandchild’ and Uma *kumpu* ‘grandchild’, this last described as a ‘foreshortened form’.

The ACD’s reconstruction is POc **mo-kobu*, ‘with regressive assimilation of the remaining first syllable vowel’, based on the Pak and Pn forms cited below. There is no doubt that assimilation occurred, but later and separately in the Admiralties and PPn. The cognate set below supports POc **ma-kubu-* fairly strongly. This form evidently includes as its stem POc

**kubu-* (Table 2.12), reflected unprefixd only in the Bwaidoga and Iduna reflexes noted in the previous subsection.³²

POc **makubu-* ‘grandchild; kin two generations below ego’ (ACD: **mo-kobu*)

Adm: Pak	<i>mo-kopu-</i>	‘grandchild’
Adm: Lele	<i>meŋbu</i>	‘grandchild’

PNCV **makubu* ‘grandchild’ (Clark 2009)

NCV: Apma	<i>mevu-</i>	‘grandchild’
NCV: N Ambrym	<i>mabæɔ-</i>	‘great-grandson’ (Guiart 1951)
NCV: Big Nambas	<i>ŋəxitt-</i>	‘grandchild’
NCV: Ninde	<i>neivü-</i>	‘grandchild’, MBDS
NCV: Unua	<i>mevevu-</i>	‘grandchild’
NCV: Port Sandwich	<i>mexi^mbii-</i>	‘grandchild, descendant’

PSV **mayub^wu-* ‘grandchild’ (Lynch 2001b)

SV: Sye	<i>moypu-</i>	‘grandchild’
SV: Lenakel	<i>m^wip^wə-</i>	‘grandchild’
SV: SW Tanna	<i>makupu</i>	‘grandchild’
Fij: Tavuki	<i>makubu</i>	‘grandchild’, BCC, MBCC, WZCC
Fij: Bauan	<i>makubu-</i>	‘grandchild’

PPn **makupu-na* ‘kin of two or more descending generations’ (Marck 1996)

Pn: Tongan	<i>mokopu-na</i>	‘grandchild’
Pn: Rennellese	<i>makupuna</i>	‘grand-child/-niece/-nephew’
Pn: Pileni	<i>mokupuna</i>	‘grandchild; member of grandchild generation and lower’
Pn: Pukapuka	<i>makopuna</i>	‘grandchild’
Pn: Rapanui	<i>makupuna</i>	‘grandchild’ (Churchill 1912)
Pn: Māori	<i>mokopuna</i>	‘grand-child/-niece/-nephew’
Pn: Marquesan	<i>moupuna</i>	‘grand-child/-niece/-nephew’
Pn: Hawaiian	<i>moʔopuna</i>	‘grandchild’

cf. also:

PT: Bwaidoga	<i>kubu-</i>	‘grandparent, grandchild’
PT: Iduna	<i>kubu-</i>	‘great-grandparent, great-grandchild’

2.4.1.4.3 *Generations beyond grandparent and grandchild*

Just one POc term is reconstructable for an ascending generation beyond the grandparent generation and its reciprocal. This is POc **bawa[-]*, for which reflexes have been found in only a few languages.

PEMP **bawa* ‘great-great-grandparent, great-great-grandchild’

RA: Ambel	<i>baw</i>	‘member of G ₊₄ or G ₋₄ ’
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³² This reinterpretation of the evidence differs from the ACD’s etymology, PMP **maki-empu*.

POc **bawa[-]* ‘great-great-grandparent, great-great-grandchild’

Adm: Sori	<i>(ña)b^wau</i>	‘grandfather’, FFB, MZH (<i>ña</i> -is prefixed to some kin terms)
Adm: Pak	<i>p^wawa(riu)</i>	‘great-grandfather’
PT: Sinaugoro	<i>bava-</i>	‘member of G ₊₅ ’
MM: Nakanai	<i>bao</i>	‘member of G ₊₄ or G ₋₄ ’

There are probably a number of reasons why terms for these relations are not found. One is that in many Oceanic languages reflexes of POc **tubu-* (§2.4.1.4.1) also mean ‘ancestors, descendants’, i.e. not only grandparents and grandchildren but also great-grandparents and great-grandchildren and the generations beyond.

If there were once distinct lexical items for generations beyond PPP and CCC, they have been replaced in various Eastern Oceanic languages by a phrase that allows the precise generation to be stated, as seen in these examples:

SES: Sa’a	<i>waue haʔa-rua</i>	‘great-grandfather’
	<i>waue haʔa-olu</i>	‘great-great-grandfather’
NCV: Araki	<i>tapu-ku ʔaha-dua</i>	‘my great-grandfather’
Fij: Wayan	<i>tubu vaka-tolu</i>	‘member of G ₊₅ ’
Fij: Nadrogā	<i>tai vā-rua</i>	‘great-grandfather, great-grandchild’

The structure consists of the term for ‘grandparent, grandchild’, followed by a multiplicative numeral formed with a prefix reflecting PEOc **paka-* ‘causative’ (§14.5.2). As François (2002) notes of the Araki form, ‘my great-grandfather’ is labelled ‘my grandfather twice’. A similar strategy occurs in Pn languages, but without the causative morpheme: thus Tongan *kui-ua*, Manihiki-Rakahanga *tupuna tua-rua*, Hawaiian *kupuna kua-lua*, all ‘grandparent [xxx]-two, ‘great-grandparent’, and correspondingly *kui-tolu*, *tupuna tua-teru*, *kupuna kua-kolu* ‘grandparent [xxx]-three, ‘great-great-grandparent’ (Marck 1996:211).

In languages close to the New Guinea mainland, however, it seems that there were terms for distinct generations, but, other than POc **sese-* none can be reconstructed beyond a very local level.

POc **sese-* ‘great-great-grandparent (?)’

Adm: Lele	<i>sese-</i>	‘grandparent’
NNG: Kove	<i>sese-</i>	‘member of G ₊₄ ’ (Chowning 2009)
PT: Sinaugoro	<i>sese-</i>	‘member of G ₊₄ ’

Proto North New Guinea **sasa* ‘great-grandparent, great-grandchild’

NNG: Tuam	<i>sās</i>	‘member of G ₊₄ or G ₋₄ ’
NNG: Bariai	<i>sasa</i>	‘member of G ₊₄ ’
NNG: Mangap	<i>sāza</i>	‘great-grandparent, great-grandchild’
NNG: Amara	<i>asasa</i>	‘great-grandparent, great-grandchild’
NNG: Lukep (Pono)	<i>sassa</i>	‘great-grandparent’
NNG: Aria	<i>sasa</i>	‘member of G ₊₄ ’

As noted in §2.4.1.5.1, a great-grandparent is in scattered languages denoted by the term **taci-* ‘younger s.s. sibling’.

2.4.1.5 Ego's generation: siblings and cousins

2.4.1.5.1 *Same-sex sibling, younger same-sex sibling*

POc **taci-* 'younger s.s. sibling' is reflected throughout Oceanic. It forms a pair with POc **tua-*, **tuaka* 'elder s.s. sibling' (§2.4.1.5.2), but **taci* is what Greenberg (1980) and Hage (2001b) would call the 'unmarked' member of the pair. That is, if a term is needed to denote the category 's.s. sibling', **taci-* will be chosen. This also means diachronically that a reflex of **taci-* sometimes comes to denote 's.s. sibling', but a reflex of **tua-*, **tuaka* never does.

Occasionally a kinship terminology loses the distinction between s.s. sibling and o.s. sibling but retains the distinction between younger and elder. In this case, the terms for 's.s. sibling' are unmarked, and a reflex of **taci-* denotes all younger siblings and a reflex of **tua-*, **tuaka* all elder siblings.³³

Because of bifurcate merging (§2.3.1) in many languages a reflex of POc **taci-* is also used of a s.s. parallel cousin. In some of these languages, e.g. Yabem, the reflex means that it is the cousin who is younger than EGO. In other languages, e.g. Tongan, it indicates that the cousin's parent is younger than EGO's parent.

Another extended meaning is 's.s. sibling's spouse', or sometimes 'younger s.s. sibling's spouse', discussed in §2.4.2.2.

PMP **taji* 'younger s.s. sibling' (ACD; see also §2.4.2.2)

POc **taci-* 'younger s.s. sibling, parallel cousin's younger s.s. child' (Milke 1958a)

Adm: Yapese	<i>teθi-</i>	'younger brother' (Jensen 1977)
Adm: Mussau	<i>tasi-</i>	'wife's sister, husband's brother', sGE
Adm: Pak	<i>tehi-</i>	's.s. sibling', {PsG}sC, ♂{PoG}SS
Adm: Lele	<i>dere</i>	's.s. sibling'
SJ: Sobei	<i>tasi-</i>	'younger sibling'
NNG: Bariai	<i>tadi-</i>	's.s. sibling', PGsC
NNG: Amara	<i>tei-</i>	's.s. sibling', {PsG}sC
NNG: Atui	<i>tei-</i>	's.s. sibling'
NNG: Poeng	<i>taitai</i>	'younger s.s. sibling'
NNG: Wab	<i>tai</i>	'younger s.s. sibling' (Z'graggen 1974a)
NNG: Takia	<i>tei-</i>	's.s. sibling', EoG, SGE
NNG: Manam	<i>tari</i>	'younger sibling', PGyC
NNG: Kairiru	<i>tei-</i>	'sibling, wife's sibling'
NNG: Yabem	<i>lasi-, lasi-ò</i>	'younger s.s. sibling', {PsG}ysC, (-ò FEM)
NNG: Adzera	<i>rasi-</i>	'grandparent, grandchild'
NNG: Mapos Buang	<i>ari-</i>	's.s. sibling'
PT: Misima	<i>tali-</i>	's.s. sibling'
PT: Dobu	<i>tasi-</i>	's.s. sibling', {PsG}sC, GsE, {PsG}sCE, {PoG}sCE
PT: Sinaugoro	<i>tari-</i>	'younger sibling'
PT: W Motu	<i>tadi-</i>	'younger sibling' (Groves 1958), younger s.s. sibling (Lister-Turner & Clark 1954)
MM: Vitu	<i>taði-</i>	's.s. sibling'
MM: Bola	<i>tari-</i>	'younger s.s. sibling'

³³ Clark (1975) makes a similar set of observations regarding Polynesian reflexes of the sibling terms.

MM:	Lavongai	<i>tasi</i>	‘brother’ (Fast & Fast 1989)
MM:	Nalik	<i>dasi-</i>	‘(?♂)brother’ (Chinnery 1929)
MM:	Siar	<i>tasi-</i>	‘sibling, cousin’ (Frowein 2011)
MM:	Patpatar	<i>tasi-</i>	‘brother, mother’s sister’s son’
MM:	Roviana	<i>tasi-</i>	‘s.s. sibling’ (Capell 1943)
MM:	Maringe	<i>tahi-</i>	‘younger s.s. sibling’, {PsG}yC
SES:	Bugotu	<i>tahi-</i>	‘s.s. sibling (younger?)’ (Ivens 1940a)
SES:	To’aba’ita	<i>θa-asi-</i>	‘younger sibling’
SES:	Kwaio	<i>asi-</i>	‘younger brother, younger male cousin’
SES:	Bauro	<i>k-asi, w-asi</i>	‘younger s.s. sibling’ (<i>k</i> -female, <i>w</i> -male)
NCV:	Mota	<i>tasi-</i>	‘younger s.s. sibling’, MZSC, FBSC (Codrington & Palmer 1896)
NCV:	Longana	<i>tehi-</i>	‘younger sibling’, FFC, MMC
NCV:	Araki	<i>rasi-</i>	‘younger brother’, WZyH, HyB
NCV:	Apma	<i>tasi-</i>	‘younger sibling’
NCV:	S Paamese	<i>tasi-</i>	‘younger sibling’
NCV:	Neve’ei	<i>tasu-</i>	‘younger s.s. sibling’, {FyB}sC
NCV:	Uripiv	<i>tasi-</i>	‘younger sibling’
NCV:	Nguna	<i>tai</i>	‘s.s. sibling’, {PsG}S (Loss of *-s- is unexpected)
SV:	Lenakel	<i>no-rhə-</i>	‘younger s.s. sibling’
PNCal * <i>tasi-</i> ‘younger s.s. sibling’ (Ozanne-Rivierre 2000)			
NCal:	Nêlêmwa	<i>kāri-</i>	‘younger s.s. sibling’
NCal:	Drubea	<i>tī-</i>	‘younger s.s. sibling’
NCal:	Iaai	<i>kei-</i>	‘younger s.s. sibling’
Mic:	Kiribati	<i>tari</i>	‘s.s. sibling’, {PsG}sC (Lambert 1981)
Fij:	Wayan	<i>tađi-</i>	‘younger s.s. sibling, sibling’, {PysG}C
Fij:	Deuba	<i>tađi-</i>	‘younger s.s. sibling’, {PysG}C, CCC
PPn * <i>tahi-, tahina</i> ‘younger s.s. sibling’ (Marck 1996)			
Pn:	Tongan	<i>tehina</i>	‘younger s.s. sibling’, {PysG}sC (Völkel 2015)
Pn:	Niue	<i>tehina</i>	‘younger s.s. sibling, parallel cousin’
PNPn * <i>tai-, taina</i> ‘younger s.s. sibling’ (Marck 1996)			
Pn:	Samoan	<i>tei</i>	‘younger s.s. sibling, s.s. cousin’ (Williamson 1924)
Pn:	Tuvalu	<i>taina</i>	‘s.s. sibling, s.s. cousin’, EoG, EoGE
Pn:	Rennellese	<i>taina</i>	‘younger s.s. sibling, MBysC’
Pn:	Rapanui	<i>teina</i>	‘younger sibling, younger cousin’ (Churchill 1912)
Pn:	Tahitian	<i>teina</i>	‘younger s.s. sibling, {PyG}C
Pn:	Marquesan	<i>teina</i>	‘younger s.s. sibling’
Pn:	Hawaiian	<i>kai-kaina</i>	‘younger sibling, younger cousin’

Two further variants are reconstructable, namely POc **aci* and **kaci-* (§2.4.1.1). The former has non-Oceanic reflexes (ACD) but only one known Oceanic reflex, Torau *asi-* ‘younger s.s. sibling’. POc **kaci-* has the reflexes listed below.

POc **kaci-* ‘younger s.s. sibling’

PT:	Bwaidoga	<i>kai-</i>	‘younger sibling’, PyGC
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MM:	Banoni	<i>kasi-</i>	‘younger s.s. sibling’
MM:	Uruava	<i>kái-</i>	‘younger s.s. sibling’
MM:	Babatana	<i>kæe-</i>	‘younger s.s. sibling’
SES:	Birao	<i>kasi-</i>	‘younger s.s. sibling’

2.4.1.5.2 *Elder same-sex sibling*

As indicated in the overview in §2.3.5, POc had three terms for ‘elder s.s. sibling’. POc **tua-* was a reference term that took a possessor suffix, and **tuaka*, perhaps originally an address term, is also reflected as a reference term in many Oceanic languages. Both were POc innovations, as no convincing non-Oceanic cognates have been found. The third term, **kaka*, was—at least originally—an address term, of PAn antiquity.

It follows from bifurcate merging that the terms below also referred to an elder parallel cousin, but there are also languages (Roro, Neve’ei, Wayan Fijian, Tahitian) in which the ‘elder’ feature belongs not to the cousin but to the cousin’s uncle, i.e. the extended meaning of the term is not {PsG}eC but {PseG}C, ‘father’s elder brother’s child’.

Some previous writers have reconstructed **tuaka* as **tuqaka* (§2.4.1.1). No reflex in our data supports **-q-*. No reflex attesting to both **-q-* and **-k-* has been found. Instead, the data reflect **tua-* or **tuaka-*, listed separately below. Many reflexes of **tuaka-* show coalescence of **-ua-* to *-o-*, giving *toka-*, and a few show deletion of **-a-*, giving *tuka-*, both probably a result of stress shifting to the right when a possessor suffix was added, e.g. **tuaká-gu* ‘my ...’, perhaps aided by the tendency for POc roots to be disyllabic.

Why are there two reconstructable forms? A number of Oceanic subgroups have both forms, suggesting that there is/was a functional distinction between them. Several languages have reflexes of both forms, the distinction between them varying from language to language, making it impossible to reconstruct the POc contrast between them.

Nalik (New Ireland)	<i>dua-</i>	REFERENCE	<i>duāk</i>	ADDRESS?	(Chinnery 1929)
Raga (N Vanuatu)	<i>tua-</i>	sG	<i>tuaya-</i>	eG	(Taylor 2008)
Ninde (C Vanuatu)	<i>tua-</i>	REFERENCE	<i>tuaʔa</i>	??	(Clark 2009)
Wayan (W Fiji)	<i>tutua</i>	ADDRESS	<i>-tuka</i>	REFERENCE	(Pawley & Sayaba 2022)

POc **tua-* ‘elder s.s. sibling’, {PIIG}esC (Milke 1958a: **tuqa*)

Adm:	Mussau	<i>tue-</i>	‘elder sibling’ {PsG}eC
NNG:	Lukep (Pono)	<i>tua-</i>	‘elder s.s. sibling’
NNG:	Mindiri	<i>tua-n</i>	‘elder s.s. sibling’
NNG:	Ulau-Suain	<i>tua-</i>	‘elder s.s. sibling’
NNG:	Yabem	<i>trwa-</i>	‘♂elder brother’, ♂{PsG}eS, FBeS
PT:	Kilivila	<i>tua-</i>	‘elder s.s. sibling’, MZSeC, eGE (Malinowski 1929)
PT:	Molima	<i>tua-</i>	‘elder s.s. sibling’, {PseG}C
MM:	Tigak	<i>tua-</i>	‘eldest brother’
MM:	Barok	<i>to-</i>	‘s.s. sibling’, {PoG}sCsC
MM:	Sursurunga	<i>tua-</i>	‘s.s. sibling’
SES:	Baegu	<i>(sa)ua-</i>	‘elder sibling’ {PsG}eC
SES:	Bauro	<i>-uwa</i>	‘♀elder sister’ (<i>ka-uwa</i> eZ, <i>wa-uwa</i> eB)

NCV: Mwerlap	<i>tuo-</i>	‘elder s.s. sibling’
NCV: Lolovoli	<i>tue-</i>	‘s.s. sibling’
NCV: Raga	<i>tua-</i>	‘s.s. sibling’
NCV: Apma	<i>tua-</i>	‘elder sibling’
NCV: Ninde	<i>tua-</i>	‘elder s.s. sibling’, FFF, ♂FMBS, ♂MFMB
NCV: Uripiv	<i>tua-</i>	‘elder s.s. sibling’, HB
PSV <i>*-tua-</i> ‘elder s.s. sibling’ (Lynch 2001b)		
SV: Kwamera	<i>p-rea-</i>	‘elder s.s. sibling’, {PsG}eC,
SV: Anejom	<i>e-twa-</i>	‘s.s. sibling’, FBsC
PNCal <i>*tuka-</i> ‘elder s.s. sibling’ (Ozanne-Rivierre 2000)		
NCal: Nêlêmwa	<i>k^hia-</i>	‘elder s.s. sibling’
NCal: Fwâi	<i>hie-</i>	‘elder s.s. sibling’
NCal: Cêmuhi	<i>cuɔ-</i>	‘elder s.s. sibling’
NCal: Kwênyii	<i>tē-</i>	‘elder s.s. sibling’
Fij: Wayan	<i>tutua</i>	‘elder s.s. sibling’, eG, FeBC
POc <i>*tuaka-</i> ‘elder s.s. sibling, elder parallel cousin’ (ACD; Milke 1958a: <i>*tuqaka</i>)		
NNG: Tuam	<i>toya-</i>	‘elder s.s. sibling’
NNG: Bam	<i>tikua</i>	‘elder s.s. sibling’ (metathesis: POc <i>*tuaka</i> > <i>*takua</i>)
NNG: Manam	<i>toʔa</i>	‘elder sibling’, PGeC
NNG: Kis	<i>təkua</i>	‘elder s.s. sibling’ (metathesis: POc <i>*tuaka</i> > <i>*takua</i>)
MM: Bola	<i>tuka-</i>	‘elder s.s. sibling’
MM: Nalik	<i>duāk</i>	‘♀sister’ (Chinnery 1929)
MM: Varisi	<i>toya-</i>	‘elder s.s. sibling’, PGseC
SES: Bugotu	<i>toya-</i>	‘elder s.s. sibling’ (Ivens 1940a)
SES: Lengo	<i>toha-</i>	‘♂elder brother’, ♂{PoG}eS
SES: Kwaio	<i>oʔa-</i>	‘elder brother’
NCV: Raga	<i>tuaya-</i>	‘elder sibling’, MP
NCV: Araki	<i>roha-</i>	‘elder brother, WZeH, HeB
NCV: Vao	<i>toya-</i>	‘elder sibling’ {PsG}eC, {HeB}
NCV: Big Nambas	<i>tuya-</i>	‘♀elder sister’, ♀FeBD, ♀HeBW
NCV: Ninde	<i>tuaʔa-</i>	‘elder brother’
NCal: Fwâi	<i>hiohã</i>	‘♀elder sister’
NCal: Iai	<i>tuha-</i>	‘elder s.s. sibling’
NCal: Nengone	<i>tok</i>	‘elder s.s. sibling’
Fij: Wayan	<i>tuka-</i>	‘elder s.s. sibling’, eG, FeBC
Fij: Bauan	<i>tuaka-</i>	‘elder s.s. sibling’
PPn <i>*tuaka-</i> , <i>*tuakana</i> ‘elder s.s. sibling’ (Marck 1996)		
Pn: Samoan	<i>tuaʔa(a)</i>	‘elder s.s. sibling’ (Pratt 1862)
Pn: Rapanui	<i>tuakana</i>	‘elder brother, elder cousin’ (Churchill 1912)
Pn: Māori	<i>tuaka-na</i>	‘elder sibling’ PGeC
Pn: Tahitian	<i>tuaʔana</i>	‘elder sibling’ parent’s elder sibling’s child’
Pn: Hawaiian	<i>(kai)kuaʔana</i>	‘elder sibling’ elder cousin’

With the exception of Bugotu *kaka-*, a Maringe loan, Oceanic reflexes of **kaka* ‘elder s.s. sibling’ are confined to WOC languages, but **kaka* can be safely assigned to POc because it is clearly inherited from PMP without change in meaning.

There is also a small cognate set reflecting **kaka* but denoting a parent’s o.s. sibling (§2.4.1.2.4). It is not clear how, if at all, this is related to the set below.

PAn **kaka* ‘elder sibling’ (ACD)

PMP **kaka* ‘elder s.s. sibling’ (ACD)

POc **kaka* ‘elder s.s. sibling (ADDR), elder parallel cousin (ADDR)’ (Milke 1958a)

NGG:	Gitua	<i>kaka</i>	‘elder s.s. sibling’
NGG:	Mindiri	<i>kak</i>	‘elder s.s. sibling’
NGG:	Manam	<i>aʔa</i>	‘elder sibling’
NGG:	Yabem	<i>kaka</i>	‘elder s.s. sibling’
PT:	Sudest	<i>yaya-</i>	‘s.s. sibling’
PT:	Sinaugoro	<i>kaka-</i>	‘elder (s.s.?) sibling’
PT:	W Motu	<i>kaka-</i>	‘elder s.s. sibling’, PGeC (Groves 1958; Lister-Turner & Clark 1954)
PT:	Roro	<i>ʔaʔa-</i>	‘elder sibling’, PeGC
MM:	Babatana	<i>kaka</i>	‘elder sibling’
MM:	Kubokota	<i>kaka</i>	‘elder (s.s.?) sibling’
MM:	Kokota	<i>kaka</i>	‘elder sibling’, PP

cf. also

SES: Bugotu *kaka* ‘elder sibling’ (Maringe loan) (Ivens 1940a)

As Marck (1996:223–226) notes and discusses, there are two competing forms for PPn ‘elder s.s. sibling’: **tuaka-*, **tuakana* (above) and **toqakete* (below). The data require the reconstruction of both. PPn **tuaka-*, **tuakana* must be reconstructed on the basis of external evidence, and the innovatory **toqakete* on the basis of the reflexes listed below. Their reflexes give us no clue as to why both terms occurred.

Clark (1980) notes that in non-Eastern Polynesian languages, reflexes of PPn **taqokete* have the meaning ‘elder s.s. sibling’, but in EPn languages, this shifts to ‘s.s. sibling-in-law’, replacing PPn **maqā* (§2.4.2.2).

PPn **taqokete* ‘elder s.s. sibling’ (Marck 1996)

Proto Tongic **taqokete* ‘elder s.s. sibling’ (Marck 1996)

Pn:	Tongan	<i>taʔokete</i>	‘elder s.s. sibling’, {PesG}sC (Völkel 2015)
Pn:	Niue	<i>taokete</i>	‘elder s.s. sibling, elder s.s. cousin’

PNPn **taqo-kete* ‘s.s. sibling’ (Marck 1996)

Pn:	Tuvalu	<i>takete</i>	‘s.s. sibling’
Pn:	East Futunan	<i>taʔokete</i>	‘s.s. sibling’ (Biggs in POLLEX)
Pn:	Rennellese	<i>taʔokete</i>	‘elder s.s. sibling’, (MBeS), FPGSCesC
Pn:	Pukapuka	<i>taokete</i>	‘s.s. sibling-in-law’

PEPn **taqokete* ‘s.s. sibling-in-law’ (Marck 1996)

Pn:	Rapanui	<i>taʔokete</i>	‘sibling-in-law’ (Fuentes 1960)
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Pn:	Tahitian	<i>tauete</i>	‘s.s. sibling-in-law’
Pn:	Marquesan	<i>toete</i>	‘s.s. sibling-in-law, father’s sister’s husband’
Pn:	Māori	<i>taokete</i>	‘s.s. sibling-in-law’
Pn:	Hawaiian	<i>(kai)koʻeke</i>	‘s.s. sibling-in-law’

2.4.1.5.3 *Opposite-sex sibling*

The vast majority of Oceanic languages make a distinction between s.s. siblings and o.s. siblings. A language has either one term for all o.s. siblings, or two terms, one for ‘♀brother’ and one for ‘♂sister’. As the tabulation below shows, the s.s. sibling terms described in the previous two subsections make an implicit statement about the referent’s sex, that it is the same as EGO’s. They may or may not distinguish between younger and older.

	younger/elder?	female/male?
s.s. sibling term	yes or no	same as EGO
Type A o.s. sibling term	mostly no	opposite to EGO
Type B o.s. sibling term	no	opposite to EGO + ALTER’s sex

O.s. sibling terms almost never make a younger/elder distinction. They make an implicit statement about the referent’s sex (Types A and B), and Type B also redundantly specifies ALTER’s sex explicitly. This has the effect that a female EGO uses one term for an o.s. sibling, and a male EGO uses another term.

There is evidence that PMP had Type A o.s. sibling terms, which Blust (1994) reconstructs as **betaw* ‘♂sister’, **ñaRa* ‘♀brother’. Both terms are reflected in various wMP and cMP languages, but not in EMP (SHWNG and Oceanic). Instead, EMP languages have either Type A terms or they have Type B terms that reflect PMP **maRuqanay* ‘male, man, husband’ and **babinahi* ‘female, woman, wife’. Their POc reflexes are respectively **m^vaqane* and **papine* (vol.5:50–55).

This raises two questions. First, how did this come about? And second, how did POc speakers know whether a term referred to someone’s spouse or to someone’s sibling?

Answering the second question first, PEMP and POc distinguished between direct possession, whereby the possessed noun took a suffix indicating the person and number of the possessor, and indirect possession, where the possessor suffix was attached to a separate classifier morpheme (Lichtenberk 1985). Stress shifted one mora to the right when a single-mora suffix was added.³⁴ The o.s. sibling terms were directly possessed, the spouse terms indirectly. Hence, for example, POc **papiné-gu* ‘my sister’ contrasted with **ná-gu papine* ‘my wife’ (where **na-* is a classifier).

		male o.s. sibling	female o.s. sibling
wMP:	Sangir	<i>mahuane</i>	<i>bawine</i>
	Tae’	<i>anak-muane</i>	<i>anak-dara</i>
cMP:	Kambera	<i>ana-mini</i>	<i>ana-wini</i>
	Hawu	<i>na mone</i>	<i>na weni</i>
	Leti	<i>nara muani</i>	<i>nara puate</i>
	Paulohi	<i>leu manawa</i>	<i>leu pipina</i>

³⁴ On the reconstruction of POc stress, see Lynch (2000b).

Non-EMP data discussed by Blust (1994) and tabulated below enable us to answer the first question. These are terms which, Blust argues, did not yet exist in PMP but later replaced reflexes of **betaw* and **ñaRa*. Except for Sangir, all the tabulated terms have two elements, the first denoting an o.s. sibling, the second the sex of the referent. In Sangir the first element is missing, i.e. it behaves like POc. Of the second elements, all in the ‘male o.s. sibling’ column reflect PMP **maRuqanay*, and all except Tae’ and Leti in the ‘female o.s. sibling’ column reflect PMP **babinahi*.

Blust provides evidence that these two-element terms were treated as compounds. There was no direct/indirect distinction in wMP and some cMP languages, and possession was direct, i.e. by suffix. In Tae’ (S Sulawesi) there is a contrast between the two constructions below, from van der Veen (1940:17ff.).

anak -ku muane ‘my male child = my son
child -my male
anak-muane-na ‘her male o.s. sibling = her brother’
male.cross.sibling -her

Blust, citing Fischer (1957:5), finds a similar contrast in Kambera between *ana-ŋgu mini* ‘my son’ and *ana.mini-ŋgu* ‘my brother’. Because the sibling terms were compounds, the possessor suffix was attached to the second element, which reflected PMP **maRuqanay* or **babinahi*.

It is easy to see that the POc o.s. sibling terms **m^waqane-* and **papine-* are cognate with the second element of the terms tabulated above. The first element dropped out, as it had in Sangir, and the suffix remained. The surviving second element was marked as an o.s. sibling term by its possessor suffix and right-shifted stress.

Although many of the reflexes of POc **papine-* and **m^wane-* below are glossed ‘o.s. sibling’ one can take this to be an extension of their earlier meanings ‘♂sister’ and ‘♀brother’, that is, ‘female o.s. sibling’ and ‘male o.s. sibling’. If ‘o.s. sibling’ were their prior meaning, one would expect a scattering of ‘♂sister’ and ‘♀brother’ in each set, but this is not what is found.

Only in one subgroup, NNG, does there seem to have been a relatively early shift of a reflex **m^waqane* to the generic sense ‘o.s. sibling’.

PEMP **babinay* ‘♂sister’

CB: Wandamen *vavi[ni]* ‘♂sister’

POc **papine-* ‘♂sister’, ♂female parallel cousin (Milke 1958a)

MM: Nalik *fafna-* ‘o.s. sibling’, FBoC, ♀FBD, WBW (Chinnery 1929)

MM: Tangga *fefne-* ‘o.s. sibling’

MM: Patpatar *hahini-* ‘sibling’

MM: Halia (Hanahan) *hahina-* ‘o.s. sibling’, PGsC

MM: Hahon *wevne-* ‘o.s. sibling’, {PsG}oC

MM: Torau *aine-* ‘o.s. sibling’

MM: Varisi *vavani-* ‘o.s. sibling’, PGoC, EsGE

MM: Roviana *vavene-* ‘♂sister’ (Capell 1943)

PSES **vavine-* ‘♂sister’

SES: Bugotu *vavine-* ‘o.s. sibling’ (Bogesi 1948)

SES:	Lengo	<i>vavine-</i>	‘♂sister’, ♂{PoG}D
SES:	Longgu	<i>vavune-</i>	‘o.s. sibling’ (Hogbin 1938a)
SES:	’Are’are	<i>hahone-</i>	‘o.s. sibling’
SES:	E Arosi	<i>haho-</i>	‘o.s. sibling’, PGoC
PNCV * <i>vavine-</i> ‘♂sister’ (Clark 2009)			
NCV:	Kiai	<i>vavine-</i>	‘♀sister’ (Lynch 2004)
NCV:	Big Nambas	<i>vən-</i>	‘♂sister’, ♂{PsG}D
NCV:	Neve’ei	<i>vivinu-</i>	‘♂sister’, ♂{PsG}D
NCV:	Lewo	<i>vine-</i>	‘♂sister’
PSV * <i>na-[va]vine-</i> ‘♂sister’ (Lynch 2001b)			
SV:	Sye	<i>veven, vevne-</i>	‘brother, ♂sister’
SV:	Lenakel	<i>no-uinə-</i>	‘♂sister’
Mic:	Chuukese	<i>fēfine-</i>	‘♂sister’, ♂PGD (Goodenough 1951)
Fij:	Rotuman	<i>(sæŋ)vāēvāēne</i>	‘♀brother’, ♀PGS (Howard 1970)
cf. also:			
SV:	Anejom	<i>n-ataheñ</i>	‘♂sister’, FBD (< POC * <i>qatapine</i> , vol. 5:56)
PEMP * <i>muaqanay</i> ‘♀brother’			
CB:	Wandamen	<i>muani</i>	‘♀brother’
POC * <i>m^waqane-</i> ‘♀brother’, ♀male parallel cousin (?) (Milke 1968) (Milke 1958a: * <i>[m]ane</i>)			
Adm:	Baluan	<i>m^wane-</i>	‘♀brother’, ♀{PsG}S
NNG:	Sio	<i>mane</i>	‘o.s. sibling’, {PoG}oC
NNG:	Bing	<i>mane</i>	‘o.s. sibling’ (Lincoln 1978)
NNG:	Sepa	<i>mone</i>	‘elder sibling’ (Z’graggen 1974a)
NNG:	Ali	<i>māne-</i>	‘mother’s brother’
PSES * <i>m^wai-m^wane</i> ‘o.s. sibling, cross-sex cross-cousin’			
SES:	To’aba’ita	<i>wai-waena</i>	‘o.s. sibling’, PGoC (fossil -na)
SES:	Lau	<i>wae-</i>	‘o.s. sibling’
SES:	Kwara’ae	<i>wai</i>	‘mother’s brother’, MZH, FZH, ♂ZC, ♂WBC
PNCV * <i>m^wa(qa)ne</i> ‘♀brother’ (Clark 2009:152–153) ³⁵			
NCV:	Akei	<i>mane-</i>	‘♀brother’
NCV:	N Ambrym	<i>m^wena-</i>	‘♀brother’ (Guiart 1951)
NCV:	S Paamese	<i>mone-</i>	‘♀brother’
NCV:	Big Nambas	<i>nṅana-</i>	‘♀brother’
NCV:	Neve’ei	<i>manu-</i>	‘♀brother’, ♀MZS, ♀FBS
NCV:	Lewo	<i>m^wene-</i>	‘♀brother’
PSV * <i>[na]m^wane-</i> ‘♀brother’ (Lynch 2001b)			
SV:	Sye	<i>man, mano-</i>	‘♀brother’
SV:	North Tanna	<i>m^wanə-</i>	‘♀brother’
SV:	Lenakel	<i>man-</i>	‘♀brother’

³⁵ Clark reconstructs **m^wane* in keeping with his conventions, but notes that if there is a Namakir reflex (Namakir retains the glottal stop) the reconstruction will be **m^waqane*.

PNCal **m^wane* ‘♀brother’ (Ozanne-Rivierre 2000)

NCal:	Nêlêmwa	<i>m^wāla-</i>	‘elder brother’
NCal:	Cèmuhî	<i>m^wane-</i>	‘elder brother’ (archaic; Ozanne-Rivierre 2000)
NCal:	Iaai	<i>mañi-</i>	‘o.s. sibling’ (Ray 1917)

PMic **m^wāne-* ‘♀brother’

Mic:	Nauruan	<i>m^wæn</i>	‘o.s. sibling’ (Hage & Marck 2002)
Mic:	Kiribati	<i>m^wane</i>	‘o.s. sibling’, {PsG}oC (Lambert 1981)
Mic:	Marshallese	<i>mm^wahan</i>	‘♀brother’, ♀HB, ♀ZH, ♂WB (Spoehr 1949a)
Mic:	Puluwatense	<i>m^wāne-</i>	‘♀brother’ (Bender et al. 2003a)
Mic:	Chuukese	<i>mwāni-</i>	‘♀brother’ (Bender et al. 2003a)

PCP **ŋ^waqane-* ‘♀brother’

Fij:	Wayan	<i>ŋ^wane-</i>	‘o.s. sibling’, {PsG}oC
Fij:	Bauan	<i>ŋane-</i>	‘o.s. sibling’
Fij:	Tavuki	<i>ŋane-</i>	‘mother’s brother’

cf. also:

Mic:	Satawalese	<i>m^wæne-nnap</i>	‘mother’s brother’, MMB, MMZS
Mic:	Carolinian	<i>m^wāle-llap</i>	‘firstborn son, parent’s eldest brother’
Mic:	Woleaian	<i>m^wāle-nnape</i>	‘mother’s brother’ (Bender et al. 2003a)
Mic:	Ulithian	<i>mal lapa-</i>	‘mother’s brother’

PPn proposed **tua-* to its reflexes of the forms above, giving **tua-fafine* and **tua-ŋaqane*. The **tua-* element regularly reflects POc **tuRaŋ* ‘friend, companion; relative of ego’s generation’ (pollex; §2.4.1.5.5). Whilst glosses of a few other reflexes of **tuRaŋ* mention ‘o.s. sibling’, as many mention ‘s.s. sibling’. It seems that its denotation has narrowed in various ways across languages, including to ‘o.s. sibling’ in PPn.

PPn **tua-fafine*, **tua-fine* ‘♂sister’ (Marck 1996)

Pn:	Tongan	<i>tuo-fefine</i>	‘♂sister’, ♂{PG}D (Völkel 2015)
Pn:	Tokelau	<i>tua-fafine</i>	‘♂sister’, ♂{PG}D (Huntsman 1971)
Pn:	Rennellese	<i>tua-fafine</i>	‘♂sister’, ♂{PsG}D, ♂F{PsG}CD
Pn:	Pileni	<i>t^huohine</i>	‘♂sister’, ♂PGD

PEPn **tua-fine* ‘♂sister’ (Marck 1996)

Pn:	Māori	<i>tuahine</i>	‘♂sister’
Pn:	Tahitian	<i>tuehine</i>	‘♂sister’, ♀PGD
Pn:	Marquesan	<i>tuehine</i>	‘♂sister, father’s sister’
Pn:	Hawaiian	<i>kuahine</i>	‘♂sister’

PPn **tua-ŋaqane* ‘♀brother’ (Marck 1996)

Pn:	Tongan	<i>tuo-ŋaʔane</i>	‘♀brother’, ♀{PG}S (Völkel 2015)
Pn:	Samoan	<i>tuaŋane</i>	‘♀brother’, ♀PGS (Williamson 1924, vol 2)
Pn:	Tokelau	<i>tuaŋane</i>	‘♀brother’, ♀MZS (Macgregor 1937)
Pn:	Rennellese	<i>tuŋaʔane</i>	‘♀brother’, ♀{PsG}S, ♀F{PsG}CS
Pn:	Pileni	<i>tuoŋane</i>	‘♀brother’, ♀PGS
Pn:	Pukapuka	<i>tuŋāne</i>	‘♀brother’ (from Rarotongan)

Pn:	Māori	<i>tunane</i>	‘♀brother’
Pn:	Tahitian	<i>tuʔane</i>	‘♀brother’, ♀PGS
Pn:	Marquesan	<i>tunane</i>	‘♀brother’ (dialect variants <i>tukane</i> , <i>tuʔane</i>)
Pn:	Hawaiian	<i>kunane</i>	‘♀brother’

The Chuukic (Mic) set below appears also to be derived in some way from POc **m^waqane-*. At the end of the **m^waqane-* cognate set above several Chuukic reflexes are listed under ‘cf. also’. These items give some indication of how Proto Chuukic **m^wen[ae]ya* might have arisen. They are compounds consisting of reflexes of POc **m^waqane-/PMic *m^wāne-* ‘♀brother’ and PMic **lapa* ‘big’, literally ‘big brother of a woman’, here meaning ‘mother’s brother’. This opens up the possibility that Proto Chuukic **m^wen[ae]ya* ‘♀brother’ reflects earlier ‘small brother of a woman’ or ‘true brother of woman’, but the etymology of the latter part of the reconstruction, presumably †**η[ae]ya*, is unknown.

Proto Chuukic **m^wen[ae]ya* ‘♀brother’ (Bender et al. 2003a)

Mic:	Puluwatese	<i>m^wəŋeya-</i>	‘o.s. sibling’, {PsG}oC, ♂ZD, MZDoC, ♀MB
Mic:	Chuukese	<i>m^woŋeya-</i>	‘♀brother’ (Bender et al. 2003a)
Mic:	Satawalese	<i>m^weŋeya-</i>	‘o.s. sibling’, PGoC, ♂MMZD, ♀MMZCS
Mic:	Woleaian	<i>m^waŋeya-</i>	‘o.s. sibling’ (Bender et al. 2003a)
Mic:	Sonsorolese	<i>m^weaŋa-</i>	‘o.s. sibling’ (Capell 1969)
Mic:	Ulithian	<i>m^wæŋæ-</i>	‘♀brother’

A distinction was made above between Type B o.s. sibling terms like POc **papine-* and **m^waqane-* that distinguish male and female lexically, and Type A o.s. sibling terms that do not make this distinction. There is just one Oceanic Type A term with quite widespread reflexes, and it occurs in two variants, **lopu-* and **lipu-*. Reflexes are listed below. In some cases assignment to one or the other variant is difficult.

The **lopu-* set is small and has an odd distribution: New Guinea Oceanic (NNG + PT) and Kosraean (Mic). Bender et al. (2003a) take Kosraean *lɔ*, *lou-* ‘♂sister’ to reflect POc **lopu-*. If they are right, then the reconstruction of POc **lopu-* is supported. Otherwise it is reconstructable only to PNGOc.

Another small group of possible cognates is given below. Its members are found in Cenderawasih Bay. Unfortunately, knowledge of CB historical phonology is insufficient for us to be certain that these are cognates of POc **lopu-*. The initial consonant correspondence regularly reflects PEMP **l-*. The loss of **-p-* in Ambai, Wooi and Wandamen is expected. Its loss in Irarutu may be irregular. If these prove to be cognates of putative POc **lopu-*, then the latter can be reconstructed and so can PEMP **lapu-*.

The **lipu-* variant below is reconstructable only to PNGOc. Included here are reflexes of the form *lu-*, that have lost the vowel of the initial syllable. These may reflect **lopu-*. Vitu *livuka* (under ‘cf. also’) is probably borrowed from a NNG language. It reflects **†lipuq*: the regular Vitu reflex would be *livu-*.

POc (?) **lopu-* ‘o.s. sibling’, {PsG}oC (Milke 1965; Chowning 1991)

SJ:	Sobei	<i>dafu-</i>	‘o.s. sibling’, EoG, {PsG}oC, EPGoC
NNG:	Sera	<i>lo(m)</i>	‘o.s. sibling’
NNG:	Adzera	<i>nafu-</i>	‘o.s. sibling’, {PsG}oC, {PoG}oC

PT:	Sudest	<i>louy-</i>	‘o.s. sibling’
PT:	Bwaidoga	<i>novu-</i>	‘o.s. sibling’, PGoC
PT:	Gapapaiwa	<i>novu</i>	‘o.s. sibling’
PT:	’Auhelawa	<i>lou</i>	‘o.s. sibling’ (Milke 1965:345)

PMic **lowu-* (?) ‘♂sister’ (Bender et al. 2003a)

Mic:	Kosraean	<i>lɔ, lou-</i>	‘♂sister’
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Proto Cenderawasih Bay **ru(i,o)-* ‘o.s. sibling’

CB:	Irarutu	<i>rui-</i>	‘o.s. sibling’ (van den Berg & Matsumura 2008)
CB:	Ambai	<i>roro-</i>	‘o.s. sibling’
CB:	Wooi	<i>ra-ruo-</i>	‘o.s. sibling’ (Sawaki 2016)
CB:	Wandamen	<i>ra-ruo</i>	‘o.s. sibling’

PNGOc **lipu-* ‘o.s. sibling’ (Chowning 1991)

NNG:	Gitua	<i>livu</i>	‘o.s. sibling’
NNG:	Mangap	<i>lu-</i>	‘younger o.s. sibling’
NNG:	Tami	<i>lu, liwu-</i>	‘♂sister’
NNG:	Maleu	<i>liwa</i>	‘o.s. sibling’ (Hooley 1971)
NNG:	Lukep (Pono)	<i>lui-</i>	‘o.s. sibling’
NNG:	Kaulong	<i>e-lu(t)</i>	‘o.s. sibling’
NNG:	Lamogai	<i>lu-</i>	‘elder o.s. sibling’ (Ross, fieldnotes)
NNG:	Mangseng	<i>lu-</i>	‘♂sister’
NNG:	Poeng	<i>liu-</i>	‘o.s. sibling’
NNG:	Takia	<i>lu-</i>	‘o.s. sibling’, o.s. cross-cousin
NNG:	Wogeo	<i>lu</i>	‘o.s. sibling’, FBoC, MZOC
NNG:	Kairiru	<i>lu-</i>	‘o.s. sibling’
NNG:	Yabem	<i>lù</i>	‘♀brother’
		<i>lù-ò</i>	‘♂sister, ♂mother’s sister’s daughter’ (-ò FEM)
NNG:	Numbami	<i>lu-</i>	‘brother, male cousin’
NNG:	Kapin	<i>li</i>	‘o.s. sibling’
NNG:	Patep	<i>li</i>	‘sibling, parallel cousin’
PT:	Kilivila	<i>lu-...-ta</i>	‘o.s. sibling’ (Lawton f.c.)
PT:	Muyuw	<i>nu-...-t</i>	‘o.s. sibling’
PT:	Misima	<i>nu-</i>	‘o.s. sibling’
PT:	Gumawana	<i>niu-</i>	‘o.s. sibling’, o.s. cross-cousin

cf. also:

MM:	Vitu	<i>livuka</i>	‘o.s. sibling’
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Marck (1996) reconstructs PPn **kawe* ‘o.s. sibling’, but there is no Tongic or external evidence for it, unless one accepts as external evidence Bauan and Lau Fijian **weka* ‘o.s. sibling’ and posits metathesis. Pawley (1981) does not reconstruct this term. Pawley (pers. comm.) points out that its reflexes are restricted to Pn outlier languages, so that even a PNPn reconstruction is insecure.

Pn:	Anuta	<i>kave</i>	‘o.s. sibling, cross-sex cousin’
Pn:	Tikopia	<i>kave</i>	‘o.s. sibling’

Pn:	Ifira-Mele	<i>kave</i>	‘o.s. sibling’
Pn:	Futuna-Aniwa	<i>kave</i>	‘o.s. sibling, father’s sibling’s cross-sex child’ (Capell 1958)
Pn:	Pileni	<i>kave</i>	‘s.s. cross-cousin’
Pn:	Takuu	<i>kave</i>	‘o.s. sibling, o.s. sibling, father’s sibling’s cross-sex child’
Pn:	Nukumanu	<i>kave</i>	‘o.s. sibling, cross-sex cousin’
Pn:	Luangiua	<i>ʔave</i>	‘o.s. sibling, cross-sex cousin’
Pn:	Sikaiana	<i>kave</i>	‘o.s. sibling, cross-sex cousin’

2.4.1.5.4 Cousins

No dedicated terms for cousins are reconstructable. As a consequence of bifurcate merging (§2.2.1) parallel cousins are treated as s.s. siblings in most Oceanic languages. Some languages have a dedicated term for ‘cross-cousin’, but the few possible reconstructions take account of the data for very few languages (less than five).

2.4.1.5.5 Companion, friend, close relative

Milke (1968) glossed PMP **tuRaŋ* as ‘companion’. His supporting reflexes not only support this gloss, but also denote a mixed bag of kin relationships, which, as the listing below shows, only grows as one casts the net wider. Whereas it is usually possible to attach an unambiguous gloss to the kinship terms discussed in this chapter, in the case of **tuRaŋ* this is impossible.

PMP **tuRaŋ* ‘kinsman, relative (undefined)’ (ACD)

POc **tuRaŋ* ‘friend, companion; relative of ego’s generation’ (Milke 1968: ‘companion’;

ACD: ‘kinsman, relative (undefined)’)

NNG:	Dami	<i>tura</i>	‘o.s. sibling’
NNG:	Takia	<i>tura-</i>	‘friend’
PT:	Wagawaga	<i>tura</i>	‘friend, spouse’
PT:	Motu	<i>tura</i>	‘a friend (of the speaker’s sex)’ (Lister-Turner & Clark 1954)
MM:	Bola	<i>tura</i>	‘cross-cousin’ (Goodenough 1997)
MM:	Nakanai	<i>tula-</i>	‘co-wife, spouse’s s.s. sibling’
MM:	Lavongai	<i>turə</i>	‘older brother’ (archaic); ‘friend’ (Fast & Fast 1989)
MM:	Tigak	<i>tiga-</i>	‘s.s. sibling’
MM:	Barok	<i>tura-</i>	‘co-husband’

Sense can be made of all this by glossing POc **tuRaŋ* ‘friend, companion; relative of ego’s generation’. It is reasonable to assume that friendships between relatives of the same generation were normally between relatives for whom friendship was not tabooed, and that these relations varied somewhat among immediately pre-modern communities.

Table 2.15 Glosses attributed to reflexes of **tuRaj*

Gloss	Gen.	s/o	Language
friend, companion	?	?	Takia, Wagawaga, Lavongai, Raga, Paamese, Nokuku, Namakir
s.s. friend	?	s	Motu
relative	?	?	Babatana, Roviana, Ughele
G0 relative of speaker's moiety	?	?	Tolai (Fingleton 1986)
same-generation relative of opposite moiety	0	?	Nehan
sibling	0	?	Merei, Paamese, Namakir
elder sibling	0	?	Lavongai
s.s. sibling	0	s	Tigak, Tolai, Halia, Raga
cross-cousin	0	?	Bola, 'Are'are
o.s. sibling	0	o	Dami, Mota, Pn
parent's s.s. sibling's spouse's child	0	?	Kwaio
spouse	0	o	Wagawaga, Araki
sibling's spouse	0	?	Lelepa
elder sibling's spouse	0	?	Neve'ei
spouse's elder sibling	0	?	Neve'ei
spouse's s.s. sibling	0	o	Nakanai, Neve'ei
spouse's o.s. sibling	0	s	Neve'ei
spouse's s.s. sibling's spouse	0	s	Nakanai
spouse's o.s. sibling's spouse	0	o	To'aba'ita, Kwara'ae
co-wife	0	o	Nakanai
co-husband	0	o	Barok
husbands of two sisters	0	s	Patpatar

2.4.2 In-laws (affinal kin)

Oceanic languages typically have three in-law categories: spouse, sibling-in-law, and parents- and children-in-law.

2.4.2.1 Spouses: wife and husband

POc term **qasawa-* 'spouse' is one of the more widely reflected POc kinship terms, but it is not reflected in SES languages or in Fiji, where its place is taken by PEOc **wati-*.

A striking feature of the cognate set supporting **qasawa-* is the wide variety of forms to which it has given rise—far more varied than, say, **tama-* 'father' or **natu-* 'child'.

However, the reasons for this variety are purely phonological. The form **qasawa-* had three syllables (four or five when a possessor suffix is added), and has been subject to the Oceanic tendency towards two-syllable roots. The onset consonants of the three syllables are ones that are unstable in Oceanic. Initial **q-* is typically either lost, leading sometimes to loss

of the first syllable, or is strengthened to *k-*. Intervocalic **-s-* easily becomes *-z-* or *-r-*, or *-h-* and then disappears; in many NNG languages **-s-* has become *-ɣ-*. The syllable **-wa-* has often become *-wo-*, or, as in Proto New Caledonian **-o-*.

PAn **qasawa* ‘spouse’ (ACD)

POc **qasawa-* ‘spouse, husband’ (ACD; Milke 1958a: **acawa*)

Adm: Aua	<i>harāu</i>	‘wife’
Adm: Baluan	<i>asoa</i>	‘husband’
SJ: Sobei	<i>eso-</i>	‘spouse’
SJ: Bonggo	<i>sua</i>	‘husband’
NNG: Tuam	<i>azāwa-</i> , <i>azowa-</i>	‘spouse’
NNG: Mangap	<i>kusi-</i>	‘husband, spouse’
NNG: Sio	<i>kaiwa</i>	‘spouse’
NNG: Maleu	<i>awa</i>	‘husband’
NNG: Mindiri	<i>kiuwa</i>	‘spouse’
NNG: Takia	<i>iwo-</i>	‘spouse’
NNG: Wogeo	<i>yawa-</i>	‘spouse’
NNG: Sissano	<i>awua-</i>	‘spouse’
NNG: Numbami	<i>asowa</i>	‘spouse’

Proto Buang **rya-* ‘husband’

NNG: Mapos Buang	<i>reɣa-</i>	‘husband’
NNG: Patep	<i>ləya</i>	‘husband’
PT: Sudest	<i>wevo</i>	‘woman, wife’
PT: Kilivila	<i>k^vava</i>	‘wife’ (Lawton f.c.)
PT: Gapapaiwa	<i>kawa</i>	‘spouse’
PT: Sinaugoro	<i>yarayo-</i>	‘spouse’
PT: Motu	<i>adava</i>	‘spouse, mother’s brother’ (Seligmann 1910:67)
MM: Nakanai	<i>harua</i>	‘husband’
MM: Lavongai	<i>kisɲə</i>	‘spouse’ (Fast & Fast 1989)
MM: Usen Barok	<i>isuo-</i>	‘spouse’
MM: Patpatar	<i>suə-</i>	‘spouse’

PNCV **asoa-* ‘spouse’ (Clark 2009)

NCV: Mota	<i>ra-soa-i</i>	‘spouse’ (<i>ra-</i> : see §2.4.1.2.2)
NCV: Raga	<i>ahoa</i>	‘spouse’
NCV: Araki	<i>rua-</i>	‘spouse’
NCV: S Paamese	<i>asō-</i>	‘spouse’
NCV: Port Sandwich	<i>sōa-</i>	‘spouse’
NCV: Lewo	<i>o-</i>	‘spouse: husband, wife’
SV: Sye	<i>aso-</i> , <i>ah^vo-</i>	‘husband’, ♀ZH

PNCal **qasao-* ‘spouse’ (Ozanne-Rivierre 2000)

NCal: Nêlêmwa	<i>arō-</i>	‘spouse’
NCal: Fwâi	<i>kalō-</i>	‘spouse’
NCal: Xârâcùù	<i>k^vētɔ-</i>	‘spouse’
NCal: Iai	<i>aeã-</i>	‘spouse’

PPn **qahawa-*, **qahawana* ‘spouse’ (Marck 1996); **qahawa(n,ŋ)a* ‘marry’

Pn:	Tongan	<i>ʔohoana</i>	‘spouse’ (archaic; Churchward 1959)
Pn:	Niuean	<i>hoana</i>	‘wife, marry’,
Pn:	Samoa	<i>āvā</i>	‘wife’ (humble term; Milner 1966)
		<i>āvaŋa</i>	‘elope’,
Pn:	E Futunan	<i>āvaŋa</i>	‘spouse, marriage’,
Pn:	E Uvean	<i>avaŋa</i>	‘spouse, marriage’,
Pn:	Tikopia	<i>āvaŋa</i>	‘marry’
Pn:	Takuu	<i>āvana</i>	‘marriage, be related as husband and wife’

PEOc **wati* ‘spouse’ (ACD)

PSES **wati-* ‘spouse’

SES:	Tolo	<i>ati-</i>	‘spouse’
SES:	To’aba’ita	<i>k^wai-</i>	‘spouse’
SES:	Kwaio	<i>k^wai-</i>	‘spouse’
SES:	E Arosi	<i>wai-</i>	‘spouse’

Proto E Fijian **wati-* ‘spouse, cross-sex cross-cousin’

Fij:	Tavuki	<i>waci</i>	‘spouse’
Fij:	Tokatoka	<i>wati-</i>	‘spouse, cross-sex cross-cousin’
Fij:	Moala	<i>wati-</i>	‘spouse, s.s. sibling’s spouse, cross-sex cousin’, EoG, E {PsG}oC, sGEoG, sGE {PsG}oC

Did POC have terms for ‘wife’ and ‘husband’? Tentatively, yes, POC **pine* meant ‘wife’, but the data do not suggest a corresponding ‘husband’ term.

Oceanic languages tend to use reflexes of POC **papine* ‘woman, female’ and **m^waqane* ‘man, male’ for ‘wife’ and ‘husband’. These terms are reconstructed in vol.5 (pp50–55) and discussed in their kinship context in §2.4.1.5.3. Nonetheless, Oceanic languages have sometimes innovated terms that render ‘wife’ and ‘woman’ distinct. At least in one instance, this tendency was already manifest earlier than POC. PMP had a number of forms derived from the root **bahi*. It was perhaps originally a stative verb ‘be female’, as many of its derivations include the infix **<in>*, one of several PAN affixes that among other things formed nouns from verbs. In PMP **b<in>ahi* ‘woman, wife’ and **ba-b<in>ahi* ‘female, woman’ are both attested. The latter was ancestral to POC **papine* ‘woman, female’. PMP **b<in>ahi* gave rise to PEMP **b<in>ai* and POC **pine* ‘woman, wife’, much more sparsely reflected than **papine*. The difference in usage seems to have been present at least by PEMP. The cognate set supporting PEMP **b<in>ai* and POC **pine* is below.

PAN/PMP **b<in>ahi* ‘woman, wife’ (ACD)

PEMP **b<in>ai* ‘woman, wife’

RA:	Misool	<i>pin</i>	‘woman, wife’
CB:	Ambai	<i>bine</i>	‘wife’
CB:	Wandamen	<i>vinie</i>	‘wife’
CB:	Warembori	<i>e-vin(do)</i>	‘wife’

POc **pine* ‘woman, wife’ (ACD: ‘female’)

NNG: Barim	<i>vne</i>	‘wife’
NNG: Adzera	<i>fini-</i>	‘wife’, WZ, ♂BW, ♂PGSW
NNG: Mapos Buang	<i>vəne</i>	‘wife’
NNG: Yanta	<i>vni</i>	‘wife’

Proto Solomons Outlier **fine* ‘female relative’

Pn: Ifira-Mele	<i>fine</i>	‘sister-in-law’
Pn: W Futuna	<i>fine</i>	‘wife, woman’
Pn: Pileni	<i>hine</i>	‘daughter’

The cognate set below is a further demonstration of a split that has provided separate ‘wife’ terms. The pre-POc origin of POc **kawe(C)* ‘woman’ is unknown. Initial *n-* occurs in a number of languages where initial **k-* is regularly lost and accretion of the POc article **na* is attested.³⁶ Final Proto Buang **-h* reflects one of POc **-k*, **-q* and **-R*. It is possible that there are chance lookalikes in this set, as the medial consonant is problematic. POc **-w-* is reconstructed on the basis of Adm, NCV and NCal languages. The NNG, MM and SES items reflect **-p-*.

The NNG terms mean ‘woman’ and contrast with the terms for ‘wife’ above. In Adm languages and Kokota (MM, Santa Isabel) and in SES languages the terms mean ‘wife’ or ‘spouse’.

POc **kawe(C)* ‘woman, wife’ ? (Lynch 2004: PSoc **nawe* ‘wife’)Proto Eastern Admiralty **n-awe-* ‘spouse’

Adm: Lele	<i>n-awe-</i>	‘spouse’ (reciprocal)
Adm: Drehet	<i>n-ewe</i>	‘spouse’
NNG: Yabem	<i>àwɪ</i>	‘woman; wife’
NNG: Wampar	<i>afi</i>	‘woman’
NNG: Maralango	<i>kafe</i>	‘woman’
NNG: Hote	<i>avi</i>	‘woman’

Proto Buang **aveh* ‘woman’

NNG: Mapos Buang	<i>aveɸ</i>	‘woman’
NNG: Patep	<i>vey</i>	‘woman’
MM: Kokota	<i>n-afe-</i>	‘spouse, marriage partner of either sex’
SES: Lau	<i>ʔafe</i>	‘wife, married woman’
SES: Kwara’ae	<i>ʔafe</i>	‘wife’
NCV: Nese	<i>n-au</i>	‘wife’ (Lynch 2004)
NCV: Big Nambas	<i>n-au-</i>	‘spouse’
NCal: Nemi	<i>n̄ōe-</i>	‘wife’ (Lynch 2004)
NCal: Fwâi	<i>n̄ōe-</i>	‘wife’ (Lynch 2004)

³⁶ Of the languages here, **na-* accretion is attested in the Admiralties (Ross 1988:340), in Santa Isabel including Kokota (Ross 1988:312) and on Malekula including Big Nambas. Attestations of accretion in New Caledonia are not known to us.

2.4.2.2 Siblings-in-law

The English terms ‘sister-in-law’ and ‘brother-in-law’ are ambiguous. A ‘sister-in-law’ is either one’s spouse’s sister or one’s brother’s wife, and a ‘brother-in-law’ is one’s spouse’s brother or one’s sister’s husband. Terms in Oceanic languages sometimes have the same ambiguity, and are accordingly glossed ‘sister-in-law’ or ‘brother-in-law’. In other instances the gloss is more specific, e.g. ‘spouse’s brother’. Often, though, as with siblings, a term indicates the in-law’s sex relative to ego, i.e. ‘s.s. sibling-in-law’ (♀HZ, ♀BW, ♂WB, ♂ZH; more briefly EsG, GsE) or, less frequently, ‘o.s. sibling-in-law’ (♀HB, ♀ZH, ♂WZ, ♂BW; i.e., EoG, GoE).³⁷

The most widely reflected term for a sibling-in-law is POc **ipaR/*ipa-*, primarily ‘♀sister-in-law’ and more broadly ‘s.s. sibling-in-law’. The two Kimbe reflexes, Bola and Nakanai, regularly reflect POc **q-*, but there is no other evidence for an initial consonant.

PMP **hipaR* ‘sibling-in-law (probably of the same sex only)’ (ACD)

POc **ipaR/*ipa-* ‘s.s. sibling-in-law’ (ACD)

Adm: Mussau	<i>ie-</i>	‘s.s. sibling-in-law’
Adm: Baluan	<i>ipa</i>	‘♀sister-in-law’
SJ: Sobei	<i>ifa-</i>	‘younger sibling-in-law’, PGsCE, EPGsC
NNG: Tuam	<i>iva-</i>	‘sibling-in-law’
NNG: Mangap	<i>iwa-</i>	‘sibling-in-law’
NNG: Tami	<i>iu, iwa-</i>	‘brother-in-law’
NNG: Takia	<i>iwa-</i>	‘spouse’s o.s. sibling’ {PoG}CsE
NNG: Manam	<i>ia</i>	‘sister-in-law’
NNG: Yabem	<i>yà?</i>	‘spouse’s brother’
NNG: Numbami	<i>iwa</i>	‘s.s. sibling-in-law’
NNG: Adzera	<i>afa?</i>	‘♀sibling’s spouse’, ♀PGSW, HZ,
NNG: Hote	<i>ya-</i>	‘spouse’s father, daughter’s husband’
PT: Kilivila	<i>iva- -ta</i>	‘♀sister-in-law’ (Malinowski 1929)
PT: Iduna	<i>γiva-</i>	‘♀sister-in-law’
PT: Tawala	<i>iwa-</i>	‘s.s. sibling-in-law’
PT: Sinaugoro	<i>iva-</i>	‘sibling-in-law’
PT: W Motu	<i>iha-</i>	‘sibling-in-law’, PGSW (Groves 1958)
MM: Bola	<i>γiva-</i>	‘s.s. sibling-in-law’
MM: Nakanai	<i>hiva-</i>	‘s.s. sibling-in-law’
MM: E Kara	<i>ifa-</i>	‘father’s sister’s child’
MM: Tangga	<i>ifa-</i>	‘♀sister-in-law’ ♀FZD
MM: Torau	<i>ia-</i>	‘♀sister-in-law’
MM: Varisi	<i>iva-</i>	‘s.s. sibling-in-law’
MM: Maringe	<i>iva</i>	‘spouse’s sibling’ (Bugotu loan)

PSES **iva-* ‘♀sister-in-law’, ‘s.s. sibling-in-law’

SES: Bugotu	<i>iva-</i>	‘sibling-in-law’ (Ivens 1940a)
SES: To’aba’ita	<i>θa-ifa-</i>	‘♀husband’s sister’

³⁷ The notations GsE ‘sibling’s spouse, of same sex as ego’ and oGE ‘o.s. sibling’s spouse’ are equivalent, as are G’E and sGE. Both variants are used here, depending on context.

SES:	Kwaio	<i>ifa-</i>	‘sibling-in-law
SES:	E Arosi	<i>iha-</i>	‘s.s. sibling-in-law’
SES:	Owa	<i>-efa-</i>	‘spouse’s brother’ (<i>wa-efa-</i> EB, <i>ka-efa-</i> EZ)
PNCal <i>*iva-</i> ‘♀sister-in-law’, ‘s.s. sibling-in-law’ (Ozanne-Rivierre 2000)			
NCal:	Fwâi	<i>ive-</i>	‘♀spouse’s sister’
NCal:	Cêmuhi	<i>iē-</i>	‘spouse’s sister’
NCal:	Drehu	<i>ie</i>	‘spouse’s sibling’
Fij:	Nadrogā	<i>iva-</i>	‘♀brother’s wife’
Fij:	Wayan	<i>iva-</i>	‘son-in-law’
Fij:	Tokatoka	<i>ra-iva-</i>	‘♀sister-in-law’

In PPn the term above was replaced by **maqā*.

PPn **maqā* ‘s.s. sibling-in-law’ (Pawley 1981:284)

Pn:	Tongan	<i>maʔa</i>	‘s.s. sibling-in-law’ (Marck 1996)
Pn:	Tokelau	<i>mā</i>	‘sister’s husband’, ♂PGDH
Pn:	Rennellese	<i>maʔā</i>	‘s.s. sibling-in-law’
Pn:	Anuta	<i>ma</i>	‘s.s. sibling-in-law’
Pn:	Pileni	<i>mā</i>	‘s.s. sibling-in-law’
Pn:	Sikaiana	<i>mā</i>	‘spouse’s sibling’

PPn **maqā* was in turn displaced in PEPn by the reflex of PPn **taqokete* ‘elder s.s. sibling’, which in EPn languages shifted to ‘s.s. sibling-in-law’ (§2.4.1.5.2).

There are seeming gaps in the system of in-law terms. One might expect a specific term for ‘♂brother-in-law’. Oceanic languages often have such a term, but only local reconstructions can be made.

Intriguing is the fact is that there are no NCV reflexes of POc **ipa-* and no replacement term is reflected across the archipelago, but there *is* a possible cognate set for ‘♂brother-in-law’, stretching across north and central Vanuatu. Clark (2009) reconstructs PNCV **tauwia*, but Lynch (2004) divides the set in two, **taku* and **tauwia*, to account for the presence or absence of reflexes of **-k-*. The division is accepted here, with the rider that, given their similarity of form and identical meaning, the two sets may have a shared history. The form **tau-wia* only occurs in Central Vanuatu languages.³⁸ It is clearly a compound. The second element is *wia* ‘good’ (vol.5:596–597). The first is perhaps reflected in Lewo *i-rau* and Nguna *tā*, both glossed ‘friend’ (Clark 2009).

PROc **taku* ‘brother-in-law’ (Lynch 2004: NCV)

NCV:	Akei	<i>tau-</i>	‘♂brother-in-law’
NCV:	Araki	<i>rahu-</i>	‘♂brother-in-law’, HZH
NCV:	Lonwolwol	<i>tovʷa-</i>	‘♂wife’s brother’
NCV:	S Paamese	<i>tau(letu)</i>	‘♂brother-in-law’
NCV:	Vao	<i>tahu-</i>	‘♂brother-in-law’
NCV:	Nese	<i>tay-</i>	‘brother-in-law’ (Crowley 2006d)
NCV:	Tape	<i>e-tya-</i>	‘brother-in-law’ (Crowley 2006b)

³⁸ Reflexes of **taku-* are found in North Vanuatu languages but overlap with **tau-wia* in Malakula.

Fij: Wayan *-daku* ‘wife’s sister, husband’s brother’

Proto Central Vanuatu **tau-wia* ‘brother-in-law’ (Clark 2009)

NCV: Atchin *tauwen* ‘husband, sister’s husband’, ♂DH
 NCV: Uripiv *tau-* ‘♂wife’s brother’
 NCV: Port Sandwich *tawia-* ‘♂daughter’s husband’
 NCV: Nguna *(ana)tawia-* ‘♂brother-in-law’
 NCV: Lelepa *tawina* ‘♂brother-in-law’ (Guiart 1964)

One would also expect a POC term for ‘o.s. sibling-in-law’. A little digging reveals that **taci-* ‘(younger) s.s. sibling’ (§2.4.1.5.1) also applied to the spouse of **taci-* (sGE). Somewhat counter-intuitively, this means that its secondary sense is ‘**o.s. sibling-in-law**’, also including ego’s spouse’s siblings of the opposite sex to ego (EoG). There are also a few instances of **tua-* ‘elder s.s. sibling’ (§2.4.1.5.2) used in the same way—’few’ because they only occur in languages that make an age distinction among s.s. siblings. In the listings below, glosses that exemplify ‘o.s. sibling-in-law’ are placed before a semicolon, other glosses after it. Mussau *tasi-* has only the ‘sibling-in-law’ sense, having lost the ‘sibling’ sense.

POC **taci-* ‘o.s. sibling-in-law, younger than ego’; ‘younger s.s. sibling’

Adm: Mussau *tasi-* ‘o.s. sibling-in-law’
 Adm: Lou *teri-* ‘spouse’s s.s. sibling, younger than ego, esG, {PsG}seC (Mead 1934:342–344)
 NNG: Wab *te-u* ‘wife’s sister, younger than ego’
 NNG: Bing *te-* ‘wife’s sister, younger than ego’
 NNG: Takia *tei-* ‘o.s. sibling-in-law’; sG
 NNG: Yabem *lasi-ò* ‘wife’s sister, younger than ego’; ♂yZ, {PoG}}yD, WFGyD, EMBByD, ♀WMZyD
 NNG: Mapos Buang *ari-maluk* ‘♀brother-in-law’; (♀?)PGCH (*maluk* ‘male’)
 ari-avek ‘♂sister-in-law’; (♂?)PGCW (*avek* ‘female’)
 PT: Dobu *tasi-* ‘s.s. sibling’s spouse’; sG, {PsG}sC, {PsG}sCE, {PoG}sCE
 MM: Bali-Vitu *tazi* ‘wife’s sister’; elder s.s. sibling, {PoG}sC
 NCV: Araki *ve-rasi-* ‘brother’s wife, younger than ego’, yZ, WByW
 NCV: Vao *tehi-* ‘♂younger brother’s wife, ♀husband’s brother, younger than ego’; yG, {PsG}yC, ♂SSS
 Pn: Tokelau *taina* ‘s.s. sibling’s spouse’; sG, {PsG}sC, {PoG}sC, EoGE (Huntsman 1971)
 Pn: Tuvalu *taina* ‘spouse’s s.s. sibling’; EoGE
 Pn: Anuta *taina* ‘s.s. sibling’s spouse’; sG, PGsC
 Pn: Tikopia *taina* ‘s.s. sibling’s spouse’; sG
 Pn: Nukumanu *taina* ‘spouse’s s.s. sibling’
 Pn: Luangiua *kaiŋa* ‘o.s. sibling-in-law’; sG, PGsC, EoGE

Whilst Lou *tio-* below pairs with *teri-* above, Kilivila *tua-* below pairs with nothing above, because Kilivila does not reflect **taci-* but has replaced it with *b^wada-* ‘younger s.s. sibling, younger o.s. sibling’s spouse, ♂wife’s younger sister’.

POc **tua-* ‘o.s. sibling-in-law, older than ego’; ‘elder s.s. sibling’

Adm:	Lou	<i>tio-</i>	‘spouse’s s.s. sibling, older than ego’; elder s.s. sibling, {PsG} _{seC} (Mead 1934:342–344)
PT:	Kilivila	<i>tua-</i>	‘elder o.s. sibling’s spouse’; esG, MZ _{seC} (Malinowski 1929; Lounsbury 1965)

2.4.2.3 Parents- and children-in-law

Many Oceanic languages class parents-in-law and children-in-law together, and terms are used reciprocally. Perhaps because this does not distinguish between generations, languages quite often extend a consanguineal term to include an in-law category. Thus the term for a blood-relative is extended to include the equivalent relative of one’s spouse, so that reflexes of POc **tama-* ‘father’ and **tina-* ‘mother’ are also used for one’s father-in-law and mother-in-law respectively in Yapese, Manam, Chuukic languages and Rennellese (as are the corresponding terms in many English-speaking communities). Similarly, reflexes of POc **natu-* ‘child’ are sometimes used for a child’s spouse, for example in Raga and Chuukese. Reflexes of POc **ipa-* ‘s.s. sibling-in-law’ are extended to include other in-law generations in a number of languages along the north coast of New Guinea (perhaps a result of contact). Reflexes of PPn **matuqa* ‘parent’ are extended to parent-in-law in Anuta, Tikopia and Tongareva.

Sometimes a language has a single term for ‘mother’s brother’ and ‘♂father-in-law’, due originally to asymmetric cross-cousin marriage (§2.4.1.2.5). A more complex example diachronically is found in southern New Caledonia. In Drubea and Kwênyii *tũ-*, reflecting POc **tubu-* ‘grandparent’ denotes ‘mother’s brother’ and ‘♂father-in-law’. This reflects two extensions. First, **tubu-* reflexes were extended in meaning to include MB (§2.4.1.2.5). Then the term for MB was extended to EF.

These extensions are found in the midst of reflexes of two terms, POc **rawa-* and PEOc **puŋao-* ‘parent- or child-in-law’. Reflexes of POc **rawa-* are found throughout most of WOc, with just a few popping up in NCV and NCal. Reflexes of **puŋao-* are found throughout EOc. Thus reflexes of **rawa-* and **puŋao-* are almost in complementary distribution.³⁹

There is little doubt that **rawa-* was the POc term for ‘parent- or child-in-law’,⁴⁰ both because it has a sprinkling of reflexes in SOc and because there is a CB cognate.

PEMP **r(a,e)wa* ‘parent- or child-in-law’

CB:	Wandamen	<i>rewa</i>	‘son’s wife’
POc <i>*rawa</i> ‘parent- or child-in-law’ (Milke 1965: PNGOc)			
SJ:	Sobei	<i>dawo-</i>	‘parent-in-law’, EPG, EPGE, CE

³⁹ Chowning (1991) thought they *were* complementary, as she did not have access to the NCV and NCal reflexes.

⁴⁰ Rather than **puŋao-* (Pawley 1981).

NNG: Tuam	<i>rawa-</i>	‘parent-in-law’
NNG: Mangap	<i>rwo-</i>	‘parent- or child-in-law’
NNG: Sio	<i>lawa</i>	‘child-in-law’
NNG: Tami	<i>lau, laua-</i>	‘parent- or child-in-law’
NNG: Lukep (Pono)	<i>rō-</i>	‘parent-in-law’
NNG: Poeng	<i>lao-</i>	‘parent- or child-in-law’
NNG: Takia	<i>rao-</i>	‘parent- or child-in-law’
NNG: Manam	<i>rawa</i>	‘parent-in-law’, E{PsG}
NNG: Yabem	<i>lawa-</i>	‘father- or son-in-law, male affines of father’s and great-grandfather’s generations’
	<i>lawa-ò</i>	‘mother- or daughter-in-law, female affines of mother’s and great-grandmother’s generations’
NNG: Numbami	<i>lawa-</i>	‘father-in-law, daughter’s husband’
PT: Misima	<i>yawa-</i>	‘father-in-law, daughter’s husband’
PT: Kilivila	<i>yawa-</i>	‘parent- or child-in-law’, sGCE (Lawton f.c.)
PT: Dobu	<i>lawa-</i>	‘mother-in-law, son’s wife’
PT: Iduna	<i>lawa-</i>	‘wife’s parent, child-in-law’
PT: Gapapaiwa	<i>rawa</i>	‘parent- or child-in-law’
PT: Tawala	<i>lago-</i>	‘cross-sex parent-in-law’
PT: Tubetube	<i>rawa</i>	‘spouse’s sibling’
PT: W Motu	<i>rava-</i>	‘parent- or child-in-law’, E{PsG}, GEC, EPP, CCE (Groves 1958)
MM: Vitu	<i>rava-</i>	‘parent- or child-in-law’
MM: Bulu	<i>lava</i>	‘parent- or child-in-law’
MM: Bola	<i>lavo</i>	‘parent-in-law’
MM: Nakanai	<i>loa</i>	‘wife’s parent, son-in-law’
MM: Tinuputz	<i>noa-</i>	‘mother-in-law’
MM: Torau	<i>roa-</i>	‘wife’s parent, daughter’s husband, ZH
MM: Varisi	<i>rava-</i>	‘parent- or child-in-law’, GCE
MM: Roviana	<i>roa-</i>	‘parent-in-law’ (Capell 1943)
NCV: Big Nambas	<i>rawa-</i>	‘parent-in-law’
NCV: Mota	<i>rowoa-</i>	‘♀sister’s husband’, ♀ZHS, ♀HGS (Vienne 1984)
NCV: Vao	<i>rava-</i>	‘♀sister-in-law’
NCal: Paicî	<i>tã</i>	‘parent- or child-in-law’

The term **puŋao-* almost replaced **rawa-* in EOC languages, although it is rare in NCV languages. In PPn it split into the expected reflex **fuŋao-na*, but with its meaning restricted to ‘child-in-law’, and PPn **fuŋao-ai* ‘parent-in-law’.

PEOC **puŋao-* ‘parent- or child-in-law’ (Chowning 1991; Milke 1958a: POC **puŋo*)

PSES **vuŋao-* ‘parent- or child-in-law’

SES: Bugotu	<i>vuŋao</i>	‘parent-in-law’ (Bogesi 1948)
SES: Lengo	<i>vuŋau-</i>	‘parent-in-law, ♂child-in-law, ♂GCE, ♂FZCCE
SES: To’aba’ita	<i>fuŋao</i>	‘daughter’s husband’, GDH, ZH, PZH (appears to mean ‘male in-law of any generation’)
SES: Kwara’ae	<i>fuŋa</i>	‘parent- or child-in-law’

SES: E Arosi	<i>hujō-</i>	‘parent- or child-in-law’
NCV: Araki	<i>vujō-</i>	‘mother-in-law’, MBW
Proto North New Caledonia * <i>pm^wao-</i> ‘parent- or child-in-law’ (Ozanne-Rivierre 2000)		
NCal: Nêlêmwa	<i>mō-</i>	‘parent- or child-in-law’
NCal: Fwâi	<i>f^wã-</i>	‘parent- or child-in-law’
NCal: Cêmuhi	<i>m^wã-</i>	‘parent- or child-in-law’
NCal: Iaai	<i>ũjō-</i>	‘parent- or child-in-law’
Fij: Wayan	<i>vujā-</i>	‘mother- or daughter-in-law’
Fij: Tokatoka	<i>vujō-</i>	‘parent- or child-in-law’
PPn * <i>fujao</i> , * <i>fujao</i> na ‘child-in-law’ (Marck 1996)		
Pn: Niue	<i>fijona</i>	‘child-in-law’
Pn: Tuvalu	<i>fujao</i> na	‘child-in-law’ (archaic)
Pn: Rennellese	<i>hujā</i>	‘parent- or child-in-law’, BDH, BSW, ZSW
Pn: Anuta	<i>pujona</i>	‘parent- or child-in-law’
Pn: Tikopia	<i>fojona</i>	‘child-in-law’
Pn: Pileni	<i>hujō-</i>	‘child-in-law’
Pn: Takuu	<i>hinaona</i>	‘parent- or child-in-law’, sGsCE, {GoC}E
Pn: Pukapuka	<i>unaonja</i>	‘child-in-law’
Pn: Rapanui	<i>hunonja</i>	‘child-in-law’ (POLLEX)
Pn: Māori	<i>hunaonja</i>	‘child-in-law’ (metathesis)
Pn: Tahitian	<i>hunoʔa</i>	‘child-in-law’ (metathesis)
Pn: Hawaiian	<i>hūnōna</i>	‘child-in-law’, EGC

PPn **fujao-ai* ‘parent-in-law’ (Pawley 1981:284; Marck 1996)

Pn: Niue	<i>(matua) fujavai</i>	‘parent-in-law’ (<i>matua</i> ‘parent’)
Pn: Rennellese	<i>hujabai</i>	‘parent-in-law’
Pn: Pileni	<i>ŋ^hovae</i>	‘parent-in-law’
Pn: Māori	<i>hujarei</i>	‘parent-in-law’ (- <i>r</i> -for †- <i>v</i> -)

Neither **rawa-* nor **pujao-* is reflected in Adm languages. Instead, the term for ‘parent- or child-in-law’ is *(*ñ,n*)ana, identical in form with the POc address term for ‘mother’ (§2.4.1.2.2). Whether there is a historical connection between the two terms is not clear: this may be a chance resemblance. The gloss ‘parent- or child-in-law’ is shown with a question-mark because none of the reflexes has this range of meaning.

PAdm *(*ñ,n*)ana ‘parent- or child-in-law’ (?)

Adm: Baluan	<i>nana-</i>	‘parent-in-law’
Adm: Lou	<i>nana-</i>	‘father- or son-in-law’
Adm: Lele	<i>nono</i>	‘father- or son-in-law’, MMBDH, EFZH (Mead 1934:345–347)
Adm: Loniū	<i>ñana</i>	‘father- or son-in-law’
Adm: Nyindrou	<i>ñana-</i>	‘father- or child-in-law’

The fact that neither **rawa-* nor **pujao-* has many reflexes in NCV languages was noted above. Instead, there are reflexes of PNCV **bwalika* ‘parent- or child-in-law’. One apparent

external cognate is found, To'aba'ita *k^waliʔa-*, listed under 'cf.also' because its gloss, although a kinship term, is quite different from those of its NCV cognates.

PNCV **b^walika* 'parent- or child-in-law' (Clark 2009: 'affine')

NCV: Loh	<i>k^wiliga</i>	♀father- or son-in-law', ♀ZDH, ♀HFB
NCV: Mota	<i>k^waliya</i>	♂parent- or child-in-law', WPG, ZCE (Vienne 1984)
NCV: Raga	<i>b^waliya</i>	♂father- or son-in-law'
NCV: Kiai	<i>palia-</i>	'father-in-law, son-in-law'
	<i>ve-palia-</i>	'mother-in-law' (ve- FEM)
NCV: Araki	<i>paliha-</i>	♂father- or son-in-law'
NCV: Araki	<i>ve-paliha-</i>	♂mother-in-law' (ve- FEM)
NCV: Big Nambas	<i>ʔlia-</i>	'mother-in-law'
NCV: Uripiv	<i>p^wile-</i>	'father or mother-in-law'
NCV: Naman	<i>balyə-</i>	'wife's father'
NCV: Port Sandwich	<i>vilax</i>	'daughter-in-law'

cf. also:

SES: To'aba'ita	<i>k^waliʔa-</i>	'member of grandparent or grandchild generation and beyond'; MG, FZ, GC
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2.5 Marriage

There are a number of generalisations about Oceanic marriage that emerge from dictionaries and ethnographies. Early Oceanic societies probably had moieties, and a person was constrained to marry someone from the opposite moiety. Often there was a preference for that person to be a cross-cousin. Sister exchange was also evidently practised. A number of languages have a verb meaning 'marry out of order', i.e. marry someone of one's own moiety or division. If a marriage was deemed proper, then the man's family would pay a negotiated brideprice for his bride. Many languages have a term for 'co-wife', pointing to polygyny.

Reconstructable terms are disappointingly few, perhaps because these matters were referred to by idioms. 'Shake hands' and 'take a woman' are quite widespread Oceanic idioms for 'marry'. There are, however, two reconstructable verbs for 'marry'.

The first of these has POc **qasawa* 'spouse' as its root (cf §2.4.2.1). It is evident from ACD data that cognate verbs also occur in a number of non-Oceanic languages. However, the reconstruction is questionable, as it is plausible that such a term was invented on various occasions during the spread of Oceanic languages into the Pacific. Indeed, the Pn terms below retain the PPn suffix **-na* which occurred on inalienably possessed kinship nouns.

POc **qasawa* 'marry' (?)

Adm: Lou	<i>asɔ</i>	'marry'
Adm: Nyindrou	<i>esou</i>	'marry'
PT: Ubir	<i>yawa-n</i>	'marry'
NCal: Fwâi	<i>halō-n</i>	'marry'
NCal: Xârâcùù	<i>xɔyɔ</i>	'get married'
NCal: Iaaï	<i>hɔiɔ</i>	'get married'

Pn:	Niuean	<i>hoa-na</i>	‘wife; marry’
Pn:	Samoan	<i>ava-ŋa,</i>	‘(woman) marry’
Pn:	E Uvean	<i>ʔohoa-na</i>	‘wife; marry’

A more probable reconstruction is POc **laki* or **tau-laki* ‘marry’. Its origin was perhaps PMP *laki* ‘male, masculine, man’ (ACD), and occasional reflexes (e.g. Tiang [MM] *lek* ‘husband’) point to POc **laki* ‘married man’. However, compound forms like Tolai {MM} *tau-lai* ‘married person’ (cf **tau*, vol.5, §2.2.1.1) suggest that POc **laki* was a stative verb. Either way, reflexes of both **laki* and **tau-laki* are widely enough reflected as verbs to allow their POc reconstruction as ‘marry, get married’.

POc **[tau]laki* ‘marry; married person’⁴¹

Adm:	Mussau	<i>laai</i>	‘marry’
PT:	Gumawana	<i>nai</i>	‘marry (s.o.)’
PT:	Dawawa	<i>nayi</i>	‘marriage’
MM:	Vitu	<i>laki-a</i>	‘married person’ (-a NOM)
MM:	Nakanai	<i>tau-lai-la</i>	‘marriage ceremony’ (-la NOM)
MM:	Tiang	<i>lek</i>	‘husband’
MM:	Madak	<i>(at)lok</i>	‘husband’
MM:	Patpatar	<i>tole</i>	‘marry’
		<i>t<in>ole-n</i>	‘wedding; marriage’ (<in> NOM)
MM:	Tolai	<i>taulai</i>	‘married person’
MM:	Ramoaina	<i>taula</i>	‘marry’
		<i>t<in>aula</i>	‘marriage’ (<in> NOM)
MM:	Siar	<i>taulai</i>	‘marry’
MM:	Nehan	<i>le</i>	‘marry, married person’
MM:	Banoni	<i>nai</i>	‘marry’
MM:	Maringe	<i>tolayi</i>	‘marry’
SES:	Bugotu	<i>taulayi</i>	‘marry’
SES:	Lengo	<i>taulayi</i>	‘marry’
SES:	Longgu	<i>taulai</i>	‘marry’
SES:	Bauro	<i>auragi</i>	‘marry’
SES:	Arosi	<i>ragi</i>	‘marry’
NCV:	Mota	<i>lay</i>	‘marry, be married’
NCV:	Ambae	<i>laki</i>	‘marry, be married’
NCV:	Raga	<i>layi</i>	‘marry, be married’
NCV:	Apma	<i>lay</i>	‘marry, be married’
NCV:	Araki	<i>layi</i>	‘marry, be married’
NCV:	Nokuku	<i>(te)leki-a</i>	‘marry, be married’
NCV:	Lonwolwol	<i>le</i>	‘marry, be married’
NCV:	Larevat	<i>ne-lay</i>	‘husband’
NCV:	Lewo	<i>la</i>	‘marry, be married (of woman)’
NCV:	Tape	<i>lay</i>	‘marry’
		<i>e-lay</i>	‘husband’
NCV:	Pt Sandwich	<i>lay</i>	‘marry, be married’

⁴¹ We thank John Lynch for providing the NCV and SV data.

NCV:	Nakanamanga	<i>laki</i>	‘marry, be married (of woman)’
NCV:	S Efate	<i>lak</i>	‘be married’
SV:	Sye	<i>(empyu)lay</i>	‘marry, be married’ (<i>empyu</i> ‘dance’)
SV:	Anejom	<i>(asan)lai</i>	‘marry, be married’

2.6 Conclusion(s)

The kinship terms we reconstruct are summarised in [Table 2.11](#) and plotted as a tree diagram in [Figure 2](#) in §2.3.5. The research reported here is founded in large degree on the work of others (§2.1), but it is innovative in three respects. First, it is based on a much larger data corpus than previous reconstructions. Second, it modifies the inventory of reconstructed POc kinship terms, adding to and subtracting from the inventory and suggesting resolutions to some disagreements. Third, it examines the structure of the POc kinship terminology in some detail and makes some novel findings.

The inventory of POc terms includes the addition or confirmation of alternative or address terms that Blust (1979) reconstructs for PMP or Chowning (1991) for POc. A summary of these forms is given in §2.4.1.1. They include POc **ama* ‘father, father’s brother’, **mama* ‘father, father’s brother (ADDR)’, **tata* ‘father, father’s brother, other senior males (ADDR)’, **ina* ‘mother, mother’s sister’, **(ñaña)* ‘mother, mother’s sister’, **nai* ‘mother (ADDR)’, **[bu]bui* ‘grandparent, grandchild’. The multiplication of terms for ‘father’ and ‘mother’ is unsurprising when one considers the number of English expressions for them. Also confirmed are Milke’s (1965) reconstructions of **wawa* ‘mother’s brother’ and **rawa-* ‘parent- or child-in-law’, which are promoted from PNGOc to POc.

A formal novelty is the replacement of Milke’s (1958a) **tuqaka* ‘s.s. older sibling’ by two forms, **tua-* and **tuaka-* (§2.4.1.5.3). An addition is POc **bawa[-]* ‘great-great-grandparent, great-great-grandchild’ (§2.4.1.4.3).

It was originally hoped to provide a history of developments in the structure of Oceanic kinship terminologies from POc through to PPn, but this was abandoned for reasons of space. Instead, §2.3 and its subsections provide a typology of Oceanic terminologies, from which something of their history can be gleaned. The typology situates the POc terminology and its descendants in relation to some of the concerns of kinship theorists. It shows that POc had a bifurcate merging terminology, not surprisingly, given that this structure has been attributed to many of its descendants (§2.3.1). Unexpectedly, however, the typology led us to the conclusion that POc was generationally skewed (a ‘Crow’ terminology), or, more probably, that this was a two-state terminology like Dobu or like Fanti of Ghana, with different sets of terms being used for ‘cross’ relations according to circumstances. A fair quantity of data supports the predictions that generational skewing entails (§2.3.6).

A major reason for suspecting that POc had a generationally skewed terminology is the difficulty that others before us have had in reconstructing a term for father’s sister, a relationship that is a ‘converse’ of mother’s brother, for which dedicated terms are ubiquitous in Oceanic languages. The improbability that POc **aya* meant ‘father’s sister’ is discussed in §2.4.1.2.6.

Another term that must also be removed from the POc terminology is **puŋao-* ‘parent- or child-in-law’. It has no Admiralties or WOc reflexes and is evidently a PEOc innovation, replacing POc **rawa-* (§2.4.2.3).

2.7 Appendix to chapter 2: Ethnographic sources

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- Gela: Codrington 1891; Hogbin 1938a; Fox 1955
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 Torau: Bethwyn Evans' fieldnotes
 Tuam: Bugenhagen 2011
 Tubetube: Seligmann 1910
 Tuvalu: Besnier 2000:626–631
 Ulawa: Ivens 1927
 Ulithian: Lessa 1966; Hage & Marck 2002
 Ura: Lynch 1983c
 Uripiv: Deacon 1934
 Vao: Layard 1942
 Varisi: Scheffler 1965

Vitu: Blythe 1978
Vurës: Malau 2016
Wagawaga: Seligmann 1910
Wala: Hogbin 1939
Wandamen: Flaming 1983
Warembori: Donohue 1999
Watut, Middle: Fischer 1963
Whitesands: Humphreys 1926; Casson &
Gregory 1976
Wogeo: Hogbin 1964b, 1970
Woleaian: Burrows & Spiro 1957
Wuvulu: Hafford 2014
Xârâcùù: Ozanne-Rivierre 2000
Yabem: Streicher 1982
Yapese: Schneider 1953

3 *Was Proto Oceanic society matrilineal?*

PER HAGE

Proto Oceanic society is believed to have developed in the region of the Bismarck Archipelago in western Melanesia around 1500 BC.^{1,2} Within a few hundred years daughter societies expanded eastward into the rest of Melanesia and into nuclear Micronesia, eventually reaching the remotest islands of Polynesia by 1000 AD (Kirch 1997).³ Lexical reconstruction has revealed a great deal about Proto Oceanic economy, technology and material culture [Ross, Pawley and Osmond 1998]⁴ but very little about aspects of social organisation. In particular there is considerable uncertainty about the type and even the existence of descent groups. My purpose is to suggest, through a combined analysis of historical linguistic, ethnographic and cross-cultural data, that POc society had unilineal, probably matrilineal descent groups and unilocal, probably matrilineal or matri-avunculocal residence rules.

Conjectures about descent groups in Proto Oceanic [read “early Oceanic”] society have a long history with contributions by anthropologists, linguists and archaeologists. Rivers (1914) assumed that early Melanesian society, like all early societies, was matrilineal on the grounds that only maternal kinship connections could be known for certain. He thought that matrilineal moiety systems developed early in Melanesian history as the result of a fusion between indigenous peoples and later arrivals, and he attributed shifts to patrilineal descent and succession to the influence of immigrants with an advanced culture. As Allen (1984:27) observed, Rivers’ argument was not really refuted, but simply “abandoned as a result of the general demise of evolutionary anthropology in favour of structural functionalism”. In a variation of Rivers’ scenario, Allen proposed that matrilineal descent groups were a precondition of social stratification in Melanesia, the argument being that

¹ This is a slightly edited and abridged version of a paper first published in *The Journal of the Polynesian Society* 107:365-379 (2007). The editors thank Andrea Hage for permission to reproduce the paper.

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³ [Recent archaeology suggests 1300 BC instead of 1500 BC, and 1300 AD instead of 1000 AD (Reith & Cochrane 2018).]

⁴ [Square brackets enclose editorial insertions.]

that their restrictions on membership encouraged the formation of larger non-kinship political groups such as the graded societies of Vanuatu.

Several decades after Rivers, Murdock (1949) concluded from the application of an evolutionary algorithm that Proto Malayo-Polynesian and Proto Oceanic society were bilateral or “Hawaiian” in type and lacked descent groups of any kind. By Hawaiian, Murdock meant a cluster of traits including generational-Hawaiian kinship terminology, bilateral kindreds and bilocal extended families as well as the absence of unilineal descent groups. Goodenough (1955), noting that land tenure is generally associated with kinship groups in Malayo-Polynesian societies, amended Murdock’s conclusion by adding to it the feature of cognatic landholding descent groups. Linguistic evidence in support of Murdock’s reconstruction was provided by Milke (1958) who interpreted the basically generational-Hawaiian structure of POc kinship terminology, in which M = MZ = FZ and G = PGC as consistent with a bilateral form of social organisation.⁵ Evidence against the bilateral hypothesis was adduced by Blust (1980a) and Hage and Harary (1996) who showed that a strict application of Murdock’s algorithm leads to the conclusion that POc society was just as likely to have been “Iroquois” in type with either matrilineal or double descent.

In a recent work, Kirch (1997) proposed on general ethnographic grounds, that Lapita, i.e. Proto Oceanic, descent groups were cognatic in type:

Social anthropologists have long been aware that Oceanic peoples do not organize themselves onto strict unilinear descent groups but rather tend to have more flexible cognatic (sometimes called “ambilinear” or “non-unilinear”) systems of descent reckoning” (Kirch 1997:189-90)

While it is true that there are many cognatic societies in Oceania, they do not predominate in all regions and where they do exist, they may not be a continuation of POc society but, rather, a later development.

In a linguistic approach to the problem, Pawley (1981) reconstructed a POc term **kainana* as meaning ‘descent group’ and, following Goodenough (1955) as ‘landholding descent group’ [but see §4.2.2.6]. However, Chowning (1991) objected that **kainana* may be attributable only to a lower-order branch of the Oceanic family tree and she argued that even if **kainana*, or an equivalent term **qapusa*, could be attributed to POc,

we would have no clue as to what kind of descent group or category might be represented. For the former, cognate terms designate a patrilineal group in Tikopia [a Polynesian outlier in Melanesia], a matrilineal one in Truk [in Micronesia] and a cognatic one in Maori [in Polynesia]. Furthermore, the kinship terms reconstructed so far for POc do not solve the problem. If POc had unilinear descent, we would expect either that a term for cross-cousin was reconstructable, or that many more of the societies would be like Truk and the Trobriands in having kinship systems (Crow, in these cases) that group cross-cousins with other kin types. I would also expect a reconstructable term for FaSi [father’s sister] unless, as in Kove, she was called by the same term as MoBro [mother’s brother],

⁵ The following kinship abbreviations are used in this paper: F = father, M = mother, B = brother, Z = sister, G = sibling, S = son, D = daughter, ss = same sex as ego, os = opposite sex from ego, FB = father’s brother, MB = mother’s brother, etc; +1 = first ascending generation.

but this does not seem to happen in many Melanesian societies (Chowning 1991:70).

The problem of descent in POc society is not as insoluble as it might appear. POc kinship terminology (Milke 1958), like that of Proto Polynesian (Marck 1996) and Proto Malayo-Polynesian (Blust 1980a) terminology, was bifurcate merging for males in the first ascending (+1) generation: $F = FB \neq MB$ (POc **tama* ‘F, FB’, **matuqa* ‘MB’). [See ch. 2 of this volume for a detailed reconstruction of POc kinship terms.] It is uncertain for all three of these protolanguages whether +1 terminology for females was also bifurcate merging ($M = MZ \neq FZ$) or generational, as Milke (1958) thought, but as far as inferences about descent are concerned it does not matter at all. Nor does it matter that the POc terminology lacked terms for cross-cousins ($PssGC \neq PosGC$) or that Crow type terminologies ($FZ = FZD$, $F = FZS$) are not more common in ethnographically known Oceanic societies. Generalising from an earlier study by Murdock (1947), the presence of a term for MB alone is sufficient to establish that descent in Proto Oceanic, Proto Polynesian and Proto Malayo-Polynesian society was almost certainly unilineal.⁶ As shown in Table 3.1, bifurcate merging terminologies for +1 males in non-unilineal societies are almost always found together with unilineal descent groups (patrilineal, matrilineal or both) 85 percent of the time.⁷ The rare cases of bifurcate merging terminologies in non-unilineal societies are best interpreted as survivals from earlier unilinear states, under the assumption that changes in kinship terminology usually follow changes in descent rules (Lowie 1948; Murdock 1949; Fox 1967). As shown in Table 3.2, bifurcate merging terminology is also associated with unilocal residence—91 percent of the time.⁸ Proto Oceanic society was either patrilineal and patrilocal, or matrilineal and matrilineal or matri-avunculocal. Using the same cross-cousin sample as for Tables 3.1 and 3.2, 81 percent of the matrilineal societies are either matrilineal or avunculocal.

The case of a separate term for FZ is interesting and deserves a comment in view of its uncertain existence in POc, PPn and PMP kinship terminologies (Pawley 1981; Marck 1996; comments on Blust 1980a [and §2.5.1.2.6 of this volume]).⁹ In Oceanic

⁶ The association between bifurcate merging female relations, including the triad $M = MZ \neq FZ$, and unilineal descent and unilocal residence was demonstrated long ago by Murdock (1947, 1949). It was also deduced by Rivers (1914).

⁷ Tables 3.1 and 3.2 are based on Murdock and White’s (1969) Standard Cross-Cultural Sample. This consists of 186 societies chosen from 200 world sampling provinces (Murdock 1968b). Tables 3.1 and 3.2 show a smaller number of societies owing to the absence of data or to questions about the coding of kin terms (in Murdock 1970), descent rules and residence rules (in Murdock 1967) and the lack of alternative societies from the same sampling province.

⁸ That is, with patri-, viri-, matri-, uxori-, avuncu- or natolocal residence. In Table 3.2, societies are coded for the dominant or permanent rule of residence indicated by a capital letter in Column 16 of the *World Ethnographic Atlas*.

⁹ There is an extensive literature on the special position of the FZ in Oceanic societies, including Rivers (1910), Mead (1934), Mabuchi (1964), Rogers (1977) and Douaire-Marsaudon (1996).

Table 3.1 The relation between bifurcate merging kinship terminology and descent groups

Type of kinship terminology	Descent groups		
	Unilineal	Cognatic	Absent
Bifurcate merging (F = FB ≠ MB)	47	—	8
Other	63	10	47

Sources: Murdock 1967, 1970; Murdock and White 1969.

the presence of a term for FZ almost always implies the presence of a term for MB. This is displayed in [Table 3.3](#) which is based on the terminologies reported in Murdock (1970) for all the Oceanic-speaking societies in *the World Ethnographic Atlas* (WEA) (Murdock 1967).¹⁰ The implicational relationship between these two terms is an expression of a marking rule in which the presence of the marked term (FZ) implies the presence of the unmarked term (MB) but not necessarily conversely (Greenberg 1980).¹¹ In most Oceanic as in most Polynesian and Malayo-Polynesian kinship terminologies (Hage 1996, 1998a; Hage and Harary 1996; Blust 1980a) ‘male’ is the unmarked term. Diachronically interpreted, if POc, PPn and PMP terminologies had a separate term for FZ it was lost before the term for MB.

Table 3.2 The relation between bifurcate merging kinship terminology and residence rules

Type of kinship terminology	Residence	
	Unilocal	Non-unilocal
Bifurcate merging (F = FB ≠ MB)	49	5
Other	103	17

Sources: Murdock 1967, 1970; Murdock and White 1969.

¹⁰ In Tables 3.3 and 3.4, Yap is counted as an Oceanic society (Ross 1996).

¹¹ An extended application of marking theory to kinship terminology is given in Hage (1999b).

Table 3.3 The relation between cross distinctions in ‘uncle’ terms and ‘aunt’ terms in Oceanic speaking societies.

‘Aunt’ terms	‘Uncle’ terms	
	Cross distinction present	Cross distinction absent
Cross distinction present	13	1
Cross distinction absent	11	9

Sources: Murdock 1967, 1970; Murdock and White 1969.

The evidence for matrilineal rather than patrilineal descent in Proto Oceanic society is distributional, linguistic and historical in nature. As Rivers (1914) and Allen (1984) emphasised, matrilineal descent groups are found extensively in many areas of Melanesia including

the Huon Gulf, New Britain [east of the Willaumez Peninsula] and New Ireland [in the Bismarck Archipelago], the Massim Archipelago [apart from the northern d’Entrecasteaux], Bougainville, parts of the Solomons and much of north and central Vanuatu (Allen 1984:26). [Brackets are Hage’s]

Double descent groups are also found in Melanesia, e.g. Bunlap [Sa, south Pentecost] (Tattevin 1928), Vanua Levu [Fiji] (Quain 1948) and also in Micronesia, e.g. Pingelap (Damas 1979) and in Polynesia in Pukapuka (Beaglehole and Beaglehole 1938). If Murdock (1940, 1949) was right, one of the origins of double descent is the intrusion of patrilineal institutions into a strongly integrated matrilineal system. In a survey of double descent systems Murdock found that exogamy is everywhere associated with both matrilineal and patrilineal groups, but that inheritance and succession are almost always patrilineal. Residence is always patrilocal and political organisation is patrilineal.

In Table 3.4, all the Oceanic-speaking societies in the WEA are classified by type of descent group. In Polynesia, the last region of Oceanic settlement, descent groups are almost entirely cognatic; in nuclear Micronesia they are almost entirely matrilineal; and in

Table 3.4 Types of descent groups in Oceanic-speaking societies

Type of kinship terminology	Descent groups		
	Unilineal	Cognatic	Absent
Bifurcate merging (F = FB ≠ MB)	47	—	8
Other	63	10	47

Sources: Murdock 1967, 1970, Murdock and White 1969.

Island Melanesia,¹² the homeland of Proto Oceanic society, they are predominantly matrilineal or formerly matrilineal, as attested by systems of double descent.

With a larger sample of societies, the rows in Table 3.4 could specify major subgroups of the Oceanic language family. On the basis of available data in the WEA, matrilineal and double descent are not confined to societies in any one subgroup. It must be noted that anthropologists are sometimes uncertain about the existence of double descent. Thus Hogbin changed his mind about double descent in Wogeo, referring in 1970 to matrilineal moieties and agnatic residential groups. Schneider (1984) changed his earlier view of Yap (Schneider 1961) when he, most unfortunately, came to reject the entire metalanguage of kinship analysis.

Historical linguistic evidence for matrilineal descent in Proto Oceanic society is provided by Blust (1986-87) whose argument may be summarised. In the Austronesian languages terms for 'orphan' are in some cases monomorphemic as in Bontok *so* 'be an orphan' but in other cases descriptive as Malay *anak piatu* (*anak* 'child, *piatu* 'desolate, orphaned'). In some Oceanic languages the descriptive term refers to one or both parents. In a sample of 12 Oceanic languages, Blust found that in eight languages there is an agreement between the parent mentioned in the descriptive term and the rule of descent. For example, in Ere 'orphan' is *timan pwi* 'father none' and descent is patrilineal; in Woleaian 'orphan' is *sile-mas* and descent is matrilineal; in Samoan 'orphan' is *matua-oti* 'parents dead' and descent is ambilineal (cognatic). This correlation suggests that in Austronesian societies an orphan is defined in relation to his/her descent group rather than his/her parents. The four exceptions are Kwara'ae, Lau, 'Are'are and Sa'a, all of which are spoken in patrilineal societies in Malaita in the southeast Solomons. In all four languages there is a pair of terms reflecting Proto Malaita-Cristobal **tina mate* 'mother dead; and **tina mauri* 'mother living' which refer to both parents, or to the father alone, and to persons of high and low status.

It is noteworthy that a paired term reflecting earlier **tina mauri* ("mother living") is found widely in the Southeast Solomons (but not in Micronesia). Compare LAU (C.E. Fox 1974) *inamae/inomae* 'orphan, relatives dead, poor and unprotected', *inamauri/inomauri* 'parents alive, prosperous, important', *inamouri* 'eldest son of a living chief'; (Catherine Tyhurst, pers. comm.) *inomae* 'eldest son of a deceased man', *faa-inomae* 'to bereave'.—'ARE'ARE (Geerts 1970) *inamae* 'orphan', *inamauri* 'a very big chief, a person of very great importance'.—SA'A (Ivens 1929[a]) *inemae* 'be an orphan, be bereft of parents, an orphan', *inemauri* 'be a

¹² The great majority of Oceanic-speaking societies in Melanesia are in Island Melanesia and are the only ones included in the WEA. In the *Encyclopedia of World Cultures*, vol. 2, *Oceania*, [Hays 1991] five mainland New Guinea Oceanic-speaking societies are represented: four (Mekeo, Motu, Maisin and Sio) are patrilineal and one (Wamira [= Bartle Bay dialect of Wedau]) is matrilineal. In distinguishing Oceanic from non-Austronesian-speaking societies in Melanesia one should not overlook the effects of interaction between these groups, as Green (1991) and Kirch (1997) have emphasised in archaeological studies. In cultural anthropology, Chowning (pers. comm.) notes an interesting historical connection between them: "At least in East New Britain and on Bougainville, the [non-Austronesian]-speaking societies, whose ancestors presumably arrived there long before the [Oceanic] speakers, are also matrilineal... [I]n the matrilineal arc that extends from the Massim up through Bougainville and across to New Britain, matrilinearity, regardless of language affiliation, is associated with the belief that the lines in the palms of the hands designate the bird tabu to the descent group." See Chowning 1982.

chief, have a due succession of chiefs, a chief'.—AROSI (C.E. Fox 1970) *inemae* 'child whose mother is dead, orphan', *inemaui* 'child whose mother is living' (Blust 1986-87:220).

Blust interprets the discrepancy between the proto-term for 'orphan', and its reflexes as evidence for a shift from matrilineal to patrilineal descent in Malaita and by implication in the "wider Oceanic context". Under this interpretation the correlation between lexical glosses of terms for 'orphan' and rules of descent in his sample of Oceanic-speaking societies is "exceptionless".

Specific historical evidence in favour of Rivers' matrilineal hypothesis was adduced by Lane (1961). Using kinship data collected by different observers over a period of nearly 100 years, Lane described the breakdown of matrilineal social organisation in two Vanuatu societies, Mota in the Banks Islands and Barabet in Pentecost. Matrilineal clan and moiety organisation was weakened or disappeared, residence (in Barabet) became bilocal and Crow kinship terminologies [cf. §2.3.3], which are usually associated with matrilineal descent, gave way to modified generational Hawaiian terminologies [cf. §2.3.1]. Lane attributes these changes to the effects of sudden and extensive depopulation which fatally weakens more rigid lineage systems and moves them in the direction of more flexible bilateral systems. Generalising this result, Lane, following Dole (1967), concluded that the bilateral organisation of Polynesian, especially eastern Polynesian, societies developed in response to the difficulties faced by small unstable populations settling widely separated islands.

Kinship systems are generally conservative in nature: they change slowly, sometimes glacially, under normal (non-aculturative) circumstances, and they are more resistant to diffusion than other cultural traits (Dyen and Aberle 1974; Eggan 1955; Murdock 1949). If Proto Oceanic society was, in fact, matrilineal then one might expect a continuation of matrilineal traits in its descendants. The converse would be true if Proto Oceanic society was patrilineal. Data for testing this hypothesis come from a recent study by Burton, Moore, Whiting and Romney (1996).

Burton and his colleagues, building on the work of Murdock (1967), have shown that nine world regions can be distinctively characterised by two dimensions of social structure: gender and descent. These two dimensions score 63 different traits of social structure.¹³ The first dimension contrasts matricentric and patricentric traits of social organisation and kinship terminology.

In order of strength from highly to weakly positive,

[m]atricentric social organization traits include matrilocality or uxori-local residence, monogamy, and the absence of marriage exchange.¹⁴ Hence, matricentric societies tend to organize kinship groups around women through matrilocality or uxori-local residence or through matrilineal kinship groups (Burton et al. 1996:93)

¹³ According to Burton et al (1996:93), "the scores are similar to factor loadings but are standardised differently and therefore have a different range." A plot of all 63 traits is given in Whiting et al. (1988).

¹⁴ In Column 12 of the WEA, "Mode of marriage", "marriage exchange" refers to the 'transfer of a sister or other female relative of the groom in exchange for the bride'. "Bridewealth (or brideprice)" refers to the 'transfer of a substantial consideration in the form of livestock, goods, or money from the groom or his relatives to the kinsmen of the bride' (Murdock 1967:47).

In order of strength,

[p]atricentric social organization traits include nomadic or seminomadic settlement patterns, clan communities, localized or dispersed patrilineal groups, patrilocal residence, polygyny, and bridewealth payments. Hence, patricentric societies tend to organize kin groups around men through patrilocal residence, patrilineal descent or polygyny... Strongly matricentric kinship terminologies include generational aunt terms, bifurcate merging aunt terms and Crow cousin terms. The former two terminologies classify mother and mother's sister together, as one would expect of societies that keep related women together after marriage, and Crow cousin terms are well known to be associated with matrilineal descent. Strongly patricentric kinship terminologies include bifurcate collateral aunt terms and Omaha cousin terms. Bifurcate collateral terminologies assign separate terms to mother and mother's sister, as one would expect of societies that separate women after marriage, and Omaha terms are well known to be associated with patrilineal descent.

The second dimension...contrasts *unilineal* and *bilateral* traits... Unilineal social organization traits include clan communities, dispersed or localized patrilineal groups, dispersed matrilineal groups, patrilocal residence, nonsororal polygyny, cousin marriage, patrilocal residence, and bridewealth payments. Bilateral social organization traits include bilateral kin groups, ego-centered kindreds, virilocal residence, bilocal residence, monogamy, and prohibition of cousin marriages.

Applying the method of correspondence analysis (Greenacre 1984) these two dimensions define a space in which societies can be located by their social structural traits. Halves of this space are matricentric versus patricentric and unilineal versus bilateral, while quadrants are matricentric and bilateral versus matricentric and unilineal, and so on. Two of the nine world regions identified by Burton et al. are the Southeast Asia and the Insular Pacific (Micronesia and Polynesia) region, which is matricentric, and the Australia, New Guinea and Melanesia region, which is unilineal. Since the authors give the rating on each dimension for every society in their world-wide sample, it is possible to define a region strictly by language group. We will consider only the Oceanic-speaking societies in Polynesia, Nuclear Micronesia and Melanesia, cross-cutting the two worlds just mentioned.

If Proto Oceanic society was strongly matrilineal, one would expect to find a continuation of matricentric traits in its descendants, including those that later developed different descent rules. Support for this hypothesis is given in [Figure 3.1](#). With two exceptions (Seniang [Sinesip] and Lau, Fiji) all the Oceanic-speaking societies in the WEA are matricentric whatever their rule of descent—cognatic, patrilineal, matrilineal or double descent.

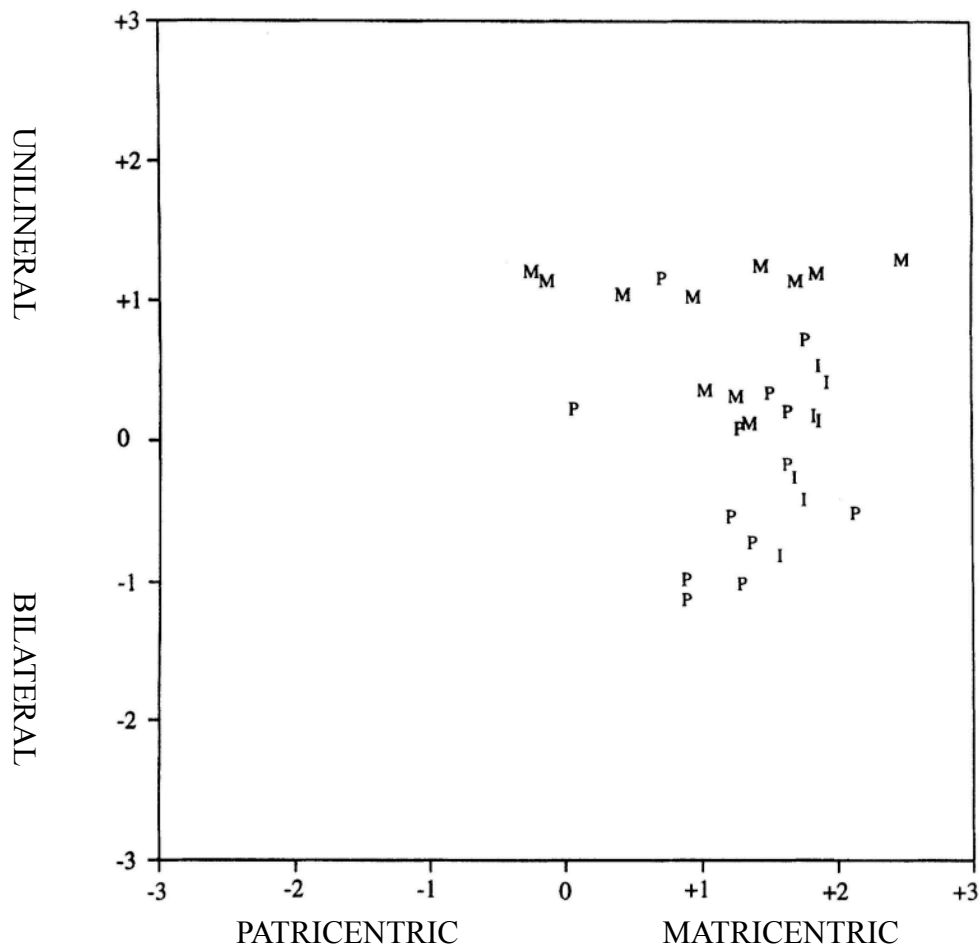


Figure 3.1 Social structural traits of Oceanic-speaking societies (based on Burton et al. 1996. M= Melanesia, P= Polynesia, I= Micronesia)

We conclude, on the basis of historical-linguistic, ethnographic and cross-cultural evidence, that descent in Proto Oceanic society was matrilineal and residence matrilineal or matri-avunculocal. This result would account for certain unusual ethnographic facts, such as the presence of Crow kinship terminology and patrilineal descent in Seniang [Sinesip] (a case in which changes in kinship terminology, as usual, lag behind changes in descent), marriage with the MBW (Rivers 1914) (a practice commonly found in matrilineal societies of generalised exchange; Lévi-Strauss 1969, Hage 1998b), and double descent (the undermining of a strongly integrated matrilineal system by patrilineal institutions).

It may be, as Lane (1961) and Dole (1967) have argued, that demographic and geographic constraints—small unstable populations and great distances—led to the development of more flexible cognatic social organisation in the settlement of Polynesia. It may also be the case that relative isolation after settlement led to the weakening or disappearance of matrilineal descent in some Oceanic societies. As Lévi-Strauss (1984:183) observed with respect to Micronesia, in those societies that have lived in relative isolation,

“we find...a retreat from matrilineal institutions: left to themselves these institutions, by reason of their well-known instability, have a tendency to evolve spontaneously towards other forms.” Damas (1979) makes this point with respect to isolated atolls in the Carolines—Pingelap, Mokil and Ngatik—where matrilineal descent was left with few functions other than exogamy:

I would argue that the comparative vitality of matrilineal emphasis in the Yap and Truk districts is closely related to regular reinforcement of those ties through the process of clientship, trade relations, and (in the case of Yap) a system of tribute which operated largely within a matrilineal context. By contrast, relative isolation of the atolls and islands in the eastern Carolines appears to have promoted conditions which serve to weaken matrilineality (Damas 1979:192).

One should also mention here the two isolated outliers, Enewetok and Ujelang, in the solidly matrilineal Marshall Islands which evolved patrilineal descent groups (moieties) (Hage and Harary 1996). According to Ann Chowning (pers. comm.) the majority of Oceanic-speaking societies in the New Guinea mainland are patrilineal rather than matrilineal. In this case, rugged terrain rather than geographical distance was a barrier to social communication which led to the weakening or disappearance of matrilineal institutions.

The hypothesis of matrilineal Proto Oceanic social organisation should have interesting culture historical implications. Rivers, as mentioned, attributed moiety systems, which are common in Melanesia, to the fusion of indigenous and immigrant peoples. As evidence he noted the presence of inter-moiety hostility, native traditions of separate origins and the attribution of physical and mental differences to members of different moieties. As Blust (1981a) has observed, there is no linguistic evidence for the “fusion hypothesis”, i.e., no significant differences in vocabulary, phonology or grammar between members of different moieties in Oceanic societies. An alternative, more plausible explanation, which applies to moiety systems in general, derives from a theory of Murdock’s (1940, 1949). Typically, when a matrilineal society fissions, the new community, in order to preserve the proximity of males to their natal groups, consists of two exogamous lineages. Eventually these two groups may develop onto a moiety system with all its attendant symbolism. Could such a process account for the prevalence of moiety systems in Melanesia? ¹⁵

¹⁵ Under Blust’s (1981a) hypothesis that dual organisation was a feature of Proto Malayo-Polynesian society which continued in many Oceanic societies, the two groups would be lineages belonging to different moieties or lineages of the same moiety which became exogamous.

4 *Social rank*

ANDREW PAWLEY

4.1 Introduction

Around 3000 BP bearers of Lapita became the first people to move beyond the intervisible islands of western Melanesia and settle Santa Cruz and the Reef Islands in the eastern Solomons and the archipelagos of Vanuatu, New Caledonia and Fiji. By 2800 BP there were Lapita settlements in Tonga and Samoa, 4500 km east of the Bismarcks.¹

The Lapita dispersal across the southwest Pacific was astonishing in its speed and scale. Founding populations were established almost simultaneously in several previously uninhabited island groups. This must have involved the organising of many long-distance voyages carrying considerable numbers of people, including the building of ocean-going outrigger canoes, the recruitment of crews and passengers, and the transport of useful plants and breeding stocks of domestic animals.

The question arises as to what forms of leadership underpinned these achievements and whether historical linguistics in combination with the ethnographic record can provide clues, in the form of relevant lexical reconstructions. The following discussion will draw on a number of earlier studies which have addressed these questions, including Green (1994, 2002), Hage (1999a,b), Hayden (1983), Kirch (1984), Kirch and Green (2001), Lichtenberk (1986) and Pawley (1982).

The Polynesian material is surveyed first because it yields a number of well supported Proto Polynesian terms to do with rank and leadership, indicating that Proto Polynesian society had hereditary chiefs in a system of ranked descent groups, with rank based on seniority of descent. We then turn to other Oceanic-speaking societies. Although the evidence there is less straightforward I will argue that Proto Oceanic society had a system of rank and leadership essentially similar to that reconstructed for Proto Polynesian. I will not discuss evidence for reconstructing terms for rank and leadership in Austronesian interstages earlier than Proto Oceanic. Blust (1995b:500) observes that relevant reconstructions for Proto Malayo-Polynesian are few and semantically ambiguous. Bellwood (1996) speculates on the role of hierarchy in the Austronesian dispersal.

¹ Thanks to Paul Geraghty, Meredith Osmond and Malcolm Ross for helpful comments on a draft.

4.2 Reconstructing terms for rank and leadership in Proto Polynesian society

The archaeologists Kirch and Green (2001) draw on linguistic, archaeological and ethnographic evidence to reconstruct elements of ‘ancestral Polynesian society’. They equate ancestral Polynesian society with the communities that spoke PPn. This equation may seem a straightforward matter but there are problems in determining precisely where and when PPn was spoken. Bearers of the Lapita culture settled Tongatapu, in the south of the Tongan archipelago, at about 2850 BP (Burley et al. 2011). Within a century or so Lapita settlements were established on the islands of western Polynesia to the north of the Tongan group, on Samoa, Niuatoputapu and ‘Uvea and probably Futuna.² The divergence between Tongic and Nuclear Polynesian presumably followed these settlements.

However, it seems that Tongic and Nuclear Pn remained part of a dialect complex and that innovations continued to spread across western Polynesia for many centuries after the initial colonisation. The innovations defining the Polynesian subgroup are so numerous that they indicate a millennium or more of unified development after it diverged from all other Oceanic languages. If so, some elements of the reconstructed PPn language must date to a period before distinct Tongic and Nuclear Pn dialects developed, and others date to a later time. I will refer to the former as ‘early PPn’ and the latter as ‘late PPn’. Late PPn society, being spread over several widely separated island groups in the Tonga-Samoa area, would have shown some regional variation.

4.2.1 Proto Polynesian **qariki* ‘chief’

The linguistic evidence for attributing hereditary chieftainship to PPn society is compelling. Almost every Polynesian language has a reflex of PPn **qariki*, which can be roughly glossed ‘chief, person of chiefly rank’ and in most Polynesian societies chiefly rank is determined by seniority of birth. A number of derived forms based on **qariki* are also attributable to PPn.

Initial **q*, representing a glottal stop /ʔ/, is reconstructed in PPn **qariki* because it is retained in the Tongan, Uvean and Rennellese reflexes. PPn **r* is reconstructed rather than **l* because **r* is regularly lost in the two Tongic languages, while they retain PPn **l* as *l*. PPn **r* and **l* merged as **l* in Proto Nuclear Pn. The fact that reflexes of **qariki* in Tongic and Nuclear Pn have undergone the sound changes characteristic of each subgroup, yielding Proto Tongic **ʔeiki* and Proto Nuclear Pn **ʔaliki*, indicates that the reflexes are inherited from an early stage of PPn, i.e. before Tongic and Nuclear Pn diverged, rather than being later diffusions across the dialect boundary between Tongic and Nuclear Pn.

PPn **qariki* ‘chief, person of chiefly rank’

Tongic

Pn:	Tongan	<i>ʔeiki</i>	‘hereditary chief, man or woman of chiefly rank’; ‘be of chiefly rank’
Pn:	Niue	<i>iki</i>	‘chief, any important person’

² Some have argued that Samoa was permanently inhabited only from about 2500 BP (Rieth and Cochrane 2018).

Nuclear Polynesian languages of western Polynesia plus Pukapukan

Pn:	Samoaan	<i>aliʔi</i>	‘chief, lord, man of noble birth’; ‘high chief as opposed to orator or talking chief’
		<i>aliʔi-taʔi</i>	‘be subordinated, subservient to’
Pn:	E Futunan	<i>aliki</i>	‘hereditary chief, main priest’ (for expected <i>ʔaliki</i>)
		<i>aliki sau</i>	‘paramount chief’ (see §4.2.2.1)
		<i>aliki fenua</i>	‘village chief’
Pn:	E Uvean	<i>ʔaliki</i>	‘chief, noble, lord’
		<i>ʔaliki-ʔaŋa</i>	‘nobility, dignity’
		<i>aliki sau</i>	‘paramount chief’ (see §4.2.2.1)
Pn:	Tokelauan	<i>aliki</i>	‘sacred leader, descendant of founding lineage’
		<i>kāinga aliki</i>	‘chiefly lineage’
Pn:	Tuvaluan	<i>aliki</i>	‘chief’
		<i>ulu-aliki</i>	‘head chief’
		<i>aliki-ŋa</i>	‘chief’s reign’

Outliers

Pn:	Anutan	<i>ariki</i>	‘hereditary chief’
Pn:	Tikopia	<i>ariki</i>	‘chief, clan head; leader’; ‘become a chief’; ‘chiefly’
		<i>ariki fafine</i>	‘Female Chief (title of chief’s eldest daughter)’
Pn:	Rennellese	<i>ʔagiki</i>	‘chief, headman, old gentleman’
		<i>ʔagiki ʔeteaki</i>	‘chief-priest, priest under vigorous taboo during certain rites’
Pn:	Takuu	<i>ariki</i>	‘hereditary chief and traditional religious leader’; ‘captain of a ship or leader of a canoe-based fishing expedition’; ‘function as an <i>ariki</i> ’

Pukapukan and Eastern Polynesian

Pn:	Pukapukan	<i>aliki</i>	‘chief, head of a major paternal descent group, priest by virtue of chiefly rank’
		<i>aliki wolo</i>	‘high chief’
		<i>aliki wui</i>	‘lesser chief’
Pn:	Rapanui	<i>ariki</i>	‘chief, nobility, royal family’; ‘govern, reign, rule’
Pn:	Hawaiian	<i>aliʔi</i>	‘hereditary chief, king, queen, noble’; ‘rule or act as a chief, govern, reign’
Pn:	Maori	<i>ariki</i>	‘first-born male or female in a family of note; chief of a clan (<i>hapuu</i>); priest; leader’
Pn:	Mangarevan	<i>aka-riki</i>	‘hereditary chief of district’
Pn:	Marquesan	<i>haka-ʔiki</i>	‘hereditary chief, leader of a tribe (<i>ma ʔeinaʔa</i>)’
Pn:	Rarotongan	<i>ariki</i>	‘high chief, ruler over a tribe’
		<i>ariki tumu</i>	‘paramount high chief; king’
Pn:	Tahitian	<i>ariʔi</i>	‘head or principal chief of a tribal group’

The PPn term **qariki* evidently served both as a noun ‘chief’ and as head of a derived stative verb **qariki-tia* ‘be occupied by a chief or chiefs, have a chief or chiefs present’. Its derivation is of the type described by Pawley (2001), whereby PPn **-Cia* (where **C* is one of

a number of consonants) forms a stative verb equivalent to an English passive participle: ‘chief-ed’, i.e. ‘be presided over by a chief’ or ‘have a chief present’.

PPn **qariki-tia* ‘be occupied by a chief or chiefs, have a chief or chiefs present’

Pn: Tongan	<i>ʔeiki-sia</i>	‘(of a meeting, society etc) have a chief in it’
Pn: Samoan	<i>aliʔi-tia</i>	‘(of a village or meeting) be occupied by chiefs or distinguished guests, have a chief or chiefs present’
Pn: E Uvean	<i>ʔaliki-tia</i>	‘have a chief’
Pn: Tokelauan	<i>aliki-tia</i>	‘be occupied by chiefs or distinguished visitors’
Pn: Tikopia	<i>ariki-tia</i>	‘have s.o. as a chief’

PPn **faka-* inherited two functions of POc **paka-*. One function was to form a manner adverb, and this gave PPn **faka-qariki* ‘(act) in the manner of a chief’.

PPn **faka-qariki* ‘(act) in the manner of a chief’

Pn: Tongan	<i>faka-ʔei-ʔeiki</i>	‘in a chiefly manner, like or pertaining to a chief’
Pn: E Uvean	<i>faka-ʔaliki</i>	‘in the manner of chiefs, majestic, royal’

The other function was to form a causative transitive verb, giving PPn **faka-qariki* ‘make into a chief’. Note that the E Uvean term is in both sets.

PPn **faka-qariki* ‘make into a chief’

Pn: Niuean	<i>faka-iki</i>	‘treat as a chief’
Pn: E Uvean	<i>faka-ʔaliki</i>	‘make oneself master of, usurp’; ‘in the manner of chiefs, majestic, royal’
Pn: E Futunan	<i>faka-aliki</i>	‘name as chief’; ‘nomination as chief’
	<i>faka-ali-aliki</i>	‘ennoble’
Pn: Rapanui	<i>haka-ariki</i>	‘proclaim as a king’; ‘become king’
Pn: Maori	<i>faka-ariki</i>	‘submit to orders’

4.2.2 Other terms denoting rank or authority

Several other terms associated with rank or authority can be attributed to PPn and in some cases, to PCP.

4.2.2.1 PPn **sau* ‘chiefly authority or rule’; ‘ruler, one who has authority, secular chief’

The range of meanings associated with reflexes of PPn **sau* suggests that it referred to the authority or power of a high chief. The Fijian evidence is consistent with this inference.

PCP/PPn **sau* ‘chiefly authority or rule’; ‘ruler, one who has authority’ (Green 2002; Kirch and Green 2001)

Fij: Bauan	<i>sau</i>	‘high chief’; ‘commandment or prohibition of a high chief’
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		<i>sau ni vū-ni-valu</i>	‘war chief’ (<i>vū-ni-valu</i> ‘title of war chief’)
		<i>vaka-sau-sau</i>	‘behave as a chief’
Fij:	Wayan	<i>sau</i>	‘high chief or paramount chief who has been officially installed’; ‘ruler, one who has authority over the people’; ‘authority or command of a chief over people or events, the power of high rank’
		<i>sau-takini-</i>	‘exert one’s authority or power over s.o.’
		<i>sau ni vanua</i>	‘ruler or chief of a particular people or place (<i>vanua</i>)’
<i>Tongic</i>			
Pn:	Tongan	<i>hau</i>	‘secular chief, as opposed to sacred chief’; ‘champion, victor, conquerer’
<i>Nuclear Polynesian in western Polynesia</i>			
Pn:	E Futunan	<i>sau</i>	‘govern, reign, have supreme power’
		<i>aliki sau</i>	‘carrier of the highest title’
		<i>sau malū</i>	‘peace, time of peace’ (lit. ‘gentle rule’)
Pn:	E Uvean	<i>hau</i>	‘rule, ruler’
<i>Outliers</i>			
Pn:	Tikopia	<i>sau</i>	‘select a man for office by traditional process of grasping him and elevating him as chief’
<i>Eastern Polynesian</i>			
Pn:	Tahitian	<i>hau</i>	‘peace, government’; ‘reign’
Pn:	Tongarevan	<i>hau</i>	‘peace’; ‘be in peace, be settled’; ‘the local government, judges and police’
cf. also:			
Fij:	Rotuman	<i>sau</i>	‘king, kind of sacred chief’; ‘be king’; ‘royal, pertaining to a king’ (possibly a Pn loan)
Pn:	Rennellese	<i>sau</i>	‘divine gifts, abundance of gifts from gods’

4.2.2.2 PPn **lanj*

A PPn term **lanj* having to do with chiefly status is reconstructable. Its precise meaning is uncertain but the broad definition proposed by Green (1994) is consistent with the range of the reflexes.

PPn **lanj* ‘one of sufficiently high rank to be honoured or treated as one in authority’ (Green 1994)

Tongic

Pn:	Tongan	<i>lanj</i>	‘royal tomb, raised and terraced burial place of sovereigns’
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Nuclear Polynesian in western Polynesia

Pn:	Samoaan	<i>faʔa-lanj</i>	‘address or refer to s.o. by his ceremonial title’
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Eastern Polynesian

Pn:	Hawaiian	<i>lani</i>	‘noble, royal, exalted’; ‘high-born aristocrat, very high chief’
		<i>lani aliʻi</i>	‘royal chief’
		<i>hoʻo-lani</i>	‘treat s.o.as a chief’
Pn:	Maori	<i>raji</i>	‘chief, generally as a term of respectful address: sir’
Pn:	Rarotongan	<i>raji</i>	‘supreme in authority, highest authority, power’

4.2.2.3 PMP **datu*, Samoan *lātū*, Fijian *rātū*: an accidental resemblance?

Many Malayo-Polynesian languages of the Philippines, Indonesia and Malaysia reflect a PMP form **datu*. Its reflexes have widely varying glosses, including ‘chief’, ‘headman’, ‘leader’, ‘lineage priest’, ‘head of family’, ‘grandparent’, ‘prince’, ‘king’, ‘title given to a sovereign’, ‘term of respect to any man of standing’, ‘shaman’, ‘ancestor in the female line’ (ACD). It is tempting to see a connection to Samoan *lātū* ‘person in charge of an undertaking’ (Milner 1966); ‘head builder’ (Pratt 1911) and to Fijian *rātū* ‘honorific particle and title of rank before names of males’ (Capell 1941). However, the resemblance may be accidental. No possible cognates have been reported from any non-Central Pacific Oceanic language. The Central Pacific forms have two long vowels, which suggests that they originally consisted of two morphemes. Furthermore, Geraghty (pers. comm.) advises that the use of Fijian *rātū* as an honorific before names of men of rank is an innovation of the colonial era. Its older use was as a prefix to a chiefly title in certain regions of Fiji.

4.2.2.4 PPn **fatu kāiŋa* ‘? head of family’

Kirch and Green (2001:232-236) reconstruct PPn **fatu kāiŋa* which they tentatively gloss ‘leader of the *kāiŋa*’ [a land-holding residential group, local kin group]. They acknowledge that reflexes of **fatu* have a diverse range of meanings in daughter languages, which makes semantic reconstruction uncertain. The range includes: (1) ‘head of family’, (2) low-ranked chief’, (3) ‘master, owner of an estate or resources’, (4) ‘person of mature age, elder’. Reflexes of the compound **fatu kāiŋa* sometimes mean ‘senior person or carer in a family, one who oversees use of resources such as food’, sometimes ‘land owner’ or ‘overseer’ and in one case, ‘be a married person’.

PPn **fatu*, **fatu kāiŋa* ‘leader of the **kāiŋa*’ (Kirch and Green 2001)

Tongic

Pn:	Tongan	<i>fatu tanata</i>	‘middle-aged man’
		<i>fatu fafine</i>	‘middle-aged woman’
Pn:	Niuean	<i>patu</i>	‘a lowly ranked chief (not an <i>iki</i>) and head of a family group’ (<i>p</i> for † <i>f</i>)

Nuclear Polynesian in western Polynesia

Pn:	E Futunan	<i>fatu tanata</i>	‘man who has arrived at a mature age’
Pn:	Tokelauan	<i>fatu kāiŋa</i>	‘the obligation of caring for one’s family (<i>kāiŋa</i>) in the traditional way (of both men and women)’

Pn:	Tuvaluan	<i>fatu kāiŋa</i>	‘be a married person’
<i>Outliers</i>			
Pn:	Tuvaluan	<i>fito-ariki</i>	‘chiefs (collective)’ (unexpected <i>i</i> and <i>o</i> for † <i>a</i> and † <i>u</i>)
Pn:	Nukuoro	<i>foto-oliki</i>	‘chief of island’
<i>Eastern Polynesian</i>			
Pn:	Hawaiian	<i>haku</i>	‘lord, master, overseer, owner’
		<i>haku ŋāina</i>	‘land owner or overseer’
		<i>haku hale</i>	‘landlord, house owner, host, hostess’
Pn:	Mangarevan	<i>ŋatu Motua</i>	‘name of a founding ancestor’
Pn:	Marquesan	<i>hatu</i>	‘master, owner of an animal’
Pn:	Tahitian	<i>fatu</i>	‘lord, master, owner’
Pn:	Tongarevan	<i>hatu</i>	‘lead a work’; ‘lord, owner’
		<i>hatu henua</i>	‘land owner’
Pn:	Rarotongan	<i>ŋatū</i>	‘lord, master, owner, landlord’
Pn:	Rapanui	<i>Hotu Matuŋa</i>	‘primary founding ancestor of Rapanui’

4.2.2.5 **tuqi* ‘ceremonial title of the paramount chief of a region’

It is tempting to propose a reconstruction PCP, PPn **tuqi* ‘ceremonial title of the paramount chief of a region’, occurring before the name of the region. This term has reflexes in Tongan, Futunan, Uvean (all *tuʔi*), Samoan, Niuean and the Fijian languages (all *tui*). However, it is not reflected in Eastern Polynesian or Outlier languages and it is likely that it spread relatively recently, i.e. in post-PPn times, across western Polynesia and Fiji.

4.2.2.6 Chief of what?

If ancestral Polynesian society had descent groups what were they called?

In several Micronesian languages reflexes of the term **kainan̄a* denote a clan or sib, i.e. a unilineal descent group:

Trukese	<i>kairan̄</i>	‘matrilineal sib’
Puluwat	<i>yayinan̄</i>	‘clan’
Woleaian	<i>xairan̄</i>	‘clan, tribe’

A cognate term occurs widely in Polynesian with a range of meanings. The most extensive discussion of the semantic history of this term is Marck (2010). In Tikopia and Anuta it refers to a non-exogamous patrilineal descent group consisting of several exogamous lineages, and in Pukapukan it denotes a matrilineal sublineage. This close formal and semantic agreement with the Micronesian cognates supports attributing **kainan̄a* ‘unilineal descent group’ both to PPn and to the stage of Oceanic ancestral to PPn and Micronesian.

However, in several Polynesian languages (Tongan, E Uvean, Rennellese, Hawaiian, Marquesan and Manihiki) the reflex of **kainan̄a* refers not to a unilineal descent group but rather to the subjects of a chief, the common people. Marck (2010:617) argues that PPn developed over a long period of time across the islands of western Polynesia and that PPn society and language showed regional variation. He attributes the sense ‘clan, unilineal descent group’ to an early stage of PPn. This was retained in a few Nuclear Pn daughter languages, but

in some PPn communities unilineal descent groups were replaced by cognatic descent groups, in which membership could be claimed through either a male or female ancestor, and **kainaja* was used to refer to these groups. In late PPn times **kainaja* came to have an additional sense, as a collective term for the populace, the common people of a place, headed by a chief.

PPn **kainaja* (1) ‘clan, unilineal descent group’; (2) ‘cognatic descent group’; (3) ‘populace, commoners’ (Marck 2010)

Tongic

Pn: Tongan *kainaja* ‘populace, people without chiefly rank’

Nuclear Polynesian in western Polynesia and Pukapukan

Pn: E Uvean *kainaja* ‘people not of chiefly rank’

Pn: Pukapukan *keinaja* ‘maternal sub-lineage, headed by its oldest member’

Outliers

Pn: Tikopia *kainaja* ‘clan, a non-exogamous descent group consisting of several exogamous lineages’

Pn: Emae *na-kainaja* ‘titled person subordinate to a given person’

Pn: Rennellese *kainaja* ‘subject of a chief’

Eastern Polynesian

Pn: Hawaiian *maka-ʻāinana* ‘commoner, populace, people in general’

Pn: Manihiki *mata-keinaja* ‘common people, tribe’

Pn: Mangarevan *mata-kainaja* ‘assembly, congregation’

Pn: Rarotongan *mata-keinaja* ‘a tribe, people of a district, headed by an *ariki*’

4.2.2.7 Commoners

Most Polynesian languages have a term or terms for a commoner, a person who is not of chiefly lineage. The literal meanings of such terms fall into three main classes: (1) derogatory terms, e.g. ‘worthless person’ or ‘person of low degree’, (2) those that refer to ordinary people, the populace, people of the land, (3) those that refer to a person of a junior lineage. Although on distributional grounds it seems likely that PPn had one or more terms denoting a person of low rank, no well-supported PPn reconstructions can be made from these comparisons. The partial agreement between Tongan *kai fonua*, E Uvean *kai fenua*, and Samoan *tū-fanua* and *tau-fanua* points to a PPn compound **N + fanua* referring to commoners, where *N* is a noun denoting person or people.

Tongic

Pn: Tongan *tuʻa* ‘commoner, person without chiefly rank’; ‘be common, not of chiefly rank’; ‘(of a chief’s relative) be of lower lineage’

Pn: Niuean *kai fonua* ‘commoner’ (lit. ‘person of the land’)

Pn: Niuean *tanata fakateaja* ‘commoner’ (lit. ‘careless person’)

Nuclear Polynesian in western Polynesia

Pn:	E Futunan	<i>seka</i>	‘commoner, untitled person, of low birth’
Pn:	E Uvean	<i>kai-fenua</i>	‘commoner, peasant’ (lit. ‘person of the land’)
Pn:	Samoan	<i>tū-fanua</i>	‘person of lower rank, commoner’ (<i>fanua</i> ‘land’)
		<i>tau-fanua</i>	(1) ‘commoner’, (2) ‘owner of land’
		<i>taŋata lautele</i>	‘commoner’ (<i>lautele</i> ‘common, ordinary’)

Outliers

Pn:	Nukuoro	<i>ŋati taŋata</i>	‘ordinary person, commoner, one of slight social value’ (<i>ŋati</i> ‘worthless, empty, useless’)
Pn:	Takuu	<i>tanata vare</i>	‘commoner’ (<i>vare</i> ‘ordinary, not special’)
Pn:	Tikopia	<i>faka arofa</i>	‘commoner, person not of chiefly class’ (lit. ‘calling forth benevolence, sympathy’)
Pn:	Rennellese	<i>taŋani pengea</i>	‘commoner’ (lit. ‘useless person’)

Eastern Polynesian

Pn:	Maori	<i>tūtūā</i>	‘mean, low-born’; ‘person of low degree’
		<i>marahaea</i>	‘commoner’; ‘be of low degree’

4.3 Variation in systems of rank and leadership in Polynesia

The brief glosses given to reflexes of **qariki* in dictionaries of Polynesian languages do not provide satisfactory descriptions of the role of chiefs in Polynesian societies. For more detailed information we must look to ethnographic accounts.

Various types of political systems were found in Polynesia at first European contact. There is an extensive anthropological literature on the evolution of these types. Most such works before about 1980 rely on a comparative typological method, based on the geographic distribution and frequency of types and the logic of transformations between types. Important studies relying chiefly on comparative typology include Williamson (1924), Burrows (1938), Sahlins (1957, 1958, 1963), Koskinen (1960) and Goldman (1957, 1970).

Most of the above-mentioned works take little account of the comparative method used in historical linguistics to reconstruct the sound system and lexicon of the common ancestor of a family of related languages and to construct a family tree (or subgrouping) for the family. However, in recent decades a number of studies have drawn on evidence from historical linguistics to support hypotheses about the history of Polynesian political systems. Among these are monographs by Kirch (1984) and Kirch and Green (2001) and papers by Pawley (1982), Kirch and Green (1987), Hage (1999a,b) and Marck (2010).

Goldman (1970), a 600-page work comparing 18 Polynesian societies, distinguishes three main types of political systems in Polynesia which he calls ‘traditional’, ‘open’ and ‘stratified’.

- In the traditional type, status dominates, based on seniority of descent and the sanctity of chiefs. Descent groups are headed by the first-born male and are in turn ranked by seniority of birth (the ‘conical clan’ system). However, chiefs have quite limited political authority over their descent group. Effective polities are small.
- In open systems political power is dominant. In succession to chiefly titles, seniority of birth is secondary to military and political effectiveness.

- In stratified societies inherited status and political power are both more consequential than in traditional systems. High ranking people hold political power and possess the land titles. Commoners are landless subjects.

4.3.1 Societies with 'traditional' political systems

In Goldman's sample the traditional type of political system is represented by Tikopia, New Zealand Maori, Futuna, Uvea, Tongareva, Manihiki-Rakahanga and Pukapuka. Notes on Tikopia and New Zealand Maori follow.

4.3.1.1 Tikopia

Tikopia is a small high island (4.6 km²) with very limited arable land. Its population of around 1250 at first European contact tested to the limit the carrying capacity of the environment. Nevertheless, as described by Firth (1936), it exemplifies perfectly the essential characteristics of conical clan societies. Tikopia's population was divided into four ramified patrilineal descent groups or clans (*kainaja*), each headed by a senior chief. The four clans themselves were ranked from senior to junior. Clans divide into *paito* 'ramages' (lit. 'houses') consisting of related families tracing descent from a common ancestor a few generations back. There are chiefly families (*paito ariki*) and commoner families (*paito fakaarofa*). These are ranked according to traditional ritual privileges and obligations associated with the beliefs in the gods. Commoner families divide into families that have a ritual leader as head (*paito pure*) and families that have no significant ritual privileges. Firth (1936:313) observes that

differences in the ordinary social position of chiefly and commoner families are not great. They all own lands, they mingle freely, exchanges take place between them on a basis of general reciprocity, there is no "chief's language", as in Samoa or Java, kinship terms are used between them, and nowadays intermarriage takes place freely between their members.

Deep genealogies were kept by chiefly lineages. As the genealogically senior man in a descent group, a chief had sacred powers deriving from his *mana* (mystical power to make things happen) and responsibilities to his people. He communed with the gods on behalf of his kin, for example, to ensure economic prosperity. The chief had the ability to control a ritual circulation of goods. He is the initiator of the grand cycle and is responsible for keeping in motion the distribution and redistribution of food. He was the giver of feasts on his own account and the sponsor of all *kainaja*-wide and island-wide rituals, which also involve energetic consumption. All who gave to him were honoured by being literally drawn into the lines of connection that run between chiefs and gods. For the most part, the chief's bounty was directly in the interests of his community, for ritual, and for public works.

4.3.1.2 New Zealand Maori

Despite great differences in geographic context, Maori and Tikopia societies resemble each other quite closely in their systems of rank and leadership. Maori tribes

are classic examples of aristocratic organisations in which the basic principles of primogeniture, seniority of descent, graded rank, sanctity of chiefs, and the sanctity of the male line are well established but which show none of the specialised features –

achieved chiefly position, sharp social stratification, and political centralisation – of the Open and Stratified societies (Goldman 1970:30).

Chiefly status was hereditary. Descent groups were ranked by seniority of birth of the founding ancestor. The first-born son of the senior clan outranked lesser chiefs, who came from junior lines. Deep genealogies were kept by chiefly lineages. As the genealogically most senior man in a descent group a chief had sacred powers deriving from his *mana* and responsibilities to his people. However, a lesser chief from a junior line could extend political power beyond his own clan and add to his *mana* by demonstrating leadership in secular domains, such as warfare, diplomacy and organisation, which gave him prestige beyond his own lineage.

4.3.2 Stratified societies

A very few Polynesian societies, most notably those of Hawaii, Tonga and the Society Is., had at the start of the colonial era a feudal system in which a chiefly class ruled over a class of commoners. Land was held by the chiefs, with commoners as tenants. Marriage between nobles and commoners was proscribed. This extreme degree of stratification most likely developed independently in each of these societies and reached its zenith at the beginning of the colonial era. We will consider the Tongan case.

4.3.2.1 Tonga

With a land area of only 696 km², the Tongan group is much smaller in geographical extent and poorer in natural resources than the Hawaiian (16,600 km²) and Society (1535 km²) groups. It contains one relatively large island, Tongatapu, with its satellites in the south, and two clusters of smaller islands in the north, the Ha'apai and Vava'u groups. Nevertheless, Tonga at first contact was densely populated (estimated 40,000) and had developed a highly stratified, feudal society in which all the land was owned by an aristocracy ruling a commoner class of landless tenants, who served as the chief's labour force and provided warriors in times of war.

Tongan aristocracy combined ranking by seniority of birth in the male line, with a pattern of bilateral ranking based on superiority of sisters and sisters' sons to brothers and brothers' sons. The first factor established rank, the second shaped deference and respect.

Chiefly lineages had a classical Polynesian conical clan organisation: major lineages branched into lower-order segments, with succession to titles in the higher-order lineages strictly patrilineal. The supreme chief was semi-divine and sometimes referred to as a god. Adherence to primogeniture was strongest in the highest-ranking lineages. Junior chiefs from outside the leading families could compete to succeed to a title.

In theory, all chiefs were related by descent from an original supreme chief, the Tuʻi Tonga. However, Gifford (1929) could not find genealogies outside the royal line going back beyond about AD 1600. The archipelago was politically unstable between 1600 and 1800, with frequent assassinations of paramount chiefs. Oral history records that Tonga was seldom under a single chief. Rather, a number of high chiefs ruled separate domains. The secular authority of the Tuʻi Tonga was limited to his home island, Tongatapu. Outlying islands owed him first fruits but not political tribute.

ʔeiki is a broader category of chiefly rank below *tuʔi*. It was extended by courtesy to all kin of a chief. A distinction was made between high chiefs (*ʔeiki motu*, *ʔeiki taupoto* or *ʔeiki toho*) and petty chiefs (*ʔeiki siʔi*).

Chiefs made large ceremonial displays of food, the burden of supply falling on the tenants who served as the labour force. Under the Tuʔi Tonga were four high chiefs who served as ministers with ritual duties. *Matāpule* were ceremonial attendants of chiefs, the highest-ranking *matāpule* being himself a chief with authority over lower-ranking *matāpule*.

The Tuʔi Tonga was too sacred to fight. A cadre of professional warriors (*toa*) drawn from *matāpule* families were part of the royal court. High chiefs were not priests. Priests performed minor duties at shrines and served offerings to the gods. Their standing depended on rank of the lineage and its gods.

4.3.3 Open societies

As examples of open societies Goldman cites Samoa, Niue, Marquesas, Mangaia and Rapanui. Although he places Futuna in the traditional category it shows some features of his open class and I include it here. Notes on Samoa and Futuna follow.

4.3.3.1 Samoa

Samoa society lacked ramified descent groups. The core kinship unit was the *ʔāiŋa*, an indefinitely extended bilateral kindred with branches representing hierarchically ranked segments. Every extended family was headed by one or more high chiefs (*aliʔi paʔia*). Each high chief was paired with a junior chief, *tulāfale*, who served as orator ('talking chief') and came from the female line. There was some recognition of primogeniture and descent lines and patrilineal succession but primogeniture played a weak role in the assignment of chiefly titles. The highest ranked titles were transmitted through the male line (*tama tāne*). The female line (*tama fafine*) had the power to curse, through the father's sister.

Administrative powers in a village were held by the *fono*, village council of chiefs. The transmission of high ranked chiefly titles was under the jurisdiction of the *fono*. The chiefly title of *tāupōu* 'village maiden' was held by a high-ranking female who had charge of the *aualuma* 'association of unmarried women of a village, with various formal duties'. The Great Fono was a conceptual body, which never met, representing all of Samoa.

The title of *tui*, followed by the name of a district, was given to the paramount chief of that district. In pre-European Samoa ten districts were recognised. Before the Tongan invasion (possibly ca AD 1200) the Tui Manuʔa title held the highest rank in Samoa. The person and belongings of the Tui Manuʔa were sacred and dangerous, but political and economic authority was lodged in local autonomous districts. In the early 19th century a chief of the Malietoa family had conquered the whole of Samoa but his power was limited to rank and title, not extending to economic control.

The wealth of chiefs was measured in terms of valuable goods, especially *ʔie toŋa* 'fine mats', *siapo* 'bark-cloth', and *ʔoloa* 'valuable goods'. Samoa, with its three large islands, had extensive areas of fertile land, allowing production of a food surplus. The distribution of food in feasts accented the social position of chiefs.

The patron-craftsman relationship stood outside the traditional system of genealogical rank. Craftsmen held the title of *tufuŋa*. The highest status crafts were those of canoe builder, carpenter and tattooer. Craft titles were transmitted in descent lines.

Chiefs were priests, *taula*. Some priests were concerned with family gods, higher order priests with great gods.

4.3.3.2 Futuna

The Futuna or Hoorn group consists of two islands, Futuna and Alofi, that in early colonial times supported a population of 3000-4000, most living on the larger island, Futuna. Land shortage was a pressing problem often leading to war.

There are three levels of rank: *aliki sau* 'high chiefs', *aliki* 'sub-chiefs' and *seka* 'commoners, including untitled members of chiefly lineages'. By colonial times the main island was divided into two districts each with its own *aliki sau*. Each clan in turn divides into a number of ramage (*kutuŋa*), each having its own chief (*aliki* or *launiu*), with the paramount chief being from the highest ranked ramage. The landholding groups are *kāiŋa*, a term that refers to both the group of landowners and to the segment of land they own.

Seniority of birth was important but not the major factor in qualification for chiefly office. Chiefs came from important families but were selected on the basis of their accomplishments. Distinguished warriors (given the title of *toa*) were potential chiefs and sometimes usurped royalty.

Chiefs were expected to move freely among their people and to work in the gardens and as craftsmen. Commoners owed their chiefs respect but not servility. But chiefs were set apart in various ways. They were spokesmen for the ancestral gods. They were the instigators and organisers of war. Certain foods – turtles and certain birds and fish – were reserved for them. The *fasu* institution (special rights given to sister's children) was restricted to chiefs in earlier times. They had highest status in the kava circle. A village council (*fono*) dealt with mundane village affairs, chiefs with more elevated matters, such as warfare, and the imposing and lifting of *tapu*. Symbols of rank were important. There is an honorific vocabulary, used in addressing chiefs.

4.4 Issues with 'ancestral Polynesian society'

Kirch (1984) and Kirch and Green (1987) conclude that ancestral Polynesian society had chiefdoms corresponding to the 'traditional' type, exemplified by Tikopia and New Zealand Maori, and that those Polynesian societies with very high or very low levels of stratification represent later developments. In this respect they are in accord with some previous commentators on the evolution of Polynesian societies, such as Sahlins (1957, 1963), Koskinen (1960) and Goldman (1970).

Following Sahlins, Kirch and Green argue that the organisational basis of ancestral Polynesian society was the conical clan, a group claiming descent from a common ancestor, ranked and segmented along genealogical lines. Descent groups of this kind are typically associated with terms for same-sex siblings distinguished by seniority of birth (PPn **tuqakana* 'older sibling of same sex', **tahina* 'younger sibling of same sex'; see §3.5.1.5.1–2). Kirch and Green (2001:231) define PPn **qariki* as 'the senior male, titled leader of a social group,

probably the **kaināŋa*, who typically inherited his position patrilineally within the senior ranked line of this group, and who acted as the group's secular as well as ritual leader.'

By virtue of their inherited rank **qariki* had *mana* 'supernatural efficacy, the power to make things happen' and were *tapu* 'sacred, set apart by taboos'. A chief had important sacred duties to perform relating to the well-being of his subjects, such as ensuring success in growing crops and in communal fishing activities.

Kirch and Green (2001:231) propose that their extended definition of the roles of a priest-chief in ancestral Polynesian society allows one to trace, in some detail, transformations that have occurred in particular societies after the breakup of the PPn speech community. In more conservative societies, chiefs retained both their secular and sacred roles and continued to be associated with descent groups. In many Polynesian societies, however, a functional separation between sacred and secular roles developed. This was particularly so in Eastern Polynesia, corresponding to the widespread importance of a priestly class. Yet another kind of transformation accompanied the breakdown of the ancient **kaināŋa*-type social groups and their replacement with strictly territorial groupings, in which chiefs became the owners of such land units: Hawaii and Tonga both exemplify this kind of change.

Dye (1987) is sceptical of Kirch and Green's (1987) definition of the role of PPn **qariki*, remarking that their reconstruction "is modeled on the rights, duties, and modes of succession associated with chiefs of contact-era societies in possession of full land situations" (Dye 1987:445-446). He doubts whether these institutions could have existed in the pioneering phase of settlement, when a founding community of fewer than 100 people occupied an island covered with virgin forest.

However, PPn was not the language of a small first-generation, founding population but of communities which had lived in western Polynesia for many centuries, during which time the innovations defining the Polynesian subgroup developed and spread across this region. The initial colonisation of the different islands in the Polynesian Triangle and of the Outliers must have involved many cases where a small founding population settled uninhabited islands, and it is striking that similar beliefs and practices associated with chieftainship survived these foundation events. That indicates that the founding populations carried the ideology with them.

4.5 Rank and leadership in Proto Oceanic society

We turn now to a consideration of rank and leadership in Proto Oceanic society. Reconstruction of the lexicon of POc is less straightforward than is the case for PPn. An etymon can be attributed to POc if it is reflected in (a) at least two first order subgroups of Oceanic or (b) in an Oceanic language and a non-Oceanic Austronesian language.

A problem is that the first-order subgrouping of Oceanic is not clear-cut (see Figure 1.2). There are several candidates for first-order subgroups in western Melanesia: the Admiralties, Mussau and Western Oceanic, and several in southeast Melanesia and the central Pacific: Southeast Solomonic, Temotu, Micronesian, Vanuatu, New Caledonia-Loyalties, and Central Pacific. To meet criterion (a) a conservative procedure is to require that an etymon be reflected in at least one subgroup in NW Melanesia and one outside NW Melanesia.

4.5.1 Political systems in Oceanic-speaking societies of Melanesia

In an influential and controversial paper Sahlins (1963) sought to explain the larger size of polities found in certain Polynesian societies, running into the thousands, compared with the smaller scale polities, ranging from 70 to 300 people, characteristic of many societies in NW Melanesia. Central to his explanation are differences in the nature of rank and leadership.

The Polynesian advance in political scale was supported by an advance over Melanesia in political structure [...] The characteristic western Melanesian “tribe”, that is, the ethnic-cultural entity, consists of many autonomous kinship-residential groups. Amounting on the ground to a small village or a local cluster of hamlets, each of these is a copy of the others in political status. The tribal plan is one of politically unintegrated segments – segmental. But the political geometry in Polynesia is pyramidal [...] Smaller units are integrated onto large through a system of intergroup ranking, and the network of representative chiefs of the subdivisions amounts to a coordinating political structure. So instead of the Melanesian scheme of small, separate and equal political blocks, the Polynesian polity is an extensive pyramid of groups capped by the family and following of a paramount chief (Sahlins 1963:287).

Commentators have pointed out that a simple Melanesian/Polynesian dichotomy in systems of rank and leadership is not justified (Chowning 1979; Douglas 1979; Hage 1999b; Sand 2002). Forms of hereditary leadership based on rank are found in various Oceanic-speaking communities of Papua New Guinea, e.g. in the Admiralty Islands (Mead 1934; Otto 1994), in Wogeo in East Sepik Province (Hogbin 1970), in Manam in Madang Province (Wedgwood 1934), in Mekeo (Hau’ofa 1981), Motu (Seligman 1910) and Roro (Seligman 1910) in Central Province, in the Trobriand Is. in Milne Bay Province (Malinowski 1922), in Hahon in Bougainville (Blackwood 1935), and parts of the Solomon Is., e.g. Arosi (Fox 1924), Baegu (Ross 1973) and Sa’a (Ivens 1927), in various societies in Vanuatu (Facey 1981), and New Caledonia (Douglas 1979; Guiart 1963) and throughout Fiji, as well as in most societies in Micronesia (Shimizu 1987).

Sahlins (1963:286) acknowledges that “in eastern Melanesia, New Caledonia and Fiji for example, political approximations of the Polynesian condition became common” but he finds that political structures showing an extensive pyramid of genealogically ranked groups are characteristically Polynesian. Extensive regional trading systems linking scores of local communities have developed in various parts of western Melanesia, but these produced “at best, an ephemeral sort of political association” (Harding 1970:111).

There follow notes on a small selection of Oceanic-speaking societies of Melanesia that have a form of hereditary chieftainship.

4.5.1.1 New Caledonia

Douglas (1979:16-18) describes traditional New Caledonian socio-political organisation as follows:

[It] centred on localized, patrilineal and patri-virilocal clans, and on tribes, aggregates of clans paying allegiance to the chief of one of their number [...] clan members claimed common descent and owed allegiance to a hereditary chief, in theory the genealogically senior man of the senior lineage; a tribe was regarded as a group of related clans with a common founding ancestor, which paid allegiance to the senior male member of the senior lineage of the original clan. The chief was a clan’s ‘great (first-born) son’ [...]

Neither the ideology of common descent nor that of chiefly seniority was necessarily borne out in practice, however [...] Both clans and tribes commonly absorbed unrelated individuals and groups, and rationalized the process in kinship terms. Ideology was thus satisfied, but common residence was in practice a key factor in group cohesion. A newcomer was sometimes installed as chief by earlier inhabitants who nonetheless continued to exercise covert authority through their control of land [...]

A clan or tribal chief [...] enjoyed many prerogatives and possessed authority because of his role as intermediary between the group and its ancestral spirits [...]

The chief was neither the sole office holder nor the only decision maker. He shared authority with such dignitaries as the war chief, master of the soil, priests and powerful sorcerers, who with respected elders formed an advisory council which assisted the chief to reach the consensus on which group action was usually based [...]

The sanctity of New Caledonian chiefs and the deference to which they were entitled rested on their implied genealogical connexions with deified ancestors.

Douglas comments that in degree of political stratification New Caledonian leadership resembles 'mid-range' Polynesian societies (corresponding to Goldman's 'traditional' type) such as Maori, though the descent ideology was probably more flexible than in the Maori case.

4.5.1.2 Mekeo (Central Province, Papua New Guinea)

Seligman (1910) and Hau'ofa (1981) describe Mekeo society in the early colonial period, when tribal warfare was still ongoing. Key institutions were the hereditary offices of the high chief or civilian chief (*lopia faʔa*) and the war chief (*iso lopia*, more commonly simply *iso*), the official sorcerers (*uŋauŋa*) and the war magicians (*faiʔa*). A village is made up of agnatically related subclans, ranked in order of seniority of descent from older vs younger brothers.

Each subclan should have both a civilian chief and a war chief, representing a fundamental division of authority between the civilian and military spheres in Mekeo society. High chiefs do not take an active part in warfare but are regarded as men of peace whose authority rests on their control of sorcerers, and so of life and death. War chiefs are dangerous men of anger and violence valued for their military prowess. High chiefs are ceremonially installed. Hau'ofa (1981:185) observes that in a large subclan the civilian chieftainship is divided between the *lopia faʔa* and a junior chief (*lopia eke*). The junior chief performs certain ritual duties on behalf of the high chief in the *ufuapie* ceremonial feasts.

When large clans segment the junior branch is headed by a junior chief. Once a particular chieftainship is established, be it senior or junior, succession to the office becomes hereditary from father to son, with the qualification that only a successful warrior can succeed to a war chieftainship. The father sometimes chooses a junior son or an adopted son to succeed him but only if the eldest son is not suitable.

Chiefs' houses differ from those of other villagers in that they are built parallel to the central ground and have special roof designs. Chiefs were not wealthy but derived their prestige and authority from their rank, personality, numerical strength of their group and command of certain kinds of magic.

Mekeo believe that powers of sorcery (*uŋauŋa*)

were given personally by the deity, A'aisa, to certain men who founded some of their present-day sorcery families. They believe that when A'aisa created their political organization by an edict he appointed two kinds of hereditary leaders, the military and the civilian. For the civilian leadership he appointed some men as chiefs and others to

enforce the authority of the chiefs. Sorcery lineages which have risen from these appointments are the most prestigious in the land. (Hau'ofa 1981:230)

Hereditary leaders, particularly sorcerers, usually acquire one or more kinds of non-sorcery magic which they incorporate in their arsenal of powers. These enhance their prestige and at the same time allow them additional sources of wealth.

4.5.1.3 Baluan (Admiralty Is., Papua New Guinea)

Baluan, a society of the Admiralty Is., is described by Otto (1994) as thoroughly hierarchical.

Ascribed hierarchy was without a doubt a pervasive trait of Baluan society at the end of the nineteenth century. It was expressed in various ways: birth-order name, kinship terminology, a system of dual rank, ranked titles for leaders, and material signs of distinction (Otto 1994:224)

Hierarchy was not based on ascription or achievement alone, but on a specific articulation of these two principles [...] The relative ranking of leaders of high rank was determined by their success in warfare and feast-giving. The status of a *lapan* [chiefly] lineage would be eroded by inadequate performance, although they could continue claiming the title for several generations. The *lapan* stories show clearly that *lapan* status could also be appropriated through violence [...]” (Otto 1994:232)

4.5.1.4 Manam (Schouten Islands, off north coast of Papua New Guinea)

Wedgwood (1934) reports that in Manam society descent is patrilineal, residence is patrilocal and leadership is hereditary, based on primogeniture. There are two named social groups, the aristocracy (*tanepoa* or *tanepwa*) and the commoners (*gadagada*). Membership in these groups is based on birth. The village chief, *tanepoa labalaba*, literally ‘big chief’, is the “senior male descendant in the male line of the original founder of the village” (Wedgwood 1934:383). The chief’s sons and younger brothers are called *tanepoa si?isi?i*, literally ‘little chief’. There is a strong preference for marriage between chiefly families. Lutkehaus (1990) states that *tanepoa* were believed to inherit from their ancestors special *marou*, a form of supernatural power or mana, with both benign and malign aspects. “Its benign form was manifested in a *tanepwa*’s ability to produce abundant taro in his gardens, to protect his village against illness and strife, to promote his village’s reputation through the organization of large and munificent pig-exchange celebrations” (Lutkehaus 1990:300) and through success in amassing valuables from mainland trading partners. The dark side of *marou* was its association with sorcery, which a chief was able to control.

4.5.1.5 Sa’a (Malaita, Solomon Is.)

The Sa’a occupy the island of Small Malaita in the Southeast Solomons. Their society around the end of the 19th century is described by Codrington (1891) and Ivens (1927). They made a sharp distinction between chiefs (*alaha*) and commoners (*apoloa*). Descent is patrilineal. Chieftainship is hereditary. The reciting of genealogies is practised. Ivens recorded one genealogy going back 39 generations. Sons can be adopted to ensure succession. Codrington (1991:50) writes that

[T]he chief's power at Sa'a comes from his birth and personal qualities, not from his intimacy with supernatural beings and his magical knowledge, [although] he may well have these [...] He inherits wealth from his father, and adds to it by the fines he imposes and by the gifts of his people, but no wealth or success in war could make a man a chief at Sa'a if not born of the chief's family.

Chiefs lived in more substantial buildings than commoners. The *toohi* 'chief's lodge' is the reception house for all visitors of importance.

Chiefs were not allowed to go into battle. Their main social function was the provision of feasts. The *malaohu* (initiation of boys into bonito fishing) system was also under their control. The head wife of a chief is chosen from among the girls of neighbouring places who themselves are *alaha*. His other wives may be *apoloa*. If the head wife has no male heir, a son of one of the other wives succeeds to the chieftainship.

The persons of chiefs were sacred to the extent that anyone who cursed them or the marks of their chiefly position, their gongs or official houses, was marked down for death. The relics of deceased chiefs, their skulls, were held in especial reverence. The common people paid honour to both chief and priest; the one was the glory of the place and the other served ghosts who either had been chiefs themselves or were connected with chiefs through the bonito fishing. It was customary for the commoner to make offerings of garden produce to the chief and of cooked food to the priest; and no return was made or expected. Chief and priest were exempted from the obligation to make a return for gifts received which always held in the case of commoners.

4.5.2 Distributional and other arguments for attributing hereditary chieftainship to Proto Oceanic society

Hereditary chieftainship is found in societies speaking languages belonging to almost every major subgroup of Oceanic. By contrast, as far as I am aware, none of the more than 700 non-Austronesian language communities of Melanesia have hereditary chiefs. This is a strong distributional argument in favour of attributing hereditary chieftainship to POc society. It is highly unlikely that such an institution would have arisen independently in many different Oceanic societies.

Furthermore, as Hage (1999a,b) points out, POc kinship terminology makes it probable that POc society had unilineal descent groups based on seniority of birth. Milke's (1958) reconstruction of POc kin terms is diagnostic of a unilineal system, distinguishing as it does between terms for father's brother (**tama*) and mother's brother (probably **matuqa*), and between terms for mother's sister (**tina*) and father's sister (**aia* or **aya*), a pattern which cross-culturally strongly equates with unilineal descent groups (85% correlation in Murdock's worldwide survey; Murdock 1947, 1967). There is a widespread association between such a terminology and descent group organisation and exogamy, such that a parent's opposite-sex siblings will always be in a different descent group from their same-sex siblings (see §3.2.3).

The highly marked status of the seniority distinction in terms for siblings of the same sex in Oceanic societies also implies the existence in POc society of a conical clan system

in which all individuals and all descent lines theoretically have unique ranks. This ranking is generated by a rule of [...] primogeniture in the Oceanic case, which distinguishes elder siblings from younger siblings [...] and descendants of elder and younger siblings [...] Primogeniture is reflected in the seniority distinction in [Proto

Oceanic] sibling terminology and more emphatically in the marked status of the term for elder (parallel) sibling. In a number of [Oceanic] terminologies, e.g. Fijian, the term for younger (parallel) sibling can be used generically to mean sibling irrespective of age (or sex) while the term for elder (parallel) sibling can only have this specific meaning, reflecting the special, elevated position of this relation [...] Titles are passed down the senior lines, and members of more senior lines form an upper, chiefly class while members of more junior lines form a lower, commoner class, for example, *'eiki* [...] and *tua* as in Tonga, *iroij* and *kajur* as in the Marshall Islands, and *lapan* and *lau* as in the Admiralties.”(Hage 1999a:208)

A further argument, mentioned earlier, for supposing that Lapita society was stratified stems from the very rapid colonisation of all the major island groups of the southwest Pacific after the initial Lapita movements into this region. This achievement required considerable capital investment in skilled labour to build ocean-going sailing canoes.³ It required the recruitment of crews and passengers in sufficient numbers to form viable founding populations, and the transport of useful plants and breeding stocks of domestic animals. It implies the existence of prestigious leaders who could plan and command these undertakings.

This point is well made by Hayden (1983) who argued that boats and trade are the key to understanding the maintenance of social stratification in Polynesia and other regions initially settled by Lapita people. He notes that the construction of a single medium-sized ocean-going canoe took from one to three years, and canoe builders were specialists trained through a rigid system of apprenticeship.

4.5.2.1 POc **ta(u)-lapat* ‘chief’ or ‘big-man’?

If POc society had hereditary chiefs, what were they called? Are cognates of PPn **qariki* present in other branches of Oceanic?

C.E. Fox (1924, 1970) noted that Arosi, a Southeast Solomonic language of Makira, has a pair of terms *araha* ‘chief’ and *ari?i* ‘eldest son of a chief’ (the latter used in songs). The eldest son became chief before his father’s death. Fox asserted that each of these Arosi terms can be analysed into a personal article *a*, and an adjective, *raha* ‘big, great’ or *ri?i* ‘little, small’. That is to say, *a-raha* is literally ‘Great one’ and *a-ri?i* is ‘Little one’, i.e. the chief’s heir. Arosi *a* is preposed to “names native or foreign; used with nouns to personify; with verbs or adjectives to form a descriptive noun or nickname” (Fox 1970:1). A cognate article is found in some other Oceanic languages, including Polynesian, where it precedes personal names and/or, in some languages, place names (Pawley 1972:58).

In Pawley (1982), I accepted Fox’s claim that Arosi *ari?i* is cognate with PPn **qariki* and observed that cognates of Arosi *araha* denoting a chief or person of a chiefly descent group occur in several languages of the Malaita-Makira subgroup in the Southeast Solomons, supporting the reconstruction of Proto Malaita-Makira **alafa* ‘chief’:

Proto Malaita-Makira **alafa* ‘chief, person of a chiefly lineage’

Arosi	<i>araha</i>	‘chief, man of the chiefly clan’
	<i>ha?a-araha</i>	‘raise s.o. to chiefly rank, make a child a member of the of the chiefly clan by his father giving a series of feasts’

³ These were probably five-piece outrigger canoes with hulls built up with a topstrake, and with platform amidships (Pawley and Pawley 1994). Double canoes, with much larger carrying capacity, probably arose in Fiji or western Polynesia after Lapita colonisation (Anderson 2018).

Bauro	<i>araha</i>	‘chief, man of the chiefly clan’
Owa	<i>arafa</i>	‘boss, chief, lord, ruler, important person’
	<i>arafa ni finua</i>	‘village chief’ (<i>ni</i> ‘of’, <i>finua</i> ‘village’)
Sa’a	<i>alaha</i>	‘hereditary chief’
	<i>alaha-ŋa</i>	‘rule, dominion, chieftainship’
	<i>aʔo i alahaŋa</i>	‘elder branch of a chiefly family’
	<i>puri alahaŋa</i>	‘the cadet branch’
’Are’are	<i>araha</i>	‘chief’
	<i>araha ana komu</i>	‘chief of a bilateral family’
	<i>araha-a</i>	‘to rule over’
	<i>araha-ha</i>	‘be a chief, to rule’
	<i>araha-ŋa</i>	‘chieftainship’
Kwaio	<i>alafa</i>	‘wealthy influential leader’
Lau	<i>alafa</i>	‘a chief’
	<i>alafa-la</i>	‘kingdom, region of chief’s authority’
	<i>alafa-na</i>	‘kingdom, dominion’

In line with Fox’s analysis of Arosi *araha*, I treated Proto Malaita-Makira **alafa* as consisting of a personal article **a* and a nominalised adjective **lafa* ‘big, great’.

Lichtenberk (1986:351) proposed a different analysis. He argued that Proto Malaita-Makira **alafa* comes from POc **ta-la(m)pat*, where **ta-* was a reduced form of the well-attested noun **tau* ‘man, person’, preceding **la(m)pat* ‘big, great’.⁴ POc **t* is regularly lost in all positions in Malaita-Makira languages.

Lichtenberk also gave a phonological reason for reconstructing **ta* rather than **a*. This has to do with the order in which certain sound changes occurred in Malaita-Makira languages (Lichtenberk 1986, 1988:41). POc **q* had already been lost before PMaMa separated from other SES languages. Next, a sporadic but frequent change of word-initial **a* to **θa* (theta-prothesis) spread across Malaita-Makiran. Initial *θ* then became *s* in several Malaitan languages, *l* in Kwaio but remained *θ* in To’aba’ita.⁵ so that, for example, POc **qalipan* ‘centipede’ is reflected as To’aba’ita *θāfila* (metathesis), Lau *saruhe*, ‘Are’are *rarihe*, Kwaio *lalifa*, Oroha *saruhe*, but Sa’a *eluhe*, Ulawa *aliha* (Lichtenberk 1986:36). Subsequently POc **t* was regularly lost in MaMa. If the protoform had been PEOc **qa-lapat*, it would have undergone the following sequence of changes: **qalapat* > PMaMa **a-lafa* > post-PMaMa **θa-lafa*. But the forms listed above show no sign of theta-prothesis, pointing instead to the sequence PEOc **ta-lapat* > PMaMa **a-lafa*.

Lichtenberk was uncertain as to whether his POc **tala(m)pat* referred to a hereditary chief or to a self-made big-man. He comments:

The literal meaning of **tala(m)pat* was ‘big [person], great person’, and it referred to a leader, as do its reflexes in the [Makira-Malaitan] languages [...]. Given its literal meaning one might be tempted to conclude that the expression referred to a big-man rather than a chief. However, this conclusion is not warranted. The literal meaning

⁴ In the orthography for POc that is now conventional, after Ross (1988), Lichtenberk’s reconstruction of POc **la(m)pat* would be written **la(b,p)at.*, with **b* representing [ʰb]. However, the weight of evidence now favours reconstructing **lapat*, **lapʰat* or **lapuat* as reconstructed in vol.2:191-192. **lapat* is used here.

⁵ This prothesis is distributed unevenly across the Malaita-Makiran languages and therefore must have spread after the breakup of Proto Malaita-Makiran.

under-determines the denotation of **tala(m)pat*. It is compatible with the denotation ‘chief’ just as well as [...] ‘big-man’. (Lichtenberk 1986:351)

Lichtenberk was apparently not aware that many Oceanic languages of the Admiralties reflect **lapa-ña* ‘chief, leader’, analysable into a nominal root **lapa* (homophonous with Proto Admiralties **lapa* ‘big, great’) and a suffix **-ña*, reflected as *-n* in many Admiralties languages, which marks singular agreement on an adjective.

Proto Admiralties **lapa-ña* ‘chief, leader’

Mussau	<i>lapa-n</i>	‘important person, chief’
Baluan	<i>lapa-n</i>	‘leader of hereditary status’
Titan	<i>lapa-n</i>	‘leader, chief, those of noble blood’
Nyindrou	<i>laba-n</i>	‘leader, chief’
Koro	<i>laba-n</i>	‘chief’
Loniū	<i>lapa-n</i>	‘leader, God’
Koro	<i>laba-n</i>	‘chief’
Seimat	<i>la-lap</i>	‘chief’; ‘important, large’

As noted in §4.5.1.4, in Manam, a Western Oceanic language of north New Guinea, the village chieftainship is a hereditary position occupied by the senior male descendant of the village founder. The chief is called *tanepoa labalaba*, where *tanepoa* is ‘chief’ and *labalaba* is ‘big’. The latter term comes from POc **lapat* ‘big, great’. The chief’s sons and younger brothers are called *tanepoa siʔisiʔi*, literally ‘little chief’.

A number of Micronesian languages also have reflexes of **lapat*, referring to chiefs and genealogical seniority.

Marshallese	<i>iroij laba-lap</i>	‘head of royal lineage’ (lit. ‘very great chief’)
	<i>iroij elab</i>	‘lesser chief’ (lit. ‘great chief’)
Lamotrek	<i>mala-lap</i>	‘senior representative of a matrilineal clan’
Woleaian	<i>tame-lap</i>	‘eldest male of a family’ (lit. ‘great father’)

The agreement between languages from four widely dispersed subgroups (Malaita-Makira, Admiralties, Western Oceanic and Micronesian) suggests that in POc the adjective **lapat* ‘big, great’ also had the senses ‘genealogically senior’ and ‘of chiefly rank’, and occurred as the modifier in one or more compound nouns denoting a chief or person of chiefly rank. One such compound noun was probably **ta(u)-lapat*, where the head noun was **tau* ‘man, person’.

Note also the title of the high chief of Nadrogā (SW Vitilevu) is *k^vālevu*, lit ‘the big one’, contrasting with *k^vāhewa*, lit ‘the small one’, his child.

One other term for chief or leader can be reconstructed, with reflexes in two Admiralties and two New Ireland languages.

POc **kabi-ña* ‘chief’

Adm: Levei	<i>kapi-ŋ</i>	‘chief’
Adm: Nyindrou	<i>kapi-n</i>	‘clan leader, chief’
MM: Sursurunga	<i>kabi(sit)</i>	‘chief, head man, fight leader’ (meaning of <i>sit</i> not known)
MM: Patpatar	<i>kabi-n(sit)</i>	‘supreme chieftain of one or more villages’ (meaning of <i>sit</i> not known)

4.5.2.2 On the origin of PPn **qariki*

It was noted in §4.5.2.1 that PPn **qariki* ‘chief’ resembles Arosi *ariʔi* ‘first-born son of a chief, chief’s heir’, and that this has led some to conclude that these forms are cognate, each historically analysable as consisting of a personal article and a reflex of POc **riki* ‘little’. The sound correspondences are regular. However, Arosi *ariʔi* has cognates in several Malaitan languages, and, as Lichtenberk (1986) notes, these do not mean ‘first-born son of a chief’.

Kwara’ae	<i>s-ariʔi</i>	‘unmarried girl’
Kwaio	<i>la-aliki</i>	‘unmarried girl, daughter’
Lau	<i>s-arii</i>	‘unmarried girl, maiden, daughter’
To’aba’ita	<i>θa-ariʔi</i>	‘unmarried girl, maiden’

Lichtenberk argues that the Malaitan cognates continue a Proto Malaitan form **a-ariki* that consisted of two morphemes: **a* ‘personal article’ and **ariki* which he glossed as ‘unmarried girl, maiden, daughter’. Contemporary Malaitan languages have accreted a prothetic consonant to the personal article **a* and other roots beginning with the vowel **a*.

How are the differences of meaning between the Polynesian, Arosi and Malaitan forms to be resolved? Lichtenberk suggests that the most likely meaning in their common ancestral language was ‘oldest child’. Chowning (1991:63) points to Mussau *aliki* ‘child’ and Bariai (New Britain) *galiki* ‘firstborn child’ as possible cognates, and suggests ‘child’ (as an age-grade term, not a kinship term) as the meaning in POc. We may note the existence of the well supported POc etymon **natu-* ‘child’ (kinship term, requiring a possessor) but it is usual for Oceanic languages to have distinct terms for ‘child’ as a kinship term and as an age grade term.

At some point in the history of Polynesian it may be that the term **qariki* ‘child’ was used as a nickname for the chief himself, and that in PPn it became the conventional term for ‘chief’. A parallel usage occurs in Samoan, where *tama* ‘boy, youth; son of a woman’ can refer to chiefs of high rank and the compound *tama-ali’i* (lit. ‘chiefly boy’) as a noun denotes a chief and as a verb means ‘be of noble descent or lineage’ (Milner 1966). The holder of any of the four highest titles in Samoa is known as *tama-ʔāiŋa* (lit. ‘boy of the lineage’). In Tongan *tama* ‘child, son especially of a woman’ also has the meaning ‘male of chiefly rank’. In Bauan Fijian *ŋone tūraŋa*, lit. ‘chiefly child’, is an honorific term for a chief (Paul Geraghty pers. comm.).

4.5.2.3 *Terms for people of low status*

Lichtenberk (1986:351) allows that if it were possible to reconstruct a term for ‘commoner’ for POc, this would be strong evidence that POc society had chiefs.

Many Oceanic languages have a term or terms for people of low status but no widespread cognates are found. Often a derogatory term meaning ‘useless, unimportant’ is involved.

Adm: Nyindrou	<i>lau leleyah</i>	‘commoner’ (<i>lau</i> ‘person’; <i>leleyah</i> ‘nothing’)
Adm: Titan	<i>lau</i>	‘commoners’
Adm: Baluan	<i>lau</i>	‘collective term for followers of a <i>lapan</i> ’
	Baluan <i>sayo</i>	‘person of low status, opposite of <i>lapan</i> ’
NNG: Manam	<i>gada-gada</i>	‘commoner’
SES: Gela	<i>bonaya</i>	‘commoner, of no importance’

SES:	Arosi	<i>m^wae taʔa</i>	‘commoner, man of no importance, man of any clan except <i>araha</i> ’ (<i>m^wae</i> ‘man’, <i>taʔa</i> ‘bad, poor’)
SES:	Lau	<i>nēna</i>	‘commoner’
SES:	Owa	<i>ainuni purua</i>	‘common people’ (<i>ainuni</i> ‘people’, <i>purua</i> ‘ordinary, common’)
Mic:	Marshallese	<i>kacur^w</i> <i>aṛ^wmec wān</i>	‘commoner, common people’ ‘commoner’ (<i>aṛ^wmec</i> ‘person’, <i>wān</i> ‘trivial, common, worthless’)
Fij:	Bauan	<i>tau-vanua</i>	‘commoner’ (<i>tau</i> ‘person’, <i>vanua</i> ‘land, place’)

New Caledonian languages usually have a term that means ‘subject of (a chief)’. These include: in Pije, Fwâi, Nemi, Jawe, Nyelâyu and Nêlêmwa *yab^wec*, Cèmuḥî *ab^wē*, Xârâcùù *k^wara* and Iaii *kei-*. Most of these terms can occur with a collective proclitic, and the Iaii term is directly possessed, e.g. *la kei-ñ* ‘his subjects’, *la kei-k* ‘my subjects’ (*la* ‘collective’).

One candidate for ‘commoner’ is POc **m^wala*, which Blust (1981a) suggests may have been a noun denoting a person of low social status. However, the evidence favours reconstructing **m^wala* as a stative verb and adjective meaning ‘common, worthless’ and as a noun meaning ‘misfortune, lack of prosperity’.

SES:	Gela	<i>mala</i>	‘comparative marker with deprecatory force’
	Arosi	<i>mara</i>	‘deprecatory prefix’
	Sa’a	<i>m^wala</i>	‘people, commoners (as opposed to chiefs)’
NCV:	Mota	<i>mala</i>	‘bad, poor’ (often used in depreciation)
Mic:	Marshallese	<i>wān</i> <i>aṛ^wmec wān</i>	‘trivial, common, worthless’ ‘commoner’ (lit. ‘worthless person’)
	Mokilese	<i>m^wāl</i>	‘useless, disadvantaged, low (socially)’
	Ponapean	<i>m^wāl</i> <i>aramas m^wāl</i>	‘common, useless, of no consequence’ ‘commoner’ (lit. ‘person of no consequence’)

4.6 Conclusion

The Proto Oceanic language can be associated with the Lapita culture which appeared in the Bismarck Archipelago at about 3300-3200 BP. Around 3000 BP bearers of Lapita became the first people to settle island groups of the southwest Pacific east of the main Solomons group, and within the space of two or three centuries colonised Santa Cruz and the Reef Is., Vanuatu, New Caledonia, Fiji, Tonga and Samoa. This was an achievement that implies strong leadership, requiring as it did the building of large ocean-going outrigger canoes, the recruitment of crews and passengers and the transport of domestic animals and useful plants.

A number of terms relating to chiefly authority and status are attributable to Proto Polynesian, the daughter of POc that developed in western Polynesia, with some regional variation, in the millennium or so following colonisation by Lapita people. There is strong evidence that speakers of PPn had ranked descent groups, probably termed **kaināya*, headed by hereditary chiefs, called **qariki*, and that rank was based on primogeniture.

In Melanesia, hereditary chieftainship based on primogeniture is also found in societies representing several major subgroups of Oceanic but is absent in societies speaking non-

Austronesian languages. This is a powerful distributional argument in favour of attributing hereditary chieftainship to POc society. It is unlikely that such an institution would have arisen independently in many different Oceanic societies. Furthermore, POc kinship terminology is of a type that makes it probable that POc society had unilineal descent groups ranked by seniority of birth.

Agreement between languages from four widely dispersed subgroups (Admiralties, Western Oceanic, Malaita-Makiran and Micronesian) suggests that in POc the adjective **lapat* 'big, great' also had the meanings 'genealogically senior' and 'of chiefly rank', and that it occurred as a constituent in a compound noun denoting a chief or person of chiefly rank, possibly **ta(u)-lapat*.

5 *Settlement patterns and territory in the Proto Oceanic speech community*

ANDREW PAWLEY AND ROGER GREEN

5.1 Introduction

This chapter asks what linguistic evidence can tell us about Proto Oceanic speakers' settlement patterns and relation to territory, both land and sea.¹ Where were settlements located? What sort of residential communities existed? Did people live in sizeable villages or in dispersed hamlets? What sort of buildings were constructed, in terms of function and architecture? What sort of territorial units were recognised?

A conjunction of archaeological and linguistic evidence places the primary dispersal centre of Proto Oceanic in the Bismarck Archipelago and associates this language with the archaeological tradition known as (Early Western) Lapita, whose bearers spread very swiftly across the southwest Pacific around 3000 BP, reaching Tonga by 2850 BP. Archaeology tells us a good deal about the preferred habitation sites of early Lapita settlements in the Bismarck Archipelago (Green 2003; Kirch 1997, 2000; Spriggs 1997; Summerhayes 2010). All the sites are on the coast, close to beaches and fringing reefs that, respectively, would have provided landing places for canoes and for obtaining seafood. However, archaeology has yielded little evidence about the internal organisation of Lapita dwelling sites, as very few have been excavated extensively enough to reveal the arrangement of houses and other structures and areas of use.

Ethnographic evidence on settlement patterns and use of territory in Oceanic speaking communities is rich (comparative studies include Forge 1972, Hogbin and Wedgwood 1953, Oliver 1989). Patterns that recur in the ethnographic accounts include the following:

- 1) Consistent with the record for Lapita sites, there is a strong preference for settlements on the coast, near beaches, fringing reefs and lagoons and close to land suitable for gardening.

¹ Architecture and settlement patterns in the POc speech community were the subject of a chapter in vol. 1 of *The lexicon of Proto Oceanic* (Green and Pawley 1998) but that volume focused on the material culture of the POc language community and it seems appropriate to return to a consideration of settlement patterns in a volume on POc society. The late Roger Green is included as co-author of the present chapter because it draws heavily on Green and Pawley (1998). Section 5 of the present chapter, on **panua*, is a reworking of Pawley (2005), which in turn drew on Blust (1987) and Pawley (1979).

- 2) Both nucleated and dispersed settlements are common. Nucleated settlements, villages of up to several hundred people, are invariably found when land is in short supply. Dispersed settlements, consisting of scattered hamlets, are most common where land is plentiful. Where attacks are feared settlements may be situated in inaccessible places with defences constructed.
- 3) In villages where the terrain allows, main dwellings are usually arranged in parallel lines on each side of a rectangular space that serves as a ceremonial centre.
- 4) Villages divide into sections, each section containing households belonging to a single lineage or part of a lineage.
- 5) Each lineage owns certain house sites. These sites have ritual importance.
- 6) Each family has a main dwelling house. In western Melanesia this is generally rectangular and raised on piles. In most other regions of Oceania houses are usually built on the ground or on a flat mound of earth or coral rubble and come in rectangular, round or oval forms.
- 7) Main dwelling houses have a two-section thatched roof with high gable.
- 8) There is a porch in the front of raised houses.
- 9) The interior of the main dwelling is divided into a sleeping compartment and a living room.
- 10) Most daily activities, e.g. food preparation, cooking, eating, weaving mats, conversation with neighbours, take place in smaller structures erected near the main dwelling. These structures are open-sided or only partly-walled, often with flat roofs of coconut leaves or rough thatching.
- 11) Coastal settlements have open-sided boat houses, each usually belonging to an extended family.
- 12) In yam-growing areas there are storage houses with raised platforms for keeping yams.
- 13) In parts of Melanesia a men's house is commonly part of the hamlet or village, serving as a centre where men and boys may gather and perform certain rituals.
- 14) Graves, often marked by piles of stones may be sited under or close to the main dwelling.

However, as ethnographic comparisons refer only to recent times they can do no more than suggest hypotheses about the situation in POc times, some three millennia ago. We turn to lexical reconstructions as a source of evidence.

5.2 Proto Oceanic speakers were fishermen-farmers

POc speakers were a maritime people, for whom the sea was an important economic resource. They had an extensive vocabulary for fishing methods and technology (vol.1, ch.8) and for outrigger canoe parts and sea travel (vol.1, ch.7). More than 140 POc names for marine fish taxa and more than 40 names for marine invertebrates have been reconstructed

(vol.4, chs 2 and 4). Relevant terms for the seascape and landscape (vol. 2, ch.4) include **tasik* ‘sea’, **masawa(n,ŋ)* ‘open sea’, **laman* ‘deep sea beyond the reef’, **ŋalun* ‘mounting wave, ocean wave’, **bayau* ‘ocean swell’, **loka* (N) ‘high sea, heavy breakers’, (V) ‘be rough, of sea’, **maqati* ‘low tide, dry reef’, **Ruap* ‘high tide’, **sakaRu* ‘coral reef’, **motu(s)* ‘detached reef’, **laje* ‘coral’, **m^waloq* ‘submerged rock or coral reef’, **namo* ‘lagoon inside reef, deep pool in reef’, **mata (qi, ni) sawa(n,ŋ)* ‘passage through reef’, **b(w)iker* ‘beach, esp. sandy beach’, **nusa* ‘island’, **tob^wa* ‘bay’, *(i,u)*cun* ‘cape’.

POc speakers were also farmers. They cultivated a range of ground and tree crops (vol.1, ch.5; vol. 3, chs 9–13) and kept pigs (vol. 4:237–240) and chickens (vol. 4:283–287). Terms for clearing garden land (**quma*, **poki*), for a plantation (**topa*) and fallow land (**talun*) contrasted with one for bushland, inland country (**qutan*). There were terms for planting (**tanum*), planting in holes in the ground (**asok*), weeding (**papo*), scattering seeds (**kabu(R)*), garden fence (**kaRi*), and boundary marker in a garden (**bayat*) (vol.1, ch.5).

5.3 Kinds of domestic buildings

That POc speakers occupied permanent dwellings is indicated by a host of terms to do with house construction. Terms for several kinds of buildings can be reconstructed. Blust (1987) compared four different cognate sets, widely represented in Austronesian languages, that refer to kinds of domestic buildings. He reconstructs Proto Malayo-Polynesian (PMP) **Rumaq* ‘dwelling house’ **balay* ‘public building’, **kamaliR* ‘men’s house’ and **lepaw* ‘granary’.² The first three terms were continued in POc.

PAAn **Rumaq* ‘dwelling house’ (Blust 1987)

POc **Rumaq* ‘dwelling house’³

Adm: Lou	<i>um</i>	‘house’
Adm: Loniu	<i>um^we</i>	‘house’
NNG: Arawe	<i>a-rumuk</i>	‘village’
NNG: Vehes	<i>yumak</i>	‘house’
PT: Motu	<i>ruma</i>	‘house’
MM: Bali	<i>rumaka</i>	‘house’
MM: Petats	<i>luma</i>	‘house’
SES: Lau	<i>luma</i>	‘family house’
SES: Arosi	<i>ruma</i>	‘house’
SES: To’aba’ita	<i>luma</i>	(1) ‘traditionally, house where a woman and her children lived; today, family house’; (2) in compounds, ‘building’
NCV: Mota	<i>im^wa</i>	‘house’
NCV: Raga	<i>im^wa</i>	‘house’

² Tryon proposes the gloss ‘granary’ for PMP **lepaw* rather than ‘men’s house’ on the grounds that (a) dedicated men’s houses are not a characteristic of Austronesian-speaking societies outside of Melanesia and (b) in some such societies reflexes of PMP **kamaliR* refer to granaries.

³ Some scholars reconstruct POc **Rum^waq* with labiovelar **m^w* but at least some labiovelar reflexes are likely to be secondary developments following the high back rounded vowel (Blust 1981b).

NCV: Nokuku	<i>ima</i>	‘house’
NCV: Vara Kiai	<i>ima</i>	‘house’
SV: Lenakel	<i>n-im^wa</i>	‘house’
NCal: Drehu	<i>uma</i>	‘house’
Mic: Kiribati	<i>uma</i>	‘any kind of building, anything with roof’
Mic: Marshallese	<i>yim^we-</i>	‘house’
Mic: Ponapean	<i>iim^w</i>	‘house’

A host of reconstructed POc terms for house parts and construction, including the following, indicate that at least some dwelling houses were substantial buildings, with heavy superstructure, gabled, with floor raised on piles (for supporting cognates see vol.1, ch.3):

**gab^wari* ‘the area underneath a raised house’ (vol.1:51)

**pupuŋ(an)* ‘ridgepole’ (vol.1:53), from PMP **bubuŋ* (Dempwolff 1938; Zorc 1994), PMP **buhunbuhun* (Blust 1972) ‘ridgepole, ridge of the roof’

**bou* ‘probably main bearers or cross-beams supporting a raised floor or roof structure, or centre post supporting ridgepole’ (vol.1:56)

**soka(r)* ‘crossbeam, bracing timber’ (vol.1:56), from PMP **seŋkar* ‘transverse beams that support the roof of a house’ (ACD)

**kasō* ‘rafter’ (vol.1:55), from PMP **kasaw* ‘rafter’ (Dempwolff 1938)

**qatop* ‘thatch, roof’ (vol.1:54), from PMP **qatep* ‘thatch, roof’ (Dempwolff 1938)

**turu(s)* ‘probably weight-bearing post, supporting raised floor or ridgepole’ (vol.1:55).

Some Oceanic-speaking societies distinguish by name more than one design of dwelling house. The Arosi speech community of Makira distinguishes at least the following kinds of *ruma* ‘house’ (Fox 1978):

<i>ruma huri</i>	a round house, taller than the well known Santa Cruz round house
<i>ruma gaura</i>	a double, long house
<i>ruma ora</i>	a house with five pairs of posts or more
<i>ruma p^warap^wara</i>	a house roughly built, with roof of fronds instead of thatching
<i>ruma raŋi</i>	a house with two roofs, the second roof only above the upper part of the first, made by extending the rafters upwards
<i>ruma okera</i>	like <i>ruma raŋi</i> but with the two roofs close together
<i>ruma sinakuhi</i>	house with rounded end
<i>ruma waiho</i>	simplest form of oblong house with three pairs of posts

Although no compound term consisting of **Rumaq* plus modifier has so far been reconstructed for POc, the latter retained two PMP terms for buildings other than main dwelling houses.

POc **pale*, continuing PMP **balay*, has in some daughter languages replaced **Rumaq* as the usual term for a dwelling house. However, in languages where both terms are retained reflexes of **balay* and **pale* generally refer to a simpler kind of building, such as an open-sided boat shed, shed for storing yams or garden shelter. The replacement was perhaps due to speakers habit of humorously referring to their dwelling house as a humbler kind of building.

PMP **balay* ‘public building’ (Blust 1987), ‘unwalled building’ (Waterson 1993)

POc **pale* ‘building for storage or public use, open-sided building, shed’

Adm: Lou	<i>pal</i>	‘canoe hut’
Adm: Mussau	<i>ale</i>	‘house’
NNG: Bebeli	<i>bele</i>	‘house’
NNG: Yabem	<i>ale</i>	‘house’
NNG: Lukep (Pono)	<i>para</i>	‘yam house’
MM: Tolai	<i>pal</i>	‘house, room’
	<i>pia na pal</i>	‘place where there are houses, village’ (<i>pia</i> in compounds, ‘a place’)
MM: Tangga	<i>pal</i>	‘small house or shed, storehouse for temporary storage of food’
MM: Mono-Alu	<i>hale-hale</i>	‘public building’
SES: Arosi (East)	<i>hare</i>	‘shed for yams’
SES: Arosi (West)	<i>hare</i>	‘house with side of roof only, made in garden’
SES: Bugotu	<i>vaðe</i>	‘house, building’
SES: Bauro	<i>hare</i>	‘canoe house, men’s house’
SES: Sa’a	<i>hale</i>	‘yam shed outside a garden’
SES: Kwaio	<i>fale</i>	‘hut for childbirth’
MM: Gela	<i>hale</i>	‘house’
NCV: Raga	<i>vale</i>	‘house, hut, garden house’
NCV: Nokuku	<i>vale</i>	‘shelter’
	<i>val-val</i>	‘garden shelter’
NCV: Kiai	<i>vale</i>	‘shed, shack’

PMic **fale* ‘meeting house’ (Bender et al. 2003a)

Mic: Puluwat	<i>fæl</i>	‘meeting house’
Mic: Woleai	<i>fal, fale-</i>	‘men’s house, club house’
Fij: Bauan	<i>vale</i>	‘house’
Pn: Samoan	<i>fale</i>	‘house’
Pn: Hawaiian	<i>hale</i>	‘house’

POc **kamali(R)* ‘men’s meeting house’ has reflexes in languages of the Admiralties and North and Central Vanuatu. Among the Ponam, a Titan speaking community of Manus, *kamal* is the name both of a patrilineal descent group (a land-owning group) and of the men’s house of such a group (Carrier & Carrier 1989). In Vanuatu the reflex of **kamali(R)* refers to a building used by men of a village as a recreational centre, e.g. for drinking kava, and as a sleeping and living area for unmarried men and boys and male visitors.

PMP **kamaliR* ‘men’s house’ (Blust 1987), ‘granary’ (Tryon 1995)

POc **kamali(R)* ‘men’s meeting house’ (Blust 1987)

Adm: Titan	<i>kamal</i>	‘patrilineal property-owning group; men’s house of such a group’
Adm: Nyindrou	<i>kamen</i>	‘men’s house’

PNCV **kamali* ‘men’s house’ (Clark 2009)

NCV: Mota	<i>gamal</i>	‘club house of sup ^w e (graded society) or of a single high rank’
NCV: Raga	<i>gamali</i>	‘men’s house’
NCV: SE Ambrym	<i>n-emel</i>	‘men’s house’
NCV: Lewo	<i>kumali</i>	‘village, men’s meeting house’
NCV: Makatea	<i>kamali</i>	‘men’s house’
NCV: Namakir	<i>na-kamal</i>	‘men’s club house, dancing ground, village meeting place’

A term for ‘canoe house’, **v(a,o)lau*, is reconstructed for PCP. This term is formally cognate with a verb meaning make a sea voyage, which has antecedents in POc **palau(r)* ‘make a sea voyage’ and PMP **pa-laSud* ‘go down to the sea or coast.’

PCP **v(a,o)lau* ‘canoe house’

Fij: Bauan	<i>volau</i>	(1) ‘canoe shed, with ridged roof but no ends or sides’, (2) ‘carpenter’s workshop’
Fij: Wayan	<i>volau</i>	(1) ‘boat shed’, (2) ‘workshop, tool shed’
Pn: Tongan	<i>ala-folau</i>	‘canoe shed’ (<i>l</i> in <i>ala</i> unexpected)
Pn: E Futunan	<i>a-folau</i>	‘boat house’
Pn: Samoan	<i>ā-folau</i>	‘long house, used, e.g., for receiving guests’
Pn: Tikopia	<i>a-forau</i>	‘canoe shed’
Pn: Maori	<i>farau</i>	(1) ‘temporary shed of tree branches’ (2) ‘canoe shed’
Pn: Rarotongan	<i>ʔōrau</i>	‘canoe shed’

In Sa’a and Ulawa, Malaita, SE Solomons, chiefs had a canoe house, *taoha*, built at the landing place of canoes. This served the double purpose of a house for the chief’s decorated canoe and a house where men congregated and slept (Ivens 1927:7, 34).

A term for ‘house site’ or ‘house foundation, consisting of a mound or platform of earth or coral rubble’, is attributable to PEOc. It has reflexes in Southeast Solomonic, Fijian, and Polynesian. It is cognate with a verb meaning ‘to pile up, heap, make a mound or wall’. House mounds are associated with houses without raised floors, which are characteristic of eastern Melanesia, Polynesia and Micronesia.

PEOc **apu* ‘house foundation’

SES: Gela	<i>avu</i>	‘house site’
SES: Arosi	<i>ahu</i>	‘mound of earth, heap of things’
Fij: Bauan	<i>yavu</i>	‘house site, house foundation’
Fij: Wayan	<i>avu</i>	‘house site, house foundation’
Pn: Tahitian	<i>ahu</i>	(1) ‘platform of stones, often stepped, with religious functions’, (2) ‘pile up stones, put up wall of a <i>marae</i> ’
Pn: Rapanui	<i>ahu</i>	‘large platform of stones, with religious function’
Pn: Maori	<i>ahu</i>	‘platform of stones’

Ivens (1927:375) writes of Sa'a communities that

[i]n certain hamlets...there is more or less of an appearance of house mounds, but speaking generally there is nothing to correspond to the Fijian *yavu*... This is owing to the frequent changes of location in the past, and to the absence of anything like settled towns.

5.4 Settlement, village, hamlet

It is noteworthy that there is no very well supported POC reconstruction whose primary sense was 'village'. There are several candidates, chiefly **pera*, **koro*, **malaqai* and **panua*, but objections can be raised against each.

POC **pera* '? settlement, open space associated with a house or settlement'

NNG:	Manam	<i>pera</i>	'house, room'
SES:	Bugotu	<i>vera</i>	'courtyard, open space in a village'
SES:	Tolo	<i>vera</i>	'village, home, country, place where one lives'
SES:	Ghari	<i>vera</i>	'village'
SES:	'Are'are	<i>he-hera</i> <i>herā</i>	'open space in front of the houses for walking' 'agglomeration of houses, village'
SES:	Arosi	<i>hera</i>	1. 'open space for dancing, usually to the east of burial ground for chiefs'; 2. 'any burial space surrounded by stone walls'
SES:	Baegu	<i>fera</i>	'hamlet, a named locality'
SES:	Kwaio	<i>fela</i>	'skull house'
SES:	Lau	<i>fera</i>	'land; village; habitation, home, artificial island (for habitation)'
		<i>mā-fera, mae-fera</i>	'hamlet, 2 or 3 houses' (<i>mā, mae</i> 'classifier for round objects')
		<i>fera fū</i>	'mainland, solid land'
		<i>fera daudau</i>	'artificial island'
SES:	To'aba'ita	<i>fera</i>	'traditionally, house where a woman and her children lived; today, family house'

cf. also:

PNCV **vareqa* 'outside, public space' (Clark 2009)⁴

NCV:	Mota	<i>varea</i>	'village, place of a village settlement'
NCV:	Nokuku	<i>varea</i>	'home, village'
NCV:	Namakira	<i>vare?</i>	'outside'
NCV:	Uripiv	<i>varea</i>	'outside'
NCV:	Nguna	<i>varea</i>	'chiefs' meeting house'

⁴ If the NCV forms reflect **pera*, one would have to posit (a) final **-q* on **peraq*; (b) vowel metathesis; (c) nominalisation with **-an*, i.e. PNCV **vare?a* < **peraq-an*.

It can be seen that **pera* is widely reflected in Southeast Solomonic languages, with meanings that range from ‘village’, ‘hamlet’, ‘habitation’, ‘house’, ‘named locality’ to ‘open space for dancing, courtyard’, ‘burial space’, ‘skull house’ and ‘land.’ Elsewhere in Oceanic only one secure reflex has been noted, in Manam, a North New Guinea language, where it is the usual term for ‘house’.

Some of these disparate meanings are better associated with other POC terms, e.g. ‘house’ with **Rumaq* and **pale* (§5.3), ‘open space in a village’ with **malaqai* (see below), ‘land’, ‘inhabited place’ and perhaps ‘settlement’, with **panua* (§5.5.1).

The reflexes of POC **koro* in Vanuatu and Polynesian indicate that it referred primarily to any enclosure that is fenced or protected by barriers and that it has later come to mean ‘village’ in languages of the Admiralty Islands, Fiji and Tonga.

POC **koro* (1) ‘fenced-in area’; (2) ‘? settlement fortified by barrier’

Adm:	Leipon	<i>kor</i>	‘village’
Adm:	Titan	<i>kor</i>	‘home, village, settled land, farm, the earth’
NCV:	Nguna	<i>kooro</i>	‘enclosure, pen, blowhole’
		<i>na-koro</i>	‘yard’
		<i>na-ko-koro</i>	‘fence, hedge, windbreak’
NCV:	Nokuku	<i>kokoo</i>	‘garden’
NCV:	Namakir	<i>kor</i>	‘fence, rail’
Fij:	Bauan	<i>koro</i>	‘village, an eminence’
Fij:	Wayan	<i>koro</i>	‘settlement, village, hamlet, town’
		<i>loma ni koro</i>	‘centre of a village’
Pn:	Tongan	<i>kolo</i>	‘village, town; fortress; temporary fence around open grave’
Pn:	Niuean	<i>kolo</i>	‘fort, tower, lookout point’
Pn:	Samoan	<i>ʔolo</i>	‘fort, shelter, tower’
Pn:	Tikopia	<i>koro</i>	‘fort, barrier against sea’
Pn:	Rarotongan	<i>koro</i>	‘fenced or walled-off area, enclosure, yard, fence, palisade, surrounding wall’

Another candidate, **malaqai*, is attested throughout Polynesian, where it denotes an open space in the middle of a village or in front of a house used for public activities, and in a North New Guinea language and a Papuan Tip language, where it refers to a village. Possible cognates appear in Tangga, a Meso-Melanesian language, but the data are problematic.⁵

POC **malaqai* ‘? public space in a village, village plaza’

NNG:	Yabem	<i>malaʔ</i>	‘village, place of residence, dwelling place’
		<i>malaʔ-gɛdɔ</i>	‘part of a village, a group of village houses’ (<i>gɛdɔ</i> ‘part’)
		<i>malaʔ-luŋ</i>	‘village square, meeting place’ (<i>luŋ</i> ‘middle’)
PT:	Wedau	<i>melagai</i>	‘village’

⁵ In the dictionary of Tangga (Bell 1977) *male* ‘village’ and *male-lil* ‘village square’ appear in the English-Tangga finder list but not in the main (Tangga-English) dictionary. Conversely, *ma:li* ‘dancing square’ appears in the Tangga-English part but not in the finder list.

Pn:	Tongan	<i>malaʔe</i>	‘village green, playground, open market place’
Pn:	Samoan	<i>malae</i>	‘open space in the middle of a village, meeting ground’
Pn:	Futunan	<i>malaʔe</i>	‘public area, open space in front of houses’
Pn:	Tikopia	<i>marae</i>	‘open space for public assembly, including dance festivals’
Pn:	Maori	<i>marae</i>	‘village common, courtyard, enclosed space in front of a house’
cf. also:			
MM:	Tangga	<i>male</i>	‘village’
		<i>male-lil</i>	‘village square’
		<i>māli</i>	‘dancing square within the confines of every village settlement’
Mic:	Kiribati	<i>marae</i>	‘open space, public place (Pn loan)’

Another term whose reflexes in certain contemporary languages refer to a village plaza is POc **m^walala*. However, in POc this probably had a more general meaning such as ‘land cleared of vegetation (but not planted or built on)’, as well as serving as a stative verb meaning ‘be cleared of vegetation’.

POc **m^walala* (n) ‘cleared land, clearing’, (v) ‘be cleared of vegetation, vacant’

Adm:	Baluan	<i>malala</i>	‘clearness; free from weeds’
NNG:	Manam	<i>malala</i>	‘market place, assembly place’
MM:	Lakalai	<i>malala</i>	(N) ‘area within a village used as a dance ground; garden area cleared but not yet planted’, (N) ‘be cleared of vegetation’
SES:	Arosi	<i>m^warara</i>	‘space (between things), hole, opening’
Mic:	Chuukese	<i>mannaan</i>	‘grassland (open, treeless)’
Mic:	Ponapean	<i>mall</i>	‘natural clearing in a forest’
Mic:	Satawal	<i>melal</i>	‘cleared ground’
Fij:	Bauan	<i>ʔalala</i>	‘be spacious, empty, free, at liberty, exempt’
Fij:	Wayan	<i>ʔ^walala</i>	‘be vacant, unoccupied, empty, free, exempt’

The semantics of POc **panua* are discussed in §5.5.

5.5 Territorial units and land tenure

5.5.1 POc **panua* ‘land, territory, inhabited place, community, etc.’

POc **panua*, which continues PMP **banua*, is very widely reflected in Oceanic languages, indeed more widespread than any of the terms reconstructed above. The persistence of **panua* suggests that it denoted something of very fundamental importance in the early Oceanic worldview. However, reconstructing its semantic history is a considerable challenge because its reflexes in present-day languages show an even more puzzlingly disparate range

of meanings than **pera*, **koro*. and **malaqai*. Some idea of how reflexes of **panua* vary in meaning within and across different subgroups of Oceanic is given by the following sample.

Adm:	Mussau	<i>anua</i>	'land'
Adm:	Penchal	<i>panu</i>	'village'
NNG:	Bariai	<i>panua</i>	'village'
NNG:	Bam	<i>anu</i>	'earth'
NNG:	Gedaged	<i>panu</i>	'village, settlement, hamlet, place, (modern) town'
		<i>panu-panu</i>	'everybody, the whole world'
NNG:	Kove	<i>pana</i>	'people'
NNG:	Tami	<i>panu</i>	'house'
PT:	Muyuw	<i>ven</i>	'land, earth, country, village, hamlet, town, home, place, locality, district, weather'
PT:	Dobuan	<i>anua</i>	'house'
PT:	Kiriwina	<i>valu</i>	'any place, land, village, uninhabited land'
PT:	Molima	<i>vanua</i>	'house'
		<i>vanua-pou</i>	'residents of a village'
PT:	Motu	<i>hanua</i>	'village; in compounds, 'world subject to diurnal cycle'
PT:	Mekeo	<i>panua</i>	'social division in a village'
MM:	Lakalai	<i>la-valu</i>	'the men'
		<i>valu-gu</i>	'members of my club (-gu 'my)'
MM:	Bali	<i>vanua</i>	'island'
MM:	Vitu	<i>vanua</i>	'garden'
MM:	Tabar	<i>vanua</i>	'house'
MM:	Taiof	<i>fan</i>	'village'
MM:	Tangga	<i>fān</i>	'many people, everybody'
MM:	Teop	<i>van</i>	'land'
MM:	Marovo	<i>vanua</i>	'house'
MM:	Vangunu	<i>vanua</i>	'house'
SES	'Are'are	<i>hanua</i>	'land (not sea); district, place, country; island; the territory where a person lives and where his possessions are, including houses, food, trees, water, graves'
SES:	Lengo	<i>vanua</i>	'village'
SES:	Arosi	<i>hanua</i>	'island, village'
SES:	Lau	<i>fanua</i>	'land, the earth, world, weather'
SES:	Kwaio	<i>fanua</i>	'place, village, shrine-territory'
		<i>mā-ʔe-fanua</i>	'segment of a territory, sub-clearing of a settlement'
SES:	Sa'a	<i>henua</i>	'land, country, village, site of village, place'
		<i>i hanua</i>	'on land, shore (not sea)'
		<i>taʔa ni hanua</i>	'people living inland'
NCV:	Mota	<i>vanua</i>	'land, island, village, place'
NCV:	Nokuku	<i>venua-na</i>	'house, home, village'
NCV:	Nguna	<i>vanua</i>	'bounded plot of land for gardening'
		<i>na-vanua</i>	'land, country, island'
NCV:	Neveei	<i>ne-vanu</i>	'place from which one originates'

NCV:	Paamese	<i>hanuo</i>	‘person, human being’
NCV:	Lewo	<i>vanua</i>	‘outside’
SV:	Aneityom	<i>n-henou</i>	‘taro swamp’
SV:	Kwamera	<i>ru-kʷanu</i>	‘home, residence, house, village, hamlet’
SV:	Lenakel	<i>na-uaniu</i>	‘village’
Mic:	Woleaian	<i>faziw</i>	‘land, island’
Mic:	Puluwat	<i>fani</i>	‘land, island, islet, country’
Fij:	Bauan	<i>vanua</i>	‘land, country, community, place, confederation of clans’; in compounds, ‘world’ subject to diurnal cycle
Fij:	Rotuman	<i>hanua</i>	‘land, country, place, native land, home, people’; in compounds ‘world subject to diurnal cycle’
		<i>hanua noho</i>	‘dwelling place, village’ (<i>noho</i> ‘dwell’)
Pn:	Tongan	<i>fonia</i>	‘land, country, territory, place, people (of the land), grave’
Pn:	Samoan	<i>fania</i>	‘land, field’
Pn:	E. Futunan	<i>fenua</i>	‘people, a people, nation, territory, land’
Pn:	Nukuoro	<i>henua</i>	‘land mass, island, country or any other geopolitical unit’
Pn:	Tikopia	<i>fenua</i>	‘land; island; country; inland, as opposed to shore; people of a land, folk; general physical environment; abroad’
Pn:	Rennellese	<i>henua</i>	‘land (not water), island, unknown land (poetic), people of the land’
Pn:	Tokelauan	<i>fenua</i>	‘land (owned by someone, or a land mass), country (geo-political unit), people of the village’
Pn:	Hawaiian	<i>honua</i>	‘land, earth’

This sample exhibits about 20 more or less distinct senses associated with reflexes of **panua*. The distribution of these senses across major subgroups of Oceanic is as in [Table 5.1](#).

In his discussion of PMP **banua* Blust (1987) compared cognate sets from three putative subgroups of Malayo-Polynesian: Western Malayo-Polynesian (WMP), Central Malayo-Polynesian (CMP), and South Halmahera-West New Guinea (SHWNG) as well as from Oceanic. Languages from the first three subgroups exhibit roughly the same range of glosses as can be found in Oceanic, with a few additions. For example:

WMP:	Belau	<i>beluu</i>	‘country, district, place’
WMP:	<i>Philippines:</i>		
	Kapampangan	<i>banwa</i>	‘year, sky, heaven’
	Bikol	<i>banwa?</i>	‘town, country’
	Cebuano	<i>banwa</i>	‘fatherland, town, village’
WMP:	<i>Northern Sulawesi:</i>		
	Sangir	<i>banua</i>	‘land, district; people; state; sea; weather’
	Tondano	<i>wanua</i>	‘village’
WMP:	Malay	<i>benua</i>	‘large expanse of land, empire, continent; mainland in contrast to island’

Table 5.1 Distribution of senses of reflexes of **panua* by subgroups

‘land (not sea or sky)’	Adm, PT, MM, SES, NCV, Mic, Fij, Pn
‘earth, ground (soil)’	NNG, Pn
‘world (subject to weather, day and night)’	NNG, PT, SES, Fij, Pn
‘weather’	PT, SES
‘island’	MM, SES, Mic, NCV, Pn
‘country, territory’	PT, Mic, Fij, Pn
‘uninhabited land’	PT (one language)
‘place, area, district, region’	NNG, PT, SES, NCV, Fij, Pn
‘village, settlement, hamlet’	Adm, NNG, PT, SES, NCV, SV
‘social division in a village’	PT (one language)
‘house’	MM, NNG, PT, NCV, SV
‘residents of a village’	PT (one language)
‘community of people’	NNG, MM, Fij, Pn
‘men’	MM (one language)
‘everybody’	NNG, MM (one language in each)
‘person, human being’	NCV (one language)
‘confederation of clans’	Fij
‘garden, plot of garden land’	MM, NCV, SV (but rare in each)
‘taro swamp’	SV (one language)
‘field’	Pn (one language)
‘shrine-territory’	SES (one language)
‘grave’	Pn (one language)

wMP: Old Javanese *wanwa* ‘inhabited place or area, settlement’

wMP: *Sumatra:*

Nias *banua* ‘sky, heaven; thunder; village; homeland; fellow villager; serf’

cMP: Selaru *hnu(a)* ‘village’

SHWNG: Numfor *menu* ‘village’

If POC **panua* had a single meaning, what was it? If it was polysemous, as its reflexes in many daughter languages are, which senses did it have? What paths led to the diverse senses found in contemporary languages?

In tackling these questions one meets a number of methodological problems, starting with the descriptive data. It must be said that the primary data, the definitions of **panua* reflexes given in bilingual dictionaries and wordlists of contemporary Oceanic languages, are often deficient. Most sources do not offer systematic definitions. Instead, the ‘definitions’ are typically single word glosses – serving as rough translations equivalents in the European target language. (This problem is not particular to dictionaries of Oceanic languages. It is systemic in that bilingual dictionaries are typically designed to be translation aids rather than to provide analytic definitions.) And such single word glosses as ‘land’, ‘earth’, ‘country’ and ‘people’ are themselves imprecise, because each has more than one sense. For example, the entry for **land** in *The Shorter Oxford English Dictionary* gives many senses, of which the following are relevant to our concerns:

- 1) the solid part of the earth, as opposed to sea, water.
- 2) ground or soil, esp. having a particular use or properties, e.g. fertile land, farm land.
- 3) a part of the earth's surface marked off by natural or political boundaries: a country, territory, domain.
- 4) ground or territory as property, landed property.
- 5) the country as opposed to the town.
- 6) expanse of country of undefined extent, usu. with modifier, e.g. *highland, uplands*.

Cruse (1986:80-81) writes that

Linguists who have worked in lexical semantics can be broadly divided into two categories: on the one hand there are those who believe that a word form is associated with a number (perhaps finite, perhaps not) of discrete senses; and, on the other, there are those who believe that the discreteness is illusory.

The second group prefer to think of variant readings of a single lexical form as forming a spectrum of senses, a continuum without clear boundaries, much like the colour spectrum or a dialect continuum. However, it is possible to have a foot in both camps. There are domains where the evidence favours analysis into discrete senses and domains where it favours analysis in terms of sense spectra. There are standard diagnostics for polysemy. These include the existence of synonyms, antonyms and contrasting forms restricted to particular senses, the construction of sentences with qualifying elements that are sensitive to sense differences, and the restriction of particular senses to occurrence in a small set of collocations or minor constructions.

Blust was impressed by the correspondence between the glosses for reflexes of **banua* in Iban, a language of Borneo, and 'Are'are, of Malaita in the SE Solomons. There is an ethnographically rich dictionary of Iban (Richards 1981) which gives the following definition:

menoa/menua area of land held and used by distinct community, esp. longhouse (*rumah*), including house, farms, gardens, fruit groves, cemetery, water and all forest within half a days journey. Use of the *menoa* is only gained and maintained with much effort and danger, and by proper rites to secure and preserve a ritual harmony of all within it and the unseen forces involved; home, abode, place, district, country, region; *menoa lajit* 'the heavens, abode of Petara and other deities.'

The definition of 'Are'are *hanua* given by Geerts (1970) mentions a very similar list of elements. Blust observes that in both Iban and 'Are'are the reflex of **banua*

refers to an inhabited territory that includes not only the human population and dwellings, but also plant and animal forms that contribute to the maintenance of the human community. Drinking water is mentioned in both glosses, as well as the burial sites of the deceased....

He concludes that PMP **banua* (and by implication POc **panua*) had a single but complex meaning.

PMP **banua*, then, probably referred to an inhabited territory which included the village and its population together with everything that contributed to the life-support system of that community (Blust 1987:100).

Table 5.2 Eight senses of Wayan Fijian *vanua* (N)⁶

Sense	Usage notes
1 'Land, ground, as opposed to sea' (<i>waitaci</i>), 'water' (<i>wai, ruwai</i>) or 'sky' (<i>lomālagi</i>). near syn. <i>qwele</i> .	Contrasts with locative phrases <i>i vōvō</i> , 'ashore, on land' (in contrast to 'at sea') and <i>i ata</i> , 'inland' (in contrast to 'on the coast').
2 Land in the sense of land mass, large tract of land, territory, country.	This sense may take modifiers indicating attributes, such as being fertile, stony, uninhabited, mountainous.
3 Homeland, someones home region or country.	Requires a possessive pronoun.
4 A particular delimited place, spot, area, district, region, zone.	Near synonym <i>tiki</i> .
5 A community, the people belonging to a place, a land-owning kin-group. Refers to a collective 'people', never to a single person.	<i>Ara sã sevutia na ledra tovatova i na vanua.</i> 'They presented the first fruits of their gardens to the community.'
6 The chief of a community, the representative of a community. Only metaphorically, in compounds such as <i>bilo ni vanua</i> (lit. 'cup of the community'), 'high chief, one who has been formally installed' and <i>aqona ni vanua</i> (lit. 'kava of the community'), 'the first cup of kava in a ceremony, drunk by the chief'; 'kava ceremony to welcome a visiting chief or for installing a new chief'.	<i>Ei na rugutia vinā me sã somia na aqona ni vanua.</i> 'He's well suited to be made chief.' (lit. 'He's well suited to drink the kava of the community').
7 A political confederation of clans under a chief.	(Possibly borrowed from Bauan Fijian.)
8 As the subject in certain verbal constructions concerning atmospheric, climatic and living conditions: the world, atmosphere, that which is subject to the diurnal cycle, weather and climate, e.g. <i>bogi na vanua</i> , 'be dark, night', <i>qwataqwata na vanua</i> , 'be dawn', <i>sigā na vanua</i> , 'be daylight, sunny, clear'.	<i>qwele</i> , 'ground, land'; <i>tiki</i> 'place, region', cannot be substituted in these constructions.

This complex but unitary meaning, he suggests, is 'fragmented' into various more specific senses. Our view is that a stronger case can be made for treating POC **panua* as a highly polysemous term, whose senses are distinct lexical units, differing from each other in features of grammar and in their semantic relations (synonymy, antonymy, etc.) to other lexical units. While the standard tests for polysemy cannot be applied directly to POC we can in principle

⁶ The orthography of the Wayan Fijian dictionary is retained in the table.

apply them to contemporary languages for which the data allow systematic treatment of sense discriminations.

In Wayan, a dialect of Western Fijian, some eight senses of *vanua* can be distinguished (Pawley and Sayaba 2022). Most, if not all of these can be shown to contrast by one or another diagnostic criterion, as indicated in Table 5.2.

We can go a fair way towards making sense of the great diversity of glosses in the daughter languages by assuming that POc **panua* had a range of senses corresponding roughly to those shared by the Fijian languages and certain languages of various other subgroups, including Muyuw of Papuan Tip, 'Are'are of S.E. Solomonian, Tongan and Tikopia of Polynesian, and Rotuman.⁷ These are shown in Table 5.3.

The senses attributed to **panua* do not include 'settlement' or 'village'. Closest to these is 3(a) 'territory belonging to a community, inhabited place'. It seems likely that in POc this broader sense encompassed habitation sites and their residents but that in certain daughter languages it was narrowed to refer specifically to the cluster of buildings and associated features that make up a village. This development in turn provided a platform for a further narrowing to 'house' in a number of languages.

To sum up, the comparative lexical evidence assembled in sections 5.4 and 5.5 does not tell us whether POc speakers occupied sizeable villages or dispersed hamlets.

Table 5.3 Probable senses of POc **panua*

	Sense	Distribution
1	Land in the sense of land mass, large tract of land, territory, country. This sense may take modifiers indicating attributes, such as being fertile, stony, uninhabited, mountainous.	Adm, PT, MM, SES, NCV, Mic, Fij, Pn
2	A land mass or defined territory and whatever features are an integral part of it (forests, lakes, rivers, settlements, etc.).	PT, Mic, Fij, Pn
3a	Territory belonging to a community, inhabited place.	PT, SES, Fij, Pn
3b	One's homeland, home place.	PT, Fij, Pn
4	Community associated with a territory, people of a community.	NNG, MM, Fij, Pn
5	Place, area, district, region.	NNG, PT, SES, NCV, Fij, Pn
6	(in certain multi-word expressions) The world: that which is subject to the day-night cycle, weather and climate.	NNG, PT, SES, Fij, Pn

⁷ The process that Blust refers to as *semantic fragmentation* is thus better viewed as a change in membership of a family of lexical units as a result of *sense transfer* rather than the *splitting of a single complex sense*. In reflexes of **panua* in daughter languages certain individual senses were retained, others were transferred to different lexical forms. For instance, in some languages reflexes of **panua* have retained the central senses of 'land (not sea)', 'land mass, country' and 'homeland, home place' but have lost the peripheral sense of 'weather' or 'world subject to weather.' Conversely, in Lau *fanua*, only the peripheral sense of 'weather' or 'world subject to weather' has been retained.

Table 5.4 Some phrasal expressions for world and weather containing reflexes of POC **panua*

Language	Phrasal expression + gloss	Notes
NNG: Manam	<i>anua izama</i> ‘morning, daybreak’	<i>anua</i> now means ‘village’
PT: Motu	<i>hanua-boi</i> ‘night’ (N) <i>hanua idaradara</i> ‘evening glow’	<i>-dara</i> ‘ascend’
SES: Sa’a	<i>sato e k^waʔalie henue</i> ‘the sun has risen’ (lit. ‘sun rises on (the) world’; <i>k^waʔali-</i> of heavenly bodies, ‘to rise on s.t.’)	from POC <i>*panua</i> ‘land’ + <i>*boji</i> ‘night’ (<i>hanua</i> now means ‘village’)
SES: Lau	<i>fanua sato</i> ‘sunny weather’	<i>sato</i> ‘sun’. Lau <i>fanua</i> no longer refers to land or settlements but occurs in several compounds specifying weather conditions
Fij: Bauan	<i>sā boji na vanua</i> ‘it is night time, nightfall’ <i>sā karobo mai na vanua</i> ‘it is twilight’ <i>sā siŋa na vanua</i> ‘it is daylight, it is sunny’ <i>ā siŋa-levu na vanua</i> ‘it is midday/the sun is high’	[is night the world] [is dusk the world] [is day/sun the world] [is big-sun the world]
Fij: Rotuman	<i>hanua ræn</i> ‘daylight, dawn’ <i>hanua ke pōŋ</i> ‘(until) nightfall’	[world day] <i>pōŋ</i> ‘night’
Pn: Rennellese	<i>henua pō</i> ‘night time’	<i>henua</i> ‘land, people of the land’
Pn: Tikopia	<i>ku pō te fenua</i> ‘darkness has come’	[has become dark the world]

5.5.2 World and weather

We note in passing that sense 6 attributed to POC **panua*, the world of the diurnal cycle and weather, is present in various Oceanic languages in certain multiword expressions containing reflexes of **panua*. A sample is shown in Table 5.4.

From this material we can reconstruct a family of POC verbal constructions of the type of **qaco na panua* ‘be(come) daylight, be sunrise’ and **boji na vanua* ‘be(come) dark, nightfall’ (where **qaco* and **boji*, otherwise ‘sun’ and ‘night’, are verbs), and a parallel set of complex nominal constructions of the type of **panua qaco* ‘sunrise, sunny conditions, daytime’, **panua boji* ‘nightfall, night time’ (vol. 2:40-41, 295).

5.5.3 Land tenure

Ann Chowning has written as follows of the range of variation in historically attested systems of land tenure in Melanesia.

Title to land is usually vested in a corporate group, membership of which is likely to be based on descent, residence or some combination of the two....

The details of systems of land tenure [in Melanesia] differ greatly from society to society. Some permit permanent alienation and individual ownership; others do not. It is not uncommon to find distinctions between gardening land, village land or house sites, and bush land, with different systems of rights applied to each, not to mention the rights that apply to sacred places, grave sites, paths, water supplies, sago swamps, and fishing areas. (Chowning 1977:39)

The strongest candidate for an early Oceanic term for a landholding corporate group is **kainaja* (§4.1.2.6), which has reflexes in Micronesian and Polynesian. Goodenough (1955) observed that in Micronesian languages this term typically refers to a land-owning matrilineal descent group. Bender et al. (2003a) offer the following, less precise semantic reconstruction for PMic:

PMic **kayinaja* ‘clan, folk, tribe, stock’ (Goodenough 1955; Bender et al. 2003a)

Mic:	Trukese	<i>kainaj</i>	‘matrilineal descent group, clan’
Mic:	Puluwat	<i>yayijan</i>	‘clan’
Mic:	Lamotrek	<i>kailaj</i>	‘a named exogamous matriclan’
Mic:	Woleaian	<i>gairaje</i>	‘clan, tribe, tribal division’
Mic:	Ponapean	<i>keynek</i>	‘clan, lineage, extended family’ (final <i>-k</i> unexpected)

For PPn we cite the reconstructions proposed by Marck (2010) and Kirch and Green (2001), which slightly modify those proposed by Koskinen (1960), Marck (2008) and Pawley (1982, 1985).

PPn **kainaja* (1) ‘descent group, headed by an **qariki* ‘chief’,’ (2) ‘the subjects of a chief, the common people’ (§4.1.2.6; Marck 2010); ‘a land-holding exogamous descent group tracing descent from a common ancestor and headed by an **qariki*’ (Kirch and Green 2001)⁸

Pn:	Tongan	<i>kainaja</i>	‘populace, people without chiefly rank’
Pn:	E. Uvean	<i>kainaja</i>	‘people not of chiefly rank’
Pn:	Anutan	<i>kainaja</i>	‘clan, membership based mainly on patrilineal descent’
Pn:	Tikopian	<i>kainaja</i>	‘clan, a non-exogamous descent group consisting of exogamous lineages’
Pn:	Rennellese	<i>kainaja</i>	‘subject of a chief’

⁸ Several Eastern Polynesian languages reflect a compound **mata kainaja*. **mata* probably derives from PCP **mata (qi)* ‘group of people serving a common purpose’, which was evidently proposed to nouns denoting kinds of social groups. Compare Bauan Fijian *mata-sere* ‘choir,’ *mata-bete* ‘hierarchy of priests’, *mata-qali* ‘clan, social division’, *mata-i-valu* ‘army.’

Pn:	Pukapukan	<i>keinaja</i>	‘maternal sublineage, headed by its oldest member’
Pn:	Hawaiian	<i>maka ʔainana</i>	‘populace, common people (in contrast to those of noble birth)’
Pn:	Marquesan	<i>mata ʔeinaja</i>	‘people, the people, subjects’
Pn:	Rarotongan	<i>mata kainaja</i>	‘a settlement, the inhabitants of a district’
Pn:	Tahitian	<i>ʔeinaʔa</i>	‘a body of followers, servants, people united by the same service’

PPn developed in the various islands of the Tonga-Samoa area after these were settled late in the first millennium BC, probably as a dialect network that remained quite cohesive for many centuries. Marck argues that PPn social organisation probably showed regional differences, with some smaller, less stratified island communities retaining the original use of **kainaja* to refer to unilineal descent groups (as in Anuta, Tikopia, Pukapuka) and larger, more stratified societies developing cognatic descent groups, leading to a shift in the meaning of **kainaja* from ‘descent group headed by a chief’ to ‘subjects of a chief, populace, commoners’. His arguments resemble those of Burrows (1939) who inferred that early Polynesian social grouping “consisted of descent groups which occupied and controlled territories and that this system was transformed repeatedly and in various ways” in different parts of Polynesia (Kirch and Green 2001:208).

The term **tau* ‘person, human being’ is well attested in both PMP and POc. A number of compound nominals containing **tau* have been reconstructed, including POc **tau mate* ‘dead person, corpse, ghost’, **tau paqoRu* ‘young adult of marriageable age’ and PEOc **tau tasi* ‘fisherman, expert mariner’ (Pawley 1985; vol.5:39–42). In some compounds **tau* has the sense of ‘owner’ or ‘person intimately associated with an entity’, e.g. POc **tau (ni) waga* ‘owner of a canoe’ and PPn **tau fale* ‘owner or occupant of a house’. This use of **tau* is often associated with phrasal constructions reflecting the form **tau ni N*, where the linker *ni* marks an associative relation, e.g. Dobuan, a Papuan Tip language, has such terms as *to-ni-ʔasa* ‘owner of a village’, *to-ni-butu* ‘owner of a feast’, i.e. ‘master of ceremonies’, *to-ni-to-ni-bwaʔa* ‘sprites’, lit. ‘little owners of the land’ (Grant 1953) and Molima, another Papuan Tip language, has *to-ni-bwaʔo* ‘owner of a garden’ and *to-ni-waga* ‘canoe owner’ (Chowning 1958).

The compound **tau panua* ‘native of a place, land owner’ is reconstructable for PEOc. Although no reflexes have so far been noted beyond EOc, it is likely that it was present in POc. Both the constituents and the construction type are attributable to POc.

PEOc **tau panua* ‘person belonging to a place, land owner’

SES:	Arosi	<i>au henua</i>	‘man born in and belonging to the place’
SES:	Sa’a	<i>eu-henue</i>	(N) ‘householder, neighbour,’ (V) ‘be a native of a place, be a resident’
NCV:	Mota	<i>ta-y-vanua</i>	‘joint owner of a village’ (i.e. ‘one of the land-owning locals’) (-y- reflects an earlier construct linker <i>*ki</i>)
Pn:	Samoan	<i>tau-fanua</i>	1. ‘commoner (as opposed to chief)’

2. ‘owner of land, landlord’ (in contrast to *tau-fale* ‘householder, prospective owner of house under construction’)

Pn: Tikopia *tau-fenua* (N) ‘wealthy man’, (ADJ) ‘wealthy’

Some Polynesian languages reflect a structurally parallel, functionally equivalent compound, **taŋata (qi) fanua*, in which **tau* ‘person, owner’ is replaced by **taŋata* ‘person’.

Pn: Tongan *taŋata ʔi fonua* ‘native, person who really belongs to the country’

Pn: Tikopia *taŋata fenua* ‘man of the land, man of status’

Pn: Maori *taŋata fenua* ‘land owner, native of a place’

From **panua*, sense 3, and the compound **tau panua* we can draw the unsurprising inference that POc speakers were divided into communities with recognised territories over which members had rights.

5.6 Conclusions

Linguistic evidence cannot definitively answer all the questions asked at the outset of this essay but it can tell us some things about Proto Oceanic speakers settlement patterns and relation to territory.

A strong prima facie case can be made that the POc speakers preferred to live close to the sea. Fishing and reef foraging was central to the economy and there was an extensive vocabulary relating to canoes and sea travel. Three kinds of buildings can be identified by name: **Rumaq*, main dwelling house, **kamaliR*, men’s meeting house and **pale*, a less substantial building, such as a shed for storage or other non-residential purposes. **malaqai* may have referred to a village plaza or public space in a settlement, but the semantic reconstruction is not secure. A term for canoe shed, **(a-)v(a,o)lau*, is reconstructable for PCP but not for POc. There is no term attributable to POc whose primary sense was ‘village’ or ‘settlement’ and it is unclear whether POc speakers lived in scattered hamlets or substantial villages; **panua* appears to have been used to refer to any inhabited place, as well as to the whole territory belonging to a community, including land cleared for gardens, and to the people of a place. The compound **tau panua* ‘person belonging to a place, land owner’ is reconstructable for PEOc and on logical grounds it can be inferred that it was present in POc but lost in non-EOc languages.

A term for a land-owning descent group, **kainan̄a*, is attributable to PROc, being reflected in both Micronesian and Polynesian languages but not in Western Oceanic, SE Solomonian or the Admiralties. As such, this term can be associated with the bearers of Lapita culture who moved into Remote Oceania but not with the Early Western Lapita tradition found in the Bismarck Archipelago.

6 *Recreation: music, song, dance and games*

MEREDITH OSMOND

6.1 Introduction¹

In Oceanic societies, music, song and dance are far more than recreation in the western sense although their enjoyment is often a prerequisite. Their performance spills over into many areas, into the performance of rites marking significant events, into the casting of spells and other forms of magic, into preparation for war, and as an expression of group solidarity and pride. Songs may serve to bolster effort, as in long-distance paddling by canoe or in hauling heavy logs. Dances, particularly war dances, may serve to instil fear in others. They are possessions that may be traded. Story-telling serves to memorise and pass on shared knowledge to the next generation. Such activities function to both express and preserve cultural values as well as serving to strengthen social cohesion.

Games form a somewhat different category, undertaken by children and young adults primarily for pleasure.

Music, song, dance and games may not have been recognised as nominal categories by a Proto Oceanic speaker². Nevertheless, for the sake of convenience, I have divided discussion of the role of these activities to cover instrumental music (§6.2); song (§6.3); dance (§6.4); and games, i.e. activities other than music and dance, the primary function of which is entertainment (§6.6). An amount of overlap, particularly between song and dance, is unavoidable.

6.2 Instrumental music

This section includes sound-making instruments used for purposes other than entertainment. Drums serve mainly to accompany dances, while the larger slitgongs may also be used to signal messages. Quieter instruments like flutes, panpipes, jew's harps and musical bows,

¹ Particular thanks are due to Alexandre François for comments and numerous additions to the data.

² No terms have been reconstructed for 'music' or 'games', for example, while we cannot be sure that reconstructions for 'song' and 'dance' are generic. Activities are more likely to be expressed verbally.

are all played mainly for personal enjoyment. It is noteworthy that these are precisely those instruments to which love magic properties are ascribed (Fischer 1986:156).

6.2.1 Trumpet, conch

In most locations the conch trumpet functions as a signalling device rather than as a musical instrument. It transmits messages, announces occasions like celebrations (Tok Pisin *singsings*) and deaths, and may serve as a war trumpet. Conditions under which it can be sounded are typically predetermined, and only certain persons are permitted to blow it (Fischer 1986:135-149). The shell used is generally the *Charonia tritonis*, although *Cassis* shells may be similarly used.

PMP **tapuRiq* ‘conch shell trumpet’ (ACD) (See vol.1:106, vol.4:183)

POc **tapuRiq* ‘triton shell: *Charonia tritonis*; a trumpet of this’

Adm:	Mussau	<i>taue</i>	‘triton shell’
NNG:	Takia	<i>taur</i>	‘conch shell/horn (used for sending messages)’
NNG:	Manam	<i>tauru</i>	‘conch shell; used as a horn for calling village meetings with the Kaunsel’
NNG:	Bariai	<i>taule</i>	‘shell trumpet, conch’
PT:	Kilivila	<i>tauya</i>	‘triton shell; trumpet of this’
MM:	Sursurunga	<i>taur</i>	‘shell type blown to send messages, triton shell’
MM:	Tolai	<i>tavur</i>	‘triton shell’
SES:	Lengo	<i>tavuli</i>	‘triton shell’
SES:	Sa’a	<i>ehuri</i>	‘shell trumpet, blown to summon people’
SES:	Arosi	<i>ahuri</i>	‘conch shell, triton; trumpet of this, blown only on solemn occasions, e.g. at a death’
TM:	Buma	<i>teveliko</i>	‘triton; conch shell traditionally used as a trumpet, esp. when sending out public signals’ (François)
NCV:	Lonwolwol	<i>taviu</i>	‘conch shell (and sound)’ (vowel metathesis)
NCV:	Lewo	<i>tapuru</i>	‘shellfish trochus spp.’
NCV:	Lakon	<i>tau</i>	‘conch shell, <i>Charonia tritonis</i> ’ (François 2013)
SV:	Sye	<i>(n)tovu</i>	‘triton shell’
Mic:	Kiribati	<i>tau</i>	‘triton conch, trumpet shell’
Mic:	Ponapean	<i>sewi</i>	‘conch shell, trumpet’
Mic:	Carolinian	<i>sawi</i>	‘conch shell trumpet’
Mic:	Woleaian	<i>tawi</i>	‘conch shell, trumpet’
Fij:	Wayan	<i>tavui</i>	‘triton shell: Pacific or Triton’s Trumpet’
Fij:	Bauan	<i>davui</i>	‘trumpet shell or triton’

A second POc term for the conch shell trumpet, **buu*, can be reconstructed. We do not know whether or how its meaning differed from **tapuRi*.

PCEMP **buu* ‘conch shell trumpet’ (ACD)

POc **buu* ‘conch shell trumpet’ (ACD)

NNG:	Uvol	<i>bu</i>	‘triton shell trumpet’ (Laade 1999:160)
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NNG:	Maenge	<i>bū</i>	‘triton shell trumpet’
SES:	Kwaio	<i>bū</i>	‘conch shell’
NCV:	Lonwolwol	<i>bu</i>	‘sound of the (holed) conch shell being blown, as a signal’
Mic:	Kiribati	<i>pu</i>	‘conch, sea-shell horn, trumpet’
PPn * <i>pū</i> ‘triton shell trumpet’			
Pn:	Niuean	<i>pū</i>	‘univalve mollusc shell; trumpet’
Pn:	Samoaan	<i>pū</i>	‘name given to molluscs belonging to genera Tritonium and Cassis, the shells of some of which are used as shell trumpets’
Pn:	Nukuoro	<i>bū</i>	‘conch shell trumpet’
Pn:	Tuvaluan	<i>pū</i>	‘shell trumpet, used to call important meetings’
Pn:	Tikopia	<i>pū</i>	‘trumpet, traditionally, large univalve shell’
Pn:	Tahitian	<i>pū</i>	‘trumpet’
Pn:	Hawaiian	<i>pū</i>	‘large triton conch shell (<i>Charonia tritonis</i>); any wind instrument’
Pn:	Maori	<i>pū</i>	‘volute univalve mollusc of the winkle type’

6.2.2 Flutes and panpipes

Flutes described in Oceanic communities may be end-blown or side-blown, mouth-blown or nose-blown. The flute type most widely distributed is the end-blown notched flute, made from a length of bamboo about 25–30 cm long with from one to three fingerholes. It is found in Mussau, throughout the Bismarck Archipelago, North Bougainville and Vanuatu, with some specimens also recorded from the Rai Coast (Fischer 1986:90).

Side-blown flutes belong overwhelmingly to a category known as paired or sacred flutes. The flutes lack finger holes and are played in pairs, one longer than the other. They can also be used for communicating with spirits of the dead. Their distribution supports Papuan rather than Austronesian ancestry (McLean 1994:23). No terms have been collected.

With the exception of the paired side-blown flutes, which are powerful fertility symbols used in garden magic and to frighten women and uninitiated youths with weird sounds, the flutes are associated with gentler, more peaceful purposes, such as making love charms, and attracting women. Hence they are normally played by men and played alone.

Panpipes are end-blown bamboos of varying or graduated length fastened together, either in a flat row or, less commonly, in a bundle. They are found throughout Melanesia including the Admiralties, Bismarck Archipelago, Solomons, Vanuatu and Fiji, but in Polynesia were found only as far as Tonga and Samoa, places where they are now obsolete (Buck 1927:173, McLean 1994:98). Laade (1999:154-159) describes the varieties of panpipes and the social observances followed by panpipe players in Maenge, SE New Britain. There they are played by men only, always individually, to attract a woman, or for some nostalgic memory. In contrast, in the Solomons, there are elaborate ensembles played by men and boys, with panpipes consisting of sets of up to twelve bamboos. However, this may be a modern development.

Most reconstructed terms for flutes and panpipes are either terms for kinds of bamboo or from the verb ‘to blow.’

POc **kopi* ‘bamboo; bamboo flute’ (vol.1:108)

PT:	Gumawana	<i>ko-kopi</i>	‘flute’
MM:	Halia	<i>kohi</i>	‘raft pan pipes, 3 or 4 bamboos’ (Chenoweth 1976); ‘small bamboo flute’ (Allen et al. 1982)

PPn **kofe* ‘bamboo sp.’ (POLLEX)³

Pn:	Niuean	<i>kofe</i>	‘flute; musical instrument of any sort’
Pn:	Tongan	<i>kofe</i>	‘green bamboo’
Pn:	Rennellese	<i>kohe</i>	‘bamboo’
Pn:	Samoan	<i>ʔofe</i>	‘bamboo, generic term’
Pn:	Luangiua	<i>ʔohe</i>	‘bamboo whistle’
Pn:	Tikopia	<i>(pū)kofe</i>	‘bamboo pipe, small instrument of single bamboo, used long ago, blown only by children’

Reflexes of POc **[k,q]auR* ‘bamboo’ reflect an extension of meaning from the raw material to the artefact made from that material.

PAn **qauR* ‘bamboo sp.’ (ACD)

POc **qauR* ‘bamboo; bamboo wind instrument’ (vol.3:400)

Adm:	Mussau	<i>kauru</i>	‘bamboo’
NNG:	Lukep	<i>kaur</i>	‘flute; traditional musical instrument made out of bamboo <i>monomono</i> . It has four notes per octave. Historically a man would play the flute when he was hungry and had nothing to eat.’
NNG:	Bilibil	<i>kau(-mahay)</i>	‘bamboo sp., flute, long bamboo wind instrument (2.7m x 5 cm)’
MM:	Tolai	<i>kaur</i>	‘k.o. bamboo’
MM:	Tinputz	<i>kaʔur</i> or <i>waʔur</i>	‘larger panpipes with mouthpiece, usually of three reeds of different diameter’ (Blackwood 1935:412)
SES:	Sa’a	<i>au</i>	‘panpipes’ (Tolo in origin, according to Ivens 1927)
SES:	Arosi	<i>ʔau(uhi-uhi)</i>	‘panpipes of bamboo’ (<i>ʔau</i> ‘bamboo’, <i>uhi</i> ‘blow’)
SES:	’Are’are	<i>ʔau</i>	‘bamboo’; ‘generic for music and musical instruments; panpipes’
SES:	To’aba’ita	<i>qau</i>	‘piece of bamboo that has been cut and used for a certain purpose, e.g. flute, panpipe’
TM:	Teanu	<i>okoro</i>	‘bamboo’; ‘certain bamboo artefacts’; ‘heavy bamboo, used as stamping tubes’ (François 2021)
NCV:	Mota	<i>au</i>	‘bamboo’
NCV:	Paamese	<i>(e-)au</i>	‘bamboo; knife; slitgong fixed in ground’
NCV:	Namakir	<i>ʔo</i>	‘bamboo; panpipe’
NCV:	Nguna	<i>(na-)au</i>	‘wild cane, reed; flute, mouth organ’

³ PPn **kofe* is one of a number of instances in which POc **-i* became PPn **-e*. Others are POc **buli* > PPn **pule* ‘cowrie shell’, POc **ta(m)puki* > PPn **puke* ‘mound’.

cf. also:

SES: Tolo *hau* ‘bamboo’; ‘panpipes made of bamboo’

POc **upi/*ipu* ‘blow; native flute’ (vol.1:107)

NNG:	Hote	<i>(y)uv</i>	‘blow’
NNG:	Uvol	<i>iu</i>	‘blow, thus generic for flutes and panpipes; generic for all bamboos’
PT:	Kiriwina	<i>(y)uvi</i>	‘blow’
PT:	Motu	<i>ivi(likou)</i>	‘a reed instrument, a flute’
MM:	Petats	<i>pū</i>	‘festival; panpipe; blow a bamboo flute: festival in which bamboo flutes are used’ (see also Blackwood 1935:412)
MM:	Teop	<i>piuvu</i>	‘bamboo flute; a native dance; blow, exhale’
MM:	Roviana	<i>ivu</i>	‘blow, as a conch shell’
		<i>iv-ivu(ana)</i>	‘a native flute’ (- <i>ana</i> NOMINALISER)
SES:	Bugotu	<i>ifu</i>	‘blow, of fire or panpipes; panpipes’ (exp. <i>ivu</i>)
SES:	Kwaio	<i>ufi</i>	‘play panpipes’
SES:	Sa’a	<i>uhi</i>	‘blow with the mouth upon an object’
SES:	Arosi	<i>(?au)uhi-uhi</i>	‘panpipes of bamboo’ (<i>?au</i> ‘bamboo’, <i>uhi</i> ‘blow, breathe’)
TM:	Teanu	<i>vi</i>	(VT) ‘blow (on to, into s.t.)’
NCV:	Mwotlap	<i>ip</i>	‘blow (pipe, conch shell)’
NCV:	Mwesen	<i>uv</i>	‘blow (pipe, conch shell)’
Fij:	Wayan	<i>uvi</i>	‘(sub. e.g. fire, flute) be blown with the mouth’
		<i>uvi-</i>	(VT) ‘blow s.t. with the mouth’
Fij:	Bauan	<i>uvu(δa)</i>	(VT) ‘blow with the mouth’
Pn:	Tongan	<i>ifi</i>	(VT) ‘blow with the mouth’

POc **pi(g,k)o* ‘bamboo wind instrument’

MM:	Nakanai	<i>vigogo</i>	‘a bamboo flute’
NCV:	Mota	<i>vigo</i>	‘native panpipes’

Nose flutes are rare in New Guinea, but prominent in Micronesia, Polynesia, and Fiji. However, McLean suggests that the Micronesian instruments may have been borrowed from the Philippines (1994:101). In a detailed and thorough investigation into the existence of nose flutes in Melanesia other than Fiji, Ammann (2007:1–12) shows that long-accepted reports of nose flutes in New Caledonia have been shown to be erroneous and finds no evidence that they existed in Vanuatu or the Solomons. Various references have been made to their existence in the Admiralties, including Friederici (1912) from Mouk [Manus] and Pak, and Nevermann (1933:381), and there is an illustration of an Admiralties end-blown bamboo nose flute held in the Auckland Museum (Moyle 1989:47), but Ammann (2007:9) considers none of them verifiable. He concludes:

References to the existence of nose flutes in Melanesia are often based on unacknowledged references to earlier publications or on hearsay. The earliest references are the most suspect, especially because none of the authors states that he heard and saw the flute being played for more than just a few notes. From the many

references on nose flutes in Melanesia, only a few seem to be of substance, especially those from Manus, but even there, the references are not unequivocal.

Oceanic reflexes of PAn **tulani* ‘bamboo nose flute’ refer to a range of blown instruments, but Bauan Fijian *dulali* means ‘nose flute’, supporting the hypothesis that POc **tulali* had this meaning, which became a generic for blown instruments as the nose flute fell out of use in western communities.

PAn **tulani* ‘bamboo nose flute’ (ACD)

PMP **tulali* ‘bamboo nose flute’ (ACD)

POc **tulali* ‘bamboo nose flute’

NNG:	Maenge	<i>tulala</i>	‘notched flute, raft panpipes; generic name for bamboo’ (Laade 1999:153–154)
PT:	Dobu	<i>tuna</i>	‘jew’s harp’
MM:	Sursurunga	<i>tulal</i>	‘flute-like instrument. This is a musical instrument that’s blown, made from special bamboo with holes drilled and a small notch at the blowing end’
MM:	Tangga	<i>tulal</i>	‘flute, made from a special kind of bamboo, played by both sexes’
MM:	Patpatar	<i>tulal</i>	‘bamboo flute’
MM:	Ramoaina	<i>tulal</i>	‘music; musical pipe; to make music’
MM:	Nehan	<i>tulal</i>	‘very small musical pipe, bamboo flute’
Fij:	Bauan	<i>dulali</i>	‘Fijian nose flute’
Mic:	Marshallese	<i>cilel</i>	‘triton shell, conch, trumpet’

Polynesian reflexes of POc **paŋus* ‘blow one’s nose’ are used in reduplicated form to refer to the nose flute.

POc **paŋus, *paŋus-i-* ‘blow one’s nose’ (vol.5:303–304)

PPn **faŋu-faŋu* ‘nose-flute’ (POLLEX: PPn **faŋu* ‘breathe, blow through nose’)

Pn:	Tongan	<i>faŋu-faŋu</i>	‘nose flute’ (<i>faŋu</i> ‘blow one’s nose’)
Pn:	E Uvean	<i>faŋu-faŋu</i>	‘bamboo nose flute’
Pn:	Samoaan	<i>faŋu-faŋu</i>	‘wind instrument, bamboo nose flute’
Pn:	Tokelauan	<i>faŋu-faŋu</i>	‘flute’
Pn:	W Futunan	<i>faŋu(jia)</i>	‘play panpipes’

cf. also:

Mic:	Puluwatese	<i>yaŋin</i>	‘nose flute’ (<i>yafoŋ</i> ‘nose, deferential’)
Mic:	Chuukese	<i>āŋún</i>	‘nose flute, used in former times by young men to serenade young women’ (Dietrich 2007)
Fij:	Rotuman	<i>faŋ-faŋu</i>	‘nose flute’ (Pn borrowing)

PPn **faŋo* ‘bamboo nose flute’ (from PPn **faŋo* ‘blow or speak through the nose’)

Pn:	Tongan	<i>faŋo-faŋo</i>	‘nose flute’ (Martin 1817)
Pn:	W Futunan	<i>faŋo</i>	‘pipe, flute’
Pn:	Mele Fila	<i>faŋo</i>	‘any musical instrument, but esp. mouth organ’

Pn:	Maori	<i>fajo</i>	‘having nasal sound’
Pn:	Hawaiian	<i>hano</i>	‘humming sound, nose flute’

6.2.3 Jew’s harp

In New Guinea the jew’s harp is always made of bamboo. They are mostly played by young men, particularly in courtship. McLean notes that the typical New Guinea-type jew’s harp is found throughout New Guinea, the Bismarck Archipelago, Admiralties, Solomons, parts of Vanuatu, New Caledonia and Rotuma. In Micronesia, where instruments are found only in the west, the shape is different and McLean (1994:98) suggests that they may have entered the area from the Philippines, independently of New Guinea. Fischer writes that its widest distribution is in New Guinea and island Melanesia, with its southernmost occurrence “apparently Florida [Gela] ... and that a reported instrument from New Caledonia is uncertain in its origin but definitely imported” (1986:48). He describes the jew’s harp as “an instrument of love magic, of courtship, or, with muted sound, of entertainment and simple communication between lovers” (p.49).

McLean (1994:95) quotes Marcuse (1975) as proposing that jew’s harps may have originated in southern China or south-west Asia. A bamboo form, apparently identical with the instrument in New Guinea is still played by the Mosua people of southwestern Yunnan Blust notes (1995b:496) that it is a basic traditional musical instrument “among many Formosan aborigines and elsewhere in island Southeast Asia”.

Although few terms have been located, evidence is sufficient to permit a POc reconstruction.

POc **b(u,o)go-b(u,o)go* ‘jew’s harp’ (vol.1:110)

Adm:	Lindrou	<i>bugubug</i>	‘mouth drum’ (Nevermann 1933:383)
NNG:	Mapos Buang	<i>bgog</i>	‘jew’s harp; usually made from bamboo’
MM:	Petats	<i>pokpoko</i>	‘jew’s harp’ (Blackwood 1935:413)

In Samoa (and presumably elsewhere in Polynesia), the so-called jew’s harp is constructed from a short length of coconut leaflet, one end of which is gripped in the teeth. One hand holds in contact along the leaflet a length of coconut midrib while the other hand twangs the free end of this midrib (Moyle 1988:42). It has something in common with the jew’s harp from Gaua in Vanuatu (no name in the local language) described by François and Stern (2013), which is also made from coconut leaf and stem.

PPn **qutete* ‘jew’s harp’ (**quti* ‘bite’ + **tete* ‘shiver, tremble, vibrate’)

Pn:	Tongan	<i>ʔutete</i>	‘jew’s harp’
Pn:	Samoan	<i>utete</i>	‘jew’s harp’
Pn:	E Futuna	<i>utete</i>	‘jew’s harp’

6.2.4 Bow

Musical bows are stringed instruments made from a piece of bent reed or bamboo with one end held in the mouth which then acts as a resonator. They are found in Melanesia from north New Britain through parts of the Solomons to Vanuatu (Chowning & Goodenough

2016:345, Blackwood 1935:413, Codrington 1891:339, Lewis 1951:177, Fischer 1986:71). Few terms have been collected, none cognate.

6.2.5 Rattles

McLean (1994:14) lists rattles made from diverse materials including seeds and seed pods, various nuts, fruit, snail and seashells, pig's and dog's teeth, crayfish shells and crab claws. The purpose of most is to accompany dance, although Seligman (1910:292) describes seeds of *Pangium edule* being used as rattles attached to nets in wallaby drives in the Roro speaking area of southern PNG. They are commonly worn as anklets, where the sound is enhanced by the regular stamping action of most dances, but are sometimes worn also on the wrist. Although non-cognate terms have been collected from Kove and Mamusi (NNG), Kiriwina (PT) and Nakanai (MM), the only reconstruction made is a PEOc term. This is also the term for the tree, *Pangium edule*, the fruit of which is used for dance rattles in the SE Solomons and Vanuatu.

PEOc **paRage* 'tree sp., *Pangium edule*; dance rattles' (vol.3:336)

SES: Tolo	<i>valage</i>	'type of large seed pod worn to make noise when dancing'
SES: Kwara'ae	<i>falake</i>	' <i>Pangium edule</i> ' (Whitmore 1966)
SES: Lau	<i>falake</i>	'seeds tied on legs in dancing; sp. of tree'
SES: Kwaio	<i>falage</i>	'rattle'

PNCV **vaRage* 'tree sp., *Pangium edule*, fruit used as dance rattles' (Clark 2009)

NCV: Mota	<i>varake</i>	'tree; shells of the fruit tied to the ankles as rattles in dances'
NCV: Raga	<i>vange</i>	' <i>Pangium edule</i> '
NCV: NE Ambae	<i>vake</i>	'ankle rattle tree, <i>Pangium edule</i> '
NCV: Pt Sandwich	<i>(vi)vang</i>	'dance rattles'

cf.also:

NNG: Kove	<i>paloko</i>	'anklets worn by dancers'
MM: Nakanai	<i>golo-golo</i>	'ankle rattles, used in dances'

6.2.6 Hourglass or kundu drum

The hourglass drum, known as *kundu* in Tok Pisin of PNG, is of wood with a lizard or snakeskin membrane covering one end. It is hourglass-shaped with a narrow waist to which a handle is often attached. The main use of these drums is to provide a rhythmic accompaniment to dances. They are beaten by hand, each person carrying his own instrument. McLean reports that kundu drums are not known east of Bougainville apart from eastern Micronesia (1994:4), and the cognate set below bears this out. The NNG cognates have evidently broadened their meaning to cover drums in general. Harding reports that "drums are probably manufactured over a wide area, but the Tami Islands, Arop and Karkar Islands are recognised centres for the manufacture of superior hardwood [hourglass] drums" (Harding 1967:41). Kundu drums are widely used throughout non-

Austronesian-speaking communities of New Guinea, and it is likely that they are Papuan in origin.

PWOC **kud(u,e)* ‘hourglass drum’ (vol.1:109)

NNG: Kilenge	<i>kure</i>	‘slitgong drum, hourglass drum’
NNG: Kove	<i>kure</i>	‘hourglass drum, slitgong’
NNG: Mamusi	<i>kuru(miso)</i>	‘generic for kundus, large and small, with and without handles’ (Laade1999:179)
MM: Vitu	<i>kude</i>	‘(hour-glass) drum’
MM: Bulu	<i>kude</i>	‘(hour-glass) drum’
MM: Nakanai	<i>kude</i>	‘hourglass drum’
MM: Patpatar	<i>kudu</i>	‘drum’
MM: Tolai	<i>kudu</i>	‘a long drum, the end of which is covered with the skin of an iguana’
MM: Tinputz	<i>kuntu</i>	‘hand drum’

6.2.7 Slitgong or garamut

A slitgong or *garamut* (Tok Pisin) is a hollow log with a narrow slit along one side which produces a deep resonating sound that can be heard at a considerable distance when beaten with a stick. Slitgongs are used for signalling, for ceremony and to accompany song and dance. They may range in length from as little as 40 cm to four metres or more, although most are between 1.5 and two metres long (McLean 1994:52). Size is to some extent dictated by available logs, but for signalling purposes the larger the better. Playing the slitgongs has been highly developed in the Solomons where *kundu* drums are unknown. Stella (1990:49-51) describes the situation in Banoni (central Bougainville) where nine or ten *garamuts* of various sizes are played in large ensembles kept in special houses. These *garamuts* are always sounded as a group, not individually, and they are sounded for specific events, never without a cause. Playing patterns carry identifiable messages such as calling people to assembly, announcing an important death, counting of pigs at a feast, or announcing that someone has fallen from a tree. Blackwood (1935:409-410) describes the signals used to carry particular messages in the northern tip of Bougainville, but here only one *garamut* is used. On Karkar Island off the north New Guinea coast a single *garamut* is beaten to signal the advent of the new moon and an ensuing night of celebration (Malcolm Ross pers. comm.). In Arosi (SE Solomons), they are played in sets of three, equivalent to base, tenor and treble, but the purposes for which they are played are not clear. Fox (1978) describes the advantages of several tones as enabling coded messages in words to be sent and received over considerable distances. Fox also mentions that in Arosi the base gong serves as accompaniment for four-line rhyming songs. In central and southern Vanuatu, slitgongs stand grouped in upright position. Polynesian slit drums differ from Melanesian ones in having a wider opening, making them more trough-like (Fischer 1986:33). Fischer writes “it appears that the Polynesian instruments are, independent of Melanesia, a purely west Polynesian phenomenon” (p.35).

McLean writes: “In New Guinea the slitgong is pre-eminently an instrument of north coast seagoing and riverine peoples. Although it is by no means confined to Austronesian populations they come immediately to mind as purveyors of the instrument” (1994:52).

Blust notes that the slitgong is attested in Taiwan (quoting Chen 1988:79-80). On this evidence, together with his own observance of a specimen in Yogyakarta in the early 1980s, Blust (1995b:497) thinks it likely that the slitgong has a history dating back at least to PMP times.

Three POc reconstructions are proposed for ‘slitgong’: **koŋkoŋ*, **garamut* and **rali*. POc **koŋkoŋ* has reflexes denoting the slitgong in Biliau in NNG and in SES.

PAn **kuŋkuŋ* ‘slitgong’ (ACD)

POc **koŋkoŋ* ‘slitgong’ (Blust 1995b:496)

NNG:	Biliau	<i>koŋkoŋ</i>	‘bamboo bell (slit bamboo gong which is beaten)’
SES:	Bugotu	<i>koko</i>	‘wooden gong’
SES:	Gela	<i>koko</i>	‘wooden gong, usually called a drum’
SES:	Tolo	<i>koko</i>	‘traditional drum’
SES:	To’aba’ita	<i>oʔo</i>	‘traditional slit wooden drum, used for sending messages and as a musical instrument’
SES:	Sa’a	<i>ʔoʔo</i>	‘wooden gong’
		<i>para ni ʔoʔo</i>	‘set of three gongs (<i>para</i> ‘fence, row, set of things’)
SES:	Arosi	<i>ʔoʔo</i>	‘wooden gong, made in sets from a hollowed tree, and used to send messages by a code so that practically any message can be sent’
		<i>bara-i-ʔoʔo</i>	‘set of slitgongs’

cf. also:

MM:	Halia	<i>koŋkoŋ</i>	‘jew’s harp, played by men and women at any time’ (Chenoweth 1976:14)
MM:	Hahon	<i>koŋkoŋo</i>	‘musical bow’ (Blackwood 1935:413) ⁴

Regular reflexes of POc **garamut* occur in Mussau and in MM languages, while NNG reflexes all fail to reflect the first vowel as expected *-a-*. This may be because the first syllable of a three-syllable word like **garamut* was reduced, as it is in the Ramoaaina reflex below. The northern Vanuatu reflexes under ‘cf. also’ are at best irregular, as they point to the PNCV form **kore*, glossed ‘musical instrument’ by Clark (2009) as some reflexes mean ‘flute’ or ‘pan pipes’. The expected PNCV reflex of POc **garamut*, however, would be †**karamu*.

POc **garamut* ‘slitgong’

Adm:	Mussau	<i>yalamutu</i>	‘slitgong’
NNG:	Kove	<i>yilamo</i>	‘slitgong’
NNG:	Bing	<i>giram</i>	‘garamut, log drum’
NNG:	Biliau	<i>giram</i>	‘garamut, log drum’
NNG:	Manam	<i>giramo</i>	‘slitgong’

⁴ From Blackwood’s description this is a jew’s harp: ‘a flat strip of cane strung like a bow. It is played by holding one end between the teeth, with string towards the face, so that the mouth acts as a resonator, while the string is plucked with the fingers towards the other end of the bow. It is used by women only, and solely for amusement, never for ceremonial purposes or at dances.’

NNG:	Kairiru	<i>giram</i>	‘slitgong’
NNG:	Gitua	<i>gilamu</i>	‘slitgong’
NNG:	Yabem	<i>gelom</i>	‘signal drum, made from a large log’
NNG:	Numbami	<i>gilami</i>	‘slitgong’
NNG:	Hote	<i>golom</i>	‘garamut drum’
MM:	Nakanai	<i>galamo</i>	‘slitgong’
MM:	Bola	<i>garamo</i>	‘slitgong’
MM:	Tolai	<i>garamut</i>	‘slitgong’
MM:	Ramoaaina	<i>garamut</i>	‘slitgong’
MM:	Sursurunga	<i>garap</i>	‘(bamboo slit) drum; beat a <i>garap</i> drum’
MM:	Halia-Haku	<i>garamuc</i>	‘slitgong’
MM:	Teop	<i>karamusu</i>	‘slitgong’
MM:	Tinputz	<i>kāmus</i>	‘drum: slit drum’

cf. also:

NCV:	Mota	<i>kore</i>	‘horizontal slitgong’ (François 2005)
NCV:	Lo-Toga	<i>kor</i>	‘horizontal slitgong’
NCV:	Mwotlap	<i>nɔ-kɔj</i>	‘horizontal slitgong’
NCV:	Kiai	<i>kore</i>	‘slitgong’

The PT terms in the following set are assumed to have been borrowed from Polynesia. McLean (2008:44) notes that teachers from the London Missionary Society took the Cook Islands *pate* to Samoa for use as a church bell. Its name and associated use may have been carried by missionaries from there to parts of New Guinea in the 19th century.

PT:	Tawala	<i>pate</i>	‘bell/drum’
PT:	Gumasi	<i>pate</i>	‘a drum’
Pn:	Samoa	<i>pātē</i>	‘small wooden hand gong used for summoning children to school etc.’
Pn:	Tuvalu	<i>pate</i>	‘small slit drum’ (Koch 1984)
Pn:	Rarotongan	<i>pate</i>	‘k.o. drum from hollowed log, used to give time in dancing (also called <i>tokere</i>), beaten with one stick’ (Buck 1927:355)

POc **rali* ‘slitgong’ is reflected in the Admiralties and Fiji.⁵

POc **rali* ‘slitgong’ (ACD: **drali*)

Adm:	Ere	<i>dral</i>	‘slitgong’
Adm:	Likum	<i>can</i>	‘slitgong’
Adm:	Lindrou	<i>dran</i>	‘slitgong’
Adm:	Hus	<i>nhal</i>	‘slitgong’

PCP **lali* ‘wooden drum or gong’

Fij:	Bauan	<i>lali</i>	‘native wooden drum beaten with two sticks’
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⁵ The ACD reconstructs this as **drali* on the basis of the Admiralties forms, but the latter reflect Admiralties secondary nasal grade, not the primary nasal grade of POc (Ross 1988:335, 338).

cf. also:

Pn:	Tongan	<i>lali</i>	‘wooden drum (Fijian style)’
Pn:	Samoaan	<i>lali</i>	‘middle sized wooden gong, drum’
Pn:	Tuvalu	<i>lali</i>	‘bell; wooden gong’

The Central Pacific forms above show assimilation of the first liquid to the second, as Bauan Fijian does not permit /rVI/ sequences (Blust 2000b:187). McLean (pers. comm.) suggests that the Polynesian terms have all been borrowed from Fiji (hence their listing under ‘cf. also’). Two further PPn forms are reconstructable.

PPn **nafa* ‘a wooden drum’ (POLLEX)

Pn:	Niuean	<i>nafa</i>	‘small wooden drum shaped like a canoe, with a narrow slot on one side’ (McEwen 1970)
Pn:	Tongan	<i>nafa</i>	‘drum’
Pn:	Pukapukan	<i>nawa</i>	‘small wooden gong’
Pn:	Samoaan	<i>nafa</i>	‘native slit drum, used in rhythmic accompaniment to song and/or dance’ (Pratt 1911)
Pn:	Tikopia	<i>nafa</i>	‘large bowl-shaped trough (sometimes canoe hull serves)’

PPn **pasu* ‘drum, to drum, thump’

Pn:	Niuean	<i>pahu</i>	‘drum’
Pn:	Tongan	<i>pahu</i>	‘to thump’
Pn:	Rarotongan	<i>paʔu</i>	‘drum formed from a hollowed block and covered with sharkskin’
Pn:	Tahitian	<i>pahu</i>	‘drum; thumping blow’
Pn:	Maori	<i>pahū</i>	‘wooden gong’
Pn:	Hawaiian	<i>pahu</i>	‘drum’

6.2.8 Stamping tubes

Stamping tubes are lengths of bamboo with one end open, and all but the bottom node removed. They are sounded by dropping the closed end vertically against the ground or a hard surface like a stamping board. Fischer (1986:7) notes widespread distribution including “E New Guinea, Malaita, Fiji, W Polynesia and Hawaii”. Stella (1990:39) reports their use from Banoni (NW Solomons) where they are called *cucubini*. François (2021) records them from Vanikoro (Reefs-Santa Cruz) as *woi okoro* ‘to stick bamboos’—to pound heavy bamboos vertically and repeatedly onto the ground, to mark bass rhythms while singing. He notes that they are also found in New Caledonia (pers. comm.). François and Stern (2013) record their use in northern Vanuatu. They were also mentioned by James Cook in his journals, who saw them used in Tonga in 1777 in groups of four or five to accompany dance (Cook & King 1785, vol.1:292-3). There they were known simply as *kofe* (bamboo). No reconstruction has been made.

6.2.9 Bullroarer

Bullroarers are found in Melanesia as far east as Vanuatu, New Caledonia and Fiji. In Polynesia their place is taken by the leaf whizzer which is invariably a toy. The bullroarer is “a flat lens-shape to double-pointed rhomboid-shaped piece of wood with a hole in one end through which a string is drawn. ... The instrument is whirled round the head, producing a humming sound” (Fischer 1986:80). Used only by men, it is associated with initiation, secrecy, deception of women and spirit voices. It is used ritually in both Australia and New Guinea. McLean suggests that the current distribution of bullroarers in New Guinea is a result of borrowing from Australia (1994:43). The bullroarer recorded by François and Stern (2013:119) in northern Vanuatu is described as “a toy rather than a genuine [musical] instrument, and is used just for entertainment.” It is made from a coconut frond with the midleaf removed, which is whirled round the head. The double rotation of the instrument, simultaneously above one’s own head and on its own axis, results in a loud, deep humming sound.

Although a handful of terms have been collected, none are cognate. Informants generally are extremely reluctant to speak of the instrument, and may resort to diversionary tactics when asked its name.

6.3 Song

Singing is predominantly choral and traditionally associated with dance, although hymn singing may now have overtaken traditional dance as the most frequent performance of song.

Songs, like dances, are regarded throughout Melanesia as property, and can be bought and sold like any other commodity (§6.3.10).⁶ Because they can be traded and because they are open to innovation, reconstructing terms for particular songs and dances is not a productive exercise. However, the forms, as opposed to the content, are more or less stereotyped, and it is terms for these which offer our best chance of reconstruction.

François (2013:74-5) writes that in Vanuatu,

Musical arts form not only a link between past and present but also, by extension, between the living and the dead, between humans and spirits. ... A fair proportion of musical forms in Vanuatu are bound by the oath of secrecy and are the exclusive property of a few men, by virtue of their privileged ties with the world of the Ancestors. Some songs, dances, instruments, rhythms or melodies are therefore inaccessible to children or to women, or to any other person who has not acquired the relevant rites.

Throughout Micronesia, music is predominantly vocal rather than instrumental. Diettrich et al (2011:20) write that

The vocalization of poetry, whether in oratory, song, or formal story-telling, communicates social and cultural values and is a powerful expression of sentiment in everyday life. ... The oldest vocal music displays many melodic shapes, from lyrical

⁶ This contrasts with the practice in Polynesia where song and dance are considered as beyond price, not to be demeaned by being treated as commodities to be bought and sold (McLean 1999:392).

chants to rhythmically intoned speech, but many indigenous melodies exhibit a narrow range of pitches employed in monophonic and occasionally polyphonic textures.

Sung poetry in Micronesia is typically accompanied by expressive body movements. Diettrich et al. (p.21) describe a genre known as *wuur*, a type of vocal music performed as group seated dances using hand and arm movements punctuated by hand claps.

6.3.1 General term

The following is reconstructed as a general term for ‘sing’, and ‘song’. Its POc meaning may have been more specific, but it is rare to find reflexes defined in more than general terms. In many cases terms will be both noun and verb.

PCEMP **wari* ‘sing, song’ (ACD)

POc **wari* ‘sing, song’

Adm: Nali	<i>wali(y)</i>	‘sing’ (< POc * <i>wari-a</i> VT)
Adm: Loniu	<i>weʔi(y)</i>	‘sing’ (< POc * <i>wari-a</i> vt)
NNG: Wab	<i>ware</i>	‘sing’
PT: Dobu	<i>wari</i>	(N, V) ‘song, sing’
PT: Molima	<i>wali</i>	‘sing, song’
Pn: Pukapukan	<i>vai</i>	‘k.o. chant’ (reflects * <i>waRi</i>)

cf. also:

NNG: Maeng	<i>walu</i>	‘spells or charms for gardening, fishing, hunting, curing ills, sex, weather (Laade 1999). ⁷
PT: Bwaidoga	<i>k^weli</i>	‘song, hymn’

Bwaidoga is shown under ‘cf. also’ as it appears to be a loan from an Oceanic language in which POc **w-* had become *k^w-*, perhaps, as the gloss ‘hymn’ suggests, via missionaries speaking a SE Solomonic language of northern Malaita. However, a source word has not been found.

POc **kanam* may refer to a particular song or kind of song, but on the basis of reflex meanings below it is impossible to be more specific. There is an ambiguity in the reconstruction, as the SES terms reflect POc **kana* or **kanaC*, where **-C* is a consonant. The NNG terms suggest that this consonant was **-m* but final consonants are also lost in the two NNG languages, Takia and Gedaged, implying POc **kanamV*, where **-V* is a vowel. The data do not allow a resolution of this ambiguity.

POc **kanam* ‘sing, song’

NNG: Takia	<i>kanam</i>	‘a specific ritual dance in which the people chant and dance to drums’ ⁸
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⁷ Women have *walu* for childbirth, pregnancy, raising children etc.

⁸ It was later adopted by the Lutheran church in the Madang area as the term for song or hymn.

NNG: Gedaged	<i>kanam</i>	‘name of a specific dance and melody performed at a feast in the daytime; mimics fish, fowl, snakes, wasps and sexual intercourse’
SES: Lau	<i>kana</i>	‘to hum; to sing old songs’
SES: Sa’a	<i>kana</i>	(VI) ‘to sing’, (N) ‘song’
SES: ’Are’are	<i>kana</i>	‘sing in incantations to a spirit to learn a sickness cure’
cf. also:		
PT: Motu	<i>ane</i>	‘song, hymn’ (<i>ane abi-a</i> ‘to sing’)
SES: Kwaio	<i>gana</i>	‘sing’ (reflects *g-)
	<i>gana-fali</i>	‘k.o. customary singing’ (<i>fali</i> ‘branch, division’)
SES: To’aba’ita	<i>kana</i>	‘k.o. traditional song’, (VI) ‘sing’ (reflects *g-)
SES: Arosi	<i>gana</i>	‘to sing’ (reflects *g-)

PMP **ɣuŋ*, **ɣu(ŋ)ɣuŋ* ‘buzz, hum’ (ACD)

POc **ɣuŋu* ‘hum’

SES: Lau	<i>ɣū</i>	‘hum, chant, sing’
SES: Arosi	<i>ɣū</i>	‘hum’
Pn: Tongan	<i>ɣūŋū, hiva ɣūŋū</i>	‘to hum’ (<i>hiva</i> ‘sing’)
Pn: Rennellese	<i>ɣūŋū</i>	‘speak quietly, hum’

6.3.2 Dance songs

Dance songs have particular roles and functions. For instance, Laade gives a detailed account of the categories of song and dance performed at Maenge on the south coast of New Britain, listing more than fifty by name (1999:130-142). Many are known to have been borrowed. Some are for daytime, others for night. Standing up dance songs are sung until midnight, followed by sitting down songs without dancing. Some are ‘occasion’ songs sung to mark such events as the blackening of teeth, supraincision of boys and piercing of the septum of girls, while others are war or victory songs. Others such as *sasaŋa* are described as ‘pure entertainment’ (Laade 1999:148). Events such as the opening of a men’s house or end of harvest time may justify a night of singing and dancing. These are typically performed with hourglass drum accompaniment. Dance songs are further differentiated by gender, and sometimes also by age, with song parts and dance roles for young men, older women and so on.

Terms for dance songs may sometimes refer to both the song and its associated dance. Because song and dance are dealt with under separate headings, inclusion of reconstructions into one or the other is sometimes arbitrary.

POc **raŋi* ‘a song to accompany dance’, ‘to sing, song, melody’ (Pawley 1976)

NNG: Manam	<i>raŋ</i>	‘song’
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NNG: Takia	<i>(i)raŋ</i>	‘a festival normally held during a full moon’ ⁹
NNG: Mapos Buang	<i>ran</i>	‘women’s dance’ ¹⁰
PPn * <i>laŋi</i> ‘sing, song’		
Pn: Tongan	<i>laŋi</i>	‘singing or song, esp. accompanying a native dance’
Pn: Samoan	<i>laŋi</i>	‘sing; song’
Pn: Tikopia	<i>raŋi/aŋa</i>	‘air of dance song’
Pn: Maori	<i>raŋi</i>	‘tune, air, portion of a song’
Pn: Tahitian	<i>rai(fa)</i>	‘native song’
cf. also:		
NCV: Mota	<i>leŋa</i>	‘a women’s dance’
NCV: Raga	<i>leŋa</i>	‘k.o. dance, usually performed by men’
NCV: Uripiv	<i>na-leŋ</i>	‘a traditional dance’
NCV: Nguna	<i>leya</i>	‘to sing, song’

POc **b^vaku* (v) ‘to sing, dance’

Adm: Seimat	<i>pak</i>	(VI) ‘sing, dance’
	<i>paku-a</i>	(N) ‘song, dance, chant’
NNG: Uvol	<i>pau</i>	‘to sing’
	<i>pau-ŋa</i>	‘song’ (Laade 1999:117)
NNG: Poeng	<i>vau</i>	‘to sing’
NNG: Maeng	<i>bau-ŋa</i>	‘song’
NNG: Bariai	<i>bau</i>	‘to sing’
	<i>bau-ŋa</i>	‘song’
NNG: Gitua	<i>b^vau</i>	‘to sing’
NNG: Kove	<i>vou</i>	‘to sing’
MM: Nakanai	<i>bau, bau-bau</i>	‘to sing, sound (of drum)’
MM: Ramoaina	<i>pak</i>	(VT) ‘compose a song, arrange a dance’

In the central Caroline Islands people perform *wuur* as part of a long sequence of dance songs during special community gatherings (Diettrich et al. 2011:23).

PChk **uru* ‘play, dance’ (not in Bender et al. 2003a)

Mic: Puluwatese	<i>wur</i>	‘to play’
Mic: Woleaian	<i>uzu</i>	(N) ‘dance, play, game’; (VI) ‘dance, play’

⁹ Thomas (n.d.; see Appendix 1) glosses this as ‘a festival normally held during a full moon in which there is singing and dancing, however drums are not used. It is one of the rare times when young men and women can hold hands in public. They gather in a large circle, hand in hand, moving back and forth, swinging their hands while joyously singing. They will sing various types of fun songs, love songs. Many of the songs have been handed down from generation to generation. No one outside of the clan may sing these songs, with the exception of those who have purchased the rights. Others will write songs especially for that occasion.’

¹⁰ Rambok & Hooley (2010) gloss this as ‘dance; with the characteristic stroking motion of the feet that the women use and which is different to that normally used by the men.’

Mic: Carolinian *ur* (N, VI) 'traditional means of recreation incl. dances and games'

cf. also:

Mic: Carolinian *ukkuru* (N) 'game'; (VI) 'play a game'

Mic: Marshallese *kkure* 'play, game, drama'

The term below appears to be limited to Polynesia.

PPn **siwa* 'sing and dance' (POLLEX)

Pn: Tongan *hiva* (VI) 'to sing'; (N) 'singing, song, singer; choir'
 Pn: Pukapukan *yiva* 'a type of chant'
 Pn: Samoan *siva* 'to dance'; (N) 'dance' (John Jackson as quoted by Erskine 1853:416); 'dance accompanied by song' (Pratt 1911)
 Pn: Tikopia *siwa* 'dance said to be a dance of the spirits'
 Pn: E Uvean *hiva* 'song'
 Pn: W Futunan *siva* 'a traditional style of dancing'
 Pn: Tokelauan *hiva* 'dance'
 Pn: Maori *hiwa* 'lightheartedness as shown in singing, laughing; wakeful, alert; charm recited over newborn child'

cf. also:

NCV: Lo-Toga *hawa* 'dance (generic)'
 NCV: Mota *sawa* 'perform a manly dance'
 NCV: Mwotlap *haw* 'perform a manly dance'
 NCV: NE Ambae *sawa* 'k.o. dance'
 Pn: Tahitian *heiva* 'general term for any amusement, sport, singing, archery etc.' (Ellis 1831:204)
 Pn: Tuamotuan *heva* 'k.o. lament'

6.3.3 Part songs

One popular song form is the part song, with narrator/introductory soloist and group responders for chorus. In a number of songs mentioned by Laade (1999:117), performed at Maenge, Lote and Mamusi, the chorus is repeated identically several times, whereas changes occur in the 'counting' by the soloist. 'Counting' means that in each new stanza a key word – always a name, either of a person or clan, village, animal, plant – is altered, often so as to refer to incidents or known people. Hogbin describes a song from Longgu (SES) sung by males at a girl's face-marking which similarly consists of soloist and chorus (Hogbin 1964a:24). Physical activity such as paddling a canoe over long distances or hauling a heavy log may also be accompanied by singing or chanting, with the dual purpose of synchronising effort and relieving the spirits. These too are usually in the form of statement and response. One such hauling chant with call and response is *emweir*, from Chuuk, described by Dietrich (2007:50).

PMP **saRup* ‘to sing in unison’ (ACD)POc **saRu(p)* ‘sing in unison’

NCV: Mota	<i>saru</i>	‘begin a song with many voices together’
Fij: Wayan	<i>ḍau(ri)-</i>	(VT) ‘start off a song, lead off the singing’
Fij: Bauan	<i>ḍau(ri)</i>	‘to sing the <i>meke</i> [dance song] to which the <i>matana</i> dance’
Pn: Tongan	<i>tau</i>	‘chorus, refrain’
Pn: Niuean	<i>tau</i>	‘act together, at the same time’

cf. also:

SES: Gela	<i>hulu</i>	‘a tune, compose a tune, start a song’
SES: Arosi	<i>suru(ʔi)</i>	(VT) ‘to sing’
SES: Sa’a	<i>sulu</i>	(VI) ‘sing, make music’

6.3.4 Children’s chants

Children will often sing or chant as accompaniment for particular games. Some of these chants have been recorded in detail. See particularly Ivens 1927:93-108 for Sa’a and Ulawa, Fox 1924:191-202 for Arosi, Koch, 1984:161-190 for Tuvalu. Although a number of early ethnographers recorded the particular chants that accompanied the making of string figures, and in some cases attempted translations, many are described by their own speakers as untranslatable, perhaps because they have been borrowed from a language unknown to the player, have become distorted through transmission over time, or are simply meaningless jingles of the “fol de rol” variety. Handy (1925:10) suggests that “so hazy is the native memory regarding the ancient legends and tales whose events and characters are referred to in a fragmentary way in these sing-song jingles, that few of them could be explained”. Cognate terms have been located only in Polynesia.

PPn **fanaja* ‘story intended for entertainment and usually containing repetitions of a short chant’ (POLLEX)

Pn: Tongan	<i>fanaja</i>	‘fictitious fable or story’
Pn: E Futunan	<i>fanaja</i>	‘fairytale’
Pn: Pukapukan	<i>wānoja</i>	‘a story, tale’
Pn: Samoan	<i>fājono</i>	‘tale with a song’ (Pratt 1911)

PNPn **pese* ‘sing; song, chant’

Pn: Rennellese	<i>pese</i>	‘clapping song’
Pn: Samoan	<i>pese</i>	‘generic term for sing, song, music’
Pn: Tokelauan	<i>pese</i>	‘sing’
Pn: Tikopia	<i>pese</i>	‘sing, chant; song’
Pn: Rarotongan	<i>peʔe</i>	‘a rhythmic chant, usually commemorating some historical event’
Pn: Tahitian	<i>pehe</i>	‘song, sing’
Pn: Tuamotuan	<i>pehe</i>	‘song’
	<i>pehe-pehe</i>	‘rhythmic recitative’

Pn:	Manihiki	<i>pehe</i>	‘rhythmically recited text accompanying children’s games’
Pn:	Mangaian	<i>peʔe</i>	‘chant, recite a chant, esp. historic/epic’
Pn:	Marquesan	<i>pehe</i>	‘game played with string’

6.3.5 Incantations

Solo singing is associated with the private sphere and consists chiefly of charms or magic spells, sung or recited in secret by an individual. Incantations are sung or chanted, the performer accompanying his incantation with necessary rituals. In Bwaidoga, as described by Jenness & Ballantyne (1928:127),

There are incantations for the sunshine and the rain, for raising the wind and for making it subside again, for calming a stormy sea, for ensuring success in hunting and in fishing, for producing disease and sickness and again for healing those; in fact there is not one single sphere of man’s activity in which an incantation cannot help him.

Individual songs mentioned by Laade (1999:148) for Maenge include *walu*, spells or charms for good results in gardening, fishing, pregnancy, childbirth etc. Diettrich (2007:48) writes that in Chuuk, “according to according to Krämer’s ethnography (1932, based on fieldwork 1908–10) .. what listeners do not hear ... are the many chants associated with different types of *rooŋ* ‘special knowledge’ such as preparing medicines, controlling the environment, war strategy, and other types, many of which were associated with magic or spiritual power.” This was highly secret knowledge. In Samoa, incantations were listed by Moyle as (i) for protection in battle, (ii) good luck in activities, (iii) cure of physical ailments. The possibility of success required exact recitation of the text and an actual performance of the ritual acts (Moyle 1988:73). Incantations were in effect sacred songs. An important function of music in Polynesian life, as pointed out by Handy (1927:208) is to add power to incantations and prayers.

A number of phonologically similar low-level reconstructions for terms meaning something like ‘make an incantation’ are possible, but it has proved impossible to combine them. (See §8.2.1).

6.3.6 Commemorative, traditional lore

A function of songs or chants generally shared by preliterate societies lies in using them to commemorate and pass down traditional lore, including stories of significant events, deeds of heroes both past and mythical, genealogies, and creation myths. Many serve a moral purpose. As chants they serve both as aids to memory and instruction. The tradition of chanting for this purpose is now most pronounced in Polynesia, where different languages have adapted a range of more general terms to refer specifically to chants. Reflexes of POC **roŋoR* ‘hear’, often reduplicated, have extended their meaning in the Chuukic languages of Micronesia and in Eastern Polynesia to cover chants of traditional knowledge.

POc **roroŋoR* ‘to sound, be audible’ (cf. POc **roŋoR* ‘hear’, vol.5:499–503)

MM: Tolai *raroŋo* ‘(VI) ‘to sing as water before boiling, or to sound as running water’

PROc **[ro]roŋoR* (v) ‘sing; chant, recite traditional lore’; (N) ‘traditional lore’

Mic: Chuukese *rōŋ* ‘secretive cultural knowledge’¹¹ (Dietrich 2007:48)

Mic: Woleaian *zōŋo* ‘traditional lore; knowledge that passes down from father to son’

zōŋī-a (VT) ‘sing, recite, relate, verbalise s.t.’

PPn **loloŋo* ‘sing, song’ (POLLEX)

Pn: Niuean *loloŋo (tuai)* ‘traditional songs, chants’ (*tuai* ‘ancient’)

Pn: Tongan *loloŋo* ‘singers collectively providing music at a *meʔe-tuʔupaki* (k.o. dance)

Pn: Rennellese *gogōŋo* ‘song of praise or thanks to a god’

Pn: Pileni *loŋo* ‘sing, song’

Pn: Maori *roroŋo* ‘repeat the commencement of a song’

Pn: Tahitian *roroʔo* ‘begin to sing’

Pn: Tuamotuan *roroŋo* ‘chant of glory in praise of a hero (Burrows 1933:50)

Pn: Marquesan *ʔono-ʔono* ‘bards’

Pn: Mangarevan *roŋo-roŋo* ‘chants accompanied by beating of drums’

Pn: Rapanui *roŋo-roŋo* ‘scholars who sang the old chants at festivals and during religious ritual’ (Buck 1964:243)¹²

cf. also:

NCV: Mota *roŋo-rav* ‘men’s dance’ (lit. ‘evening song/dance’) (A. François, pers. comm.)

NCV: Mwotlap *nɔ-jɔŋɛp* ‘men’s dance’

Mic: Marshallese *roro* (N, v) ‘chant’

Several of the terms referring to traditional knowledge in Polynesian languages are terms describing associated action or method of delivery of such knowledge. The Tuamotus use *faju* ‘old chants recording myths and concepts of creation’ (Buck 1964), ‘solemn or sacred chants’ (Burrows 1933), presumably from PPn **faju* ‘breathe or blow through the nose’. Pukapukans, Rennellese, Rarotongans and Mangarevans use a term for their ritual chants derived from PPn **kapa* ‘flap, of wings or stretched out arms’.

PPn **kapa* ‘flap, of wings or stretched out arms’ (PNPn **kapa* ‘dance to accompany ritual chant’; cf. vol. 4:267))

Pn: Tongan *kapa* ‘stretch out the arms’

Pn: Pukapukan *kapa* ‘k.o. chant or dance associated with the underworld’

Pn: Rennellese *kapa* ‘sacred ritual circle dance and chant’

¹¹ e.g. chants for summoning breadfruit, preparing medicines, controlling the environment.

¹² Burrows (1933) says that *roŋo-roŋo* also referred to the tablets themselves, but Buck calls the tablets *kouhau* (*kou* ‘rod’, *hau* ‘hibiscus’).

Pn:	Tuamotuan	<i>kapa</i>	‘dance with action song’
Pn:	Mangarevan	<i>kapa</i>	‘k.o. ritual chant’
Pn:	Rarotongan	<i>kapa</i>	‘flap, flutter (wings, arms), esp. to perform the arm and hand gestures that accompanied the old songs and chants’

6.3.7 Storytelling

Storytelling, especially of narratives passed down through the generations, was an important activity in perhaps all traditional Oceanic-speaking societies. In some communities certain stories were the property of a particular family line, and only its leading elder was permitted to tell them. The POc term for telling a story, **takunu* ‘tell, narrate’, effectively refers to a whole speech event rather than a single speech act. All EOC reflexes have *-u-* in the first syllable, but this seems to be the result of vowel assimilation, as the Bali root is *-tayuni* and the Maringe root *tonu*, i.e. < **taunu* < **takunu*.

POc **takunu* ‘tell a story, narrate’

MM:	Bali	<i>va-tayuni</i>	‘tell, narrate’ (<i>va-</i> CAUSATIVE)
MM:	Maringe	<i>tou-tonu</i>	‘tell story’

PEOc **tukunu* ‘tell a story, tell news’

SES:	Bugotu	<i>tuyuni poto</i>	‘to tell a folklore tale’ (<i>poto</i> ‘folklore tale’)
SES:	Gela	<i>tu-tuyu</i> <i>tuyuni</i>	‘tell, report, tell news’ (VT) ‘tell, say, tell about’
SES:	Tolo	<i>tu-tuyunu(na)</i>	‘story, tale’
SES:	Longgu	<i>nu</i>	(VT) ‘tell a story’
SES:	To’aba’ita	<i>uʔunu</i>	(N) ‘story, traditional or not’; (vi) ‘tell a story about’
SES:	Lau	<i>ūnu</i> <i>ūnua</i>	‘to tell, tell a folktale; to gossip, talk’ (N) ‘folk story’
SES:	Kwaio	<i>unu</i>	‘tell (a story)’
SES:	’Are’are	<i>uʔun-a</i>	‘tell, relate, narrate’

PNCV **tukunu* ‘story, tell a story’ (Clark 2009)

NCV:	Nokuku	<i>(tuk)tukun</i>	‘murmur, complain, speak evil; story, to talk’
NCV:	Paamese	<i>tūnu [rūn]</i>	(v) ‘chat, tell stories, yarn’
NCV:	Nese	<i>tuy-tuyun</i>	‘tell story’
NCV:	Atchin	<i>tutuyun-en</i>	‘k.o. story’
NCV:	Namakir	<i>tukunu</i>	(N) ‘story, tale’
Fij:	Wayan	<i>tukuni-</i>	(VT) ‘report, mention or relate s.t., tell or talk about s.t.’
Fij:	Bauan	<i>tukun-</i>	(VT) ‘tell, relate, announce’
Pn:	Tikopia	<i>[tuku-]tuku(na)</i>	(N) ‘customs’

PPn evidently had a term **tala* ‘tell stories; tale, story’. Listed under ‘cf. also’ below are what Pawley & Sayaba (in prep.) suggest is a Fijian borrowing from a Polynesian source, a comment supported by the fact that reflexes of PPn **tala-noa* have an obvious etymology, **tala* ‘tell a story’ + **noa* ‘worthless, ordinary’, but Fijian has only the composite form.

PPn **tala* ‘tell stories; tale, story’

Pn:	Tongan	<i>tala</i>	‘tell, relate’
Pn:	Samoaan	<i>tala</i>	‘tell; story; tale, legend; report; account, statement’
Pn:	Tokelau	<i>tala</i>	‘story, news, report’
Pn:	East Uvean	<i>tala</i>	‘narrate, narration’
Pn:	Pukapuka	<i>tala</i>	‘speak, say, relate’

cf. also:

Fij:	Wayan	<i>talanoa</i>	‘tell stories, talk for pleasure’
Fij:	Bauan	<i>talanoa</i>	‘chat, tell stories’

PPn **tala-noa* ‘talk uselessly’

Pn:	Tongan	<i>tala-noa</i>	‘talk informally, tell stories or relate experiences’
Pn:	Samoaan	<i>tala-noa</i>	‘chat; make conversation’

The Proto Nuclear Polynesian noun **[ka]kai* ‘traditional story’ below was evidently a nominalisation of an erstwhile verb PCP **k^wai* ‘say, tell’, itself a reflex of POc **k^wa*, **k^wai* ‘say, tell’, reconstructed in §12.3.1.

PNPn **[ka]kai* ‘traditional story’

Pn:	Rennellese	<i>ka-kai</i>	‘culture hero’
Pn:	Tokelauan	<i>ka-kai</i>	‘legend, folk tale’
Pn:	Nukuoro	<i>kai</i>	‘legend, story’
Pn:	Tikopia	<i>kai</i>	‘traditional tale’
Pn:	Tahitian	<i>ʔa-ʔai</i>	‘legend, story’
Pn:	Maori	<i>kai</i>	‘riddle, puzzle, toy’
Pn:	Marquesan	<i>kai</i>	‘play all kinds of games’
Pn:	Rapanui	<i>kai-kai</i>	‘string games’

cf. also:

NCV:	Mota	<i>ka-kae</i>	‘to speak, talk, tell a story’
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6.3.8 Lullabies

Lullabies are another kind of solo singing. Laade (1999:117) describes *panamomo* as a Maenge lullaby, but comments that any slow song (e.g. Uvol *uŋalele* and *mititi*) can be sung as a lullaby or for self-entertainment in the garden. A number of terms have been recorded from a wide range of subgroups, resulting in just one reconstruction. Some are possibly names for particular tunes rather than a generic term.

POc **oli-oli* ‘a lullaby’

NNG:	Mamusi	<i>ol-ole</i>	‘lullaby’
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PNPn **oli-oli* ‘a chant’ (POLLEX) (cf. PPn **oli* ‘move to and fro, move rhythmically’)

Pn:	Rennellese	<i>ogi-ogi</i>	‘worship, comfort a child’
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Pn:	Tikopia	<i>ori-ori</i>	‘recite formula of thanks by abasement; funeral dance song acknowledging deceased man of rank’
Pn:	Maori	<i>ori-ori</i>	‘chanted lullaby’
Pn:	Nukuoro	<i>oli-oli</i>	‘put to sleep by singing lullaby’
Pn:	Tuvalu	<i>oli-oli</i>	‘prayer for good fishing catch’
Pn:	Hawaiian	<i>oli-oli</i>	‘a chant not danced to’

6.3.9 Love songs

Love songs form another group of solo songs. They are sung or chanted to make a member of the opposite sex enamoured and the advances of the charmer irresistible, and are accompanied by specific ritual acts. Again, no reconstructions have been made.

6.3.10 Lamentation

In Oceanic societies the death of a person is usually marked by loud lamentations. POc **tanjis* (vol.5:321–322) has the general meaning ‘to cry’, or more explicitly ‘make a sound appropriate to one’s character’. Thus it includes both animal and human sounds, and may also be extended to cover sounds made by musical instruments.

PAn **Canjis* ‘to weep, cry; mourn; beseech’ (ACD)

PMP **tanjis* ‘to cry’

POc **tanjis*, **tanjis-i* ‘cry, wail, lament, for humans; for animals to make a sound appropriate to their character; for musical instruments to sound’

Adm:	Lou	<i>teŋ-teŋ</i>	‘cry, weep’
Adm:	Seimat	<i>taŋi</i>	(VI) ‘cry, lament (used of any sound made by any animal’
NNG:	Maeng	<i>tan-taniŋ</i>	‘sad songs speaking of sad events’ (‘cry’)
NNG:	Uvol	<i>tan-taniŋ</i>	‘songs with sad themes and tunes, story songs’
NNG:	Gedaged	<i>ta</i>	(VI) ‘cry, bawl, weep, sob, wail, whimper, scream’
PT:	Motu	<i>tai</i>	(VI) ‘to cry, howl (of dogs)’
MM:	Minigir	<i>tanjis-i</i>	‘cry’
MM:	Tolai	<i>taŋi</i>	‘cry, weep, wail, make a noise as of water shaken in a bottle; to sing of birds and musical instruments’; (N) ‘sound’
MM:	Banoni	<i>tanisi</i>	‘musical function of crying; laments’ (Stella)
SES:	Bugotu	<i>taŋi</i>	‘cry, cry aloud, lament, wail’
SES:	Lau	<i>āŋi</i>	‘cry; produce a sound, eg bird, trumpet, thunder’
SES:	To’aba’ita	<i>aŋi</i>	(VI) ‘cry; produce its characteristic sound’ (also of musical instruments)
SES:	Arosi	<i>aŋi</i>	‘to cry, sound (almost any sound, bell, bird, swish of water etc.)’

NCV: Mota	<i>taji</i>	‘weep, cry with reference to both tears and sound; cry of birds, animals; sound of musical instruments’
	<i>tajis</i>	‘cry for’
NCV: Tamambo	<i>taji-si</i>	‘cry, mourn for’
SV: Sye	<i>toji</i>	‘cry for’
Mic: Marshallese	<i>cajit</i>	‘cry for s.o.’
Fij: Bauan	<i>taji</i>	‘to give out sound; of humans, to cry, weep, lament; of animals, to cry, mew, crow etc.’
Pn: Tongan	<i>taji</i>	‘cry, weep, make a characteristic sound’
Pn: Pukapukan	<i>taji</i>	‘a death chant; lament’
	<i>taji-taji</i>	‘a boasting chant’
Pn: Samoan	<i>taji</i>	‘cry, weep, make a characteristic noise; song included in <i>fājono</i> , a genre of spoken fictional narrative’
	<i>taji-tau-tala</i>	‘a mournful dirge at a funeral, telling of misdeeds which caused the death (lit. ‘to speak while crying’)
Pn: Maori	<i>taji</i>	(VI) ‘give forth a sound; weep, utter a plaintive cry; sing a dirge’; (N) ‘sound; lamentation, dirge’
Pn: Rarotongan	<i>taji</i>	‘any noise or sound, but especially of weeping’
Pn: Tikopia	<i>taji</i>	‘cry, wail, sing mourning song’
Pn: Hawaiian	<i>kani</i>	‘cry out, sound’

6.3.11 Song creation and ownership

Fortune (1932:251) describes the situation in Dobu.

Every Dobuan is a song-maker. Any interesting event calls forth a number of songs. There is very little imitation. The form is more or less stereotyped as in our sonnet form. There is much emphasis on originality of content. The songmaker is proud of his creation, proud of its originality, and he has rights to prevent others from using his song, at least for a while. He must give his permission before his song is used for the dance.

Very many songs accordingly die a quick death.

This concept of ownership is recorded elsewhere in Oceania. In Vanuatu, for instance, Ammann (1997) writes that “Each important song in Vanuatu belongs to either one person or several persons of the same lineage. Songs are not allowed to be performed without the permission of the owner”. François and Stern (2013:90) write that in northern Vanuatu traditional songs are composed in a specific, poetic language distinct from ordinary speech, and the ability to compose a song in this register is reserved to very few. All poetry is sung, and the artist who composes the poem also chooses the melody.

Few sources distinguish between the words and the music. Fortune comments on Dobuan songs that “There is no concept of rhyme, only occasional assonance” (1932:305). A single PPn reconstruction has been possible for ‘tune’.

PPn **fati* ‘tune, melody’ (POLLEX)

Pn:	Tongan	<i>fasi</i>	‘tune, melody’
Pn:	E Futunan	<i>fati</i>	‘tune, refrain of a song’
Pn:	Samoan	<i>fati</i>	‘tune, melody’
Pn:	Tokelauan	<i>fati</i>	‘melody, tune’

In a widespread and thorough survey of Polynesian music, McLean (1999:384) writes that “in most communities it appears that anyone could compose songs”. He adds, though, that sometimes, composition of more important songs devolved to specialists, and in some areas there were named classes of specialist composers.

A PPn *reconstruction, **fatu*, has the dual meaning ‘compose a song’ and ‘weave’. Mclean suggests that “the weaving image seems particularly apt for composition involving adaptation or the combining together of elements from earlier songs. Or perhaps it refers to the fitting together of tune and text like the warp and weft of weaving” (1999:385).

PPn **fatu* ‘weave, compose (e.g. a song)’ (PMP **batuR*, POc **patu(R)* ‘plait, weave’; see vol.1:81-82)

Pn:	Tongan	<i>fatu</i>	‘compose a song; begin making a mat’
Pn:	E Futunan	<i>fatu</i>	‘compose a song’
Pn:	Rennellese	<i>hatu</i>	‘compose a song; fold, bend, lash’
Pn:	Pukapukan	<i>watu</i>	‘compose song, chant etc.; make, as as wreath’
Pn:	Rarotongan	<i>ʔatu</i>	‘compose music, poetry; put together, as a wreath’
Pn:	Hawaiian	<i>haku</i>	‘compose, invent; braid, as a lei, plait, as feathers’

6.4 Dance

Villages traditionally have cleared spaces, which are used for dancing and other communal activities. They may be referred to by reflexes of POc **m(a,e)laqai* ‘open space in a settlement’ or POc **m^walala* ‘cleared land, but not built on or planted’ (vol.1:63-64).

Although dance, like song, is open to innovation and borrowing, a number of features recur. All dances are group dances. A dance is typically a celebration, usually joyful although there are dances to commemorate the dead or mark some kind of mortuary ceremony, and dances to mark rites of passage. There are night dances and daytime dances. There are also war dances, with men brandishing shields and clubs. In New Guinea, most dances are accompanied by kundu drums (§6.2.6). Flutes and panpipes may accompany dances in the southeast Solomons, where kundu drums are unknown. Singing accompaniment is common, often performed by one sex while the other dances. Sexes usually dance separately, and sometimes dancers are differentiated by age, with older men or women performing separate roles from their younger counterparts. A recurring motif is the representation of an animal or bird’s movements. Dances may be accompanied by clapping and stamping.

Blackwood describes the dance of Petats speakers (Buka, northwest Solomons), where there is only one form, *kōma*, used for all occasions, both ceremonial and social. There are three movements, varied at the pleasure of the dancer. They are *tshok-tshok*, advancing and retreating to and from the circle of men, with a balancing step first on one foot and then the other, *gumsu*, standing on one spot and rocking up and down with bent knees in a sort of jiggling movement, and *pi*, which is a series of hops on the left foot only, with the right foot raised, its toe pointing to the ground. The general word for the women's dance is *sōʔol* (1935:414-5).

Throughout Micronesia, the expressive use of the body as an accompaniment to sung poetry is a fundamental and highly valued aspect of performance (Diettrich et al 2011:20). They continue: "Many dances in Micronesia display standing or sitting positions, groupings separated by gender, an emphasis on particular attire and adornments, and the expressive use of hands, arms, and sometimes feet to produce synchronous rhythmic accompaniments." They describe a genre known as *wuur*, a type of vocal music performed as group seated dances using hand and arm movements punctuated by hand claps (2011:21).

Firth (1985) notes that "whereas types of dance performance [are] relatively limited (cf. *matavaka*, *mori*, *ȳore*, *tusoko*¹³ etc) and seldom augmented, the number of dance songs is vast and continually being added to."

Although wordlist compilers have listed dozens of terms for the names of particular dances, few generic terms for the activity have been identified, probably because dancing is not considered as distinct from its music or associated celebration. Some reconstructions are simply action verbs 'to hop', 'kick', 'stamp', 'clap' and so on.

6.4.1 Reconstructions

Several POc terms for 'dance' can be reconstructed, but the meanings of their reflexes are too varied for a more precise gloss to be reconstructed.

POc **sagar* (N,V) 'dance'

PT:	Molima	<i>sagali</i>	(1) 'drum'; (2) 'major mortuary ceremony' (apparently borrowed from a Suaucic language)
PT:	Saliba	<i>saga</i>	'to dance'

PPn **saka* 'dance'

Pn:	Tongan	<i>haka</i>	(N) 'hand action while singing'; (VI) 'move the hands rhythmically, esp. while singing'
		<i>haka-ʔi</i>	(VT) 'sing or chant with appropriate hand movements'
Pn:	E Futunan	<i>saka</i>	'dance with hand and foot action'
Pn:	E Uvean	<i>haka</i>	'dance'
Pn:	Rennellese	<i>saka</i>	'song without instruments or clapping'

¹³ *matavaka* 'common type of traditional dance, also called canoe bow dance with rhythmic waving of head and hair'; *mori* 'a dance form of multiple phases and complex procedures, performed by men with wooden dance bats (*paki*)'; *ȳore* 'dance type characterised by sung chorus, no sounding board; two forms, with and without clapped hands (*mako po*)'; *tusoko* 'k.o. dance, slow, circling, in small groups with hand clapping and gestures'

Pn:	Pukapukan	<i>yaka</i>	‘a style of dancing’
Pn:	Samoaan	<i>saʔa-saʔa</i>	(v) ‘dance’
Pn:	Luangiua	<i>saʔa</i>	‘mourning song; song sung when s.o. is dying’
Pn:	Tikopia	<i>saka</i>	‘perform rites in traditional religious system’
Pn:	Maori	<i>haka</i>	(N) ‘dance, song accompanying a dance’; (v) ‘dance, sing a song to be accompanied by a dance’
Pn:	Tuamotuan	<i>haka</i>	‘line of men facing line of women. Movements include stamping, hip and shoulder movements and various actions of arms and hands’

cf. also:

NNG:	Uvol	<i>sasaja</i>	‘action songs with miming of certain themes sung by a mixed chorus with drums while men dance’ (Laade 1999:147)
SES:	Gela	<i>saki</i>	‘to go on one leg as a bird, to hop’

POc **mako* (N) ‘dance’; (v) ‘perform a dance’

NNG:	Sissano (Arop)	<i>moʔo</i>	‘festival; dancing and singsing’
SES:	To’aba’ita	<i>mao</i>	‘k.o. dance; one group sits on ground and sings, others dance around them. No panpipes.’
SES:	Sa’a	<i>mao</i>	(VI) ‘to dance, generic term’
SES:	Kwaio	<i>mao</i>	‘dance’
SES:	’Are’are	<i>mao</i>	‘to dance, a dance’
SES:	Arosi	<i>mao</i>	‘to dance’
		<i>(hai)mao</i>	‘dancing’ (RECIPROCAL)
		<i>ma-mao</i>	‘a dancing place’
		<i>mao-mao</i>	‘to dance; to turn round in the wind’
SES:	Lau	<i>mao</i>	‘to dance’
		<i>mao-ma</i>	‘a feast; feast and dancing’
TM:	Teanu	<i>-mako</i>	‘to dance’
TM:	Tanema	<i>-mako</i>	‘to dance’
		<i>mako(ne)</i>	(N) ‘a dance’

PNCV **mako* ‘boys’ dance’ (François 2013)

NCV:	Mota	<i>mayo</i>	‘boys’ dance’
NCV:	Dorig	<i>may</i>	‘boys’ dance’
NCV:	Lakon	<i>may</i>	‘boys’ dance’
Pn:	Tongan	<i>mako</i>	(N, VI) ‘(perform a) native dance’
Pn:	Pukapukan	<i>mako</i>	‘k.o. chant; to chant’
Pn:	Rennellese	<i>mako</i>	‘dance, dance song; to dance’
Pn:	Tikopia	<i>mako</i>	(N) ‘dance, generic’

cf. also:

Fij:	Rotuman	<i>maka</i>	‘to sing, dance, intone or recite, accompanied by rhythmical bodily movements’
Fij:	Bauan	<i>meke</i>	(N) ‘generic term for various native dances’; (v) ‘perform a dance’

POc **lagar* ‘dance accompanied by singing’

MM:	Tolai	<i>langāra</i>	(VI) ‘to dance and sing’; (N) ‘a dance accompanied by singing’
MM:	Ramoaina	<i>lagar</i>	‘dance’
MM:	Patpatar	<i>lukara</i>	‘feast with traditional dancing’
NCV:	Mota	<i>laka</i>	‘to kick up the heels as in dancing; to dance’
		<i>laka-laka</i>	‘to rejoice, dance; a dance, merry-making’

PNCV **sale* ‘jump, dance’ (Clark 2009)

NCV:	Mota	<i>sale</i>	‘to leap’
NCV:	Raga	<i>hala</i>	‘wave hands in dancing’
NCV:	Ninde	<i>yale-yale</i>	‘singsing’
NCV:	Nguna	<i>sale</i>	‘to dance’

cf. also:

SES:	Bugotu	<i>sale</i>	‘to sing, a song’
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PCP **se(q)a* ‘k.o. dance’ (POLLEX)

Fij:	Rotuman	<i>sea</i>	‘native song’
Fij:	Wayan	<i>sea-sea</i>	(N) ‘a standing dance with song performed by a line or lines of women’; (V) ‘perform such a standing dance’
Fij:	Bauan	<i>sea-sea</i>	‘k.o. <i>meke</i> danced with fans by women’
Pn:	Tikopia	<i>sea</i>	‘k.o. dance and associated song with elaborate hand and foot movements’

The verb for ‘clap’ or ‘slap’, traceable back to PAn, is also used in PPn as a noun referring to a paddle-shaped instrument used in some kinds of dances, presumably involving slapping movements.

PAn **pakpak* ‘to clap, sound of clapping or flapping’ (ACD)POc **baki* ‘strike one against another, knock, clap’ (vol.2:272)PPn **paki* (N) ‘paddle-shaped instrument used when dancing’; (V) ‘slap’ (POLLEX)

Pn:	Tongan	<i>paki</i>	‘paddle or flat club used in a dance’
Pn:	E Futunan	<i>paki</i>	‘paddle-shaped instrument used when dancing’
Pn:	W Futunan	<i>paki</i>	(V) ‘slap, strike with open hand’
Pn:	E Uvean	<i>paki</i>	‘dance bat’
Pn:	Pukapukan	<i>paki</i>	(V) ‘clap hands, strike’
Pn:	Rarotongan	<i>pa-paki</i>	(V) ‘slap, hit, smack’
Pn:	Tikopia	<i>paki</i>	‘dance bat, long flat rectangle with handle’
		<i>pa-paki</i>	(V) ‘slap’
Pn:	Anutan	<i>paki</i>	‘paddle-like instrument used in certain dancing’
Pn:	Maori	<i>paki</i>	(VT) ‘slap, pat, clap’
		<i>pa-paki</i>	(N) ‘game played by two players clapping hands in unison to a chant’

In the following set, **a* > *o* is a change conditioned by labiovelar **pʷ*.

POc * <i>pʷaja(R)</i> (VI) ‘clap hands’, * <i>pʷajaR-i</i> (VT) ‘slap with open hand’ (vol.5:470)		
Adm: Mussau	<i>posala</i>	(VT) ‘slap with an open hand’
	<i>posalā</i>	(VI) ‘clap’
Adm: Baluan	<i>(yek) pot</i>	‘slap, hit with open hand’ (<i>yek</i> ‘hit’)
	<i>(yek) potpot</i>	‘clap hands’
NNG: Sissano	<i>-pot</i>	‘clap, beat’
NNG: Sio	<i>-poʷza</i>	‘slap, clap one’s hands’
NNG: Bariai	<i>poda</i>	‘slap’
NNG: Mangseng	<i>(so)pðal</i>	‘slap’
	<i>(so)po-pðal</i>	‘clap hands’
PT: Gumawana	<i>pʷasi</i>	‘clap’
PT: Bunama	<i>(lima)pʷasi</i>	‘clap hands’
PT: Sinaugoro	<i>foro</i>	‘slap, hit’
MM: Madak	<i>pasa</i>	‘clap’
MM: Sursurunga	<i>posar; posri</i>	‘slap, clap, hit with open palm’
MM: Patpatar	<i>pasar</i>	‘slap; beat drum’
MM: Ramoaina	<i>par</i>	‘clap; slap, hit; play (hourglass drum)’
MM: Minigir	<i>pasari</i>	‘hit’
MM: Nehan	<i>posala</i>	‘slap, esp. on the back of the head’ (-/ for †-r-)
MM: Solos	<i>pasan</i>	‘hit’
MM: Teop	<i>panana</i>	‘slap, hit’
MM: Babatana	<i>po-posara</i>	‘clap hands’
SES: Kwaio	<i>fodal-i</i>	‘slap’
PNCV * <i>voza</i> ‘clap, slap, strike’ (Clark 2009)		
NCV: Mota	<i>wosa</i>	‘slap, smack, clap’
NCV: Raga	<i>vosa</i>	‘slap (with one hand) once, clap hands together once’
	<i>voha-i</i>	‘strike, throw, shoot’
NCV: Tamambo	<i>voja-i</i>	‘strike, slap’
	<i>voja-voja-i (lima)</i>	‘clap, pat’
NCV: Big Nambas	<i>-usa</i>	‘slap’
NCV: Nguna	<i>wosa+e-a</i>	‘clap (hands or flat objects)’
	<i>wosa-wosa</i>	‘clap one’s hands’
Fij: Wayan	<i>voða-, voða-ki</i>	‘slap s.t. with open hand or hands together’
cf. also:		
SES: Tolo	<i>pica-pica</i>	‘clap hands together’
	<i>picali-</i>	‘spank; hit, slap or tap with open hand’
SES: To’aba’ita	<i>fida-fida</i>	‘clap one’s hands in applause’
	<i>fidal-i</i>	‘slap hard’
SES: Arosi	<i>hida</i>	‘slap’

In some dances the dancers stamp their feet on the ground. The general POC term for stamping one's foot was **butu*, and the Bugotu, Mota, Mwotlap, Marshallese and Tuamotuan reflexes make specific reference too dancing.

POc **butu* (VI), 'stamp foot, tread, kick', **butuR-i* 'stamp on, tread on, trample' (vol.5:474)

Adm:	Seimat	<i>putu-i</i>	(VT) 'stamp, kick'
PT:	Saliba	<i>utu</i>	'to step'
SES:	Bugotu	<i>bū-butu</i>	'stamp the foot in dancing, tread hard'
		<i>butul-i</i>	'trample, kick'
SES:	Gela	<i>butu-butu</i>	'kick with the feet, in swimming'
		<i>butul-i</i>	(VT) 'kick backwards, as a horse'
SES:	Longgu	<i>butu-butu</i>	'(heart) beat; do things to show that you are looking for a fight (e.g. stamping feet, to prepare to punch s.o.)'
SES:	Tolo	<i>butu</i>	'kick'
		<i>butul-i</i>	'step on'
SES:	To'aba'ita	<i>bū</i>	'step on the ground, put one's foot on the ground'
SES:	'Are'are	<i>pū</i>	'hit, stamp, tread, rely on, stand firm'
SES:	Sa'a	<i>pū</i>	(VI) 'to tread, stamp, stand firm, rely on'
SES:	Kwaio	<i>bū</i>	'tread, step'
SES:	Arosi	<i>pū</i>	'tread, stamp, rest, stand firm, rely on'
		<i>pūl-i</i>	'pounce, on, of birds, strike with the talons'
NCV:	Mota	<i>put</i>	'stamp on the ground (in anger, in singing)'
NCV:	Raga	<i>butu</i>	'stand strongly'
NCV:	Mwotlap	<i>^mbit</i>	(VI) 'tap the ground with one's foot, esp. to begin a dance session'
NCV:	Port Sandwich	<i>^mbyr-^mbyr-in-i</i>	'trample underfoot'
NCV:	Neve'ei	<i>bit</i>	'step on, in'

PMic **p^wutu* 'step, tread, apply one's foot'

Mic:	Kosraean	<i>fut-fut</i>	'kick'
		<i>futu-ŋ</i>	'kick, stomp (s.t.)'
Mic:	Marshallese	<i>b^wic-b^wic</i>	'kick, a dance'
Mic:	Chuukese	<i>p^wu</i>	'place one's foot'
		<i>p^wūr-i</i>	'step on, tread on'
Mic:	Puluwatese	<i>pūr-i</i>	'stamp or tread on'
Mic:	Carolinian	<i>b^wū-b^wu</i>	'to stamp, stand on'
		<i>b^wū-ri</i>	'step, stomp, tread on (s.t.)'
Fij:	Bauan	<i>butu</i>	'stamp, tread'
		<i>butu-ka</i>	'stamp or tread on'
Fij:	Wayan	<i>butu-ki</i>	'stamp or tread on s.t., trample s.t.'
Pn:	Tuamotuan	<i>putu</i>	'dance with hand-clapping'

6.4.2 Water dances

There are occasional mentions of a rhythmic activity performed by women standing in waist-deep water and making music by hitting the surface with the hand. Non-cognate terms have been collected from Dobu (*b^wetu*), Teop (*vasipau*), To'aba'ita (*giigilo*), Longgu (*tio-tio*) and Lakon (*wes-paj*). Chenoweth (1976:3) has recorded a similar activity in the non-Austronesian language of Binumarien in the Eastern Highlands of New Guinea where women slap the water rhythmically to accompany their singing when they swim in the river. These activities have probably arisen independently. François and Stern report that when performed in Banks Islands, these have become popular with tourists and as a result have gained in sophistication (2013:101).

6.4.3 Body decoration

Public dances provide an opportunity for participants to go to considerable effort in decorating their bodies. While everyday dress may include regular oiling of the body and the wearing of combs, bracelets, arm and leg bands (see vol.1:101), a dance may be an excuse to go further, painting the face and body with clay or lime and wearing elaborate head-dresses made from feathers, animal fur and various flowers and leaves. POC **wali* 'paint, smear, rub on' has been reconstructed in addition to POC **pani* 'apply oil or paint to the body' (vol. 1:101).

POC **wali* 'paint, smear, rub on' (ACD)

MM:	Nakanai	<i>wali</i>	'apply paint, feathers etc. to head or body'
Fij:	Bauan	<i>wali</i>	'to anoint'
Pn:	Tongan	<i>wali</i>	'paint or smear (house, sore etc)'
Pn:	Niuean	<i>wali</i>	(VT) 'paint, smear'
Pn:	Samoaan	<i>wali</i>	(V) 'paint', (N) 'paint, dye'

In places, masks are worn by dancers, sometimes representing animals or birds whose movements are echoed in the dance, and sometimes to inspire terror (see Hogbin 1970 for Wogeo, Valentine 1965 for Lakalai, Powdermaker 1933 for Lesu). The Qat [kp^wat] dance masks of the Banks Islands serve as the visual representation of the ancestral dead. These highly intricate and often spectacular headdresses are sometimes called 'spirits' (*tamate* in Mota). They are worn exclusively by men who have passed certain initiation rites (François 2013).

6.5 Difficulties in reconstruction

Although a number of detailed descriptions exist of the role of song and dance in Oceanic societies today, many describing recurrent features, relevant terms tend not to be stable. Both song and dance are recognised as outlets for creative activities, activities where invention is admired and sought after. The following examples from Vanuatu and Samoa illustrate.

In Vanuatu as described by Crowe (1996:147),

singing, dancing and playing instruments are all in the realm of oral tradition, which includes mnemonic formulae... Rather than being conservative (unchanging), Vanuatu oral tradition is dynamic and adapting. One operating principle is 'getting away with breaking the rules', referring to a deeper 'rule', being 'capacity to reinvent'. Thus ritual forms can undergo gradual but visible alteration over time. Much traditional music and dance is in a constant state of change.

Moyle describes the situation in Samoa. Most dance songs are created either in response to or for the purposes of particular occasions. The former tend to be humorous, some to the point of ridicule. The preservation and in some cases, widespread use of such songs may be attributable to the popular appeal of the value systems on which their humour is predicated, and to the freedom with which they may be performed. The particular occasion songs are more serious and are object-specific, laden with local allusions both historical and contemporary, mythological and real. The occasion for and location of public performance are likely to be prescribed. Public knowledge of the dance tends to be geographically restricted. Such dance songs are unlikely to exist long enough to be passed down (Moyle 1988:234).

In addition to being open to change, song and dance are held as possessions by communities throughout New Guinea and Island Melanesia, and are not normally passed freely, but may be purchased or traded. The Siassi Islanders of Vitiaz Strait [Tuam, Mutu, Malai] are famed as dancers (report by Neuhaus 1911, 1:73, quoted by Harding 1967:142). Because they are effectively the hub of a well-established trading pattern from Bilibil on the north coast to Tami Island southeast of the Huon Peninsula, and from the western tip of New Britain and the Arawe islands to the south, they have frequent interaction with other communities. Harding (1967:143) writes that

They share some of their dancing complexes or singsings—dances, songs, and distinctive regalia—with mainland peoples, such as the Sios, and other complexes ... with New Britain. Dances are sometimes sold, either in toto or as elements which can be incorporated in an existing dance complex of the purchasing group, ... Apart from the recent borrowing or purchase of dances, the Siassis or other groups do not manufacture or create new dances in order to sell them. Rather the Siassis are frequently called upon to perform old favourites by the communities with which they trade. ... Even when trade rather than an invitation to dance is the reason for a Siassi visit, it would be a rare occasion if a singsing were not held. ... Through their performances as dancers, the Siassi traders participate in the ceremonial life of host communities, and there is evidence suggesting the diffusion of Siassi ceremonial forms and paraphernalia following upon this practice.

In the area of south-east New Britain described by Laade, there are frequent instances of borrowing of dance songs. He writes (1999:27) that

In all these cases [Mengen, Bush Mengen, Uvol, Mamusi], it must be emphasized that not single songs but whole genres, or even repertoires, of inevitably dance songs are borrowed, which then form a new type within the local traditions. Some of them were adopted long ago, others only recently. The songs are usually borrowed in their original form and with their original texts even if these are unintelligible.

Although there is no mention of payment, Laade describes these exchanges as part of the trading of goods (p.25). As a further barrier to reconstruction, he notes that "some songs

(*popo, hototinga, maenge, ungalele, manna*) have texts in ‘old language’ where literal translation is impossible. Finally, some songs are said to be composed in ‘spirit language’ (Laade:122).

Jenness & Ballantyne (1928:166) describe a similar situation in Bwaidoga in the D’Entrecasteaux islands.

Many songs are quite unintelligible, even to their singers. They have been handed down from one generation to another, often incorporating words that have long gone out of use; or they have been brought from some other place and the clue to their meaning has not been transmitted with them. Often, too, they are changed and mutilated in the transfer, especially if the dialects are somewhat different. Topical allusions of course soon cease to carry any meaning.

Adding to the difficulties of historical reconstruction is the knowledge that many of our early ethnographic descriptions were by missionaries or followed hot on the heels of missionary influence. Although some missionaries recognised singing as a readily acceptable channel for promoting their own teaching, others were horrified by what they saw and heard, and strove to stamp out songs and dances that they believed were incompatible with Christian values. The following early description by William Ellis (1831:199-200) is from Tahiti.

Many of their songs referred to the legends or achievements of their gods, some to the exploits of their distinguished heroes and chieftains; while others were of a more objectionable character. They were often, when recited on public occasions, accompanied with gestures and actions corresponding to the events described, and assumed a histrionic character. ... But they were, with few exceptions, either idolatrous or impure; and were consequently abandoned when the people renounced their pagan worship.

Later, Ellis (p.229) concludes:

Many [of their songs and dances] were in themselves repulsive to every feeling of common decency. And all were intimately connected with practices inimical to individual chastity, domestic peace and public virtue.

6.6 Games

Early descriptions of games played in New Guinea and the Solomons are few in number and tend to be limited to children’s games¹⁴. Adults would have found recreation in song and dance, often with feasting, and with activities which served both a productive and recreational function such as hunting and fishing for bonito. Wars were the main form of contests of tests of strength.

As with music and dance, the nature of the games played in a community has been greatly influenced by Western contact. Even our earliest records of children’s games, such as in Ellis 1831 for Tahiti, and Erskine 1853 for Fiji, show missionary influence.

¹⁴ Useful examples are Chalmers (1886) for Motu, Böhm (1983) for Manam, Ivens (1927) for Sa’a, Fox (1924) for Arosi.

6.6.1 General term

Although Blust (ACD) has reconstructed PWMP **qayam* ‘plaything, toy, pet’ no Oceanic reflexes have been located. The following POc reconstruction is based on limited evidence. Others are proposed at a lower level.

POc **m^waja* ‘play, have fun’

PT:	Kiriwina	<i>m^wasa(wa)</i>	(N) ‘recreation’; ‘play, have fun’
SES:	Kwaio	<i>masa</i>	‘to play’
		<i>masa-ŋa</i>	(N) ‘playing, game’
NCV:	NE Ambae	<i>m^wos-m^woso</i>	(VI) ‘to play’

PPn **ta(a)-kalo* ‘to play; a game’ (PPn **tā* ‘strike’, **kalo* ‘dodge, evade’)

Pn:	Niuean	<i>takalo</i>	‘play game of <i>tika</i> ; to evade blows; sport’
Pn:	Samoa	<i>taʔalo</i>	‘to play’
		<i>tāʔaloŋa</i>	‘any individual game’
Pn:	Tikopia	<i>tākaro</i>	‘game, sport, recreation in general sense’
Pn:	Anutan	<i>tākaro</i>	‘the game of making string figures’
Pn:	Kʻmarangi	<i>dāgala</i>	‘to joke, to play’
Pn:	Tokelauan	<i>takalo</i>	‘playing (of a game)’
Pn:	Maori	<i>tākaro</i>	‘engage in single combat; wrestle; play; sport’
Pn:	W Futunan	<i>takaro</i>	‘play, wander’

PNPn **tāfao* ‘to play’ (POLLEX)

Pn:	Samoa	<i>tafao</i>	‘roam, wander, be idle’
Pn:	Tuvalu	<i>tāfao</i>	‘to play’
		<i>(mea) tafao</i>	‘plaything’ (<i>mea</i> ‘thingummy, whatsit’)
Pn:	Pileni	<i>tahao</i>	‘play’
Pn:	Sikiana	<i>tāhao</i>	‘play’
Pn:	Takuu	<i>tafao</i>	‘play’
Pn:	Tikopia	<i>tā-tāfao</i>	‘play’

Two toys that are mentioned frequently in Oceanic wordlists are the spinning top, made from a half coconut around which a string is tied, and the pinwheel or toy windmill, made from coconut fronds and attached to a thin stick such as the midrib of a frond pinnule. These tend to have local names, or are known by the material from which they are made. No reconstructions have been possible.

Younger children simply interact with their environment in random ways, with sticks or stones or shells. Older children are more likely to mimic aspects of adult behaviour, but in all instances there will be free adaptation. As with children worldwide, games vary as the environment varies. There are active games, chasing, swinging on vines, leaping, swimming, hide and seek, there are games of skill and dexterity, such as aiming at a target, or juggling, or jacks, there are games of strength such as wrestling. Many of these will be called simply by an appropriate action verb. One of the few games for which a POc reconstruction can be made is that of cat’s cradle, the collective name for string figure games.

6.6.2 Cat's cradle

String figure games have been played in traditional societies across the world from the earliest recorded times. They are often accompanied by chants, and may be associated with story-telling, where to move through the stages of a particular pattern is in effect to tell its story. At other times they are simply a demonstration of dexterity or an outlet for inventiveness, sometimes with overtones of ridicule or humour (Osmond 2009:509–514).

POc **paRi* 'generic term for cat's cradle' (possibly from PAn **paRiS* 'stingray') (Blust, pers. comm., quoted in Kirch & Green:1991:301)

PT: Motu *hari(kau)* 'cat's cradle'

PCP **vai* 'cat's cradle, general term'

Fij: Bauan *vei saŋa* 'general term for cat's cradle when using both hands and feet' (*saŋa* 'forked')
vei ðiu 'cat's cradle with both hands' (*ðiu* '?')

PPn **fai* 'cat's cradle, string games'

Pn: Tongan *fai* 'cat's cradle'

Pn: Pukapukan *wai-wai* 'cat's cradle; to make string figures'

Pn: Tuamotuan *fai* 'string games, cat's cradle'

Pn: Tahitian *fai* 'name of a game played by children; string game, cat's cradle' (also 'meshes of sorcerer's net'; Handy 1925:6)

Pn: Maori *fai* 'string game, cat's cradle'

Pn: Hawaiian *hei* 'cat's cradle' (also 'net, snare; to ensnare, entangle')

The meaning of the bracketed form *-kau* in the Motu term is unclear but it is included in several net-related terms in Motu, an association of meaning which is echoed in the Tahitian and Hawaiian terms. PAn **paRiS* 'stingray' is, as suggested by Blust, a plausible antecedent for the generic term for cat's cradle at POc level. A stingray is roughly diamond-shaped, echoing what is probably the most common base pattern created in cat's cradle.

6.6.3 Juggling, ball-catching

Other POc reconstructions include activity verbs that can be applied but not limited to play, and miniature weapons. They include:

PMP **cikep* 'catch with the hands' (ACD)

POc **sikop* 'catch with the hands'

MM: Bola *siko* 'catch s.t. thrown at you'

Fij: Bauan *ðiqo(-ma)* 'catch, lay hold of, chiefly of things thrown'

Pn: Tongan *hiko* (N, VI) 'juggle with two or more balls or lemons etc.'

Pn: Rennellese *hikof-i* (VT) 'pick up with tongs'

Pn: Rennellese *siko* 'catch, as a ball or wave'

Pn:	Tikopia	<i>siko-siko</i>	‘string figures’
Pn:	Emae	<i>sikof-i-a</i>	‘catch in midair’
Pn:	Mele-Fila	<i>sikof-i-a</i>	‘catch in the hands’
Pn:	Anutan	<i>iko</i>	‘roll up string; transfer string figure to another person’s hands’
Pn:	Maori	<i>hiko</i>	‘snatch’
Pn:	Nukuoro	<i>sigo</i>	‘catch (a ball)’

cf. also:

Fij:	Rotuman	<i>hiko</i>	‘juggle, catch balls’ (Polynesian loan)
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6.6.4 Darts

A dart or small spear might be used in hunting birds or lizards, but is commonly used in games of skill. POc **tib^wa(ŋ)* ‘dart, arrow’ is reflected as PCP **tig^wa*, PPn **tika*. The subsequent history of POc labiovelars (**p^w*, **b^w*, **m^w*) is not well understood (Lynch 2002), but in at least some cases they became labialised velars (**k^w*, **g^w*, **ŋ^w*), losing their labialisation in Proto Polynesian (**k*, **k*, **ŋ*) as happened here.

POc **tib^wa(ŋ)* ‘dart, arrow’ (not a fighting weapon) (vol.1:225)

PT:	Tawala	<i>diba</i>	‘small pretend spear’
PT:	Motu	<i>diba</i>	‘arrow’
NCV:	Raga	<i>tibwa</i>	‘shoot’
NCV:	Mota	<i>tibwa</i>	‘to shoot, not in fighting; a blunt arrow, bird arrow’
NCV:	Mwotlap	<i>tēbw</i>	(VT) ‘throw a sharp projectile against s.t., using an instrument (catapult, rifle)’
NCV:	Mota	<i>nē-tēbw</i>	(N) ‘stunning arrow, with smooth rounded end, used to stun birds’ (François, pers. comm.)
NCV:	Atchin	<i>cip</i>	‘blunt arrow’

PCP **tig^wa* ‘dart, to throw a dart’

Fij:	Bauan	<i>tiga</i>	‘reed dart, used in game’
Fij:	Wayan	<i>tige</i>	‘throw reed or dart horizontally, controlled by end of forefinger, with aim of making dart skip up when it hits the ground’

PPn **tika* ‘dart, darts game; to throw a dart’

Pn:	Tonga	<i>sika</i>	‘dart, to throw darts’
Pn:	Niuean	<i>tika</i>	‘javelin, dart, spear’
Pn:	Pukapukan	<i>tika</i>	‘game of throwing darts’
Pn:	Samoan	<i>tiʔa</i>	‘dart’
		<i>tāga-tiʔa</i>	‘javelin-hurling’ (Moyle 1989:20)
Pn:	Tikopia	<i>tika</i>	‘k.o. arrow thrown in game’
Pn:	Rarotongan	<i>teka-teka</i>	‘throw darts’
Pn:	Maori	<i>teka</i>	‘game of dart-throwing’

Erskine (1853:455), quoting from an account by John Jackson who spent two years in Fiji and elsewhere from 1840, describes the game of *tika* [tinga] as it was played before western contact.

They used to amuse themselves in the morning by the game called *tika* or *titika*, which is played by first dividing themselves into two equal parts, one division standing at the end of the square, and the other division at the other end. There is a mark or stick stuck at each end, each party throwing at the opposite mark with the *tikas*, which are slight reeds with a piece of wood attached at one end to make them heavy. They throw these things an incredible distance.

6.6.5 Shooting with bow and arrow

Bows and arrows tended to be light-weight, the arrows made from the midrib of sago or coconut leaf and bows from cane. They were typically used for shooting birds or other targets for sport, rather than in warfare.

PAn **panaq* ‘throw s.t. at a target; shoot with bow and arrow’ (ACD)

POc **p^(w)anaq* ‘bow’, **p^(w)anaq*, **p^(w)anaq-i-* ‘shoot’ (vol.1:225)

NNG: Manam	<i>pana</i>	‘small bow used to hunt small animals, lizards, birds etc.’
NNG: Mapos Buang	<i>vaneh</i>	‘shoot’
MM: Tolai	<i>panak</i>	‘bow for shooting’
MM: Mono Alu	<i>(fa)fana</i>	‘go to kill birds or fish with bow and arrow’
SES: Gela	<i>vana, vana-hi</i>	‘shoot with bow and arrow’
SES: Sa’a	<i>hana</i>	‘shoot’
NCV: Mota	<i>vene</i>	‘shoot with a pointed arrow’
NCV: Lonwolwol	<i>fen</i>	‘shoot with bow and arrow’
Mic: Kiribati	<i>pana</i>	‘shoot at fish with band of rubber and long arrow’
Fij: Bauan	<i>vana</i>	‘shoot, with arrow’
PPn <i>*fana</i> ‘shoot with arrow’		
Pn: Tongan	<i>fana</i>	‘to shoot (e.g. birds)’
Pn: Rennellese	<i>hana</i>	‘to shoot, as arrow’
Pn: Tikopia	<i>fana-fana</i>	‘shooting competition, with bow and arrow, at banana tree target’

6.6.6 Lower level reconstructions

There is substantially more information on games played in Fiji and Polynesia than in the rest of Oceania (Erskine 1853 on Fiji, Ellis 1831 on Tahiti, Best 1925 on Maori, Buck 1927 on the Cook Islands, Moyle 1988 on Samoa, Koch 1984 on Tuvalu). Consequently, a number of PPn or PCP reconstructions have been made. Unlike games described in New Guinea and the Solomons, those for which detailed descriptions exist in the Central Pacific are often played by adults and have a greater level of sophistication. There is more emphasis

on competition and point-scoring. Perhaps there was more time for leisure in these parts, with gardens requiring less attention, and perhaps increased contact with western values.

6.6.6.1 Disc-throwing game

The following account from John Jackson is also quoted by Erskine (1853:455):

In the afternoon they [the Fijians] have a game inside the house called *lavo*. The *lavos* are made of coconut shells of different sizes, varying from the size and shape of a shilling to larger than a crown or dubloon. This game is played on a smooth mat. A party being seated at each end, they throw the *lavo* with a quick jerk from the hand, so as to make the first rest on the opposite edge of the mat; they then endeavour to knock the one on the edge clear off the mat, that striking it taking its place; and if they succeed in doing this once, that counts one, and so on.

PCP **lavo* ‘game played with discs’

Fij:	Bauan	(i) <i>lavo</i>	‘disc-shaped seed of the <i>wālai</i> vine’
		<i>vei lavo</i>	‘game played with a mat and <i>wālai</i> fruit’

PPn **lāfo* ‘tossing game (like quoits) played with asymmetrical discs’ (Kirch & Green:2001)

Pn:	Tongan	<i>lāfo</i>	‘k.o. disc-throwing game’
Pn:	Samoaan	<i>lāfo(ga)</i>	‘traditional game played with a set of concave discs cut from coconut shells’
Pn:	Tuvaluan	<i>lāfo</i>	‘a disc-tossing game’

PPn **lāfo* and the next reconstruction may refer to the same game, the latter sometimes referring to the action, or as in Tuvalu, to the disc used. More commonly the disc is called *tupe*.

PPn **teka* ‘roll, rotate, spin’ (POLLEX)

Pn:	Tongan	<i>teka</i>	‘roll, rotate, revolve’
Pn:	Pukapukan	<i>ta-teka</i>	‘roll’
Pn:	Samoaan	<i>teʔa</i>	‘throw, as in the game of <i>teʔaga</i> , bowl as in cricket’
		<i>teʔa(ga)</i>	‘the name of a game involving the throwing of special discs with characteristic arm action’
Pn:	E Futunan	<i>teka</i>	‘bowl a ball, rotate a wheel’
Pn:	Tuvaluan	<i>teka</i>	‘a spinning disc used in a game’

PPn **tupe* ‘disc used in game of **lāfo*’

Pn:	Tongan	<i>tupe</i>	‘disc made of coconut shell used in game of <i>lāfo</i> ’
Pn:	Pukapukan	<i>tupe</i>	‘shell disc; game of disc pitching; to pitch a disc’
Pn:	Samoaan	<i>tupe</i>	‘disc used in <i>lafoga</i> game’
Pn:	Tikopia	<i>tupe</i>	‘pitching game throwing beans’
Pn:	Rennellese	<i>tupe</i>	(v) ‘throw’

6.6.6.2 Hurling the spear

PPn *welo ‘thrust, as in spearing’ (POLLEX)

Pn:	Tongan	<i>velo</i>	(VT) ‘thrust, insert, fish with a spear’
Pn:	Niuean	<i>velo</i>	‘throw’
Pn:	Samoan	<i>velo le tiapula</i>	‘hurl the taro top, game accompanied by song’
Pn:	Pukapukan	<i>velo</i>	‘spear, thrust into’
		<i>velo-velo</i>	‘game of hurling javelins’
Pn:	Tokelauan	<i>velo</i>	‘hurl, throw, as a javelin, dart; play darts’
Pn:	Tuvalu	<i>velo mata-mata</i>	‘spear-throwing game’
Pn:	Maori	<i>wero</i>	(1) ‘to pierce’; (2) ‘throw a spear’

6.6.6.3 Surfing

Our earliest description of surfboard riding comes from Joseph Banks who described it in Tahiti in 1769 (Beaglehole 1962:283):

In the midst of these breakers 10 or 12 Indians were swimming who whenever a surf broke near them dived under it with infinite ease, rising up on the other side; but their chief amusement was carried on by the stern of an old canoe, with this before them they swam out as far as the outmost breach, then one or two would get into it and opposing the blunt end to the breaking wave were hurried in with incredible swiftness.

but the riding of waves has probably existed since humans first swam in the ocean. The term for a surfboard is typically a reflex of POc **baban* ‘board, plank’ (see vol.1:58 for cognate set). Sa’a has *hapa totola* ‘surfboard-riding’, lit. ‘carrying board’ (*hapa* an irregular reflex of **baban*), and Ivens (1927:95) lists a chant sung by Ulawa children bathing with *hapa* surfboards.

PPn *faka-seke ‘slide deliberately, surf’ (POLLEX) (*seke ‘slide, glide’)

Pn:	Tongan	<i>fakahe-heke</i>	‘slide along deliberately, skate or ski’
Pn:	Samoan	<i>faʔaseʔe</i>	‘ride the surf’
Pn:	Maori	<i>whakaheke-heke</i>	‘to surf’ (<i>kōpapa</i> ‘surfboard’)
Pn:	Tahitian	<i>fāʔaheʔe</i>	‘surf with board’ (<i>papa fāhē</i> ‘surfboard’)
Pn:	Tuvalu	<i>fakaheke-heke</i>	‘surf-riding’
		<i>seke</i>	‘travel with wave (on canoe or surfboard))’
Pn:	Hawaiian	<i>heʔe</i>	‘slide, slip, surf; flee’
		<i>heʔe nalu</i>	‘ride a surf board’ (<i>lit.</i> ‘wave slide’)

6.6.6.4 Scoring points

PCP *kai ‘points scored in a game’

Fij:	Bauan	<i>kai</i>	‘points scored in a game’
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PPn *kai ‘points scored in a game’ (POLLEX)

Pn:	Tongan	<i>kai</i>	‘score a point in a game or a run in cricket’
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Pn:	E Futunan	<i>kai</i>	‘score points in a game’
Pn:	Pukapukan	<i>kai</i>	‘point or score in a game’
Pn:	Samoaan	<i>ʔai</i>	‘points scored in a game’
Pn:	Tikopia	<i>kai</i>	‘to score in a game, esp. a dart match’
Pn:	Hawaiian	<i>ʔai</i>	‘points scored in a game’

6.7 Conclusion

Games for Proto Oceanic speakers would have been largely limited to the unorganised and spontaneous activities of children. The concept of recreational activities other than those of young children as a separate category that contrasts with work is a relatively recent innovation. Although many languages now include a term for ‘game’, ‘sport’, ‘recreation’ or similar, no reconstructions are possible at a level higher than PCP. Communities have adapted or extended the meaning of existing terms to refer to the various ways in which these concepts can be considered. Puluwatese, for instance, makes use of a term *likoto* meaning ‘teasing, mischief’; to include ‘games’. Mota has *ora-ora* ‘to play, sport’ from *ora* ‘to keep under control’. Others emphasise the entertainment aspect, and extend it to storytelling and other kinds of traditional lore.

7 *The spirit world*

MEREDITH OSMOND

7.1 Introduction¹

Oceanic peoples in pre-contact times shared their world with ghostly spirits, both human and non-human in origin. In particular, it was thought that a dead person could continue to exist as a ghost or disembodied spirit, typically as a protective guardian spirit. In Manus in the Admiralties an ancestral ghost was physically represented by the skull of the householder's father, which occupied a niche over the entrance to the house (Fortune 1935:1). In Mekeo (PT), a sorcerer kept with him the relics (bones, teeth, hair) of his patrilineal ancestors, with whom he was in constant communication (Stephen 1987:57). In Sa'a and Ulawa (SES), dwelling houses held a relic case containing the skull or jawbone or lock of hair or tooth of the departed, to which offerings were made (Ivens 1927:178). Invocations made in the performance of magic addressed the ancestors and sometimes included them by name (Stephen 1987:59, Hogbin 1964a:87). In pre-contact Oceania it was the ancestors who were responsible for maintaining the conditions under which the community flourished. A moral code was implicit, even if unlabelled. If you followed the code your garden flourished, your children grew well, your fishing trips were successful. Deviation from this code resulted in ancestral displeasure, manifested in misfortune, illness or death.

Also frequenting the Oceanic world were spirits which have never inhabited a human body. At times the distinction between ghosts of the ancestors and non-human spirits has become blurred. Terms in some languages are general terms for spirits of both kinds. Non-human ghosts might adopt human shape, but would also be recognised in other creatures and in inanimate objects. They were sometimes merely mischievous, but generally to be feared.

Oceanic peoples also believed in the existence of the soul as something which resides in a living body but has some kind of continuing existence after the body dies when its role merges with that of ancestral spirit. There was a widespread belief among Oceanic speaking communities that this life force or soul was free to leave the living body in dreams and, by virtue of its non-corporeal nature, commune with the spirits. As Firth put it, "dreams are valuable circumstantial evidence for the reality of the spirit world" (1967:165).

¹ I am as always grateful to Malcolm Ross for advice on the finer points of sound correspondences as well as additions to the data.

7.2 Ancestral spirit

The concept of ancestral spirit is traceable back to PAn **qaNiCu* ‘ghost, spirit of the dead’ (ACD). POC **qanitu* ‘spirit of the dead’ is widely supported, its central meaning at times subsumed in a range of interpretations including any supernatural beings, ghosts, evil spirits, the soul, and, in places, the Christian God.

PAn **qaLiCu* ‘ghost, spirit of the dead; owl’ (ACD)

PMP **qanitu* ‘ghost, ancestral spirit; nature spirit; corpse; owl; various plants’ (ACD)

POC **qanitu* ‘ancestral spirit, spirit of the dead’

Adm:	Wuvulu	<i>aniʔu</i>	‘spirit of the dead’
NNG:	Kove	<i>anitu</i>	‘ghost; evil spirit’
NNG:	Gitua	<i>anut</i>	‘God’
NNG:	Gedaged	<i>nitū-n</i>	‘soul, separate in nature from the body; shadow; image, likeness’ (inalienably possessed) ²
NNG:	Takia	<i>ŋutu-</i>	‘soul, spirit’
PT:	Motu	<i>(mase-)anitu</i>	‘die from disease, not a violent death’ (<i>mase</i> ‘die’)
MM:	Vitu	<i>yanitu</i>	‘(dead) spirit’
MM:	Bola	<i>anitu</i>	‘ghost’
MM:	Tangga	<i>kinit</i>	‘corpse; bush spirit of ghost; soul after death’
MM:	Mono Alu	<i>nitū-</i>	‘spirit of dead person’
MM:	Maringe	<i>n-anitu</i>	‘spirit, ancestral spirit, ghost, forest spirit; spiritual power; any unfamiliar, frightening presence’

PMic **anitu* ‘god, spirit’ (Bender et al., 2003a)

Mic:	Kiribati	<i>(te)anti</i> <i>anti-na</i>	‘a god, spirit, ghost’ (v) ‘deify, hold or worship as a god’
Mic:	Marshallese	<i>anic</i> <i>anic-nic</i>	‘ghost, spirit, phantom; God’ ‘spell, enchantment; magic, sorcery, witchcraft’
Mic:	Kosraean	<i>inut</i>	‘god, spirit, ghost’
Mic:	Ponapean	<i>eni</i> <i>ani</i>	‘ghost, usually considered malicious’ ‘guardian spirit, ghost of an ancestor’
Mic:	Mokilese	<i>eni</i>	‘demon, ghost’
Mic:	Chuukese	<i>əni, ani</i>	‘god, spirit, spirit of the dead, ghost’
Mic:	Puluwatese	<i>yani</i>	‘ancient god’
Mic:	Woleaian	<i>yalusu</i>	‘ghost, spirit, god; chant directed to a god of spirit’
Fij:	Wayan	<i>anitu</i>	‘spirit, ghost, supernatural being’

PPn **qaitu* ‘ghost, spirit of dead person’ (POLLEX)³

Pn:	Tongan	<i>ʔeitu(matupuʔa)</i>	‘proper name of certain supernatural being’
Pn:	Niuean	<i>aitu</i>	‘ghost, supernatural being’

² Initial **qa-* appears to have been reanalyzed as an optional prefix in Gedaged, Takia and Mono Alu.

³ Loss of *-n-* irregular.

Pn:	Rennellese	<i>ʔaitu</i>	‘worshipped deity, god, esp. the district gods; Lord, Jesus; worship a deity’
Pn:	Samoaan	<i>aitu</i> <i>aitu-a</i>	‘ghost, spirit; descendants of the original gods’ (v) ‘be haunted’
Pn:	Nanumea	<i>aitu</i>	‘family spirit in animal form which helped the family by providing omens and making predictions; ghost; fairy’
Pn:	Rarotongan	<i>aitu</i>	‘god, deity, spirit’
Pn:	K’marangi	<i>aitu</i>	‘spirit, ghost; monster; ancient deities’
Pn:	Maori	<i>aitu</i> <i>aitu-ā</i>	‘sickness, calamity; demon’ (ADJ) ‘of ill-omen, unlucky; unfortunate, in trouble’; (N) ‘misfortune, trouble, disaster, accident; omen, particularly evil omen’
cf. also:			
NNG:	Mangap	<i>kon</i>	‘ghost, spirit of the dead’
NNG:	Yabem	<i>katu-</i>	‘his shadow, picture, soul, ghost, spirit’ (directly possessed)
MM:	Nakanai	<i>(la)-hitu</i>	‘all ghosts of the dead both recent and ancestral’
SES:	To’aba’ita	<i>ano</i>	‘spirit of a deceased person’
SES:	Longgu	<i>ano-a</i>	‘spirit of ancestor or dead person’
SES:	Sa’a	<i>ano-a</i>	‘a portent, omen, vision, apparition’
SES:	Arosi	<i>ano-a</i>	‘an apparition, appearance of a ghost’
Fij:	Rotuman	<i>ʔaitu</i>	‘god, object of worship; shark, stingray or other creature regarded as the habitat of a god’ (Pn loan)

POc **tau-mate* ‘corpse’, literally ‘dead person’, is reconstructed in vol.5:45. In view of the following reflexes, its meaning may have included ‘spirit of the dead’.

POc **tau-mate* ‘corpse; spirit of the dead’

MM:	Hoava	<i>tomate</i>	‘spirit of the dead’ (Tryon & Hackman 1983:327)
MM:	Roviana	<i>tomate</i>	‘corpse; ghost or spirit’
MM:	Kubokota	<i>tomete</i>	‘spirit of the dead’
Mic:	Puluwatese	<i>hōmæ</i>	‘bad ghost of departed person’

A comparable PNCV reconstruction varies the first element, with **tau* replaced by either **qata* ‘person’ (vol.5:47) or **qata* ‘soul, spirit’ (vol.5:205) (see also François 2013:214).

PNCV **qata-mate* ‘ghost; spirit of dead person’ (Clark 2009)

NCV:	Mota	<i>tamate</i>	‘dead man, ghost; dead man in separation from his body’
NCV:	Lakon	<i>ætmcæt</i>	‘ghost, spirit of dead person’
NCV:	Raga	<i>atmate</i>	‘dead man, ghost; soul’
NCV:	Nokuku	<i>temate</i>	‘spirit’
NCV:	Paamese	<i>temate</i>	‘evil’

NCV: Nguna *(na-)atamate* ‘spirit of the dead; devil’

cf. also:

NNG: Mangseng *tamata* ‘spirit, demon’

Other low-level reconstructions include:

Proto New Guinea Oceanic **bara(q)um* ‘spirit of dead person’

NNG: Dami *balaū* ‘ghost, spirit, phantom’
 NNG: Yabem *balom* ‘spirit of deceased persons, ghosts of the dead’
 NNG: Bukawa *balom* ‘spirit; bullroarer’
 PT: Gumawana *baloma* ‘a spirit of a person’ (generic)
 PT: Kilivila *baloma* ‘spirit of the dead’
 bili-baloma ‘spirits of ancient dead’

cf. also:

PT: Bwaidoga *balaumo* ‘an evil spirit, never human’ (Jenness & Ballantyne 1920:149)
 PT: Sinaugoro *balau* ‘spirit of the dead’ (Seligman 1910:193)
 PT: Motu *lauma* ‘spirit, ghost appearing at night, formerly used only of ghosts of those killed, who appeared in terrible form’

In the Southeast Solomons a term is used that includes all ghosts, including those of non-human origin. Ivens (1927:16) writes of Sa’a, “In folklore, the *akalo* of an ordinary person appears after death, speaks and is spoken to before it departs to Kela of the Dead.” He distinguishes two kinds: a) the ordinary *akalo*, the ghost of the dead, and b) the *akalo wasi*, the wild ghost whose abode is the forest and who is dreaded (p.178). The latter are invoked for black magic. In Kwaio the wild ghost is an *adalo kwasi*.

The first vowel of the PSES form is uncertain, as Guadalcanal-Gelic languages reflect **-i-*, but Malaita-Makira languages (which lose **t-*) reflect **a-*.

PSES **t(i,a)dalo* ‘ghost, spirit’

Proto Guadalcanal-Gelic **tidalo* ‘ghost, spirit’

SES: Gela *tidalo* ‘soul of a distinguished dead man; guardian spirit of the home of the dead; relic of the dead’
 SES: Bugotu *tidađo* ‘ghost, amulet’
 SES: W G’canal *tidao* ‘ghost, spirit’

Proto Malaita-Makira **adalo* ‘ghost, spirit’

SES: Longgu *agalo(i)* ‘devil, spirit (good and bad); soul’ (Hill n.d.); ‘general term for spirit’ (Hogbin 1935)
 SES: To’aba’ita *akalo* ‘ghost; ancestral spirit; magic, sorcery’
 SES: Kwara’ae *akaol* ‘ghost, spirit’ (metathesis)
 SES: Kwaio *adalo* ‘ghost, ancestral spirit’
 SES: ’Are’are *akaro* ‘spirit whose abode is in the forest’

SES:	Sa'a	<i>akalo</i>	'ghost, spirit' (Ivens 1927); 'soul of a living man, ghost of an ordinary person' (Codrington 1891:260)
SES:	Arosi	<i>adaro</i>	'ghost; corpse; spirit, demon; soul which leaves the body the fourth day after death and continues to live near the village'
SES:	Kahua	<i>ataro</i>	'ghost, spirit'
SES:	Owa	<i>ataro</i>	'devil, demon, spirit, evil spirit'
SES:	Lau	<i>agalo</i>	'disembodied spirit living on earth; ghost in spirit world'

The etymon reflected in the cognate set below may also have meant 'person's spirit', living or dead, as attested by its Manam usage (see below) but the glosses collectively are vague. There are irregularities in the correspondences which make it difficult to reconstruct the POc form. They suggest that some forms must be borrowings, but the direction of borrowing is unclear. The Admiralties forms disagree on the final vowel of the root, but the PAdm form was apparently directly possessed (vol.5, §3.1.1), supporting the hypothesis that the form denoted the spirit of a person. Among the PNGOc forms, the Manam and Poeng reflexes point to POc *-b- as the last consonant, Lukep, Mangseng and Sinaugoro to *-w-.

?POc **m^wa(l,r;R)(i)awa-* 'spirit, living or dead'

PAdm **m^walaw(i,a)-* 'spirit, perhaps of the dead'

Adm:	Levei	<i>moluwi-ŋ</i>	'spirit'
Adm:	Lou	<i>moloa-n</i>	'spirit of the dead'
Adm:	Nyindrou	<i>malawi-n</i>	'spirit, reflection'
Adm:	Titan	<i>m^walua-n</i>	'spirit, ghost'

Proto New Guinea Oceanic **m^waria(b,w)a-* 'spirit, perhaps of a person'

NNG:	Manam	<i>mariaba</i>	'person's spirit' (Wedgwood 1934–35:71)
NNG:	Lukep	<i>mariawa</i>	'bush spirit'
NNG:	Mangseng	<i>meleun</i>	'spirit'
NNG:	Poeng	<i>maliava</i>	'spirit'
PT:	Sinaugoro	<i>mulava</i>	'ghost'

7.3 Soul as life force

Widespread among Oceanic peoples was belief in a life force that was part of a person's essential being, yet immaterial and separable from the physical body. Close translation is 'soul', although the Oceanic concept has some properties that do not accord with the broad western concept. A number of Oceanic reflexes of POc **maquirip* 'be alive, life, flourish; be in good health', additional to those reconstructed in vol.5:210, justify the addition of 'soul, life force' to the POc gloss.

PAn **qudip* ‘life; alive’ (ACD)

PMP **ma-qudip* ‘living, alive; grow, flourish; fresh; heal, cure, revive, recover’; (N) ‘vital principle, soul, spirit; flame’ (ACD)

POc **maurip* (v) ‘be alive, live, flourish; be in good health’; (N) ‘soul, life force’

SES:	Owa	<i>maurifa-na</i>	‘life of s.o., soul of s.o.’
NCV:	Kiai	<i>mauri</i>	‘live, life, soul’
Pn:	Rennellese	<i>maʔugi</i>	‘life principle or spark, way of life, soul’
Pn:	Pukapukan	<i>mauli</i>	‘soul, spirit’
Pn:	Tikopia	<i>mauri</i>	‘spirit, life principle; vitality of man or animal’
Pn:	Anuta	<i>mauri</i>	‘live, be alive; life, soul’
Pn:	Rarotongan	<i>mauri</i>	‘soul, life principle of man, spirit of a deceased person’
Pn:	Takuu	<i>mauri</i>	‘spirit, shade, soul’
Pn:	Maori	<i>mauri</i>	‘life principle, source of the emotions’

Among properties attributed to the soul was its ability to temporarily leave a sleeping body, as evidenced in dreams, and communicate with the gods. The soul could also be seen as both agent and patient in acts of magic. It was particularly vulnerable to attack from those who wished harm to its owner. Michele Stephen, an anthropologist who had the rare opportunity of instruction in the traditions of magic and sorcery in Mekeo by “one of the most knowledgeable and powerful magicians in the whole region” (1987:53), learned that from a Mekeo perspective, all magic involved control of the soul of the intended patient. She was taught that (Stephen 1987:62)

the stated aim [of the magic] is twofold: a) to draw out and attract the soul, or dream-image, of the subject (*oge e ilaʔa*); b) to send out the soul, or dream-self, of the practitioner (*lalauga e papealai*), which then acts upon the subject’s soul. The principles underlying love magic, hunting magic, weather sorcery and war magic as my instructor so frequently impressed upon me – are exactly the same – to attract and then control the soul of the victim.

The soul thus had a pivotal role in matters of life and death. In many parts of Oceania, severe illness was interpreted as theft of a person’s soul or life force by either a spirit or sorcerer, with recovery dependent on its retrieval. The following examples illustrate.

As Fortune (1935:10) describes it in Manus, if a ghost wishes ill to a mortal he takes the soul-stuff [*m^welolo*] from the mortal. To overcome an illness it is necessary that the soul be recovered and restored to its owner.

When a person is seriously ill in Manam (NNG), theft of the spirit [*mariaba*] by sorcery is suspected (Wedgwood 1934-35:296–7). She describes “specialists” who, while in an induced sleep [*dimate*], travel to the Land of the Dead to recover the spirit of an unconscious patient.

In Gedaged (NNG), offerings are made to ancestors who are supposed to have stolen the soul [*nitun*] of a sick person (Mager 1952:121).

In Kove (NNG), Chowning (1989:224) writes that “if sickness in a baby or young child was diagnosed as having resulted from the capture of the child’s soul [*tautau*] by a *masalai* [TP ‘spirit of non-human origin’], the curer [*valu-valu*] magically sent his soul, while his body slept, into the spirit world to locate that of the child and its captor. His task was to recover the soul, ascertain the cause of sickness and to deal with those responsible.”

Valentine (1965:174) describes magical practice in Lakalai (= Nakanai, MM) “by which men or women fly to the dwelling places of ghosts and ancestors ... to rescue souls captured by ghosts or other spirit beings ... According to contemporary practitioners, the soul rescuer may persuade or trick the ghostly captors into giving up the lost soul, but he often has to struggle with them and flee for his life with the recaptured soul. If he is successful, the illness caused by the loss of the soul will disappear.”

In Nehan (MM), Glennon & Glennon (2006) describe *uelhohou* [*uel-* RECIP, *hohou* ‘sleep’], a fever-curing ritual where the curer searches in sleep for the lost soul of the patient and the ghost responsible for the sickness so that the reason for the soul’s theft might be sought and appropriate reparations made.

Ivens describes incantations used in Ulawa (SES) “when a person was about to employ the magic sleep [*maʔahu isuli*] in order to trace anyone, or to find out the cause of an illness” (1927:325, 345).

François (2013:232) describes the situation in the Torres Islands of Northern Vanuatu. “The shaman’s main role is to be a healer. When somebody is sick, this means their soul has been kidnapped by spirits (PTorres **[a]tamate*), and carried away to the other world (**mbanoi*). Only a shaman [**(a)tamate roŋo*] has the power – aided by magic leaves – to migrate to that world, retrieve the lost soul of the person, and lead it back to the world of the living.”

7.4 Duality of the soul

Oceanic peoples believed in the dual nature of the soul, both present in the life force and continuing to exist after death. A number of languages express this duality by having separate terms for the soul that dies with the body and the soul that survives to merge with the role of ancestral spirit. Examples follow from NNG (Gedaged, Manam), PT (Dobu), MM (Lakalai), SES (Gela, Kwaio), N. Vanuatu (the Torres-Banks languages) and Pn (Tikopia).

Gedaged speakers believe a person has two souls: *buga* ‘shadow soul, guardians of the customs and morals of a village’ and *nitun* ‘soul, separate in nature from the body that leaves the body after death and wanders around’ (Mager 1952:44).

In Manam the apparent soul (*mariaba oañka*) can go to the place of a person’s dream and return. The real soul (*mariaba kaliŋo*) [*mariaba* ‘person’s spirit’, *kaliŋo* ‘flesh’] stays with the person until death. It then goes to Liku in the mainland where all souls live (Böhm 1983:164).

Malinowski writes (1922:43) that “the Dobuans have also the belief of a double soul – one shadowy and impersonal, surviving the bodily death for a few days only, and remaining in the vicinity of the grave, the other, the real spirit, who goes to Bwebweso.” The disembodied spirit is *ʔanu-ʔanunu* or *maʔa-maʔayau*. The part which goes to spirit land is *nibowana* or *yaru-yarua* (Dixon 1928).

Valentine (1965:166–7) describes the Lakalai of New Britain as speaking of three soul-like entities, *halulu*, *kalulu* and *hitu*, *kalulu* evidently a local variant of *halulu* (from POc **qanunu*). Although he describes some confusion among informants as to the nature of each he offers the following: *halulu* refers also to ‘shadow, reflection’. *kalulu* is the normally invisible spirit double of the living person that goes forth in dreams. It may be captured by spirits which cause illness. *hitu* is generally considered as the form taken by *kalulu* after death, referring to spirits of the dead.

In Gela, during a man's life, his spirit, *taruŋa*, goes out of him in dreams and returns; at death it departs the body finally and becomes a ghost, *tindalo* (Codrington 1891:249).

Writing from the perspective of the Kwaio, Keesing writes (1982:105) that “most Malaita peoples conceive of two soul components, one of which goes to a Land of the Dead while the other remains as an ancestral spirit in the community. These soul components are variously associated with shadow, reflection and breath.”

In the Torres-Banks languages, after death, people no longer refer to a person's soul (PT-B **ata*) but rather to their ghost (*[*a*]*tamate*) (François 2013:219).

The Tikopia believe that a person has a single soul, *mauri* or *ora*, which may travel away from the body during dreams. After death there is a change of terminology and function. Now it is *atua*, not *ora*. This implies its emergence as an entity in its own right, no longer in direct association with its body. It remains in the vicinity of the body until after the burial, and ends up in one of several dwelling places, where it remains active (Firth 1967:339).

POc **maqurip* (v) ‘be alive, live, flourish; be in good health’; (N) ‘soul, life force’ reconstructed above, is suggested as the term for the soul belonging to the living person. Two further terms have been reconstructed for ‘soul’ (included in vol.5, §3.9.1), both referring also to shadow or reflection, images that to the native mind are evidence of the soul's existence. Reflexes of POc *[*qa*]*nunu* ‘shadow of person, likeness, reflection; soul that may leave the body in dreams’ are numerous and widespread. Those of POc **qata* ‘soul, spirit; shadow, reflection’ are almost in complementary distribution, limited to just three subgroups – TM, NCV and Pn. Only in NCV is there any overlap, with Mota the only language identified with reflexes in both.

PAn **qaLiŋu* ‘shadow, reflection’ (ACD)

PMP **qan[i,u]nu* ‘shadow, reflection’ (ACD)

POc *[*qa*]*nunu* ‘shadow of person, likeness, reflection; soul that may leave the body in dreams’ (vol.5:204)

Adm: Wuvulu	<i>anunu</i>	‘shadow, reflection’
NNG: Mangap	<i>kunu-</i>	‘one's own shadow, reflection, image, soul, personality’
NNG: Manam	<i>anunu(ka)</i>	‘shadow, image’
NNG: Kaulong	<i>enu-</i>	‘shadow, reflection, image; ghost, soul, (inner) substance’
NNG: Aria	<i>ano-</i>	‘spirit, soul; shadow; breath’
NNG: Poeng	<i>kannu-</i>	‘shadow, reflection (of person); spirit (within a person)’
NNG: Mapos Buang	[<i>q,k</i>] <i>enu-</i>	‘shadow, image; spirit which may leave the body in sleep; ancestor’
NNG: Patep	<i>knu-</i>	‘shadow, image; (person's) spirit’
NNG: Yabem	<i>kanu?</i>	‘darkness, shadow’
PT: Kiriwina	<i>ʔanu-ʔanunu</i>	‘shadow of a person’ (ʔ for exp. <i>k</i>)
PT: Molima	<i>ʔanunu-</i>	‘shadow, reflection’
PT: Kukuya	<i>anua-</i>	‘shadow of a person, image, reflection; centre of feeling or emotion’
PT: Bwaidoga	<i>anunu-</i>	‘soul of a dead man’

PT:	Iduna	<i>anumu-</i>	‘shadow, reflection; soul; ancestor ten generations back’
PT:	Dobu	<i>ʔanu-ʔanunu</i>	‘soul which stays in the grave’
PT:	Misima	<i>(ka)kanun</i>	‘shadow, image’
MM:	Vitu	<i>hanumu(k)</i>	‘shadow, reflection’
MM:	Nakanai	<i>halulu</i> <i>kalulu</i>	‘shadow, reflection’ (Valentine 1965:166) ‘soul, separable from the body, can leave the body in sleep’
MM:	Bola	<i>xanu-</i>	‘soul, shadow, reflection’
MM:	Tolai	<i>nono</i>	(VI,VT) ‘to shade, shadow’
MM:	Nduke	<i>nuni-</i>	‘shadow’
MM:	E Kara	<i>yəlu-</i>	‘shadow’ (<i>-l-</i> for exp. <i>-n-</i>)
SES:	Kwaio	<i>nunu(-)</i>	‘shadow, image, picture; the shade of s.o. who wanders in dreams and talks to people’ (Keesing 1982:35)
SES:	Lau	<i>nunu(-)</i>	‘shadow, shade; likeness, image’
SES:	Sa’a	<i>nunu-</i>	‘shadow of persons, reflection, likeness, soul, consciousness’
SES:	To’aba’ita	<i>nū-, nunu</i>	‘shadow, reflection, likeness’ (<i>nū</i> preferred with personal suffix)
SES:	Arosi	<i>nunu-</i>	‘image, shape, reflection’
PSOc <i>*nunu</i> ‘shadow, image, reflection, soul’ (Lynch 2001)			
NCV:	Mota	<i>nunua-i</i>	‘the mental impression of sound or force, rather than actual impression, but taken to be real’
NCV:	Mwotlap	<i>nini-</i>	‘shadow, reflection’
NCV:	Nokuku	<i>nun, nuniu-</i>	‘shadow’
NCV:	Tamambo	<i>nunu-</i>	‘shadow, picture, photo’
NCV:	Raga	<i>nunu-</i>	‘shadow, picture, representation’
NCV:	Paamese	<i>ninu-</i>	‘spirit, soul, shadow’
SV:	Kwamera	<i>nanu(mu)</i>	‘spirit, ghost; shadow, reflection; likeness’
SV:	Sa	<i>nunun</i>	‘soul, shadow, reflection’
NCal:	Iaai	<i>(ha)nu-</i>	‘soul, spirit (of dead person), silhouette, appearance’
Mic:	Kiribati	<i>nunu-</i>	‘to cover, to shade (incantation)’
POc <i>*qata</i> ‘soul, spirit; shadow, reflection’ (vol.3:205) ⁴			
TM:	Teanu	<i>ata</i>	‘soul, spirit’ (François 2009:107)
TM:	Lovono	<i>ala</i>	‘soul, spirit’
TM:	Tanema	<i>ae</i>	‘soul, spirit’
PNCV <i>*qata-</i> ‘soul, spirit’ (Clark 2009)			
NCV:	Mota	<i>ata-</i>	‘soul, spirit’

⁴ POc **qata(r)* ‘soul, spirit; shadow, reflection’ was reconstructed with POc final **(-r)* in vol.5:205, following Dempwolff’s (1938:60) PMP **qantad*. In vol.5 the PMP term was wrongly glossed ‘appearance, mark’. Dempwolff glosses it ‘be visible’. With this gloss it is an unlikely antecedent of POc **qata* ‘soul ...’. The latter is distinct from the homophonous POc **qata* ‘person’ (vol.5:46).

NCV: Hiw	<i>ata-</i>	‘soul, spirit’
NCV: Lehali	<i>n-eta-n</i>	‘soul (of s.o.)’ (François 2013:211)
NCV: Namakir	<i>ʔata-</i>	‘(man’s) spirit’
NCV: S Efate	<i>(n)at</i>	‘soul, spirit’
NCal: Iaa	<i>hate</i>	‘mark, shadow’
Fij: Rotuman	<i>afa</i>	‘make a mark or impression’
PPn * <i>qata</i> ‘spirit, soul; shadow (not shade), reflection, image’ (POLLEX)		
Pn: Tongan	<i>ʔata</i>	‘shadow, reflection, image’
Pn: Niuean	<i>ata</i>	‘shadow, reflection’
Pn: Rennellese	<i>ʔata</i>	‘shadow, reflection’
Pn: Samoan	<i>ata</i>	‘shadow, reflection, duplicate’
	<i>ata-ata</i>	‘reflections’
Pn: W Futunan	<i>ata</i>	‘soul, image’
Pn: W Uvean	<i>ata</i>	‘reflection, spirit of (dead) soul’
Pn: Tikopia	<i>ata</i>	‘shadow, reflection, representation of person or spirit’
Pn: Maori	<i>ata</i>	‘shadow, reflection; spirit, soul’
Pn: Hawaiian	<i>aka</i>	‘shadow, reflection, image’
cf. also:		
NGG: Yabem	<i>katu-</i>	‘his shadow, picture, soul, ghost, spirit’

In most Polynesian languages, reflexes of PPn **qata* refer primarily to ‘shadow, reflection’ while a reflex of PPn **qaja-qaja* is the more usual term for ‘soul, spirit’.

PPn **qaja-qaja* ‘soul, spirit’

Pn: Tongan	<i>ʔaja-ʔaja</i>	‘corpse, dead body of person’
Pn: Niuean	<i>aja-aja</i>	‘spirit (both life spirit and supernatural spirit)’
Pn: Tuvalu	<i>aja-aja</i>	‘soul’
Pn: Samoan	<i>aja-aja</i>	‘soul or disembodied spirit which at death leaves the body and proceeds to the Hadean regions under the ocean called Puloto’ (Turner 1884:16)
Pn: E Uvean	<i>aja</i>	‘character, quality, nature’
Pn: K’marangi	<i>aj-aja</i>	‘body’

7.5 Non-human spirits

In a world which recognised the existence of ancestral spirits, perhaps it is not surprising that people also identified non-human supernatural beings. Ethnographies have numerous examples of such beings, with a wide range of form and function. In Wogeo, supernatural beings called *nanaraj* occupied the island before the arrival of men (Hogbin 1935a:377). They were not ancestors, but were responsible for establishing the local culture. In Dobu and parts of the Trobriands were reported flying witches who brought death and disease (Malinowski 1922:76, Fortune 1963). In Nakanai *taua* were believed to inhabit the bush and the sea and exist also in trees and rocks (Chowning & Goodenough 2016). In Petats on Buka Blackwood (1935:543) describes *halelehan*, spirits of non-human origin who sometimes

adopt animal form. They are not regarded with such intense awe and fear as are the spirits of the dead [*amat*]. In Sa'a and Ulawa, the *akalo wasi* lived in the forest, were of murderous instinct and were dreaded (Ivens 1927:181). In the Torres-Banks languages of northern Vanuatu were a range of spirits including *vui*, described by François (2013:219) as 'the eternal spirits of the place, who are present even before mankind, and still inhabit the forest.' Polynesians believed in a pantheon of gods who peopled their legends and creation myths, and to whom offerings were made. A number of these languages have now used the term originally applied to their gods, to refer to the Christian god.

POc **qatuan* 'deity, supernatural being' is supported by cognates from Polynesia and a single term from Emira. Additional Polynesian evidence lies in the existence of prefixes to terms for creatures or phenomena associated with danger and the supernatural, e.g. Tongan *ʔotua-kui* 'whirlwind, waterspout', Maori *atua-piko* 'rainbow', and Samoan *atua-loa* 'k.o. centipede with poisonous bite' (vol.4:420).

PMP **qatuan* 'deity' (ACD)

POc **qatuan* 'deity, supernatural being'

Adm: Emira *otuana* 'spirits' (Chinnery 1925:158)

PPn **qatua* 'supernatural being'; 'deity' (POLLEX)

Pn:	Tongan	<i>ʔotua</i>	'object of worship, deity, god'
Pn:	Niuean	<i>atua</i>	'god, spirit, ghost' (now used exclusively for God; for ghost, <i>aitu</i> is used)
Pn:	Samoan	<i>atua</i>	'god; divine, god-like; the original gods'
Pn:	Rennellese	<i>ʔatua</i>	'God, spirit, deity; to worship as a god'
Pn:	Tikopia	<i>atua</i>	'supernatural being in general; spirit, ghost; the soul of a dead person'
Pn:	Nanumea	<i>atua</i>	'household deity'
Pn:	Anutan	<i>atua</i>	'spirit being'
Pn:	Maori	<i>atua</i>	'God, demon, supernatural being, ghost; object of superstitious regard; anything malign, disagreeable; strange, extraordinary'
Pn:	Hawaiian	<i>akua</i>	'God, goddess, spirit, ghost, devil, image, idol, corpse; divine, supernatural, godly'

cf. also:

Fij:	Rotuman	<i>ʔatua</i>	'dead person, corpse, ghost' (ghosts are very material to Rotuman mind) (Pn loan)
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Also reconstructed is POc **tubuqan* 'supernatural being'. It appears to be derived from POc **tubuq* 'grow', and to be identical with **tubuq-a(n)* 'body, substance' (*-an* nominaliser) (vol.5:79–80),⁵ but with a specialised meaning, disassociated from the human body. Simet (1991) discusses the Tolai term *tubuan* at length. It refers not just to the mask but to the man who wears it, who assumes supernatural powers. The term is also used in Sursurunga and Tolai to label the male secret society in which *tubuan* activities take place.

⁵ In vol.5:80 this is reconstructed as **tubu-a(n)*. The MM reflexes above show that the final consonant was **-n* and that the term is reconstructable with this meaning as far back as POc.

POc **tubuqan* ‘supernatural being’

MM:	Tolai	<i>tubuan</i>	‘leaf mask; masked dancer’ (Meyer 1961)
MM:	Barok	<i>tubuan</i>	‘potent masked figure and associated dance’
MM:	Sursurunga	<i>tobuən</i>	‘supernatural being; the male secret society associated with this being’

PEOc **tubuqa* ‘spirit being (possibly guardian spirit)’

SES:	To’aba’ita	<i>ḍūfā</i>	‘one’s protective, guardian spirit’
NCV:	Nguna	<i>na-tupua</i>	‘spirit’

PPn **tupuqa* ‘supernatural being’

Pn:	Tongan	<i>tupuʔa</i>	‘ancient, venerable’
Pn:	Niuean	<i>tupua</i>	‘giant, evil spirit, demon; ancient gods’
Pn:	Samoan	<i>tupua</i>	‘idol, image’
Pn:	Anutan	<i>tupua</i>	‘spirit’
Pn:	Pukapukan	<i>tupua</i>	‘demon, ogre, creature, monster’
Pn:	Tuvalu	<i>tupua</i>	‘god; pre-christian wooden gods’
Pn:	E Futunan	<i>tupuʔa</i>	‘stars marking months of year’
Pn:	W Futunan	<i>tupua</i>	‘image, idol, sign’
Pn:	Tikopia	<i>tupua</i>	‘traditional supernatural being, spirit; deity, esp. spirit never having been soul of living person’
Pn:	Tokelauan	<i>tupua</i>	‘idol, guardian spirit’
Pn:	Tuamotuan	<i>tupūa</i>	‘supernatural being’
Pn:	Tahitian	<i>tupūa</i>	‘supernatural beings’
Pn:	Maori	<i>tupua</i>	‘goblin, demon, foreigner, one versed in magic’
Pn:	Hawaiian	<i>kupua</i>	‘supernatural being, being with natural power’

cf. also:

Fij:	Lau	<i>tupua</i>	‘spirit or ghost’ (Pn loan: P. Geraghty, pers. comm.)
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7.6 Conclusion

Terms related to matters of belief and the spirit world have been subjected to a considerable degree of reinterpretation, particularly since the introduction and widespread adoption of Christianity. Defining the reconstructions is not helped by reliance in the cognate sets on the English term ‘spirit’, a word whose multiple meanings can refer to all of the concepts discussed here – ancestor spirit, non-human spirit and soul both as animating spark and as the part of a person that survives after death⁶, resulting in a degree of cross-contamination of meaning in wordlists.

We can be confident that POc **qanitu* (from PAn **qaniCu* ‘ghost, spirit of the dead’) referred to ‘ancestral spirit’. POc **qatuan* (from PMP **qatuan* ‘deity’) may have referred more broadly to any supernatural being, whether human or non-human in origin. Evidence that there are distinct terms for the soul within a living person and the soul which survives after death has resulted in three POc reconstructions. Clearly there are various ways in which an abstract quality like ‘soul’ can be conceptualised. POc **maqurip* (v) ‘be alive, live,

⁶ The Macquarie Dictionary offers 30 separate meanings for ‘spirit’.

flourish; be in good health'; (N) 'soul, life force', (from PAN **qudip* 'life; alive') is readily understood as referring by extension to the animating spark in man. Although **[qa]nunu* (from PAN **qaLiju* 'shadow, reflection') and **qata* both refer inter alia to 'shadow, reflection', the former has the added support from three subgroups (NNG, MM, SES) for the meaning to include 'soul that may leave the body in dreams'.

8 *Magic and the supernatural*

MEREDITH OSMOND

8.1 Introduction

The practice of magic in Oceanic societies is based on the belief that ultimate power resides in the ghosts of the ancestors, and that there are people in the community who can summon this power under certain conditions to achieve particular ends.

Magic traditionally imbued every aspect of the lives of Oceanic speakers. It was the tool by which they sought to enhance outcomes in their gardening practices, their fishing, their state of health, their fertility, their efforts in love and war, and power over their enemies. It provided an explanation for otherwise inexplicable events, and served as a form of social control, enforcing prohibitions on certain behaviours. But like all tools, it could be misused by those with their own motives. It offered a means of reacting, attempting to influence, by counter-action or retribution, and was used for both good and evil purposes. Sorcery, sometimes used loosely as a term for any magic, more commonly refers to that performed to inflict harm on another. In its most extreme form it is magic directed towards the intended death of a victim (black magic). Where possible, black magic is treated here separately in §8.4.

Most approaches made to ancestors, as well as giving thanks and perhaps showing respect and obeisance, are to seek their good will for future endeavours. Approaches are invariably made at the start of fresh initiatives such as the breaking of new ground in a garden, the opening of a new men's house, the construction and launching of a trading canoe, preparation for a fight, and preparation for hunting and fishing expeditions. Rituals on such occasions usually incorporate a sequence of specific spells. For example, in preparation for a fight, spells may be cast to inspire the warriors with courage, to enable them to creep upon the enemy unobserved, to cause the weapons to inflict lethal wounds, and to make the enemy sluggish and weak. In gardening, magic may be called on to preserve the fences, drive away plant diseases and insects, bring sun or rain, and make the yams increase in size (Hogbin 1964:86). The ritual is usually so closely identified with the occasion that to neglect it is to court disaster. In western Oceanic communities such rituals are typically led by a headman or expert magician. Spells also exist for individuals to seek good fortune in personal matters, such as attracting a person of the opposite sex, help in

childbirth or success in fishing. At times the request is accompanied by offerings, usually harvest produce or fish.

Misadventure of all kinds, including illness, accidents such as falling from a tree, failure of rainfall or even volcanic activity can be interpreted as due to displeasure of the ancestors, and must be counteracted by magic, often accompanied by some form of payment. An afflicted person may seek to identify a past act suspected of causing offence, which can then be atoned. Commonly, misfortune is believed caused by deliberate human action against another, i.e. sorcery. In this case the victim may have a good idea of someone he or his close kin have offended, or know of those who hold a grudge against him, and he may have a good idea of those with the ability to practise sorcery and identify the likely sorcerer. Those with the skill to cause harm usually have the power to undo their magic.

A major problem for those of us engaged in historical reconstruction is paucity of detailed terminology in magical matters. Many early ethnographers were missionaries who could be expected to discourage any magical beliefs as incompatible with Christianity, and did little to record what they saw of magic practice. What was recorded was often local practice reinterpreted to accord with Christian ritual and belief. Also relevant was a natural reticence when it came to discussing secret and mysterious processes with strangers. If a secret spell is shared among strangers, its efficacy is believed lost. It may take years for an outsider living within a community to be allowed to know of such matters. Raymond Firth who spent a year in Tikopia in 1928–9, learnt much later that the chiefs had given orders that he was to be told nothing about their gods and ritual practices (1957:8). As well, communities took care to keep this knowledge to themselves lest it be used by neighbouring communities against them. So although there is a substantial degree of commonality in what is known about the general practice of magic in Melanesia, collected terms tend to be highly restricted in distribution and very generalised in their listed meaning. Consequently very few POC lexical reconstructions have been possible.

As an example of the kind of difficulties involved, one of the rare reconstructions possible is the following. It evidently related to some aspect of magic, but without further evidence we cannot know if the reference is generic or specific, or whether the implied actor is human or non-human.

POc **masi* ‘magic; perform magic’

NNG: Poeng	<i>masi-a</i>	(v) ‘perform (a magic ritual)’
	<i>masi-ŋ</i>	(N) ‘the act of performing a magic ritual; medicine’
	<i>mas-mas</i>	(v) ‘work magic, supernaturally perform’
	<i>mas-masia</i>	(v) ‘perform magic on’
NCV: Paamese	<i>masi-ŋe</i>	(N) ‘love magic’
NCV: V’enen Taut	<i>masi-n</i>	(N) ‘love magic’

PNCV **kai-masi* ‘sorcerer’ (Clark 2009) (POc **k^(w)ai* ‘person belonging to a category’; vol.5:48–50)

NCV: Paamese	<i>ei-masi</i>	‘evil spirit’
NCV: Nguna	<i>(na)kai-masi</i>	‘sorcerer’

The practice of magic is considered in §8.2, its practitioners in §8.3, and sorcery in §8.4.

8.2 The practice

Magic practice consists primarily in the recitation of certain spells and performance of associated ritual. Depending on the kind of magic, it may also involve inclusion of some substance to transmit the power from the magician to the object to be influenced, and may be accompanied by offerings.

8.2.1 The invocation

The reciting of a spell effectively invokes the ancestral spirits. It seems that although anyone may talk to the ancestors, most major areas of concern involve established spells typically 'owned' by a particular person or clan. The wording of a spell is usually of great importance, having been passed down by previous generations, perhaps originating in a single named ancestor.

Malinowski (1948:54) writes of the Trobrianders that "the most important element in magic is the spell. ... In an analysis of any act of witchcraft it will always be found that the ritual centres round the utterance of the spell. The formula is always the core of the magical performance." He echoes Powdermaker (1933:298) who writes that, in Lesu (New Ireland), the power of the magic lies in the muttered spell. The rite is of minor significance, and sometimes does not exist, but the spoken words are essential. In Longgu "the verbal formula of the spell is always rhythmical to facilitate learning and subsequent recall, and, as absolute accuracy in repetition is considered essential, it often abounds in archaisms" (Hogbin 1964:86). Similarly, in To'aba'ita, Hogbin (1970a:119) writes that "by far the most important part of the magic is the spell, and the same word, *akaloo*, is in fact used for both. All spells are supposed to have been revealed in dreams to the ancestors by forefathers still more remote, and their effectiveness is supposed to depend on the accuracy with which they are repeated." In Samoa, as described by Moyle (1988:73) "the possibility of success required exact recitation of the text and an actual performance of the ritual acts."

Blackwood (1935:479), however, writes that in northern Bougainville the deed is more important than the words. "While the deed is often sufficient without the word, the word is never found alone, but always in conjunction with some act ... Further, no great stress appears to be laid upon the exact reproduction of the form of words." Firth (1967:203, 206) writes that, although the essence of the magic is the formula, "there is no belief in Tikopia that the form of words is so exact that a slip in the recital will invalidate their effect or bring misfortune upon the reciter ... There is a great deal of individual variation in the words recited."

Although the main focus of the spell will be the desired outcome, persons' names may be included. In Mekeo, for instance, a spell includes a sequence of names beginning with the name of the originator and ending with the name of the person who taught the spell to the adept (Stephen 1987a:59). In Longgu a spell will contain a list of former owners, the list being proof of the spell's potency for the present owner; otherwise they would never have continued to pass it down through the generations (Hogbin 1964:87).

The structure is repetitious. Longer spells may be in rhythmical language, being easier to remember, often with figures of speech and far-fetched analogies. Hogbin (1970b:177) offers as an example a spell from Wogeo to make a canoe sail swiftly which describes it as travelling faster than the flight of an eagle. The manner of utterance may also be of

importance. Spells are typically uttered inaudibly to prevent anyone else learning them. Some may be sung.

Although it is possible to locate various terms meaning ‘to invoke supernatural intervention’ or similar, a POc reconstruction has proved elusive. Codrington (1891:145) wrote “It is certainly very difficult, if not impossible, to find in any Melanesian language a word which directly translates the word prayer, so closely does the notion of efficacy cling to the form employed.” A number of phonologically similar low-level reconstructions are possible, but it has proved impossible to combine the data into a single cognate set.

Proto Malaita-Makira		* <i>yaru</i> (VI), * <i>yaruʔ-i</i> (VT)	‘invoke a spirit, make imprecations, put a spell on someone over something’ (Lichtenberk 1994:30); <i>aruʔ-a</i> (N)	‘magic, spell’
SES:	Longgu	<i>aru</i> <i>aru-aru</i>	(N) ‘generic term for magic, spell’ (Hogbin 1964) (V) ‘whisper, murmur, usually behind one’s hands; talk to s.t. like a lime or leaf in your hands as a special protection against spirits so that no one hears what you say’	
SES:	To’aba’ita	<i>aruʔ-a</i>	(N) ‘kind of malevolent magic, sorcery’; ‘man or woman who practises this kind of sorcery’	
SES:	Lau	<i>aru</i> <i>aru-a</i> <i>aru-aru</i> <i>aru-i</i>	(V) ‘practise black magic, harm by magic’ ‘black magic, sorcery; familiar spirit’ ‘practise black magic; poison’ (VT) ‘use magic on’	
SES:	Kwaio	(<i>wane</i>) <i>aluʔa</i> <i>alu-</i> <i>aluʔ-i</i>	(N) ‘a sorcerer, one who keeps another’s leavings for malicious purposes’ (<i>wane</i> ‘man’) ‘prefix for various magic practices, e.g. <i>alu-aluʔa</i> ‘magic for raising pigs’ (VT) ‘talk to <i>adalo</i> in divination; utter a spell in magic; place a magic spell over’	
SES:	’Are’are	<i>aruʔ-i</i> <i>aruʔ-a</i>	(VT) ‘to invoke the spirit, to make imprecations accompanied by incantations for recovery from sickness, over food on feasts etc.’ (also <i>aro-a</i>) (V) ‘invoke a spirit over <i>hena</i> (lime) or betelnut for cure of a sick person’	
SES:	Sa’a	<i>seru-i</i>	‘use a magical spell over a person or object’	
SES:	Arosi	<i>aru</i> <i>aruʔ-i</i> <i>hai-aru</i>	‘to charm, put a spell’ (VT) ‘to charm, put a spell on s.o.’ (N) ‘a charm or spell’	
SES:	Owa	<i>aru-aru</i> <i>aru-aru-fa</i>	‘do magic, do traditional magic practices’ (N) ‘magic’	

At first glance, the items listed below form an EOC cognate set. Certainly their glosses justify one. But PNCV *[*ta*]*taro* reflects a putative PEOc **taro* or, less probably, **taRo*. PPn *[*talo*]*talo*, on the other hand, would reflect a PEOc **talo*. And ’Are’are *aro-a* might reflect either **taro* or **talo*, so we cannot tell whether it is cognate with PNCV *[*ta*]*taro* or with PPn *[*talo*]*talo*. Without making an ad hoc assumption, we cannot reconstruct a PEOc term from these data.

SES:	'Are'are	<i>aro-a</i>	(VT) 'to pray over, invoke the spirits over'
PN CV <i>*/[ta]taro</i> 'pray, wish for' (Clark 2009)			
NCV:	Mota	<i>tataro</i>	'to pray; invocation made to the dead'
NCV:	Raga	<i>tataro</i>	'pray, prayer'
NCV:	Mwotlap	<i>tataro</i>	'to invoke intercession'
NCV:	Nguna	<i>(na)taro</i>	'intercession, prayer of request'
PPn <i>*/[talo]talo</i> (v) 'to invoke supernatural intervention; pray'; (n) 'spell, incantation' (POLLEX)			
Pn:	Tongan	<i>talo-talo</i>	'to cast lots or employ divination'
Pn:	Pukapukan	<i>talo-talo</i>	'pray, invoke, recant'
Pn:	Samoan	<i>ta-talo</i>	'pray'
		<i>talo-talo</i>	'incantation, prayer'
Pn:	Tikopia	<i>taro, taro-taro</i>	'recite traditional ritual formulae, incl. magical formulae and rituals over kava'; 'utter Christian prayer'
Pn:	Tokelauan	<i>talo</i>	'a signal or request or help sent by waving a canoe paddle or a green coconut frond'
Pn:	Tahitian	<i>taro-taro</i>	'short prayer to the gods'
Pn:	Hawaiian	<i>kalo-kalo</i>	'prayer'

8.2.2 The rite

Rituals are intended to incorporate some aspect of the focussed object. The degree of ritual action required, however, varies with context. In Tikopia, where fishing is concerned, it is sufficient for a man to utter appropriate words while the casting of a line provides the necessary action (Firth 1967:201). When the focus is on, for example, success in gardening, the accompanying ritual may assume the greater significance. Even when similar rituals are described in the ethnographic literature, there is little linguistically that can be reconstructed. An exception is with magic associated with treatment of pain or disease. The spraying of some masticated substance such as ginger mixed with saliva from the mouth on to an affected body part is evidently a very old and widely practised ritual treatment right across the Austronesian world. Two similar reconstructions, POc **puRuk* 'to spray spittle etc. from the mouth for magical purposes' and POc **puRas* 'spray water from the mouth' are included in vol.5:362–3. Another practice that has been reported in places as far part as Motu (Seligman 1910:167), Bwaidoga (Jenness & Ballantyne 1920:139–141), Kove (Chowning 1989:224), Kwaio (Keesing 1982:118), Gela and Fiji (both Codrington 1891:198) is the manipulation of a body part to isolate something believed to cause the problem so that it may be seized or spat out. POc **samo(s)* 'stroke, massage' may include this activity as part of its wider meaning (vol.5:363).

Another ritual may be undertaken when a person becomes seriously ill. The illness is thought due to the patient's soul becoming separated from his body, apparently due to sorcery. At such times a curer will enter into induced sleep, thus permitting his own soul to travel to locate the soul of the unconscious person and return it to the land of the living. Specialised terms for such magical or induced sleep include:

NNG: Manam	<i>dimate</i>	‘induced sleep to enable soul of curer to travel to Land of the Dead to retrieve soul of ill person’ (Wedgwood 1934-5:297)
MM: Nehan	<i>uelhohou</i>	‘fever-curing ritual where curer searches in sleep for lost soul of patient’ (<i>uel-</i> RECIP, <i>hohou</i> ‘sleep’) (Glennon & Glennon 2005)
SES: Ulawa	<i>ma?ahu isuli</i>	‘magical sleep to trace anyone or find out the cause of an illness’ (lit. ‘sleep and find out’) (Ivens 1927:345)

Further examples of this belief are included in chapter 7, but no reconstructions have been possible.

8.2.3 Powerful substances

Many spells involve the use of particular substances relevant to the desired effect. Items chosen are thought to mimic, by their properties, the desired result. Love magic may include adorning oneself with the leaves of a sweet-smelling shrub such as *Euodia hortensis* (PCP **usi*) to capture a woman’s affections (Ivens 1927:281, 336). The leaves and bark of particular plants are important in calling on ancestor spirits, while roots are chewed for magical purposes. Ginger (POc **laqia* ‘ginger, *Zingiber officinale*) (vol.3:414) is considered a powerful substance used for both magical and medicinal purposes. Chewing ginger as part of a spell serves to make the words ‘hot’, that is, to augment their potency (Hogbin 1970b:180). It is also a common ingredient in the ritual treatment of disease, generally by the agent spitting the masticated substance on to the afflicted body part. Wild ginger (*Zingiber zerumbet*) also known as red ginger, is associated with magic and sorcery in Marovo and Maringe, and chewed by the magician in Tangga preparing for war (Bell 1935a:261). It was also wrapped in dried banana leaves and burnt in pots by Motu on their ocean-going canoes to help them go fast and well while on *hiri* trading voyages (Gwilliam 1982:52).

Other plants associated with magical practices include turmeric, *Curcuma longa* (POc **yaŋo*, vol.3:412), used at Morovo and Kwara’ae, and various leaves including those of *Dracaena augustifolia* used in Arosi and Sa’a (Ivens 1927:290) and *Cordyline fruticosa* used in Buka (Blackwood 1935), Marovo (Hviding 2005:118), To’aba’ita (Hogbin 1970a:106), Kwaio (Keesing 1982:189) and Tikopia (Firth 1967:182). POc **jiRi* (vol.3:418) refers to both *Dracaena augustifolia* and *Cordyline fruticosa*). Fortune (1963:114–5) lists *Cordyline terminalis*, an alternative name for *C. fruticosa*, as of ceremonial importance over a wide area, from the Admiralty Islands, through Milne Bay, New Britain, the Solomons, Vanuatu, Fiji and Polynesia. Skins of areca nuts, *Areca catechu* (POc **buaq*, vol.3:393) are used in black magic in Sa’a and elsewhere (Ivens 1927:246).

Lime (POc **qapu(R)* ‘lime, burnt coral or limestone’, vol.2:64) is also used for both magical and medicinal purposes. Blackwood (1935:477) mentions the many uses of lime (*iav*) in Petats. Not only is it added to the mixtures used for a number of medicinal and magical purposes, it is also efficacious alone, e.g. rubbed on a man who has been struck by spirits, or a person suffering from a sprain or broken bone. Ivens (1927:195) lists the ceremonial uses of lime (*sahu*) in Sa’a as (1) in black magic; (2) to induce magic sleep; (3)

to restore those who were possessed; (4) in exorcism; (5) for protection of the *malaohu* [separated for initiation] boys, and of the fighting man against adverse ghosts; and (6) to protect houses from ghostly attack. It may be rubbed or painted on the skin or item to be protected.

In addition, some magical procedures require objects such as physical relics of the dead. In Lukep an ancestral relic [*bar*] like bone or hair is used to communicate with the spirit world (D'Jernes). A sorcerer in Mekeo will keep with him the relics (bones, teeth, hair) (*fana ofuna*, lit. 'body dirt') of his patrilineal ancestors, with whom he is in constant communication through dreams, signs, divination and his nightly invocation of them to assist him and watch over the members of his lineage (Stephen 1987a:57). Blackwood (1935:474) describes small bundles called *ēto* carried as a general protection by adults in Buka which contain relics of a dead relative or of an enemy who has been eaten. In Sa'a, relics of the dead [*manite*] including the skull, hair, fingernail and bone, are kept in a relic case in the corner of a dwelling house where offerings are made (Ivens 1927:178). The magical equipment of a sorcerer may also include oddly shaped stones, pieces of bark or shell, and dried reptile or insect parts (Stephen 1987a:60, Ivens 1927:292), particularly if they show some physical similarity to a body part on which magic is to be performed. (See also Seligman 1910:178ff).

8.2.4 Offerings

Although offerings are generally made in atonement for perceived transgressions, they sometimes accompany a request to the ancestors for good fortune in a future endeavour, and are also made as a form of thanksgiving following harvest or successful fishing. There is considerable variation from place to place in the degree to which an offering is developed into formal ritual. In Manus, where people consider that the main role of ancestral ghosts is to maintain a moral code by punishing offenders with illness or other misfortune, people pay only to atone for sin, never to promote good fortune from the spirits or to avoid any future misfortune. "Payment to wipe off sin is just; payment to keep a ghost from malice, if it were done, would be simply bribery or tribute" (Fortune 1935:54).

Although offerings to ancestors appear to be a widespread part of ritual in the southeast Solomons and Polynesia, evidence for their existence in western Oceanic communities is very limited. A rare western Oceanic example comes from Malinowski (1935:467). He notes that although the Trobriand belief in spirits and the part they play was vague and shadowy, the ancestral spirits were acknowledged during the breaking of new ground in gardening. While the villagers offer a quantity of special food, usually fish, to the garden magician as ceremonial payment, a small portion is exposed to the ancestral spirits, sacrificially and with an invocation.

Offerings form a significant part of magic ritual in the southeast Solomons both to ensure good fortune and to atone for perceived transgressions. Hogbin (1964:78) describes sacrifices made at Longgu, the most important of which were those preceding dispatch of a fleet of trading canoes, when pigs were offered. Pigs were also sacrificed after an earthquake to prevent further destruction. Ivens (1927:179) describes offering in Sa'a known as *ura?iŋe* that were made to ghosts to ensure their goodwill. Offerings of porpoise teeth were tied to the bows of war canoes and on the bows and spears used in divination. They were also put into the relic case found in each dwelling house that already contained

the skull or jawbone or tooth of the departed householder and to which further contributions could be made in the event of illness. If desired, a pig might also be burnt in sacrifice on behalf of the sick (p.180). Sacrifice was also made at the launching of a new bonito canoe (p.250). In Kwaio, pigs, known as *fōta* ‘offerings’ are consecrated to ancestors before being sacrificed in atonement (Keesing 1982:69).

POc **uraki* ‘make an offering to the gods’

PT:	Kilivila	<i>ula-ula</i> ¹	(N) ‘an offering made to a ghost [<i>baloma</i>] as payment for magic (often fish) (Malinowski 1948:182)
SES:	Sa’a	<i>uraʔi</i> <i>uraʔi-ŋe</i>	(VI) ‘make an offering to a ghost’ ‘offering made to a ghost; relics include porpoise teeth etc. worn by priest round neck when going to battle; if to a ghost shark, thrown into sea’ (Ivens 1927:179)
SES:	Arosi	<i>uraʔi</i>	(N) ‘sacrifices at Birubiru rock, of money etc.’
SES:	Bauro	<i>uragi</i>	‘make an offering’
SES:	Owa	<i>uraage</i>	‘make an offering to spirits by s.o. wishing to die’

Bauan Fijian distinguishes between offerings made for atonement, *i soro*, and those made in thanksgiving, *i madrali*.

In Polynesia Williamson writes (1937:121):

Special ceremonial occasions such as births, marriages and deaths were accompanied by offerings to the gods. After fishing it was frequently the custom to offer share of the catch to the gods, and other important activities such a house-building, the launching of large canoes, and warfare were likewise occasions for the making of sacrifices.

In the following cognate set, the Tongan, Niuean and Samoan reflexes are examples of the specialised vocabulary required for food given to the chiefs who were seen as descended from the ancestral gods.

PPn **taumafa* ‘ceremonial food; offering to the gods’

Pn:	Tongan	<i>taumafa</i>	‘food, drink, smoke (regal)’
Pn:	Niuean	<i>taumafa</i>	‘eat, used to chiefs only’
Pn:	Rennellese	<i>taumaha</i>	‘dedicate food or hail the gods or ancestors’
Pn:	Samoan	<i>taumafa</i>	‘eat (polite)’
Pn:	Tikopia	<i>taumafa</i>	‘portion of food allocated to a person in a distribution; traditional offering of food to gods or ancestors’
Pn:	W Futunan	<i>taumafa</i>	‘offering’
Pn;	Maori	<i>taumaha</i>	‘spell recited when food offered to gods’
Pn:	Hawaiian	<i>kaumaha</i>	‘offering, sacrifice’

¹ Malinowski in fact writes *ulaʔula*, but he tends to add an incorrect glottal stop between vowels (see e.g. *buʔa* ‘betel nut’ (p.159)). Kilivila phonology lacks a glottal stop.

A PEOc reconstruction is tentatively proposed for making offerings in atonement. While the Sa'a term refers to ancestral atonement, reflexes in other languages may now be more general terms for compensation.

PEOc **soso* 'to expiate, compensate'

SES:	Longgu	<i>toto</i>	'pay compensation'
SES:	Sa'a	<i>toto</i>	(VT) 'propitiate a ghost with sacrifice; pay a fine'
		<i>toto akalo</i>	'a sacrifice burnt whole or killed and thrown away, pig, dog, cuscus, to remove ceremonial defilement'
SES:	'Are'are	<i>haʔa-toto(a)</i>	'propitiate' (<i>haʔa</i> CAUSATIVE)
SES:	Kwaio	<i>toto</i>	'compensate, pay a fine'
SES:	Lau	<i>toto</i>	'pay a fine'
SES:	Arosi	<i>toto</i>	'to pay a fine, give money to be reconciled'
SES:	Owa	<i>toto-mara</i>	'pay compensation to' (<i>mara</i> '?')
Fij:	Bauan	<i>soso-ya</i>	(VT) 'to give in exchange, replace; atone, expiate'
		<i>i-sosoi</i>	(N) 'thing given in exchange; reparation, expiation'

8.2.4.1 First fruits

The giving of thanks for the harvest is widely noted as a way of maintaining good relations with the ancestors, and ensuring their support in future endeavours. That mention of first fruits is rare in western Oceanic may be an accidental by-product of our ethnographic sampling, or may be because first fruits are typically not accorded significant ritual there. In Bwaidoga, at harvest, each man would simply place one of his largest yams in the back of his hut to rot, in order to pay the spirits (Jenness & Ballantyne 1920:126). In Kilivila where every stage of gardening activity is preceded by ritual, the garden magician, prior to the gathering of taro and *kuvi* (large yams), cuts off the top of a taro plant in each holding and places it in his house rafters as an offering to the ancestral spirit. In the third day following, each man pulls up a few taro plants and digs a few yams. These 'first fruits' are brought to the village where some are displayed and others placed on the graves of recently dead relatives (Malinowski 1935:166). In Madak, New Ireland, where each man carries out elaborate ritual while cultivating his own taro garden, "a small first fruits feast can be held to celebrate the garden" once the taros are ready (Eves 1998:210).

In the southeast Solomons, Fiji, Polynesia, Micronesia and parts of Vanuatu, the offering of first fruits to the ancestors is typically carried out by priests or village elders on behalf of the community rather than by individuals, as is often the case in western Oceanic communities. Codrington (1891:132) notes that in Gela and Sa'a, when canarium nuts were ripe, no-one might partake until sacrifice of the first fruits. (In Gela the term for 'first fruits' is *hinava*.) In Ulawa, people were free to dig their yams only after the first fruits had been offered by the priest. This offering is called *tolu uhi* [lay/place yams] (Ivens 1927:363). Similarly in Kwaio, when taro and yams were cultivated, a priest was required to make an offering of first fruits from the garden to the ancestral owners, before the living owner of

the garden could partake of the food (Keesing 1982:119–121). Separate rituals were undertaken for each. Keesing's Kwaio dictionary (1975) lists *fafi?alo* 'the shrine, ritual complex etc. involving presentation of first fruits of taro to the spirits'. To'aba'ita differs in that it is the male owner of a new garden rather than the priest who takes one small taro and roasts and eats it by himself: this opens the garden, allowing it to be harvested by other family members. This is the ceremony of *gwa lusu abu* 'first fruit of taro' (Lichtenberk 2008:172). *lusu* is also the term for 'first fruits' in Lau.

Durrad (1940:398) describes the gardening activities on Lo in the Torres Islands in northern Vanuatu.

The time for digging [the yams] is decided upon by the village elders, and there is a certain amount of ceremonial associated with the lifting of the first yam, which is offered as a sacrifice to the ancestral gods. When this first yam has been lifted, and the ritual connected therewith finished, everyone can lift his yams as he requires them.

Petersen (2009:196) describes the situation in Micronesia.

The most extensive, conspicuous and consequential of all Micronesian religious practices are the first fruits rituals. Although known by a wide variety of names – for example, Lamotrek *maulmei* (Alkire 1974), Chuuk *wumwusomwoon* (Goodenough 2002:262–5), Marshalls' *ekan* (Carucci 1997:168), Pohnpei *nohpwei*, and Kiribati *inagu* (Lundsgaarde 1978:71) – they are nearly identical throughout the region.

Although first fruits presentations and feasts may be directed specifically towards the chiefs, ultimately they are a form of homage to the spirits, a way of safeguarding the land from the force of storms and drought. In Micronesia the first fruits rites are performed in stages throughout the seasons for most staple food crops, this as a way of being ever-mindful of the protection of the spirits (Petersen 2009:196).

In Moala (Fiji) the yearly tribute of first fruits was given to the chief "that the land might be prosperous" (Sahlins 1962:319). "In the old days the presentation of first fruits (*sevu*) was of great magical and religious as well as political significance" (p.343). The village priest, *bete*, traditionally directed the collection of the yams before they went to the chief. The latter was required to contribute his own yams because the recipient was ultimately the god.

Williamson (1937:121) reports that the periodic offering of first fruits was widespread throughout Polynesia. In Futuna, the main ritual season began with a major feast and with the offering of the first yams to the gods (Kirch 1994:275). The Maori offered a portion of the first fruits of each season – fish, fowl, and vegetable – to the departmental gods; of birds to Tane, of fish and seaweed to Tangoroa, and cultivated foods to Rongo (Best 1934:69).

Kirch & Green (2001:274, Fig. 9.5) include PPn **quinati* (?) 'first fruits rituals' in their diagrammatic summary of the ancestral Polynesian ritual cycle, but that meaning may be a narrower example of a more general PPn term for any allocated portion of food.

PPn **qinati* 'share, allocated portion of food'; 'first fruits rituals?' (Kirch & Green 2001)

Pn: Tongan *ʔinasi* 'share, allotted portion, quota'; (in old Tonga) 'presentation of food to the *Tuʔitonga* [supreme chief] in a way that came to be regarded as inconsistent with the Christian religion'

Pn:	Rennellese	<i>?inati</i>	‘food share’
Pn:	Samoaan	<i>inati</i>	‘part, portion, share, first fruits’
Pn:	Tokelauan	<i>inati</i>	‘group of people who receive a share from a community-owned asset; the share received’
Pn:	Maori	<i>inati</i>	‘portion, share of food at a feast’

8.3 The practitioners

Anyone in a community would be able to call on their ancestors for such matters as success in love or fishing. But communities generally have recognised purveyors whose assistance may be bought for more serious concerns. Spells are typically handed down from parent to child, and spell owners who have a reputation for successful outcomes, particularly in areas such as childbirth or control of the weather will be much sought after.

A difficulty in dealing with the role of practitioners in magic lies in the somewhat indiscriminate use in ethnographies and wordlists of the terms ‘priest’ and ‘sorcerer’, and the related role of shaman. All may have a claimed special ability to communicate with the gods. Although sorcery is concerned with doing harm, some so-defined sorcerers have powers that serve positive ends. Stephen (1987a:44) writes that in Mekeo “a sorcerer may well spend far more of his time in healing than in doing harm.” In contrast, those serving as priests in the southeast Solomons and Polynesia do not deal in harmful magic. They fill a pre-determined role in the community, often inherited, and have regular ritual duties to undertake. Effectively, their duties are to maintain communication with the ancestors and ensure their blessings. In return, they may be accorded certain privileges. A shaman, sometimes referred to as a spirit medium, usually fills a lesser role, underpinned by the ability to fall into a trance, during which he may transmit answers from the spirits as to certain queries, perhaps identifying the source of a wrong-doing. It should be noted however that these roles are not clearcut. The ability to perform while in a trance is also noted in people including the sorcerers in Mekeo and those serving as priests in Fiji and Polynesia (see Stephens 1987a, Williams & Calvert 1859 and Williamson 1937 below).

In western Oceanic communities there is little evidence of a specialised priestly role such as is found in the southeast Solomons and Polynesia. Superior practice of magic appears to lie in western Oceanic either with the headman or with specialist magicians like the garden magician of Kilivila, who fills a role in the hierarchy second only to the chief, with duties that also serve social and administrative ends (Malinowski 1935:66). In Wogeo, for instance, the *kokwal* (hereditary clan headman) “has a far more extensive knowledge of magic, including sorcery, than other people. ... Apart from the *kokwal* there is little or no specialisation.” His area of expertise is with matters that concern the whole village, such as weather magic and for success in trading (Hogbin 1935a:319). In Mekeo there are, among practitioners of harmful magic of all kinds, departmental experts who can summon stronger spirits than non-specialists and are in command of more powerful medicines (Hau’ofa 1981:240). In Dobu, although ownership of incantations is tightly held by family lines, reputation may be built upon demonstrated skill in a particular area (Fortune 1963:135). Chowning (1973:65) writes that “it is true that Melanesia generally lacks full-time specialists of any sort. On the other hand, part-time priests, often the heads of kin groups,

who make sacrifices to ancestral ghosts are not uncommon in eastern Melanesia.” Presumably she is here including the southeast Solomons.

In the southeast Solomons are communities which include within their descent groups a person who officiates at the offering of sacrifices to the gods. Wordlists typically gloss the native term for such people as ‘priests’. In northern Malaita they are referred to as *fata-abu* (‘speak sacred’) (Keesing 1982:11). In Kwaiwo each descent group has a ‘shrine-man’ (*wane naa ba?e*) [*ba?e* ‘shrine’], ideally agnatically descended from the founding ancestors, who, although not a full-time religious specialist, acts as the principal officiant in sacrifices to ancestors (Keesing 1982:19, 87–91). Hogbin (1970a:106) writes that in To’aba’ita “each cemetery has its own priest [*aofia*] who has to give his approval before any offering can be made to the spirits of the persons buried there. The office is held by hereditary right, being transmitted from father to son, but it is by no means a full-time job, and apart from his special position at ceremonies the priest lives the life of an ordinary man.” Lau also has *aofia* whose duties are to officiate at sacrifices (Fox 1974). In Sa’a, the priest (*ora-ora*) officiates at the sacrifice of burnt offerings made to ancestors, and shares some of the privileges due also to the priest, such as being exempt from the obligation to make a return for gifts received. As in To’aba’ita and Kwaiwo, the position is hereditary (Ivens 1927:8, 242).

Codrington (1891:127) writes of Vanuatu:

There is no priestly order, and no persons who can properly be called priests. . . . If the object of worship . . . is one common to the members of a community, the man who knows how to approach that object is in a way their priest and sacrifices or them all; but it is in respect of that particular function only that he has a sacred character.

Although there is little information on the practice of magic in Micronesia, Linton (1926:175, 176) notes that “in all the groups there were individuals who combined the duties of priest and shaman, serving the gods, curing the sick and working magic. . . . Throughout Micronesia offerings were made and rites performed at uncarved stones believed to be the dwelling places of spirits.”

Fijians had *bete*, men with special powers for communicating with the gods. Williams (Williams & Calvert 1859:178) writes that they “exercise a powerful influence over the people, an influence which the Chiefs employ for the strengthening of their own, by securing the divine sanction for their plans.” The priesthood was generally, but not invariably, hereditary, a vital part of a *bete*’s role being the ability to communicate the wishes of the god he serves while in a trance. As Williams puts it (p178), he needed to “shake well and speculate shrewdly.”

Kirch & Green (2001:249) write that “the evidence is compelling that in ancestral Polynesian societies the principal ritual leaders were simultaneously the main secular leaders, the **qariki*.” However, a separate functional class of priests indicated by PPn **taaula*, developed largely in hierarchically elaborated societies like those of Tonga, Samoa and Hawaii.

Williamson (1937:288) describes the religious function of the *taaula*

as being personally to organize and reinforce the religious beliefs and sentiments of the people. They were the holders of the ancient traditions, who were well versed in the impressive legends of the gods and creation. Ritual too was their province, and they directed ceremonial behavior along lines pleasing to the gods and spectacular to

the worshippers, common participation in which served to keep alive religious sentiments. When inspired by the gods they manifested abnormal or unusual forms of behavior which provided visible evidence of their close communion with supernatural forces. ... By making sacrifices and directing ritual they pleased the gods, and made them favourably inclined towards their worshippers; by prayer and intercession they sought for blessings or the aversion of evil.

PPn **taula[-qatua]* ‘priest, medium, shaman’ (POc **qatuan* ‘deity, supernatural being’)

Pn:	Tongan	<i>taula</i>	‘priest or priestess’
Pn:	Niuean	<i>taula-atua</i>	‘shaman or priest of heathen times’
Pn:	Rennellese	<i>tauga</i>	‘a medium, one possessed; a prophet’
Pn:	Pukapukan	<i>taula-atua</i>	‘a person who can perform miracles or foresee the future’
Pn:	Samoan	<i>taula(aitu)</i>	‘priest, only with reference to the old religion’ (Williamson 1967:407) (POc <i>*qanitu</i> ‘spirit of the dead)
Pn:	Rarotongan	<i>taura-atua</i>	‘sorcerer, priest of the ancient gods’
Pn:	Tikopia	<i>taura-atua</i>	‘traditional spirit medium’
Pn:	Maori	<i>taaura</i>	‘priest who accompanies an army’
Pn:	Hawaiian	<i>kaaula</i>	‘prophet, seer’

Some Eastern Polynesian languages use reflexes of **tafuŋa*, a variant form of PPn **tufuŋa* ‘expert, skilled craftsman’ to refer specifically to those with priestly duties.

Pn:	Tahitian	<i>tahu?a</i>	1) ‘expert craftsman’; 2) ‘specialist in magic, primarily a spirit medium and curer’
Pn:	Tuamotuan	<i>tahuuŋa</i>	‘expert; priest’
Pn:	Maori	<i>tohuŋa</i>	1) ‘skilled person’; 2) ‘wizard, priest’
Pn:	Hawaiian	<i>kahuna</i>	‘priest, minister, sorcerer, expert in any profession’

In practice, most magic is performed by men, since nearly all the tasks for which it is appropriate are those normally done by men. Women priests were not unknown in Polynesia. However, the magical procedures of protection and healing are often more highly individualised than those of production, and across the Oceanic world these may often be performed by women.

8.3.1 Role of trance

The ability of some people to fall into a trance-like state as a means of accessing the spirit world is reported from many communities. Ethnographers may refer to such practitioners as shamans or spirit mediums. They may enter a state of disassociation or semi-consciousness, usually ritually induced, as a form of self-hypnosis, perhaps preceded by prolonged fasting. In this condition they are recognised as possessed by the god, and believed capable of super-human powers. A person’s utterance is then thought to be the direct voice of the ancestor or god.² Elsewhere, the role of shaman varies greatly.

² For an extreme example in Fiji, see Williams 1982:224.

Sometimes a medical condition expressed by semi-consciousness or other abnormal behaviour will be interpreted as due to the possession by spirits.

Fortune (1935:9) summarises belief in Manus. “The Manus have the familiar concept of ... a certain kind of soul or vital essence in the living, ... the concept that in trance or swoon this soul or essence approaches the ghosts.”

In Mekeo, it is the sorcerer himself who, like a shaman in some respects, communicates with the spirits in visions, trance and dreams, although he avoids the more overt displays of spirit possession often associated with the latter (Stephen 1987a:66–67).

Keesing writes (1982:108) that although in Kwaio there is no culturally defined role for a person with shamanistic powers, “the rare man with such psychic bent ... is attributed special sacredness in life.”

Across Micronesia there are spirit mediums – individuals through whom the spirit of the dead are able to speak to the living, while the living are, in turn, able to petition ancestral spirits for information and assistance (Petersen 2009:195).

Sahlins (1962:359) describes those he calls well-rounded shamans (*dau ḍaka wai*) in Moala Fijian “who not only cure, sorcerize and counter-sorcerize, but also find lost things and foretell events.”

In Fijian and parts of Polynesia, certain people identified by their ability to enter trance-like states are known by terms reflecting Proto Central Pacific **waga* (or PNPn **waka-qatua*):

PCP **waga* ‘spirit medium’ (from POc **waga* ‘canoe’?)

Fij:	Wayan	<i>waga-waga</i>	‘spirit medium, person through whom a spirit speaks’
Fij:	Bauan	<i>waga-waga</i>	‘the body assumed by a <i>kalou-vū</i> [ancestral spirit] for purposes of self-manifestations’

PPn **waka* ‘medium or bodily abode of a god’

Pn:	Tongan	<i>vaka</i>	‘bodily abode of a supernatural being’
Pn:	E Uvean	<i>vaka</i>	‘spirit medium’
Pn:	Maori	<i>waka</i>	‘medium of an <i>atua</i> ’

PNPn **waka atua* ‘spirit medium (POc **qatuan* ‘deity, supernatural being’)

Pn:	Anutan	<i>vaka atua</i>	‘spirit medium’
Pn:	Rennellese	<i>baka ʔatua</i>	‘representative of the gods’
Pn:	Tikopia	<i>vaka atua</i>	‘spirit medium’

One role commonly employed by shamans is that of identifying the person or spirit responsible for perceived harm. Some do it by divination, testing hypotheses by way of yes/no questions, but there is little commonality in the methods recorded. Fortune (1963:154) describes ways of divining in Dobu by water-gazing or crystal gazing, Chowning (1987:165) describes a pole-in-house technique whereby answers are sought as to persons responsible for deaths. In Manam, where serious illness is believed due to theft of the spirit by sorcery, Wedgwood (1934-35:293) describes various ways to divine whether the patient will live or die. Stephen (1987:56) mentions divination as another means for a Mekeo sorcerer to communicate directly with the spirits. Hogbin describes a kind of diviner in Longgu, the *toʔiai*, who possesses spells that enable him to conjure the dead man’s soul into an areca nut. By means of various yes/no questions and the resulting movement of the areca

nut the guilty party is located (1964:58). In Kwaio, dried cordyline leaves called *felo* are commonly used in divination (Keesing 1982:113). In Sa'a, various implements including bows, spears and bonito rods may be utilised (Ivens 1927:345). Tonkinson (1981:82) describes individuals in SE Ambrym known as *lele* who claim the ability to discern by divination whether or not particular illnesses are sorcery-related. Williams (1858:228) describes various methods of divination used in Fiji to decide between two options.

Although the belief that certain people have the ability to intercede with the gods while in a trance or other inexplicable state appears to be widespread, as is the practice of divination, no reconstructions other than the above have been possible. Wordlists rarely include terms such as 'shaman' or 'spirit medium' or 'trance' or 'divination'.

8.3.2 Preparation for magic

There is widespread belief that magic will be strengthened or made effective if the protagonist undergoes certain privations before he can carry out his activities. Similar privations must be undertaken by anyone about to sacrifice to the gods. As summarised by Eves (1998:58) in Madak, "all of the powerful forms of magic, and some minor forms, require the magician to undergo a regime of fasting and sexual abstinence." To illustrate, we offer examples from three Western Oceanic subgroups, NNG (Wogeo); PT (Mekeo, Roro); and MM (Tabar, Petats).

In Wogeo, most men think it advisable to refrain from sexual intercourse and from eating nuts for a full twenty-four hours if they are expecting to perform gardening or fishing magic (Hogbin 1970b:181).

An extreme form of preparation is practised by a sorcerer in Mekeo, who must be in a constant state of ritual preparedness. Stephen (1987:62) points out that the inflicting of serious illness, injury and death differs from other magic only in that the sorcerer deals with more dangerous entities ... and he must prepare himself more stringently for the task.

Sexual abstinence is the most important restriction and this may be necessary for only a few days, several weeks or many months. It is also essential not to immerse the body in cold water, wash in it or drink it. Hot water must be used for washing; and in the most rigorous forms of *gope* [the magical act] no washing at all is permitted. Only hot liquids may be drunk; and under rigorous *gope* one drinks as little as possible. ... What little food is consumed must be taken with plenty of ginger or chilli to make it hot. This regime is said to render the adept's body light and hot and dry.

Seligman (1910:292) describes preparation for a wallaby hunt in Roro where "not only is co-habitation forbidden to the expert, but he may not eat food cooked by his wife or any other woman, he may not eat yams, nor the flesh of wallaby, nor pig, though he may eat the flesh of the kangaroo-rat and drink the milk of unripe coconuts which have been more or less roasted."

In Tabar, a fishing net magician neither eats nor drinks during three days of rites before initial use (Groves 1934a:449). In Petats, when bonito magic rites are performed, the principal performer must neither eat nor sleep until the rites are over, and along with all who take part in the bonito fishing, must abstain from sexual intercourse. (Blackwood 1935:480).

No examples have been located from Eastern Oceanic subgroups.

8.4 Sorcery

Sorcery here refers to magic used for harmful purposes. In its most extreme form, sometimes referred to as black magic, it was used to cause a person's death. Such knowledge was almost never admitted to. It was the most secret of possessions. As dangerous knowledge, it was essential that it be kept within the hands of a chosen few. It was strongly discouraged by missionaries as incompatible with Christian beliefs. In British New Guinea from the 1880's on, there was also a very real fear of the results of government interference, for sorcery became an indictable offence (Seligman 1910:278). It would seem that in general it is desirable that those who profess knowledge of sorcery do not draw attention to their powers, lest it leave them open to retaliation. Sorcery works best in a climate of rumour and innuendo. Occasionally, however, as described by Seligman in Roro (1910:279), "a sorcerer may ... be regarded generally as real protection, for, besides being able to thwart the acts of sorcerers of other villages, the latter will, it is supposed, refrain from hostile magic in order not to provoke reprisals", while Hogbin (1964:57) noted that the Longgu of Guadalcanal attributed a knowledge of sorcery to most village headmen and many elders, "to the extent that man's identification as a sorcerer was a measure of his social distinction."

Sorcerers may be the most powerful people in a community, their activities serving purposes for both good and ill. Their legitimate role may lie in regulating social life, a form of coercive social control. Hogbin (1935b:18) writes that in Wogeo, *yabou* (black magic) helps to ensure that individual rights are respected and obligations carried out, and that the chief men are obeyed. Disadvantages lie in that it occasionally leads to murders and tends to increase local hostilities. Firth (1967:211) defines the reasons for sorcery from the perspective of Tikopia as "mainly those of economics or of personal status: desire for land; wish to punish for theft of food; jealousy of competitive achievement; resentment at a personal affront."

Although there is widespread belief across communities (e.g. Roro [Seligman 1910:279], Mekeo [Stephen 1987b:252], Kove [Chowning 1987:157], Longgu [Hogbin 1964:58]) that except in the case of infants and very old folk and those killed in warfare, death is the result of sorcery, much of sorcery consists of attack and counter-attack, without resulting in death. Kin of sick individuals may approach those believed to have the power to cause harm and offer them payment to remove their spell (Stephen 1987:43). A sufferer may have a good idea of someone he or his close kin have offended, or know of those who hold a grudge against him, and he may have a good idea of those with the ability to practise sorcery and identify the likely sorcerer. Chowning notes (1989:224) that in Kove, if an illness was drawn out, it was assumed that the sorcerer wanted to be bought off rather than to kill the victim. There it was common practice to approach a number of known sorcerers with offerings of shell money and to ask them to undo the spell.

Much sorcery was carried out for personal or private reasons. In Dobu, it was used "for collecting bad debts and enforcing social obligation, in vendetta to avenge one's own sickness or one kinsman's death, to wipe out any serious insult" (Fortune 1963:175). Chowning writes that in Kove sorcery threats were used to enforce many prohibitions, such

as those that prevented a woman from showing disrespect for the rituals of the men's houses, and they also made the younger men obey their elders. Chowning considers that it was threats of sorcery rather than powerful spirits or gods that upheld general moral standards in Kove (1989:225).

Sometimes, as in the Trobriands (Malinowski 1922:75), Mekeo (Stephen 1987b:270) and Kaoka/Longgu (Hogbin 1964), a sorcerer will reserve the right to heal by counteracting sorcery imposed by another, although more often this is done by specialist healers. He may also be prevailed upon to remove his own spell by means of payment by kin of the affected person.

While lesser illness may have been attributed to attack by spirits or to the breaking of a taboo, severe illness was more likely to be considered due to sorcery involving theft of the victim's soul. As Stephen describes it, the soul journeys of the Mekeo sorcerer are the means of not only ensnaring the souls of others but also of restoring them (p.270).

As might be expected, no POc terms are reconstructable. A term for 'sorcery' and related 'sorcerer' is reconstructable for Proto Papuan Tip.

Proto Papuan Tip **baravu* 'sorcery'; *(*tau*)*baravu* 'sorcerer'

PT:	Dobu	<i>barau</i> (<i>to</i>) <i>barau</i>	(N) 'sorcery'; (VI, VT) 'kill or afflict by sorcery' 'sorcerer' (on <i>to</i> - see vol.5, §2.2.1.2)
PT:	Molima	<i>balawu</i> (<i>to</i>) <i>balawu</i>	'sorcery' 'sorcerer'
PT:	Wedau	<i>baravu</i>	(N) 'sorcery'; (V) 'to practise sorcery' (Seligman 1910)
PT:	Gumawana	<i>balau</i>	'sorcery'
PT:	Motu	<i>ba-balau</i> (<i>tau-na</i>) <i>ba-balau</i> (<i>kara-na</i>)	'sorcerer' (for exp. † <i>balahu</i>) 'sorcery' (<i>kara</i> 'conduct, customs')

However, a search through available sources throws up the terms listed below. They all bear some resemblance to Proto Papuan Tip **baravu* above. Assuming regular sound correspondences, the Proto Papuan Tip reconstruction suggests a POc †**ba(r;R)apu*, but none of the forms below exactly reflects this. Lou *p^walop* comes close, but Lou *-l-* reflects POc **-l-*, not POc **-r-* or **-R-* (Blust 1998a). Intriguingly, the PT language Kilivila has apparently replaced this same consonant with *-g-*. Similar issues affect the cognacy of the other items below, yet the likelihood of chance resemblances of several trisyllables with similar senses is close to zero. A plausible inference is that the word itself was considered to have evil power and was distorted for that reason.

Adm:	Lou	<i>p^walop</i>	'sorcerer's magic'
NNG:	Mapos Buang	<i>parakək</i>	'sorcery, black magic'
PT:	Kilivila	<i>b^wagau</i> (<i>to</i>) <i>bu-b^wagau</i>	'sorcery' 'sorcerer'
NCV:	Lewo	<i>p^wuruwap</i>	'sorcerer'

cf. also:

NCV:	Raga	<i>barahuva</i>	'salvation'
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Raga *barahuva* appears under 'cf. also' because it is glossed 'salvation': is this a Christian missionary re-use of an old word?

The following reconstruction is given a tentative gloss. It may be connected with the Proto Papuan Tip **baravu* above.

PWOC **bara* ‘poison, magic employed to affect another person’

NNG: Arop-Lukep	<i>bar</i>	(N) ‘poison, magic; ancestral relic’
NNG: Takia	<i>bar</i>	‘incantation, blessing, religious ceremony, song’
MM: Nehan	<i>(uel)bara(ŋa)</i>	(N) ‘power; poison, magical power, love magic, seducing charm, war magic; hot as a pepper, strong’ (<i>uel-</i> RECIPROCAL, <i>-ŋa</i> NOMINALISER)

Without further reflexes it is impossible to know if the following form, reconstructable to PNGOC, relates only to black magic or to spells in general.

Proto New Guinea Oceanic **nab^wa* ‘a spell’

NNG: Manam	<i>nab^wa</i>	‘spell usually resulting in rapid death’ (Wedgwood 1934-35)
PT: Dobu	<i>nab^wa(sua)</i>	(N) ‘magic spell’; (V) ‘to utter magic spell’ (<i>-sua</i> ‘?’)

cf. also:

Adm: Titan	<i>nam</i>	‘sorcery, magic, spirits’
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8.4.1 Sorcery using leavings

Examples from NNG, PT, MM and SES show consistency of belief regarding the methods used by those wishing to inflict harm on another through use of leavings.

In Manam, “when a man wishes to work *dzere* against an enemy, he takes something which has been in close contact with the latter – it may be a piece of chewed areca nut, some lime, a piece of clothing or some hair clippings” (Wedgwood 1934-35:71). In Dobu, “personal leavings may be remains of food, excreta, footprints in sand, body dirt, or a bush creeper with a malevolent charm first breathed into it which the sorcerer watched his victim brush against and which he subsequently took to his house to treat further” (Fortune 1963:150). Eves writes (1998:63) that in Madak “personal leavings sorcery involves the sorcerer manipulating the victim’s personal exuviae (excreta, hair, fingernails etc.) or items which the victim has used or touched (such as a discarded areca nut shell or the soil from a footprint).”

In Sa’a,

the things used for magical charms to work harm with were skins of areca nuts which a person had eaten, cutting of hair or nails, excrement, spittle, earth on which the intended victim had trodden, the strip of coconut leaf with which he had rubbed himself down after bathing, fragments of his food, the afterbirth of children. In most cases the object was breathed upon in order to impart virtue to it. Certain things were considered as possessing in themselves the power to do harm, and an incantation was said over such charms. Lime, ginger and dracaena leaves were the most commonly used of these. (Ivens 1927:324)

8.5 Conclusion

Our efforts to identify the kind of magic practices performed in POc times are based on descriptions from ethnographies. These show considerable resemblances, but the terminology of magic is more diverse, making reliable reconstruction difficult. Where communities carry out comparable rituals they do so either because they are continuing the practice of their forebears, or because the practices are borrowed or because they have been independently innovated. Borrowings in matters magical could be presumed minimal in view of the secrecy surrounding them in practice, at least prior to western contact. But when such beliefs as that in which a curer could travel in dreams to recover the soul of an ill person are identified across subgroups, and are unrelated to any comparable Christian belief, then evidence favours the conclusion that this was the practice of their forebears.

Furthermore, over time and place, the very belief system can undergo reinterpretation, with communities modifying beliefs in such things as the role of the ancestors and the purpose of traditional rituals. As an example of the former, Hogbin (1935a:330) writes that in Wogeo the people believed that the ancestors were barely involved there in daily life. “The spirits of the dead are able to cause the death of small infants, but otherwise they are completely powerless. It follows from this that as reciprocity is the keynote of native life, sacrifices are held to be entirely superfluous and are never in fact carried out.” As an example of the latter we can look to the tendency in places for offerings to be seen no longer as primarily to the ancestors, but rather to the aggrandisement of the occasion, as in Mekeo (Hau’ofa 1981:71) or to the giver, as in To’aba’ita (Hogbin 1970a:105). But when offerings are made to the magician or priest, apparently as thanks for their intervention, we still find that as in the Trobriands (§8.2.4), in Micronesia and in Moala Fiji (§8.2.4.1), some part is set aside as a form of homage to the ancestors.

Nonetheless, the practice of magic has many similarities across the Oceanic world. The following apply consistently across subgroups and are thought likely to accord with the practice of POc society.

- Magic was effected by invoking the ancestors/gods or spirits through spells consisting of learned words and actions.
- Spells were believed to originate with ancestors and were passed down with care.
- Certain materials including ginger, lime, and leaves of various plants were accorded special powers in the performance of magic ritual.
- The efficacy of the magic was dependent on accurate performance of the ritual.
- Offerings typically in the form of garden produce or fish were made to the ancestors/gods both as a form of obeisance at propitious times including before important events, and as atonement for perceived offences.
- Offerings of first fruits were made to the ancestors at harvest time before people could partake.
- There were no people who specialised in serving the gods in POc times. People with recognised expertise in particular fields could be called on as required.
- Misfortune and death were, with some exceptions, believed to be the result of human activity resulting in ancestral displeasure.
- Severe illness was thought due to theft of the sufferer’s soul by sorcery.

- Sorcerers were able to make decisions of life or death over perceived offenders.
- Personal belongings such as hair, fingernail clippings, or items used or touched by intended victim were dangerous weapons in the hands of people wishing to do someone harm.

9 *Mana*

MEREDITH OSMOND

9.1 Introduction¹

Attempts to trace the etymology of the Oceanic concept of *mana* have been undertaken by various linguists and anthropologists since Capell (1938–39) including Blust (2007) and Blevins (2008). A Proto Eastern Oceanic reconstruction **mana* (vst) ‘to have supernatural power from ancestral spirits as manifest in successful outcomes; be efficacious’; (N) ‘efficacy, success’, is well supported, but to raise it to POc we need either cognates from Oceanic languages outside the Eastern Oceanic subgroup² or from Austronesian languages external to Oceanic. A few questionable cognates in the MM and PT linkages of Western Oceanic have either markedly different meanings or are in languages where the possibility of borrowing is high. Both Blust and Blevins propose POc reconstructions, in each case attributing a divergent meaning to the POc etymon, but both sets of evidence are problematic. I will begin by reviewing the evidence for a PEOc reconstruction, before discussing possible WOC cognates. Blust’s argument for a POc origin that includes power from natural events including wind and thunder will be considered, followed by that of Blevins who, like Capell, looks for an origin outside Oceanic.

9.2 The **mana* concept in Proto Eastern Oceanic

Perhaps the first person to bring the concept of *mana* to anthropological discourse was Robert Codrington, a missionary-anthropologist whose 1891 book, *The Melanesians*, was based on

¹ Particular thanks are due to Jennifer Blythe for advice on the concept of *manaka* in the French Islands, where Bali and Vitu are spoken.

² The subgroup status of Eastern Oceanic is unclear. It is defined only by lexical innovations, leaving the possibility that POc is the direct ancestor of the EOC languages, rather than a putative PEOc. Nonetheless, for reasons given in §1.4.4.2, the authors of *The Lexicon of Proto Oceanic* have chosen to treat EOC as a primary subgroup of Oceanic for the purposes of reconstruction. Because of its uncertain status, it is not shown in the Oceanic tree diagram in Figure 1.1. It includes SE Solomonic, Southern Oceanic, Micronesia and Central Pacific. Non-EOc data in this chapter are all from Western Oceanic.

his fieldwork in the southeast Solomons and the Banks Islands of northern Vanuatu³. He described the concept as

a supernatural power or influence, called almost universally *mana*. This is what works to effect everything which is beyond the ordinary power of men, outside the common processes of nature; it is present in the atmosphere of life, attaches itself to persons and things, and is manifested by results which can only be ascribed to its operation. (1891:118)

The concept was recognised early as of particular importance in Fiji and Polynesia, where hereditary chiefs were believed to derive much of their power and status from possession of *mana* (Firth 1940:488, Sahlins 1962:319). Robert Williamson, a social anthropologist with a particular interest in the religious beliefs and social organisation of Polynesians, argued (1937:110) that from a broad Polynesian perspective its primary meaning seems to have been ‘effective’, with the general implication that the efficacy so imputed went beyond that encountered in everyday life. His view was accepted by Capell (1938–39) who was, however, more concerned by the word’s etymology than its exact meaning.

Firth, writing of the belief as understood in Tikopia, agreed with Williamson:

A possible translation of *manu*⁴ or *mana* in Tikopia would ... appear to be ‘success’ or ‘successful’, which can embody reference both to the ability of man and to tangible results. Another possible translation of *manu* is ‘efficacy’ or ‘to be efficacious’. Here the emphasis again is on the fact that the activity works, that it performs the function for which it was intended. But since the efficacy is believed to be only partly due to human endeavour, any translation must also by implication embody a reference to the extra-human causes of the result. (1940:506)

He also noted (p.497–8) that “to the Tikopia, *manu*, I am sure has not the connotation of an isolatable principle, a power, or any other metaphysical abstraction – though it may be conceived of as a specific quality.”

Ian Hogbin, who did fieldwork in several different societies of Melanesia, recognised the concept represented in metathesised form in To’aba’ita in the southeast Solomons. He wrote (1936:245) “to have *nanama* means to be successful through the favour of the spirits”, and added later (p.257), “Magic is not supposed to achieve its end directly. It coerces the spirits to do the work by means of their *nanama*.”

In 1984, Roger Keesing, an anthropologist whose fieldwork was with the Kwaio of the southeast Solomons, published a substantial critique of the previous literature on *mana*. Believing that the concept was probably traceable back to POc, but concerned with its interpretation rather than its etymology, he described *mana* as “a condition, not a ‘thing’, a state inferred retrospectively from the outcome of events” (1984:137). He considered that the concept he was familiar with was primarily verbal rather than the nominal form more common in Polynesia.

³ Blust (2007:406) notes that Friedrich Max Müller, an Oxford Indologist, had earlier raised in print some discussion with Codrington on the concept of *mana*.

⁴ Although Firth came to the conclusion that *mana* and *manu* were interchangeable in Tikopian usage, *manu* is a separate lexeme, strictly *manū*, deriving from PEOc **manuRu* ‘lucky, abundant’ (Geraghty 1990).

Mana is ... in Oceanic languages canonically a stative verb, not a noun: things and human enterprises and efforts **are** mana. Mana is used as a transitive verb as well: ancestors and gods mana-ize people and their efforts. Where mana is used as a noun, it is (usually) not as a substantive but as an abstract verbal-noun denoting the state or quality of mana-ness (of a thing or act) or being-mana (of a person). Things that are mana are efficacious, potent, successful, true, fulfilled, realized; they “work”. Mana-ness is a state of efficacy, success, truth, potency, blessing, luck, realization—an abstract state or quality, not an invisible spiritual substance or medium. (1984:138)

There is broad agreement that *mana* as identified in the southeast Solomons, northern Vanuatu, Micronesia, Fiji and Polynesia has a common core of meaning to do with effectiveness in results and power beyond the ordinary power of men and is well supported both as a stative verb and noun for Proto Eastern Oceanic.

9.2.1 The reconstruction

Cognate sources are given when they are other than the regular dictionary sources as listed in Appendix A, or when these are contrasted with a second source.

PEOc **mana* (vst) ‘to have supernatural power from ancestral spirits as manifest in successful outcomes; be efficacious’; (N) ‘efficacy, success’

SES: Bugotu	<i>mana</i>	(N) ‘spiritual or magical power’
	<i>mana-ŋi</i>	(VT) ‘to empower’
SES: Gela	<i>mana</i>	(V) ‘be efficacious from spiritual power obtained from charms, prayers, intercourse with ancestors or spirits’;
		(N) ‘efficacy, success, power, authority’
	<i>mana-ŋi</i>	(VT) ‘to make successful, efficient; empower, authorise; rule over’
SES: Ghari	<i>mana</i>	‘truth, true, correct’
	<i>mana-lia</i>	(V) ‘powerful, efficacious’
SES: Lengo	<i>mana</i>	(N) ‘power’
SES: Longgu	<i>nanama</i>	(V) ‘be successful through the favour of the spirits’ (Hogbin 1936:245) (metathesis)
	<i>ma-manā</i>	(N) ‘supernatural power possessed by spirits’ (a successful man either has <i>ma manā</i> or to be <i>ma manā</i> (Hogbin 1936:259)
SES: Lau	<i>ma-mana</i>	(V) ‘be efficacious (of medicine), grow well (of trees), spiritually or magically powerful; prosperous, lucky, in good health; be true, fulfilled; impart spiritual or magical power; of ghost, empower a person’
	<i>ma-mana-a</i>	(N) ‘spiritual or magical power’
SES: To’aba’ita	<i>ma-mana</i>	(V) ‘be real, true; be efficacious, effective’ (Lichtenberk);
		(N) ‘blessing, prosperity; ancestrally conferred power’;
		(V) ‘impart spiritual or magical power’ (Hogbin 1936:259)
	<i>ma-mana-a</i>	(N) ‘ancestrally conferred power’

- SES: Kwaio *na-nama* (v) ‘be effective, fulfilled, confirmed, realised; “work”; of ancestor, support, protect, empower’ (Keesing 1984) (metathesis)
- SES: Sa’a *nanama-ŋā* (N) ‘protection, efficacy, good luck, blessing, realisation’
na-nama (v) ‘be powerful, exercise force’ (in material rather than metaphysical sense; contrast *saka* ‘spiritual power’) (Ivens 1927:186) (metathesis)
- SES: Ulawa *na-nama-ŋa* (N) ‘power’
mana ‘ending in invocations, meaning unknown’ (Ivens 1927)
na-nama (v) ‘spiritually powerful’ (metathesis)
- SES: ‘Are’are *na-nāma* (v) ‘be strong, powerful in metaphysical sense’; (N) ‘s.t. extraordinary, effected by a spiritual power’ (metathesis)
- SES: Arosi *mena ~ mana* (N) ‘spiritual power in *adaro* [ghost or spirit] etc.’
- Proto Torres-Banks **mana* ‘supernatural power held by a person or thing; magic force’ (François 2013:237)
- NCV: Mota *mana* (v) ‘to have invisible spiritual force or influence’;
(N) ‘an invisible spiritual force or influence’ (Codrington & Palmer 1896)
manə (N) ‘supernatural power held by a person or thing; magic force’ (François 2013)
- NCV: Nokuku *me-mana* ‘miracle, miraculous’
- NCV: Lombaha *mana-gi* ‘miracle’
- NCV: Vao *man* ‘magic’
- PMic **mana, mana-mana* (v) ‘be efficacious, have supernatural power’; (N) ‘efficacy, supernatural power’ (Bender et. al. 2003a)
- Mic: Marshallese *man-man* (v) ‘haunted, having supernatural powers, taboo’
- Mic: Chuukese *mana* (vi) ‘have divine, magical or supernatural power’
- Mic: Puluwatese *mana-man* (N) ‘divine, supernatural or miraculous power; (v) ‘to have such’
- Mic: Satawalese *mala-man* (v) ‘be efficacious, have supernatural power’; (N) efficacy, supernatural power’
- Mic: Mokilese *man-man* (vi) ‘spiritually powerful, able to do magic without artifice’, (N) ‘magic, spiritual power’
- Mic: Ponapean *mana-man* (v) ‘magical, mysterious, spiritual’; (N) ‘spiritual power’
- Mic: Woleaian *ke-maz* (N) ‘miracle, power’; (v) ‘be powerful as a ghost’
- Mic: Carolinian *leme-lem* (v) ‘to be in authority, have power or control’
- Fij: Rotuman *mana* (v) ‘supernatural, miraculous, possessed of or manifesting supernatural power or extraordinary efficacy’
- Fij: Bauan *mana* (N) ‘supernatural power, a sign, a token, omen’; (adj) ‘possessing supernatural qualities’ (Capell 1941)
mana (vst) ‘be effectual; efficient, as a remedy; wonder working’; (v) ‘a word used when addressing a heathen deity: so be it, let it be so’; (N) ‘a sign or omen; a wonder or miracle’ (Hazlewood 1850)

Fij:	Wayan	<i>mana</i>	(v) ‘(of a person) be able to make things happen, be effective, have creative power, (of events which are predicted, wished or worked for) come true, happen, be realised; (N) ‘power to make things happen, creative power; the act of coming true’ <i>mana-mana</i> (v) ‘be wishful, desire or want s.t. to happen that one has worked for’ (Pawley & Sayaba 2022)
PPn			* <i>mana</i> (N) ‘supernatural power, effectiveness, prestige’; (v) ‘be efficacious’ (POLLEX)
Pn:	Niuean	<i>mana</i>	(v) ‘powerful’; (N) ‘power, authority; miracle, magic (of supernatural phenomena)’
Pn:	Tongan	<i>mana</i>	(vi) ‘supernatural, superhuman, miraculous; attended or accompanied by supernatural happenings’ <i>mana</i> (N) ‘miracle; supernatural power or influence’
Pn:	Pukapukan	<i>mana</i> <i>mana-mana</i>	(N) ‘power, right, influence, authority of an individual’ ‘magic, magical’
Pn:	Samoaan	<i>mana</i> <i>mana</i> <i>ma-mana</i>	(N) ‘supernatural power’ (Milner 1966) (N) ‘supernatural power’; (v) ‘to exert supernatural power’ (Pratt 1911) ‘be powerful, compelling’ (Milner); ‘to do wonders, supernatural power’ (Pratt)
Pn:	Nukuoro	<i>mana</i>	(N) ‘supernatural power’
Pn:	Tikopia	<i>mana</i>	(v) ‘efficacious’; (N) ‘power of extraordinary non-physical quality, trad. believed derived from gods and ancestors (essentially pragmatic in being demonstrated only by concrete results); while trad. associated with chiefs, can be attributed to other persons, esp. when of rank as indicated by special powers e.g. in healing or predication’
Pn:	Rarotongan	<i>mana</i>	(v) ‘having authority and the rights and prestige it confers, effectual, binding’
Pn:	Tahitian	<i>mana</i>	(N) ‘power, might, influence’
Pn:	Maori	<i>mana</i>	(N) ‘authority, control; power, supernatural force’ (v) ‘be effectual, take effect’ (Williams 1975); ‘potent, effective, fulfilled’ (Gudgeon 1885)
Pn:	Hawaiian	<i>mana</i>	(N) ‘supernatural or divine power’

9.3 Looking for corresponding terms in northwest Melanesia

The number of cognates from Polynesia, Fiji, Micronesia and parts of the Solomons with consistency of meaning point to a significant and widespread cultural concept. It was consequently difficult for ethnographers to believe that it was not part of some earlier belief system. But, oddly, the concept itself did not seem to be a part of the underlying belief in magic or supernatural power held in societies speaking languages from northwest Melanesia. Success in magic in these communities is believed to come from the correct performance of a spell and associated ritual (see §8.2.1), and does not depend on the intervention of some other quality. Early ethnographers searched in vain for the Eastern Oceanic concept in Western

Oceanic. As early as 1910, Seligman observed of the southern Massim region of southeast New Guinea that:

Neither at Wagawaga, Tubetube nor elsewhere in the district does there seem to be any development of that system of personal influence (*mana*) taboo whereby the thing made taboo receives, as it were, a dynamic charge from contact with an individual, which is dangerous to everyone not rendered immune by the possession of an equal or greater power. (1910:576)

Hogbin (1936:268), after dealing at some length with the concept in Longgu and To'aba'ita, pointed out that no such notion could be identified at Wogeo (NNG) or the Polynesian outlier of Ontong Java [Luangiua]. Rather, in both of these societies, magic appeared alone to do many of the functions that *mana* served elsewhere. He expressed the same idea in Hogbin (1970:171), when he contrasted beliefs held in Wogeo, where people use magic directly to achieve effect, with those in the Solomons and places further east where people achieve results second hand through application of a special power, *mana*.

Malinowski, who worked in S.E. Papua, chiefly the Trobriands, i.e. places where the concept did not exist, agreed with Hogbin, noting that Codrington's assumption that what the latter described was applicable to the whole of Melanesia could no longer be supported. He described Codrington's description of *mana* as

almost the exact opposite of the magical virtue as found embodied in the mythology of savages. ... If the virtue of magic is exclusively localised in man, can be wielded by him only under very special conditions and in a traditionally prescribed manner, it certainly is not a force as described by Dr Codrington ... The real virtue of magic⁵ as I know it from Melanesia is fixed only in the spell and its rite, and cannot be 'conveyed in' anything but can be conveyed only by its strictly defined procedure. (Malinowski 1948:57)

9.3.1 Tubetube *nam^wa-nam^wa*

After searching widely for cognates in northwest Melanesia, Keesing wrote (1984:147) "I have found only one probable *mana* cognate among Oceanic languages west of the Solomons", namely Tubetube *namwa-namwa* in the Papuan Tip. Notwithstanding Seligman's evidence that there is no evidence of *mana* [in its EOc sense] at Tubetube, Keesing reported the following personal communication from Martha Macintyre: "A Tubetube folk healer [told Macintyre]: "*namwanamwa ne nima-gu* (my hands are *mana*)."⁵ Keesing was aware, almost at the same time, of a parallel example from an ethnographer in the Lau islands of Fiji, where a folk healer is quoted as saying "*sa mana liga-qu*" (my hands are *mana*).

To Keesing, this was incontrovertible evidence that the two concepts were identical, providing the necessary evidence for a POc reconstruction parallel to that for PEOc. The highly detailed Tubetube gloss produced on the basis of these examples – 'be efficacious, work, be good, be true, have positive qualities, fulfil potential (that is, of an animate or inanimate entity, to manifest qualities appropriate to one's nature)' – presumably comes from Keesing himself, acutely aware of the detailed meanings of *mana* terms in the SE Solomons.

⁵ Although a number of reflexes of PEOc **mana* include 'magic' in their glosses, I believe wordlist compilers are using the term in its western sense to apply to anything that cannot be otherwise explained. The Melanesian sense of 'magic' is far more specific.

However, the regular translation of *nam^wa-nam^wa* in Tubetube is ‘good’ (Lithgow 1987). Why Martha Macintyre chose to translate *nam^wa-nam^wa* as ‘mana’ is unknown. Furthermore, although metathesised and partly-reduplicated examples of *mana* are accepted as cognate in a number of SE Solomonic languages (*nanama* in Longgu, Kwaio and Sa’a, *mamana* in Lau and To’aba’ita), the Tubetube term has *m^w* rather than expected *m*, so the correspondence with EOC *mana* is doubly irregular. On these grounds *nam^wa-nam^wa* cannot be accepted as cognate with the reflexes of PEOC **mana*. The Tubetube term is cognate with other Central Papuan terms reflecting Proto Central Papuan **nam^wa* ‘good’.

9.3.2 Possible cognates from the Northwest Solomons

A small cluster of languages in north Bougainville, Halia, Teop and nearby Nehan, have apparent reflexes of PEOC **mana* meaning ‘true’ or ‘truth’, a concept that is included among the wider meanings of *mana* terms in the SE Solomons and Wayan Fijian. It is a logical loosening of meaning from ‘become true, be realised’, as in Wayan and other languages. In effect, *mana* in these three languages denotes an inherent quality, rather than a quality validated only by results. This could mean either a) that north Bougainville languages originally had the result-dependent term but loosened its meaning, b) that they borrowed just one element of its meaning from SES languages, or c) that the terms are unrelated.

MM:	Nehan	<i>mana</i>	‘true’
MM:	Halia	<i>mana</i>	‘true’
MM:	Teop	<i>mana</i>	‘truth’
SES:	Ghari	<i>mana</i>	‘truth, true , correct’
SES:	To’aba’ita	<i>ma-mana</i>	‘ be real, true ; be efficacious, effective’
SES:	Lau	<i>ma-mana</i>	‘be efficacious (of medicine), grow well (of trees), spiritually or magically powerful; prosperous, lucky, in good health; be true , fulfilled; impart spiritual or magical power; of ghost, empower a person’
Fij:	Wayan	<i>mana</i>	‘(of a person) be able to make things happen, be effective, have creative power; (of events which are predicted, wished or worked for) come true , happen be realised’; (n) ‘power to make things happen, creative power, the act of coming true ’

In the sense of ‘becoming true’ *mana* may be linked to its use in invocations to the gods as noted in the closely related languages of Simbo and Roviana, in parts of the SE Solomons, and in Fiji. Waterhouse (1949:150) writes that in Roviana *mana tu* is used in invocation, as when placing offerings for *tomate* [those to whom sacrifice is made]. In Ulawa *mana i eu dili* appears in a variety of invocations (translation not given) (Ivens 1927:330, 331, 338, 339). Hogbin (1936:261–3) writes that in To’aba’ita, sacrifices ensure the continuance of *mamanaa*. He quotes a spell that ends with *Oke mama-mamana* which he translates as “Make this magic effective through the operation of your *mamanaa*.” He adds that it “is a sort of tag used regularly as a conclusion.” Hocart (1914:98), who worked in Fiji early in the century after doing research in Simbo, was struck by similar invocatory usage (‘let it be so!’) in Simbo/Roviana and Fiji,

He wrote:

Fijians [like Simboese] ... do not distinguish ‘true’ and ‘right’. Says one informant: “if it is true (*ndina*) it is *mana*: if it is not true, it is not *mana*. ... A Fijian medicine does *mana* if it works; it does not *mana* if it does not work”. In fact, the words are almost interchangeable, and natives will speak of a sacred stone as *mana* or *ndina* (‘true’). ... In winding up a prayer the words *mana* and *ndina* are always coupled: “*mana ee i ndina*” (“let it be *mana*, let it be true”) is the Fijian ‘Amen’.

Blust suggests (2007:409) that the reference that *mana* refers to something true or coming to pass in both Fiji and the Solomons “may be a post-Christian usage that derives from the characteristics of scriptural translation, where the fulfillment of prophecies was described as an expression of divine *mana*”. However, its inclusion in the performance of sacrifices in Roviana and To’aba’ita, in untranslated exhortations from Ulawa and in Hazlewood’s 1850 Fijian dictionary where *mana* as a verb is described as “a word used when addressing a heathen deity: so be it, let it be so”, point to an early pre-Christian usage.

A cluster of terms from languages including Simbo/Roviana spoken in Choiseul/New Georgia in the north-west Solomons show further promise as reflexes. For comparison we add geographically close SES terms:

MM: Varisi	<i>mana</i>	‘power, good fortune, success’
MM: Nduke	<i>mana</i>	‘be propitious, potent, effectual’
MM: Roviana	<i>mana</i>	‘potent, effectual; used in invocation’
MM: Simbo	<i>mana</i>	‘powerful, potent, effective, gracious, true, power’
	<i>mana-tu</i>	‘invocation: make it <i>mana</i> !’
SES: Gela	<i>mana</i>	‘be efficacious from spiritual power obtained from charms, prayers, intercourse with ancestors or spirits’
SES: Bugotu	<i>mana</i>	‘spiritual or magical power’

However, Blust (2007:412) warns:

Given the evidence of rather extensive lexical borrowing across major genetic boundaries, the distribution of *mana* reflexes within the central and western Solomons must be treated with caution. ... Where such evidence is found in the western Solomons, it is unclear whether the form-meaning association is native or whether it was acquired by diffusion from Guadalcanal-Nggelic languages in the central Solomons.

Although it is possible that these northwest Solomonic terms are valid reflexes rather than borrowings, stronger support than these is needed to permit a POC reconstruction.

9.4 Evidence from Blust (2007)

In his quest for a POC reconstruction for *mana*, Blust dismisses the evidence from various Indonesian languages offered by Capell (1938–9) in support of a putative PMP origin for the term.⁶ Instead, he draws on the existence of a network of examples world-wide “in which cultural traditions that initially may appear to be arbitrary creations of the human mind turn

⁶ Blust (2007:407) writes that “Not only are these words etymologically heterogeneous, some of them do not even exist.”

out on closer inspection to be inspired by the natural world” (2007:416). He attempts to draw together the separate concepts of *mana* ‘wind’ in Papuan Tip languages and *mana* ‘thunder’ in languages of North/Central Vanuatu and Polynesia by proposing an etymon, POc **mana* ‘power in natural phenomena’ that later came to mean ‘wind’ in the west and ‘thunder’ in the east.

9.4.1 *mana* ‘thunder’

Blust relies on wordlists from Tryon (1976:330) as evidence that POc **mana* is reflected in various Torres-Banks terms meaning ‘thunder’. More recently, François (2013:237) has offered a different set of terms as evidence for Proto Torres-Banks **mana* ‘supernatural power held by a person or thing; magic force’. The terms listed by Tryon, we suggest, support PT-B **m^wonu* rather than **mana* with the meaning ‘thunder’. Below are listed the ‘*mana*’ reflexes from François contrasted with terms for thunder from the same languages given by Tryon. François regards them as distinct and unrelated terms.

	thunder (Tryon 1976)	mana (François 2013)
PT-B	<i>*m^wonu</i>	<i>*mana</i>
Hiw	<i>mon</i>	<i>manə</i>
Lo Toga	<i>mon-lal</i>	<i>menə</i>
Lehali	<i>mon-beibai</i>	<i>n-man</i>
Mosina	<i>m^won</i>	<i>man</i>
Mota	<i>manu</i>	<i>mana</i>

In dismissing evidence that thunder is identified with *mana* ‘supernatural power’ in NCV languages, we are left with Polynesian terms as the only evidence of a possible connection between the two concepts.

Mana has the meaning ‘thunder’ in a number of Polynesian languages, while another partly overlapping group includes *mana* with meaning ‘supernatural power’ or similar. Three languages, Tongan, Nanumean and Tikopia, belong to both groups. Their distribution in the two primary subgroups of Polynesian permits attribution of both meanings to PPn **mana*.

PPn **mana* 1. (N, V) ‘thunder’; 2. (N) ‘supernatural power, effectiveness, prestige’; (V) ‘be efficacious’

Pn: Tongan	<i>mana</i>	1. ‘to thunder’; 2. ‘supernatural power or influence’
Pn: E Futunan	<i>mana</i>	‘thunder’
Pn: Nanumea	<i>mana</i>	1. ‘thunder’; 2. ‘magical power (of person, potion etc.)’
Pn: Rennellese	<i>mana</i>	‘to thunder (poetic)’
Pn: Anuta	<i>mana</i>	‘thunder’
Pn: Tikopia	<i>mana</i> ⁷	1. ‘thunder’; 2. ‘efficacious’ (Firth 1940); 1) ‘power of extraordinary non-physical quality’, 2) ‘thunder trad. believed to be produced by gods as sign of power’ (Firth 1985)
Pn: Pukapukan	<i>mana</i>	‘thunder’

⁷ Although Tikopia has *mana* for ‘thunder’ and both *mana* and *manu* used interchangeably when referring to invisible force (Firth 1940:444), *manu* is a separate lexeme (see footnote 4).

Pn: Tuvalu	<i>mana</i>	‘thunder’
Pn: Takuu	<i>mana</i>	1. ‘continental thunder’; 2. ‘thunder and lightning occurring simultaneously’
Pn: Sikaiana	<i>mana</i>	‘thunder’

As both meanings are attributable to the same PPn form, either the two concepts are related or they are homophones. Blust believes the former, i.e. that it is part of the human condition that people readily conceive of powerful forces of nature as carrying within them some unseen supernatural agency and that thunder here is basically a representation of supernatural power.

He looked further afield in search of *mana* cognates that are associated with powerful forces of nature, and found possible candidates in terms for wind in languages of the Papuan Tip.

9.4.2 *mana* ‘wind’

In a number of Papuan Tip languages including Dobu, Tubetube, Saliba and Misima, *mana* means ‘wind’. In attempting to strengthen the suggestion that wind might also be seen as an example of power in natural phenomena, Blust sought evidence that a number of *mana* terms in Papuan Tip languages referred particularly to powerful winds (pp415–6). He includes a reference from Jenness and Ballantyne (1928) that Bwaidoga *mala* ‘wind, weather, time of day’ often carries with it the notion of a supernatural force that manifests itself in the weather. However, Bwaidoga *mala* does not reflect PPT **mana*. Along with Kukuya *mana* ‘time, weather’ and Tawala *mala* ‘time’, it reflects PPT **ma(r,R)a* ‘time, weather’.⁸

Blust also suggested a similar connection between *mana* and powerful wind in Micronesia by proposing Satawalese *mana-man* ‘typhoon’ as cognate with *mana*. But the Satawalese term is a reflex of POc **mal(i,e)u* ‘wind’⁹ (vol.2:124). The Satawalese reflex of PMic **mana-mana* ‘be efficacious, have spiritual power’ is *mala-man* (Bender et al. 2003a). Moreover, we already have in POc **paRiu* ‘cyclone’ and possibly also POc **jani* ‘strong wind’ (vol.2:123, 124) wind terms more suggestive of power. Without these examples there is no evidence that *mana* is associated with winds of greater consequence and thus an appropriate representation of supernatural power.

9.5 Evidence from Blevins (2008)

Blevins (2008) follows Capell (1938–39) and Blust (2007) in seeking to uncover the etymology of *mana* terms meaning ‘potent, effectual, of supernatural power’ in Eastern Oceanic. She accepts the general arguments presented in Blust (2007) and adds previously unrecognised reflexes from New Caledonia and more questionable ones from Southern Vanuatu while not lessening support for PEOc **mana* in its canonic sense.

⁸ In email correspondence (11 April 2019), Blust accepted that Bwaidoga *mala* is not cognate, and that as a result there is no clear evidence for a WOc cognate to which he could attribute meaning of a powerful force in nature.

⁹ Other Micronesian reflexes of POc **mal(i,e)u* ‘wind’ include Mokilese *mel-mel* ‘storm, typhoon’, Ponapean *meli-mel* ‘windstorm, typhoon’, Woleaian *mari-mer* ‘storm, typhoon’.

SV: Lenakel	<i>e-mna(it)</i>	‘divine cause of an illness through a dream’ (-it ‘directional suffix indicating movement upwards)
	<i>ie-mna(it)</i>	‘diviner, sorcerer who divines cause of illness through dreams’
SV: Kwamera	<i>aməna</i>	‘work, produce, enlarge, improve’
NCal: Iai	<i>mæn</i>	‘powerful, power, strength’
	<i>mæniñ aŋ</i>	‘power of the wind’ (aŋ ‘wind’)
NCal: Xârâcùù	<i>mā</i>	‘recognised, famed, acclaimed for ability or force of character’ (Grace 1976)

A number of comparisons Blevins makes with terms from Western Oceanic are, however, problematic. Madak *manman* ‘wind’ can be rejected as cognate; it is a reflex of POc **mal(i,e)u* ‘wind’ (vol.2:124). Ramoaina *mamane* ‘lightning’ is questionable in both form and meaning. A small cluster of north Bougainville terms, Halia *namname* ‘human spirit, soul, shadow’, Haku *name-name* ‘spirit, soul’ and Petats *nam-name* ‘soul’ appear semantically too distant to be linked. For our unease about Tubetube *namwa-namwa* see §9.3.1.

Blevins considers that the strongest arguments for the existence of a POc ancestor to the Eastern Oceanic *mana* terms lie in locating possible cognates in Austronesian languages external to Oceania. She identifies a link between a possible cognate in a Celebic language of the Kaili-Pamona group, Bare’e *mana*, and those in three Southeast Solomonian languages, Gela, To’aba’ita and Kwaio, where glosses share a reference to ancestrally conferred power. As a result she revises and expands the ACD’s entry of Proto Western Malayo-Polynesian **mana* ‘inherit, inheritance’ to PWMP **mana(q)*¹⁰ ‘inherit(ance) from ancestors’ (p262). However, of the fourteen possible WMP reflexes Blevins lists, only Bare’e *mana* ‘inheritance, heritage; inherited position or rank, quality of spirit or body that one has from one’s forebears’, includes spiritual qualities as inheritable. The other WMP terms, if the sources go beyond a minimal gloss of ‘inheritance’ to spell out what is included, refer to property, wealth, heirlooms.

For comparison, the glosses quoted by Blevins for the three Southeast Solomonian languages are given here. They are from Fox (1955) for Gela and as quoted by Keesing (1984:141) for the other two. It is noteworthy that neither corresponding entries in Lichtenberk’s To’aba’ita dictionary (2008a) and Keesing’s Kwaio dictionary (1975) mention ancestrally conferred power.

SES: Gela	<i>mana</i>	(v) ‘be efficacious from spiritual power obtained from charms, prayers, intercourse with ancestors or spirits’
SES: To’aba’ita	<i>ma-mana</i>	‘be true, real, fulfilled; be successful (of a man); impart spiritual or magical power’
	<i>mamana-a</i>	(N) ‘blessing, prosperity; ancestrally-conferred power ’
SES: Kwaio	<i>na-nama</i>	‘be effective, fulfilled, confirmed, realised; “work”; of ancestor , support, protect, empower’

Capell in fact had included the Bare’e term as a possible cognate, presumably because he saw *mana* linked with hereditary rank as in Polynesian societies. However, as Blust notes

¹⁰ For discussion of a possible final *-q, see §9.6. Note that WMP is no longer considered a valid subgroup (§1.8). Blevins’ cognate set points to PMP **mana(q)* ‘heir, inheritance’.

(2007:409), no connection between *mana* and hereditary rank that could justify its inclusion at POc level has been demonstrated. In this he is supported by Ann Chowning, an anthropologist whose fieldwork spanned all three Western Oceanic subgroups. She wrote (1991:64) while considering evidence for hereditary leadership “that we have no linguistic evidence [from Western Oceanic] that POc society had a concept called *mana* that pertained either to gods and spirits, or to primogeniture.”

Blevins turns next to the non-Austronesian languages of New Guinea in search of possible borrowings that could throw light on the origins of *mana* (pp264–68). In addition to her own set of *mana* look-alikes (Table 10, p267) she includes a putative Trans New Guinea reconstruction, **mana* ‘instructions, customary practices, talk’ from Andrew Pawley (2008b). But although she may feel confident about the form of word sought, she is far from certain about the concept embodied. Is she looking for links with inheritance, ancestors, traditions, wind, thunder, truth, instructions, ritual, magic, power? The possibilities are enormous.

Identifying borrowings is possible if the source language can be located, either close to the borrower or linked with it by trading or other exchanges. Unfortunately, this is not an option when no reliable reflexes are identifiable in western Melanesia.

Blevins (p.270) proposes PMP **mana(q)* ‘supernatural power, associated with spirits of the ancestors and the forces of nature; inherit(ance) from ancestors, including qualities of spirit or body, customs and laws’ and PEMP/POc **mana* ‘supernatural power, associated with spirits of the ancestors and the forces of nature’. She has done a careful and thorough exploration of possible antecedents of *mana* in its canonic form. But without further as yet undefined limits, she, like the rest of us, is operating in a very vague field. At present there are simply too many unknowns for us to accept her proposals as more than highly speculative.

9.6 Evidence for a final **-q*

There are two hints of a possible final consonant in POc †**mana(q)*. One, described in detail by Blevins (2008:256), comes from the South Vanuatu language Kwamera. Kwamera has a term, *-aməna* ‘work, produce, enlarge or improve (as one’s resources)’. Although Blevins is right in noting that Kwamera’s final vowel retention points to loss of a final **-q* or **-R* (see Lynch 2001:103–5), the term’s status as a reflex of PEOc **mana* is highly questionable in view of its semantic distance.

The second instance is from an article by Blythe & Fairhead (2017) which describes information given by one Dako, a native inhabitant of Uneapa (Bali-Vitu). Dako was abducted from Unea by an American merchant explorer, Benjamin Morrell, in 1830, and taken to America where he became an informant to American Ethnological Society founder-member, Theodore Dwight Jr. Dwight subsequently published two accounts of Uneapa life and language (1834, 1835).

Dako informed Dwight (1834:186) that his people ‘acknowledge one Supreme Being (Manaka), the creator, rewarder of the good and punisher of the bad’ and how ‘their art of curing diseases and producing rain is also derived from him’. Blythe & Fairhead (2017:25) continue:

While it is impossible to recover precisely what *manaka* meant to Dako, comparative linguistics and contemporary field data suggest that it entailed a wider semantic range than ‘supreme being’. ... Uneapa today consider *manaka* (POc *mana* or perhaps *manaq*

(Blust 2007)) a self-manifesting force. ... Moreover, *manaka* also refers to a genre of myth that describes processes of primordial and ongoing creativity, including the origins of places, animal and plant species, and precedents for social practices. The agents depicted in this genre of myth are not humans but *vuvumu*, the origin beings whom *Manaka* first created and from whom human Uneapa descend.

Although Bali *manaka* points to a putative POc **manaq*, semantically there is little commonality with the term as used in Eastern Oceanic languages. Blythe (pers comm.) does not think *mana/manaka* is a personal attribute of humans in the Bali-Vitu Islands. The Bali term is best considered a chance similarity rather than cognate with reflexes of PEOc **mana*.

9.7 Conclusion

Several POc reconstructions for **mana* made earlier have here been reconsidered. They are:

- POc **mana* (N) ‘power in natural phenomena’ (Blust 2007)
- POc **mana* (N) ‘supernatural power, associated with spirits of the ancestors and the forces of nature’ (Blevins 2008)
- POc **mana* (vst) ‘be efficacious, be potent, be true, be realised, be successful, “work”’ (Keesing 1984)

We can be confident of a reconstruction to PEOc, but the arguments given by these three authors for a POc reconstruction remain unconvincing. An association between supernatural power as evidenced in human action and powerful forces in nature is suggested only in Polynesia, where thunder is the powerful natural force. Blust’s evidence for a connection between thunder and supernatural power in the Torres-Banks languages and his arguments that ‘wind’ in Papuan Tip languages can be taken as referring to storm winds are rejected. Blevins’ argument for an association with ancestral inheritance is based on very slender evidence while her search for a non-Austronesian source of borrowing covers an impossibly vast field. While we accept Keesing’s arguments in favour of a primarily stative verbal meaning for **mana*, as it applies to PEOc, his claim to have a single Western Oceanic cognate in Tubetube is also rejected.

The possibility remains that *mana* terms located in the north-west Solomons are genuine cognates, and are traces of a POc term similar in meaning to that reconstructed for PEOc, but that is dependent on further evidence from western Oceanic sources. On present evidence, our earliest well-supported reconstruction stands as PEOc **mana* (vst) ‘to have supernatural power from ancestral spirits as manifest in concrete results; be efficacious’; (N) ‘efficacy, success’.

10 *Taboo*

MEREDITH OSMOND

10.1 Introduction

This paper discusses the origin and history of POc **tabu*. The term ‘taboo’ [PPn **tapu*] was brought to western awareness late in the 18th century by European travellers in Polynesia including Captain James Cook, who recognised in its use a widespread system of promulgating and enforcing a code both religious and political (Cook & King 1785). It was understood as a stative verb ‘prohibited’, and as a noun applicable both to the ban and to the object or activity banned. Hence it could be applied to places as being off limits, or a person might become subject to taboo and hence treated in a certain way. People believed that *tapu* restrictions were laid down by the gods or their heirs and had to be scrupulously followed. Deviation meant misfortune, possibly death. Where hereditary leadership was entrenched, as in Fiji and Tonga, a certain veneration was due to the chief, who was deemed *tabu/tapu*. As a result, certain forms of speech had to be used, not only in speaking to him but in conversation about him, while certain topics could not be mentioned in the chief’s presence. Thus the prohibition included a sense of ‘untouchable because sacred’.

Examples of taboo [*tapu*] noted by Cook involved prohibition of certain activities or actions that centred on the king or important chiefs. From the record of his historic journeys we find the following (1785, vol.3:163–4):

They apply the word taboo indifferently both to persons and things. This word is also used to express anything sacred, or eminent, or devoted. Thus the king of Owhyhee [Hawai’i] was called Eree-taboo; a human victim, tangata-taboo; and in the same manner, among the Friendly Islanders, Tonga, the island where the king resides, is named Tonga-taboo.

However:

Women are also tabooed, or forbidden to eat certain kinds of meats. We also frequently saw several at their meals, who had the meat put into their mouths by others; and on our asking the reason of this singularity were told, that they were tabooed, or forbidden, to feed themselves. This prohibition ... was always laid on them, after they had assisted at any funeral, or touched a dead body, and also on other occasions.

Later, in Hawaii, it was noted (1785, vol.2:249) that, when local people were confronted by an unfamiliar situation, as when visiting a British ship:

The people here always asked, with great eagerness and signs of fear to offend, whether any particular thing, which they desired to see, or we were unwilling to show, was taboo.

William Mariner,¹ who lived in Tonga from 1806 to 1810, provided a detailed description by a westerner of its practice (Martin 1827:220–224).

This word [*taboo*] has various shades of signification: it means sacred or consecrated to a god, ... it means prohibited or forbidden, and is applied not only to the thing prohibited, but to the prohibition itself, and frequently (when it is in sacred matters), to the person who breaks the prohibition. Thus if a piece of ground or a house be consecrated to a god, by express declaration, or the burial of a great chief, it is said to be *taboo*. ... If a person touches the body of a dead chief, or any thing personally belonging to him, he becomes *taboo*, and time alone can relieve him. Certain kinds of food, as turtle, and a certain species of fish, from something in their nature, are said to be *taboo*, and must not be eaten until a small portion be first given to the gods. Any other kind of food may be rendered taboo by a prohibition being laid on it.

Mariner made clear (p.222) that not all taboos in Tonga were equally sacred, describing an occasion when a temporary taboo was applied by the chief to safeguard food supply:

To prevent certain kinds of food from growing scarce, a prohibition or *taboo* is set on them for a time, as after the *inachi*, or other great and repeated ceremonies; and which *taboo* is afterwards removed by the ceremony called *fuccalahi*. [*fakalahi* ‘increase’]

The term was readily adopted by missionaries who followed closely on the heels of the European explorers, and saw the concept as a useful term befitting elements of their teaching of a Christian God. As a consequence, the Polynesian term is believed to have spread into other parts of the Oceanic world with the adoption of Christianity, either as an extended meaning of an existing term, or as a new term, possibly replacing a different term with related meaning. We have in fact reconstructed two terms to POc, **tabu* and **pali*, with similar meanings. Reflexes of the latter were evidently once widespread but are now greatly reduced (see §10.7 below), presumably replaced by reflexes of **tabu*.

A second result of western contact was that the Polynesian *tapu* term was rapidly adopted into familiar English usage as *taboo*. The Macquarie dictionary defines *taboo* as ‘forbidden to general use; placed under a prohibition’. Its emphasis is on the socially prohibited rather than the sacred. Although Cook and others recorded the term in their journals as ‘taboo’, that spelling carries its current English meaning in this article unless it is from a direct quotation. As can be seen from the cognate set below, the English term is in some dictionaries used to define the local term.

¹ William Mariner was a teenage ship’s clerk on the British privateer Port-au-Prince, who survived when the ship was attacked and sunk by Tongan warriors off the island of Lifuka in Tonga in 1806. He was taken under the protection of the king who treated him as a son. Intelligent and resourceful, and blessed with a keen ear, he became fluent in the language, and partook of daily life as a member of the royal household for the next four years. On his return to England he dictated a book of his experiences to John Martin, which included a grammar and vocabulary. (<http://www.oldsaltblog.com/2012/08/william-mariner-the-privateer-port-au-prince-the-tongan-shipwreck>).

10.2 POc **tabu* and its reflexes

Although reflexes are widespread throughout Oceania, apparently related terms have been found beyond its borders only in two widely separated regions of CEMP. One is Tanimbar, an island roughly midway between the Bird's Head of New Guinea and Arnhemland in Australia, where two languages, Yamdena and Fordata, are spoken. Patrick McConvell (pers. comm.) has questioned these terms as possible loans from Australian languages.² The other is Numfor-Biak, islands off Cenderawasih Bay in Indonesian Papua, where the term *kābus*, although irregular, is considered a possible cognate by Blust in the ACD.

In the ACD, Blust reconstructs both POc **tabu* 'forbidden, prohibited' and POc **tabuna* 'dehortative: don't', but recognises that **tabuna* includes the root **tabu*. The separate reconstruction of **tabun* is unnecessary, as final *-na* can be accounted for independently. The root **tabu* is reflected as both a stative verb 'be forbidden, prohibited' and as a noun 'prohibition; that which is prohibited'. Reflexes of both word classes occur, with a suffix reflecting POc **-ña* P:3S, while noun reflexes sometimes carry other possessor affixes. Thus in Molima *tabu-gu*, Kove *tavu-yu* 'my taboo, that which is taboo for me' and Kove (*ai*)*tavu* 'her/his taboo, that which is taboo for her/him', *tabu-* is a directly (inalienably) possessed noun. Adjectives in some Papuan Tip languages take possessor suffixes as markers of agreement with the noun they modify, e.g. Iduna *tabu-tabu-na* 'forbidden' (modifying a singular noun). Languages of the Admiralties and North Huon Gulf (Yabem, Bukawa) groups reflect **-ña* as a fossil on roots that are or were used as attributes, and this accounts for the Admiralties reflexes below, where Proto Admiralty **tabu-n* meant 'forbidden', readily interpreted as dehortative 'don't'.³

PCEMP **tambu* 'forbidden, taboo' (ACD)

CEMP: Yamdena	<i>tambu</i>	'restrain, prevent'
CEMP: Fordata	<i>tabu</i>	'forbid, prevent'
CEMP: Numfor	<i>kābus</i>	'tree branch or anything else placed on fruit tree or other object by its owner in order to make others afraid to approach the marked object lest ill fortune befall them' (long vowel and final <i>-s</i> unexplained) (ACD: footnote under <i>*tapu-tapu</i>)

POc **tabu* (Vst) 'forbidden, prohibited' (Blust 2009:48). (N) 'prohibition'POc **tabuna* 'dehortative: "don't!"' (ACD)

Adm: Nauna	<i>tapu(n)</i>	'don't'
Adm: Penchal	<i>rapu(n)</i>	'don't'
Adm: Wuvulu	<i>apu(na)</i>	'don't'
Adm: Aua	<i>apu(na)</i>	'don't'
Adm: Lou	<i>topu(n)</i>	'forbid, don't do it'
Adm: Kaniet	<i>tabu(n)</i>	'forbidden'
Adm: Nyindrou	<i>"rabu(n)</i>	'taboo, holy, sacred'

² An email dated 28 October 1997 from Waruno Mahdi to the Austronesian Languages and Linguistics email list asks "Have you considered the possibility of a loan into Australian languages of English taboo?"

³ Particular thanks are due to Malcolm Ross for advice on irregular form variation.

NNG: Yabem	<i>dabu(ŋ)</i>	(N) ‘abstinence, continence, chastity, fast, taboo’ <i>-jàm dabuŋ laweŋi</i> ‘avoid contact with in-laws, not touch them or call them by name’ (<i>-jàm</i> ‘do’; <i>laweŋi</i> ‘in-laws’)
NNG: Bukawa	<i>dabu(ŋ)</i>	‘holy, taboo’
NNG: Kove	<i>(ai)tavu</i>	‘a taboo as on eating s.t. or saying an affine’s name’ (<i>ai-</i> ‘her/his’)
NNG: Sio	<i>tabu</i>	‘s.t. that is prohibited’
PT: Dobu	<i>tabu</i>	(N) ‘a disease magic inhibition placed on garden, coconut grove etc. by owner to prevent stealing’; (V) ‘to place such magic inhibition’ (Fortune 1963:138)
	<i>tabu-</i>	‘[certain kin of deceased] who do not eat at a mortuary feast’ (Fortune 1963:196)
PT: Gumawana	<i>tabu</i>	‘taboo’
	<i>(va)tabu(ye)</i>	‘make s.t. taboo’
PT: Iduna	<i>tabu</i>	(N) ‘law; forbidden thing; taboo’
	<i>tabu-tabu(na)</i> (ADI)	‘forbidden’
	<i>(ala)tabu-tabu(yena)</i>	‘place a prohibition, put a spell on, work magic against, cause sickness or crops to fail’
	<i>-atabu(yena)</i>	‘eat s.t. taboo’
PT: Molima	<i>tabu(gu)</i>	‘food forbidden to me’ (limited to food; <i>-gu</i> ‘my’)
PT: Tawala	<i>tabu</i>	‘forbidden’ (said to be a Suau loan)
PT: Tubetube	<i>tabu</i>	‘don’t’
MM: Nakanai	<i>tabu</i>	‘to tabu, be tabu’
MM: Tigak	<i>tap</i>	‘holy’
MM: Sursurunga	<i>tam</i>	‘strong taboo, e.g. of a spirit dwelling. It is used in places where spirits dwell and where punishment is inevitable if violated’
MM: Tolai	<i>tābu</i>	‘prohibition; a forbidden thing’
MM: Ramoaina	<i>tabu</i>	‘prohibited, forbidden’
MM: Tangga	<i>tabun</i>	‘a funeral feast where only clan members of the dead person may take part’ (Bell 1935b)
MM: Babatana	<i>tabu</i>	‘forbidden, sacred’
MM: Maringe	<i>tabu</i>	‘be tabu, prohibited, sacred’ (from Bugotu?)
MM: Roviana	<i>tabu</i>	‘put taboo under certain circumstances, on food’ (perhaps an introduced term? Waterhouse 1949)
SES: Gela	<i>tabu</i>	‘to be set apart, forbidden; sacred, holy’
SES: Bugotu	<i>tabu</i>	‘sacred, forbidden, holy; prohibition placed on use or handling of anything’
SES: Longgu	<i>abu</i>	‘be taboo, forbidden’
SES: Kwaio	<i>abu</i>	‘sacred, taboo’
SES: Lau	<i>abu</i>	‘don’t’ (to child or animal)
	<i>ābu</i>	‘holy, taboo’
SES: To’amba’ita	<i>abu</i>	‘be tabooed, not allowed, forbidden’; used as dehortative (Lichtenberk 2008a); ‘sacred, relating to the spirits; set apart, forbidden’ (Hogbin 1934)

SES:	'Are'are	<i>apu</i>	'sacred, forbidden'; used also as prohibitive, dehortative to children
		<i>apu(na)</i>	(N) 'taboo. There are four varieties of taboo, each variety causing a different sickness'
		<i>apu-apu</i>	'whole region of burial place'
		<i>apu(ni-a)</i>	(V) 'put a taboo under curse; forbid' (- <i>ni</i> VT; - <i>a</i> O:3S)
SES:	Sa'a	<i>apu</i>	'be taboo, forbidden'
SES:	Arosi	<i>abu</i>	'dehortatory don't; sacred'
SES:	Owa	<i>apu</i>	'forbidden'
PNCV * <i>tabu</i> 'sacred, forbidden, taboo' (Clark 2009)			
NCV:	Mota	<i>tapu</i>	'unapproachable, not to be touched under a prohibition with the sanction of some <i>mana</i> '
		<i>tapu(a)</i>	(N) 'thing or place made <i>tapu</i> ' (- <i>a</i> nominaliser)
NCV:	Raga	<i>tabu</i>	'set apart, prohibit' (Bislama borrowing? Marie Duhamel, pers. comm.)
NCV:	Tamambo	<i>tabu</i>	'sacred, forbidden'
NCV:	Nguna	<i>tapu</i>	'holy, sacred'
SV:	Anejom	(<i>i</i>) <i>tap</i> ^w	'forbidden'
Mic:	Marshallese	<i>cap</i> ^{wi}	'taboo' (archaic)
Mic:	Woleaian	<i>tāf</i> ^{wu}	(N) 'taboo, ban, ritual restriction protected by supernatural sanction'; (VI) 'be prohibited by taboo' (Pn loan?)
Mic:	Kiribati	<i>tap</i> ^{wu}	(N) 'prohibition, interdiction'; (V) 'sacred; forbidden, prohibited'
Fij:	Rotuman	<i>fapu-i</i>	(VT) 'to mark, (esp. a coconut palm) as forbidden to others' (N) 'a nut or leaf used to mark a tree as forbidden'
Fij:	Bauan	<i>tabu</i>	'forbidden, prohibited, implying a religious sanction; sacred, holy'
Fij:	Wayan	<i>tabu</i>	'forbidden by strong communal sanction, sacred, holy'
PPn * <i>tapu</i> 'prohibited, under ritual restriction; sacred'			
Pn:	Tongan	<i>tapu</i>	'forbidden, prohibited; sacred, holy'
Pn:	Niuean	<i>tapu</i>	'be sacred, prohibited to common people, forbidden'
Pn:	Rennellese	<i>tapu</i>	'be forbidden, sacred, hallowed; forbidden or sacred place'
Pn:	Samoan	<i>tapu</i>	'be forbidden'
Pn:	Tikopia	<i>tapu</i>	'forbidden, both as improper, and as formal interdiction on activity'; 'sacred'; 'holy' (modern)
Pn:	Tahitian	<i>tapu</i>	'a restriction'
Pn:	Maori	<i>tapu</i>	'under religious or superstitious restriction, a condition affecting persons, places and things'
Pn:	Hawaiian	<i>kapu</i>	(N) 'taboo, prohibition', (V) 'sacred, holy'
cf. also:			
MM:	Petats	<i>tsūbu(n)</i>	'restriction on actions such as the eating of certain food by specified persons or at specified times, or the

			avoidance to be observed between individuals who stand to each other in certain relationships. Not applied to places or persons' (Blackwood 1935:480) (- <i>ū-</i> for †*- <i>a-</i> is unexplained)
SV:	Sye	<i>tompo(r)</i>	'sacred, taboo' (final - <i>r</i> is unexplained)

10.3 Relevant situations

From ethnographic descriptions we learn that **tabu* reflexes are pervasive in Polynesia, used widely but in variable situations across North and Central Vanuatu (François 2022), occur a little less in the southeast Solomons where they apply mainly to spiritual concerns, and are found in very limited ways in western Melanesia, being apparently not used at all in some places.⁴

The following, however, appear to be contexts where *tabu* prohibitions are shared across major subgroups

10.3.1 Food restrictions (+ kin)

Strong prohibitions exist throughout the Oceanic world on foodstuffs being prepared or particular foodstuffs eaten by certain people at particular times, such as pregnant or menstruating women or boys undergoing initiation. Cook's journals give numerous examples of *tapu* situations where people, including chiefs, and people who have handled dead bodies, could not handle food but had to be fed by others (1785, vol.1:305, 350, vol.2:203). The following instance records the reaction of several Tongans invited to share a meal aboard the British ship (vol.1:286):

When dinner came upon table, not one of them would sit down, or eat a bit of any thing that was served up. On expressing my surprise at this, they were all taboo, as they said; which word has a very comprehensive meaning; but in general signifies that a thing is forbidden.

In western Oceanic communities, where *tabu* situations are far fewer than in Polynesia, the most frequently tabued situations involve consumption of food. Often a prohibition is restricted to certain kin relationships. In Dobu (PT), *tabu-* (with pronominal suffix) refers to 'those [certain kin of deceased] who do not eat at a mortuary feast' (Fortune 1963:196). Chowning (1991:61) defines *tabu-gu* in Molima (PT) as 'food forbidden to me (limited to food)'. In Kove (NNG), she defines *tavu-yu* as 'a taboo as on eating s.t. or saying an affine's name'. In Yabem (NNG), *dabu(ŋ)* is defined as both a noun, '[s.t.] forbidden to eat' and a verb 'abstain from eating certain foods'. Bell (1935b:175–198, 306–322) lists a number of avoidance situations in Tanga (MM) [=Tangga], but most are labelled by terms other than **tabu* reflexes. An exception is *tabun*, a funeral feast in which no other persons but the clan of the dead man may take part. Also listed is *kuen tabun*, a term for a coconut palm when its fruit is reserved for formal presentation to certain womenfolk as a form of gratitude. Bell

⁴ Seligman, for example, describes in some detail the kinds of prohibitions recognised in Wagawaga and Tubetube (1910:574–582), many of them identical with taboos recognised elsewhere, but nowhere is the *tabu* term used.

writes that “although the word may appear to resemble *tapu*, it is not used much in Tanga”. He adds: “the word seems to be used only to express the exclusive nature of certain clan actions.” (p319).

In Petats (MM), Blackwood (1935:480) writes that the prohibitions which govern the daily lives of the people, given the term *tsūbun*⁵, apply neither to places nor persons, but to actions such as the eating of certain food by specified persons or groups or at specified times, or the avoidance to be observed between individuals who stand to each other in certain relationships. Waterhouse (1949) notes that, in Roviana, *tabu* means ‘to put taboo under certain circumstances, on food’, but he adds the proviso “perhaps an introduced term”.

Food restrictions dictated by *tabu* are not singled out for special mention in descriptions of avoidance behaviour we have from Southeast Solomonian languages (Hogbin 1934, Ivens 1927, Keesing 1982), and they have a minor role in northern Vanuatu, being mentioned only in relation to candidates undergoing initiation rituals (François 2022:230).

10.3.2 Safeguarding supply

Supply of foodstuffs may be subject to a temporary taboo, as described by Martin (1827) in Tonga (§10.1) where it is applied by chiefs to harvesting items such as coconuts prior to a major feast or in the likelihood of future shortages. Malinowski (1922:425) refers to *kaytubutabu*, in the Trobriands, ‘a ban on the consumption of coconuts and betelnuts associated with a specific magic to make them grow’. François (2022:225) notes a comparable usage in Mwothlap *na-tqō* where fishing activity is banned for a period so as to allow fish to reproduce. A ban there is signalled by a conspicuous leaf (e.g. a coconut frond, a cordyline leaf) tied to a stick at the entrance to the area. Ivens (1927:254–5) describes a similar temporary prohibition on foodstuffs prior to a feast made by a chief in Sa’a. Here the visible sign is identified as a pole with a bunch of leaves of the putty nut (*Parinarium laurinum*). In Sa’a, such non-religious prohibitions are labelled *adi*, not *abu*.

10.3.3 Property protection

A similar practice is the placing of a taboo sign on a tree or garden by the owner to prevent theft. It is commonly placed on coconut and betel palms growing away from the village. Those who steal or trespass are believed to suffer illness or other misfortune, the result having been preordained by the owner. The *tabu* term may refer both to the ban and to the sign representing it. In Dobu, individuals may own the right to both impose and lift *tabus* which have the power to inflict disease, and are commonly used to protect private property in this way (Fortune 1963:138). We also find mention of the practice in Rotuman where *fapu-i* serves as a verb ‘to mark (esp. a coconut palm) as forbidden to others’, and as a noun ‘a nut or leaf used to mark a tree as forbidden.’

In Herman Melville’s *Typee*, set in the Marquesas and published in 1876 is the passage:

Frequently, in walking through the groves I observed breadfruit and coconut trees with a wreath of leaves twined in a peculiar fashion about their trunks. This was the mark of the taboo. The trees themselves, their fruit, and even the shadows they cast upon the ground were consecrated by their presence. (1876:252, quoted by Handy 1923)

⁵ Presumably an introduced term, as irregular sound correspondences cannot otherwise be explained.

Melville was evidently aware that the ban there was more than just a prohibition – it carried with it an endowment of sanctity.

In Numfor-Biak, a non-Oceanic Austronesian language, is a term *kābus* defined as ‘tree branch or anything else placed on fruit tree or other object by its owner in order to make others afraid to approach the marked object lest ill-fortune befall them’. The term is included in a footnote in ACD under **tapu-tapu*, noting that while the initial *k-* corresponds to POc **t-*, the long vowel and final *-s* are unexplained.

10.3.4 Place taboos

A taboo may also be placed on a location because it is perceived as either sacred or dangerous or some combination of both. This may be as in Tonga where a piece of ground or a house or a grave that has been visited by a chief and hence regarded as consecrated by a god, becomes *tapu*. It may apply in Vanuatu where graveyards and other places haunted by supernatural forces are to be avoided through fear. François (2022:235) lists Sakao *e-tev* ‘burial ground, grave’, and Tamambo *ta^mbu* ‘grave’ as examples. The only mention of a place-related use of *tabu* in western Oceanic languages is in Sursurunga (MM) where *tam* is defined as ‘a strong taboo, e.g. of a spirit dwelling. It is used in places where spirits dwell and where punishment is inevitable if violated’.

The above-mentioned prohibitions apply to everyone. Other place taboos may be applicable only to a specified group. As Keesing (1982:65) explains it:

A Kwaio men’s house or shrine is *abu* from the point of view of those – women, infants, Christians – who are excluded from it; but it is not *abu* in and of itself. A woman giving birth is *abu*, and so is the women’s latrine, the menstrual hut, the childbirth shelter – but only in relation to those who cannot enter them. ... What is *abu* for one person is *mola* ‘permitted’ for another.

No doubt practical, non-sacred prohibitions of this kind exist throughout the Oceanic world. But nowhere else have we located them so-labelled. Either these restrictions are thought to be so commonplace that mentioning is unnecessary, or they are labelled in terms other than *abu*.

10.3.5 Dehortative

Perhaps not surprisingly, apparent reflexes of **tabu* sometimes occur as a dehortative, probably so that children might learn early where it applied. It is mentioned as sharing this function in wordlists from the Admiralties, in Tubetube and several Southeast Solomonic languages, while François lists it as a Bislama interjection probably borrowed from Polynesia (2022:219). It is not clear whether this meaning should be attributed to POc **tabu* or if it developed independently in various daughter languages.

10.4 Identifying the sacred

There is a difficulty in identifying the degree to which a sense of sanctity is part of the meaning of *tabu* as practised in different communities. Even in Polynesia, Fornander (1878:113) recognised a certain ambivalence in its practice.

The religious tabus relating to rites, observances, public worship, and the maintenance of the gods and their priests, were well known, comparatively fixed in their character, and the people brought up from childhood in the knowledge and observance of them. But the civil tabus were as uncertain and capricious as the mind of the chief, priest or individual who imposed them on others, or on himself and his family.

As an example of the latter, in Dobu, where taboos are widely used to protect private property, they are also used in the ordinary course of private feuds. A man will put a *tabu* on a woman who has refused his advances (Fortune 1963:143).

In his detailed examination of taboo terms in Vanuatu, François (2022) finds that although languages vary in what is identified by the terms as “off-limits, forbidden”, there is widespread evidence for their meanings to include “sacred, due to a sentiment of awe and fear before spiritual forces”.

Ivens (1927:253–5) describes the situation in Sa’a and neighbouring Ulawa, where there are two terms, *apu* and *adi*, both denoting prohibitions.

There is a word *apu* in both languages which ... denotes something that is forbidden to a person by reason of communal regulations, e.g. the marriage of cross-cousins, or the following of any course of action which would result in bodily harm or in bringing on the ill will of the ghosts, e.g. the rash intrusion into those spheres of religion which belong to the office of the priest, or the doing of any thing which would cause a person to be ceremonially defiled, or that condition of things which follows the imposition of a tabu by the proper authority. The causative form *ha’aapu* denotes a state of prohibition which has as its background the commands either of constituted authority, or of the local ghosts. (1927:253)

The second term, *adi*, covers prohibitions imposed by the hereditary chiefs. Prohibitions are largely administered on an ad hoc basis for limited ends, and contain no ghostly sanctions. The things which are thus prohibited are “fruit trees, paths, gardens, pigs, fishing, streams, landing places, personal possessions” (p.253). *adi* depends on the position and prestige of the chiefs for its inviolacy: the action is merely human. *apu* is carried out with the accompaniment of religious rites, there is a ghostly sanction empowering it, and it is immaterial whether the person who invoked it was a person of importance or not. Any case of infraction of *apu* will be followed by sickness.

Hogbin (1934:261) writes that in Malu’u [= To’aba’ita], ‘sacred’ rather than ‘forbidden’ is the primary meaning of the term.

ambu is the local form of the Polynesian *tapu* and means, primarily, relating to the spirits, and hence, sacred. There are in addition, several derived meanings, first, set apart; second, forbidden under penalty of punishment by the spirits; and third, forbidden under penalty of punishment by man.

He adds (p.262) that since the introduction of Christianity, *ambu*, instead of being applied to spirits is now applied to God.

The sense of ‘sacred’, sometimes linked with ‘holy’ is included in definitions of reflexes of **tabu* from a majority of subgroups. The implications of this terminology are open to conjecture. The entry for *tapu* in Firth’s Tikopia dictionary, for example, includes both ‘sacred’ and ‘holy’ in its gloss but annotates ‘holy’ as ‘modern’, suggesting the latter as a Christian addition to the meaning.

10.5 Relationship with *mana*

A major difference in *tabu* practices between Eastern and Western Oceanic societies would appear to lie in the way in which the authority believed responsible for upholding the prohibitions is viewed. In Eastern Oceanic the chiefs are believed to derive much of their power and status from possession of *mana*. The term exists in reconstructed form as PEOc **mana*, a stative verb ‘to have supernatural power from ancestral spirits as manifest in successful outcomes; be efficacious’ and as a noun ‘efficacy, success’ (§9.2.1). Particularly in Polynesia, chiefs, endowed with *mana*, were regarded as descended from gods, with powers of life or death and largely held apart from the rest of the community. This carried an implication of sanctity on both the chiefs and on whatever they came in contact with, rendering *tapu* their person and much associated with them. The association between *mana* and *tabu* is continued in the Southeast Solomons but the chiefs there are ‘merely human’ in Ivens’ words, with the religious duties mainly overseen by priests.

Evidence of *mana* is lacking in western Melanesian communities. Seligman (1910:576) writes that

Neither at Wagawaga, Tubetube nor elsewhere in the district does there seem to be any development of that system of personal influence (*mana*) taboo whereby the thing made taboo receives, as it were, a dynamic charge from contact with an individual, which is dangerous to everyone not rendered immune by the possession of an equal or greater power.

In western Oceania, some communities are led by hereditary chiefs, others by big men. But in both kinds of leadership, power is often shared. In Mekeo, the chief shared his leadership role with the sorcerer (Stephen 1987), while in Kilivila the garden magician appeared equally powerful (Malinowski 1935). Neither hereditary chiefs nor big men in western Oceania hold the god-like stature of sacredness and apartness attributable to those in Fiji and Polynesia, and which accord the latter a special relationship with *mana*. In western Oceania it is magic rather than *mana* that affects all aspects of life, and magic appears to depend more heavily on a negative fear of sorcery than a positive awe in the face of the supernatural for its effectiveness.

10.6 Freedom from *tabu*

Where a taboo is represented by a physical sign such as a cluster of leaves on a pole, removal of the taboo is indicated by removal of the sign. But where no sign exists, as with food or name taboos, an oral expression is required for its removal. Terms indicating freedom from taboo may show either that a temporary taboo has been lifted, or simply that a questioned item is not subject to taboo (and may never have been), and without context it is not always possible to know which situation applies. Both PPn **ɲafua* ‘be allowed’ and PNPn **taja* ‘free from ritual prohibition’ have cognates applicable to both situations, the shared Samoan and Tikopia terms indicating that either can apply to remove a restriction.

PPn **ɲafua* ‘be allowed’

Pn:	Tongan	<i>ɲofua</i>	‘allowed, permitted, not prohibited’ (Martin 1827:233 calls it <i>in contradistinction to taboo</i>)
Pn:	Niuean	<i>ɲofua</i>	‘be allowed, be free to do s.t.’
Pn:	Samoan	<i>ɲafua</i>	‘be made common, have a prohibition removed’ (Pratt gives <i>faʔa-ɲafua</i> ‘lift a taboo’)
Pn:	Tikopia	<i>ɲafua</i>	‘licit; appropriate, usually of food; opposite to <i>tapu</i> , hence edible’

PNPn **tana* ‘free from ritual prohibition’

Pn:	Rennellese	<i>tana</i>	‘to end, of a taboo, free of taboo’
Pn:	Pukapukan	<i>tana</i>	‘common, not <i>tabu</i> ’
Pn:	Samoan	<i>tana</i>	‘to have a restriction removed from things that had been prohibited’
Pn:	Tikopia	<i>tana</i>	‘free from taboo (of land, traditional stories etc.)’
Pn:	Tokelauan	<i>tana</i>	‘allowed, free to do’

Some Eastern Polynesian languages use reflexes of still another PPn term **noa* ‘be common, worthless’ to indicate that no taboo applies to a situation.

PPn **noa* ‘be common, worthless’ (POLLEX)

Pn:	Niuean	<i>noa</i>	‘signifies non-existence or infinitesimal state’
Pn:	Tongan	<i>noa</i>	‘worthless, unimportant, meaningless’
Pn:	Samoan	<i>noa</i>	‘of no importance, worthless, without purpose’
Pn:	Rarotongan	<i>noa</i>	‘ordinary, not sacred, free from <i>tabu</i> ’
Pn:	Tahitian	<i>noa</i>	(placed after a noun) ‘profane, without <i>tabu</i> ; only’
Pn:	Maori	<i>noa</i>	‘free from <i>tapu</i> or any other restriction’

The Proto Malaita-Makira reconstruction **mola* ‘usual, merely’ has reflexes in Lau and Kwaio that are similar in some respects to PPn **noa*. Its meaning is extended in Lau to describe terms as contrary to taboo. Keesing describes the same function in Kwaio when he writes (1982:65) “What is *abu* for one person is *mola* ‘permitted’ for another.”

Proto Malaita-Makira **mola* ‘usual, merely; permitted’

SES:	Lau	<i>mola</i>	‘merely, common; unconsecrated, not <i>abu</i> ’
SES:	Kwaio	<i>mola</i>	‘merely, only; secular, render secular; permitted’
SES:	Sa’a	<i>mola(ʔa)</i>	‘free, without price’
SES:	’Are’are	<i>mora</i>	‘merely, only’
		<i>mora(ʔa)</i>	‘allowed, permitted’
SES:	Arosi	<i>mora</i>	‘original, real, usual, customary’

10.7 A second taboo term

A second term carrying the meaning of taboo, POc **pali* ‘ritually restricted or prohibited’, has been reconstructed. It has an older history than POc **tabu*, being reconstructed back to PAN **paliSi* ‘taboo, ritual restriction; purifying rite’ (ACD). Its scattered Oceanic reflexes from the Admiralties, southeast Solomons and NC Vanuatu, together with a larger number from Micronesia, are evidence that it was once widespread, presumably replaced in some languages by reflexes of **tabu*. The Micronesian terms do not suggest a clear PMic antecedent. Perhaps ‘engage in ceremonial rite’ is preferable to the gloss offered by Bender et al., 2003. Only Woleaian has reflexes of both **pali* and **tabu*, its **tabu* reflex possibly borrowed from Polynesia. We currently lack enough information to allow us to distinguish the two terms with any certainty, although **pali* differs from **tabu* in lacking any sense of sanctity. We note that Blust glosses POc **pali* as ‘taboo’ and that Paiwan *palisi* is glossed ‘tabu’ (ACD).

PAN **paliSi* ‘taboo, ritual restriction; purifying rite’ (ACD)

Formosan: Paiwan	<i>palisi</i>	‘rite, ceremony; tabu; “superstition”’
wMP: Malay	<i>p-em-ali</i>	‘taboo’

POc **pali* ‘ritually restricted or prohibited’ (ACD: ‘taboo’)

Adm: Seimat	<i>(ha)hali(ni)</i>	‘forbid, prohibit’ (causative <i>ha-</i> may be added to verbs to express compulsion: Smythe p.416)
SES: Ghari	<i>vali</i>	‘prohibited, forbidden’
NCV: Raga	<i>bali</i>	‘to refrain from certain kinds of food as ‘the one who carries a child does not eat chicken, shellfish etc.’ (Hardacre 1924)

PMic **fali* ‘engage in ceremonial rite’ (‘taboo, sacred’; Bender et al. 2003)

Mic: Woleaian	<i>fari</i>	(vi) ‘be restricted, stay away from impure things, keep away from certain foods’
Mic: Puluwatese	<i>fel</i>	‘to worship’ (<i>faalifir</i> ‘to be clean, uncontaminated’)
Mic: Chuukese	<i>fen</i> <i>fēn</i>	‘taboo, restricted, engage in worship’ ‘church worship’
Mic: Ponapean	<i>pel</i>	‘be in a taboo relationship with s.o. or s.t.’
Mic: Mortlockese	<i>fel</i>	‘be taboo, worship traditional gods’
Mic: Satawalese	<i>fal</i>	‘to worship traditional gods’

10.8 Conclusions

There can be little doubt that the primary meaning of POc **tabu* was as a stative verb ‘prohibited, forbidden’ and as a noun, applicable both to the ban and to the thing banned. Hence POc **tabu* (Vst) ‘prohibited, forbidden’; (N) ‘a ban on some action or thing; the thing so banned’.

From the collected ethnographic examples, POc **tabu* appears to have had the following applications:

- In the preparation and consumption of foodstuffs in particular circumstances including at times the kin relationship between the supplier and the consumer (§10.3.1).
- Through the safeguarding of food sources by a visible sign either to guarantee supply (§10.3.2) or to guard against theft (§10.3.3).
- Through the identification of places where people should not go, either for reasons of safety or sanctity (§10.3.4).
- Through use of the term as a dehortative, so that children might learn early where it is to be applied (§10.3.5).

One area in which there is doubt as to its application in POC times is in the degree to which the tabooed object carries the sense of untouchable sanctity. The sense of awe and obeisance displayed before the chiefs in Polynesia and to a lesser extent accompanying the religious practices in the SE Solomons, and implicit there in *tapu/apu* is largely lacking in Western Oceanic, and it is suggested that this dispersal correlates to some extent with belief in *mana*. *Tabu* in western Oceanic languages appears not to hold the sense of sanctity unless imposed by Christian influence.

Blust calls the concept “one of the key cultural items in the POC lexicon, designating a type of social control that was enforced by supernatural sanctions” (ACD). As described in this chapter it may be rather more limited in its context.

11 *Seasonal cycles and lunations*

MEREDITH OSMOND AND MALCOLM ROSS

11.1 Introduction

This chapter complements the ways of talking about time discussed in chapter 9 of volume 2. That chapter addressed concepts like ‘day’ and ‘yesterday’ and ‘tomorrow’. This one is concerned with longer periods of time.

Time is an abstract concept, expressed in western terms by countable named entities, days of the week, months of the year, numbered years. In fact it is difficult for westerners to conceive of time in other than named measurable periods with clear boundaries. But traditionally Oceanic speakers seem not to have thought of time in this way. Here we look at how early Oceanic speakers conceived of years, seasons and the lunar cycle, and consider whether they treated the latter as a system.

The chapter is organised as follows: First, in §11.2, we explore the concepts of years and seasons. In §11.3 the interrelationship between lunar months and the solar year is discussed as their interaction is relevant to any form of calendar. Next, in §11.4, we discuss the checkpoints that recur in Oceanic speakers’ talk about the calendar. In §11.5 we review lunar month names in a range of Oceanic languages, illustrating the use of checkpoints and the kinds of conceptual world they denote. Lunar months imply moon phases, and these are examined in §11.6.

We observed in volume 2 (p320) that lunar month names “have complex associations with their users’ culture, both material and non-material” and wrote that they would receive a chapter to themselves in a later volume. We endeavour to keep that promise in §11.5 but lunar ‘months’ turn out to be something other than we might have envisioned when volume 2 was compiled.

11.2 Years and seasons

Early Oceanic communities were inevitably aware of the annual cycle evident in movement of the sun and stars, in regular seasonal changes to weather patterns and in the growth and flowering of plants, both cultivated and wild. They knew that certain foodstuffs, particularly the yams on which many communities were dependent, had a regular growing season,

with optimal times for planting and harvesting, and they associated yam planting and harvesting with, among other things, the positions of certain stars in the night sky.

But we cannot be sure that early Oceanic speakers had a concept of, or at least a term for, one complete annual cycle as illustrated by the sun and stars. When we look up ‘year’ in dictionaries we find expressions that translate as ‘rainy season’ (Kove) or ‘yam season’ (Sa’a) or ‘yam harvest’ (Kwaio) or ‘time of ripe canarium almonds’ (Bugotu) or even just ‘garden’ (Gedaged). In other words, examples of well-recognised seasonal cyclic events are used to represent the annual cycle.

Another reason for wondering if speakers had a concept of year was that a person’s age in years was apparently irrelevant to their thinking. To have a meaningful count in years, it is necessary to have a shared base line from which to start counting, something for which there is no evidence across Oceanic communities prior to western influence. Numerous ethnographies refer, both directly and indirectly, to the fact that Oceanic speakers seemed to have no interest in counting years of age (§14.1.2.3). Alkire, for example, notes (1970:37) that “an individual does not think of his age in terms of years (a unit of measurement of little traditional importance in Woleai) ... but only comparatively, as being younger or older than some other person of reference.”

Below is the cognate set given in vol. 2:308–309 in support of POc **taqun*, along with two glosses, the first given in vol. 2, the other a revised definition for which we argue below.

PMP **taqun* ‘period of a year’ (Dempwolff 1938) (ACD)

POc **taqun* ‘recurrent seasonal cycle, especially yam season cycle’ (revised definition); ‘period of a year, yam season cycle (?), any cyclic period’ (definition given in vol. 2:308)

NNG:	Bariai	<i>taun</i>	‘the time when ...’
NNG:	Buang	<i>ta</i>	‘year; a complete cycle of yam growing’
NNG:	Ulau-Suain	<i>taun</i>	‘year’
MM:	Bola	<i>tahu(na)</i>	‘the time when ...’
MM:	Sursurunga	<i>taul</i>	‘season’
MM:	Patpatar	<i>t<in>ahon, t<in>ohon</i>	‘year’ (<in> marks a nominalisation)
MM:	Ramoaaaina	<i>t<in>əwon</i>	‘year’
MM:	Tolai	<i>taun</i>	‘season, period, time’
NCV:	Mota	<i>tau</i>	‘season’
NCV:	Nguna	<i>(na)tau</i>	‘year’
Mic:	Kiribati	<i>tai</i>	‘time, season, harvest’
Mic:	Chuukese	<i>sowu-</i>	‘time, season’ (in compounds)
Pn:	Tongan	<i>taʔu</i>	‘yam season cycle, year’
Pn:	E Futunan	<i>taʔu</i>	‘yam season’
Pn:	Samoan	<i>tau</i>	‘season, year’
Pn:	Rennellese	<i>taʔu</i>	‘season’
Pn:	Tuvalu	<i>tau</i>	‘season’
Pn:	Rapanui	<i>taʔu</i>	‘year’
Pn:	Anutan	<i>tau</i>	‘year’
Pn:	Mangareva	<i>tau</i>	‘season, year’
Pn:	Maori	<i>tau</i>	‘season, year, the recurring cycle being the predominant idea rather than the definite time measurement’ (Williams)

Here we have a reconstruction with sufficient evidence to support three concurrent meanings: ‘year’, ‘season’ and ‘yam season cycle’. But some ethnographic comments give us pause. Codrington writes that in Mota, in the Banks Islands of northern Vanuatu:

There is no native notion of a year as a period of fixed time; the word *tau* or *niulu*, which corresponds most nearly to the word ‘year’, signifies a season, and so now the space of time between recurring seasons: thus the yam has its *tau*, its seasons of five moons from the planting, when the erythrina is in flower, till the harvest, after the palolo has come and gone;¹ the breadfruit has its *tau* during the winter months; the banana and the cocoanut have no *tau*, being at all times in fruit.’ (Codrington 1891:349)

Forander (1878:124) records the following for various parts of Polynesia:

In all the Polynesian dialects the primary and original meaning of *tau* is ‘a season; a period of time’. In the Tonga group it has the further sense of ‘the produce of a season’ and derivatively, ‘a year’. In the Samoan group, beside the primary sense of ‘season’ it has the definite meaning of ‘a period of six months’, and conventionally that of ‘a year’. In the Society group it simply means ‘a season’. In the Hawaiian group, when not applied to the summer season, it retains the original sense of an indefinite ‘period of time’, ‘a lifetime’, ‘an age’, and is never applied to a year; its duration may be more or less than a year, according to circumstances and the context.’

Their evidence suggests that POc **taqun* did not refer to a fixed period of time, but to a period that varied with context. In other words it was a name for any regularly recurring seasonal period. When we find languages using a reflex of **taqun* to refer to ‘year’ it seems that, as in the Maori definition, it is being used as just one particular recurrent cycle: its length is irrelevant. A quote from Jenness & Ballantyne (1920:160), writing about the Bwaidoga (PT) speakers of Goodenough Island in the D’Entrecasteaux Archipelago, reflects a similar concept, albeit with a different term. They write that

a native who wished to date some event that happened some time in the past might say that it occurred three *malamala* ago, in the *avalata* (north-west monsoon) season, i. e. between October and March;² or in the yam time, from June to August; or he could be still more precise, and name the actual stage in the growth of the yams, and thereby narrow the period down to a single month.

They tell us that *malamala* is the name given both to a season ushered in by the sun at its northern zenith and also to the whole period covered by the sun’s annual movement, i.e. a year. Chowning’s (n.d.) dictionary of neighbouring Molima confirms the first definition: ‘period from December to April, time of big sun after planting, yamless period’. The ‘year’ definition is confirmed by Hockett, Lucht and Awadoudo’s (1992) dictionary of Iduna, a dialect of Bwaidoga, where *malamala* is glossed as ‘year’. However, *malamala* has a deeper history, as its Kilivila and Muyuw cognate is *milamala* ‘palolo worm’, the risings of which were and are an important checkpoint in the Oceanic year (§11.4.3). At some point in the past, a

¹ For the palolo worm and its rising, see §11.2 and §11.2.1.

² Bwaidoga *avalata* reflects POc **apaRat* ‘north-west monsoon season’ (vol.2:128–130, 307). See §11.2.1.

Bwaidoga speaker who said that something occurred three *malamala* ago was saying that it occurred three palolo risings ago.

Our conclusion is that POc speakers had a concept of a recurrent seasonal cycle, **taqun*, which could be applied to cycles of different durations including possibly the annual cycle. The corollary to this is that there was no POc term for the concept of a fixed, measurable block of time that westerners refer to as ‘year’.

It is difficult to determine which terms for a year in Oceanic dictionaries reflect the longstanding usage of a term and which reflect an adjustment to the western fixed-term concept. Where terms for a year other than reflexes of **taqun* have been adopted they typically come from horticulture or arboriculture, such that a salient annual event doubles as the term for an annual cycle. Examples in addition to those given on p297 include the following: In Dobu (PT) *yak^vara*, ‘last year’s garden’, has become the term for a year. In Kiriwina (PT) the term for the staple crop, *taytu* ‘small yam’, also carries the meaning ‘year’. Tolo (SES) *uvi* means both ‘yam’ and ‘year’. In the southeast Solomons languages spoken in Malaita and Makira there is a cognate set³ that refers to the yam harvest but includes ‘year’ among its senses: Lau *falisi* ‘garden, yam harvest, year’, Kwaio *falisi* ‘yam harvest, year’, ’Are’are *harisi* ‘grass, small clover, yam harvest, year’, Arosi *harisi* ‘year, season, crop’, Sa’a *halisi* ‘harvest, crop, time of ripening, yam season, year’. The ’Are’are, Arosi and Sa’a dictionaries make the proviso that the denotation ‘year’ is a recent one. Other food crops with regular planting and harvesting seasons also assumed the added sense ‘year’. Thus Marovo (MM, New Georgia) *buruburu* ‘Canarium spp.’ also means ‘year’, the interval between two ripenings of canarium almonds (Hviding 2005:107). Similarly Maringe *finoya* ‘canarium harvest’, and To’aba’ita *ηali* ‘canarium nut tree and fruit’ all also have the sense ‘year’.⁴ In Mangaia in Eastern Polynesia, “in the premissionary times, the age [of a child] was counted by counting the number of breadfruit (*kuru*) harvests” (Shibata 1999:110).

There are, however, indications that a common application of **taqun* was to the complete cycle of yam growing. From the cognate set we learn that the year was equated with the yam season cycle in Buang, Tongan and Maori. Kirch & Green (2001:267) comment that “in Western Polynesian languages, reflexes of PPN **taqu* (e.g., [E Futunan] *taʔu*) refer not just to ‘season’, but more specifically to ‘yam season’.” Although yams, particularly *Discorea alata*, and taro, *Colocasia esculenta*, were both important staples for POc speakers (vol.3:256), it was *Discorea alata* whose time of planting was critical. Taro is not seasonal, growing throughout the year. When people wanted to refer to a time equivalent to ‘last year’ or ‘next year’, they tended to do it by referring to their previous yam garden or their future yam garden.

In the light of this discussion the revised definition of POc **taqun* given above reads ‘recurrent seasonal cycle, especially yam season cycle’.

11.2.1 Named seasons

While POc **taqun* was the generic term for any seasonal cycle, specific seasons were separately named. The POc homeland in the Bismarck Archipelago, and indeed much of

³ This set reflects POc **pali(s,j)i* ‘generic term for grasses and other grass-like plants’ (vol.3:75), but this meaning is retained only in ’Are’are and Ulawa. The shift in semantic focus to ‘yam harvest’ must already have occurred in Proto Malaita–Makira.

⁴ For Bugotu the sense ‘year’ is given only in the English–Bugotu finderlist of Ivens (1940a).

western Oceania, experience two seasons, strongly marked by wind and weather: the dry, when the southeast trades blow with reasonable consistency, and the wet or monsoon, when the less reliable northwesterlies blow. The names of the winds, POc **raki* ‘southeast trades’ and POc **apaRat* ‘northwest wind’⁵, almost certainly also denoted the dry and wet seasons respectively. The wet and dry seasons do not have sharp boundaries, however: the focus is on the events that define them.

Almost all Oceanic communities for which we have relevant information divide the year into these two main seasons, sometimes accompanied by a short season between them, but the names do not always reflect the POc terms. Thus Wogeo had the *kama* ‘trade wind season’ and the *yavara* ‘monsoon season’ (< POc **apaRat*) (§11.5.1.1). Maenge had *vinte* ‘the wet’ (May–September) and *kaepâ* ‘the dry’ (November–March) (§11.5.1.2). Barok has *awat* (< POc **apaRat*) “identified with the traditional cycle of six lunations, [while] two *awat* are encompassed by the sun’s annual circuit of the ecliptic” (Wagner 1986:40). The two *awat* are *awat ni nien* ‘season of plenty’ and *awat nere loŋ* ‘season of hunger’. Barok *awat* has thus taken over the semantics of POc **taqun*. Tangga, spoken on small islands east of New Ireland, contributes no month names but offers *bāt ae us*, ‘the rainy season’ (November–March; *us* ‘rain’) and *pisae* ‘the sun’ or ‘dry season’ (May–September) (Bell 1946:143).

Some of these names may have originally been allusions to crop-based seasons. Lichtenberk (2008a:177) writes that the To’aba’ita year was traditionally divided into two halves: six months of canarium almonds (April–September) and six months of strong winds (October–March). Ivens (1927:397) writes that in Sa’a “practically there are two divisions of the year: *marāu* or *āu*, the time associated with the canarium almonds [*ŋali*], and *oku*, the time associated with the palolo” (cf §11.5.4). Mota had *mayoto* ‘*Miscanthus* grass’ (‘wet season’), *rara* ‘*Erythrina*’ (‘dry season’), and *ud* ‘palolo season’. Kirch & Green’s (2001:260ff) detailed examination of time reckoning and the ritual cycle in Polynesia is summarised in 11.5.7.

Grimble (1931) describes a Kiribati year of two seasons, marked by observation of *te auti* ‘Pleiades’ from early December to early June,⁶ and *rim^wimāta* ‘Antares’ from early June to early December. The year is considered to begin with the appearance of the Pleiades about 15 degrees above the eastern horizon just after sunset, in about the first week of December. It seems likely that Kiribati time reckoning has been influenced by Polynesian: two seasons are maintained, but are now star-based.

A number of names like those above also serve as labels for what ethnographers sometimes describe as ‘months’, but we argue in §11.5 that these ‘months’ do not add up to anything like a calendar in the modern Western sense.

11.3 Lunar months and solar years

There is a tension between the solar year with its solstices and the lunar cycle. The dry and wet seasons and the times for planting and harvesting crops are all governed by the solar year and the stars, while shorter periods of the year are linked to named lunar ‘months’. How was this difference reconciled in traditional Oceanic societies?

A lunar cycle consists of 29.53 days. Twelve lunar months total a year of 354 days, eleven days short of a solar year. In most Oceanic societies for which we have descriptions of lunar

⁵ Supporting cognate sets are given in volume 2:131–135.

⁶ Kiribati lies north of the Equator, so the dates given in Table 11.1 do not apply.

months, the year was divided into twelve lunations, although in some cases thirteen are recorded, totalling 384 days. Either way, if a strict program of activities were carried out according to the lunar calendar it would have gradually become out-of-sync with the annual seasonal cycle. It follows that a system of reckoning time by referring to a systematic list of lunar months has little practical value unless it includes some mechanism for intercalation, i.e. for inserting days to align the lunar year with the solar year.

The need for intercalation carries with it an assumption that people are aware of the existence of a solar year containing a specific number of lunar months. But this assumption is not borne out by the few detailed accounts we have of attitudes to time, at least in WOC. While most ethnographers evidently assume a concept of a year as a fixed period of time, for speakers time is more flexible, with allowance for adjustment so that lunar months and known seasonal events do not get out of step. Malinowski reported (1927:209) that “in the Trobriands the moons are used rarely and only under special circumstances for counting time; the whole system of naming and arranging moons has no special place in their time-reckoning.” Rather they would become aware that at times the moons and the start of a seasonal cycle were out of step, or as the Trobrianders put it, “the moons become silly” (1927:213).

Damon (1990:35) distinguishes between lunar month names (*kwel*) and moons in Muyuw (PT).

Muyuw can count moons. They do not count *kwel* (although a new *kwel* begins with a new moon)... People might be able to tell me at what *kwel* something should happen but not how many *kwel* between now and then. They are keen observers of the moon and its phases, but they do not systematise their observations.

Damon (1990:4) considered the question of intercalation, noting that while the east had a twelve month calendar, Central Muyuw had a thirteenth month. He writes “This disparity might once have meant something quite significant – perhaps a way of adjusting solar/lunar discrepancies ... Repeated attempts to explore this contrast, however, revealed nothing during either of my research periods.”

Chowning & Goodenough (2016) writing of the Nakanai of New Britain who identify eight months and Seeman (1862:297) who had considered the problem inherent in his eleven-month Fijian calendar, both describe similar solutions. In both locations a period of from two to four months is treated flexibly so that the rest of the year is marked out by more precise markers of time such as the palolo rising (§11.4.3). In Nakanai this period is about four months, roughly from June to September. In Fiji the period is aligned with the time of clearing and preparing gardens around June and July.

Wagner (1986) writes that the Barok of New Ireland use correlation between the moon, the sun and the Pleiades in regulating their gardening activities, with the movements of the relatively constant sun and Pleiades acting to correct the seemingly variable nature of the lunar cycle. He names six lunations, suggesting that one, *tege gowo*, ‘the one that is left’, may serve to fill the variable space until the appropriate new moon appears (§11.5.3.2).

In Polynesia, where the calendar became more systematised than in early Oceanic, there were procedures for intercalation. According to Collocott (1922:168) in Tonga

With [the month of] Tanumanga the year normally ends. If, however, observation of the yam and other plants and of fishes at the next new moon fails to discover the appearances proper to the month with which the year begins, Lihamua, another month is intercalated.

Buck (1932:230) records a different system in Rakahanga in the Cook Islands whereby the usual year of twelve lunar months would be replaced at intervals by a thirteen-month year. “The intercalation of a thirteenth month was decided by the simple rule that a new year could not start until the first new moon after the morning rising of the Pleiades”. The strict application of the rule would automatically lead to the intercalation of a 13th month in some cycles.

In Hawaii according to Makemson (1941:97) a calendar consisted of twelve months of 30 days plus five days interspersed at various times set aside for religious rites. We wonder if this is in fact a post-contact adjustment. We have found no evidence elsewhere in Oceania that the year is seen as a unit of fixed length of 365 days, but rather a collection of recurring cycles.

The assortment of ways in which communities, or perhaps ethnographers, have tried to fit lunar months into a solar year leads one to think that not only was this difficulty unanswered in POC times, but rather that the problem simply did not exist for its speakers. If the annual cycle was seen as not a fixed period of time (§11.2), and if lunar months could not be combined to form an assembly (§11.5), the question of reconciling the two systems becomes meaningless. Rather, the topic may have become a matter for debate following introduction of the western conceptual system of time.

11.4 Checkpoints

The term “checkpoint” is used here of natural, arboricultural and horticultural phenomena that occur cyclically and allow Oceanic speakers to locate themselves in the cycle of the seasons and prompt them to perform particular activities. Some checkpoints are fairly precise; for example, the rising and setting of the Pleiades (§11.4.2.1), the annual rising of the palolo sea worm (§11.4.3). Other checkpoints are fuzzy: for example, the readiness of the canarium almonds for harvesting (§11.4.5), or the beginning and ending of the wet season (§11.4.7).

As becomes obvious below, a checkpoint can also sometimes become entrenched as the name for a period of time in which the named phenomenon occurs. When we use the term ‘month’ in an Oceanic context, it is these periods of time that we are referring to: not a period of time defined by its boundaries but a period of time that centres on a cyclically occurring event (see further §11.5). Exceptions to this generalisation are found in Micronesia (§11.5.7) and Polynesia (§11.5.8).

Most of our data on seasonal time are in the form of lists of so-called lunar month names collected from more than 30 languages from Western Oceanic, the SE Solomons, Vanuatu, Micronesia, Fiji and Polynesia. They consist of, usually, 12 or 13 names for or references to the kinds of phenomenon mentioned above that serve to mark roughly sequential points or approximate periods of time through an annual cycle. The lists show that the same kinds of markers are recognised in widely scattered parts of Oceania, notwithstanding its geographic range. They include the apparent annual movement of the sun (§11.4.1) and stars (§11.4.2), the palolo rising (§11.4.3), plant cycles (§11.4.4–6), weather patterns (§11.4.7), and land crab migrations (§11.4.8). In spite of this, the lists are a very varied lot. It is apparent that except in Micronesia and Polynesia they offer very little in the way of shared terms that could be taken as a basis for reconstructing a calendar of POC lunar months. In this chapter we explore the ways in which communities used these checkpoints in order to see if any system can be recognised.

11.4.1 Solstices

Solstices occur twice each year, in June and December. In the Bismarck Archipelago and elsewhere in the southern tropics, the June solstice is the time when the sun reaches its lowest zenith, the December solstice its highest. Their occurrence as checkpoints in Oceanic communities is mentioned infrequently in the literature, but all early Oceanic speaking communities must have been aware of them.

Panoff (1969:155) writes of speakers of Maenge (NNG; a dialect of Mengen, SE New Britain):

Both extreme points from which the sun rises at solstices are perfectly known and are identified with conspicuous landmarks on the horizon (mountain, reef, islet etc.), which differ from village to village according to the surrounding topography. They are called *kae tarajana* 'resting places of the sun', since they correspond to a ten days' full stop in the shift.

Jenness & Ballantyne (1920:160) write that the Bwaidoga (PT)

have noticed [the sun's] annual movement and related it to their gardening operations. *Igoboda*, the time when the sun is farthest south, is the period when gardening commences; when it reaches half-way back to the north again it is harvest-time; and at its northern zenith it ushers in the *malamala* season.

Wagner (1986:39) writes that the Barok (MM, New Ireland)

seem always to have noted the seasonal variation in the points-of-rising of the sun and moon ... The northern solstice occurs when the sun rises over Lihir and the full moon rises over Namarodu ... and the southern solstice when the sun rises over Namarodu and the full moon rises over Lihir.

Although similar terms for the solstices have been noted in various parts of Polynesia (see vol.2:153), no reconstructions are possible.

11.4.2 The stars

Stars appear to move across the sky in a circle whose centre is the north or south celestial pole. Stars closer to the pole describe a smaller circle and never disappear from the night sky. Others describe a larger circle that takes them below the nighttime horizon: they traverse the sky invisibly during sunlight. The first pre-dawn rising of a star after a period of invisibility and the last post-dusk setting before invisibility had calendrical significance for many premodern peoples.⁷ But the event recognised in pre-modern communities is the first brief **apparent** pre-dawn rising of the star, which occurs when the star is high enough above the horizon to be seen, perhaps two weeks later than its astronomical counterpart. Apparent risings are later than their astronomical counterparts and apparent settings earlier. On the basis of dates given in ethnographies, we assume that the apparent first or last rising/setting occurs when the star is 15 degrees above the horizon, but the actual date depends on the topography of the community's environment and on weather.

⁷ These astronomical risings and settings are respectively the heliacal (or cosmical) rising, the acronychal (or acronitic) rising, the cosmical setting and the heliacal setting (or acronychal/acronitic) setting). Heliacal means 'coincident with the sun' (rising when the sun rises, setting when the sun sets), while acronychal means 'occurring at sunset'.

These events affect all stars that rise and set. They appear to have been of especial importance in Nuclear Polynesian (§11.5.8), where certain month names are associated with the rising or setting of a given star. PNPn **tolu* and PEPn **takulua* evidently referred respectively to the pre-dawn rising of the middle star in Orion's Belt and of Sirius, PNPn **tākelo* to the post-dusk rising of Betelgeuse. The most important sidereal checkpoints for traditional Oceanic speakers were the risings and settings of the Pleiades (§11.2.1), but it can scarcely be the case that the Pleiades were the only night sky events of which they took notice.

With the single exception of the Pleiades, knowledge of stars and their movements seems today scarcely to exist in western Oceanic communities.⁸ The only record there of stars being used as calendar reference points comes from two closely related communities, Kilivila speakers of the Trobriand Islands and Muyuw speakers from nearby Woodlark Island (§11.5.2.1.1). A far more detailed awareness of stars has been retained in Micronesia and Polynesia, no doubt due to their importance in navigation (Lewis 1972) (vol.2, ch.6). Here one finds month names that are simultaneously star names. These terms, however, are never cognate with those in Kilivila and Muyuw.

11.4.2.1 *The Pleiades*

The Pleiades are a small bright patch of stars with an annual orbit such that at times they disappear from the night sky. Their significance as a checkpoint may have formed part of the corporate memory that the ancestors of POc speakers brought with them from a former homeland. Their presence with similar functions in languages across the Indo-Malaysian archipelago (Forth 1983; Ammarell 1988) suggests that this was true at least as far back as PCEMP.⁹ The Pleiades have been recognised as significant calendrical markers throughout the Oceanic world, although the timing of their appearance, and thus the particular event(s) they mark, have changed by about five weeks in the approximately 3000 years since POc was spoken¹⁰.

The dates of the Pleiades' apparent risings and settings in the year of writing (2016) and in 1200 BC (approximately when POc was spoken) at Kimbe, New Britain, are given in [Table 11.1](#). Kimbe is chosen as it is within the assumed region occupied by POc speakers. In Apia, Samoa, the dates are just a day later.¹¹

Areas in which the Pleiades are known to provide checkpoints include the north New Guinea coast (Wogeo, [Table 11.10](#) in §11.5.1.1), around the Huon Peninsula of New Guinea

⁸ For example, when Ross attempted to elicit Takia (NNG) star names in the 1980s, the only feature whose name was well known was the Pleiades.

⁹ Nilsson (1920:114–122) notes that Mohammed swears by the setting Pleiades in the 53rd chapter of the Koran. Homer refers to them in the Iliad, and they are known to the Eskimos of Greenland and the Luiseño of southern California. According to Strehlow, in central Australia the Pleiades are seven maidens who had danced at the circumcision ceremony and then ascended into the heavens.

¹⁰ This apparent lag in star movements is influenced by what is known as the precession of the equinoxes, caused by a slight wobble in the earth's axis.

¹¹ The dates here and below were estimated using the software application *Stellarium* (<http://www.stellarium.org/>), which allows one to see the sky from a given location at any point in time. The web page *Sirius and its phenomena in the course of the year* (<http://www.gautschy.ch/~rita/archast/sirius/siriuseng.htm#jahreslauf>, accessed on 30 April 2016, based on Gautschy (2011), provided a model for working out the Pleiades' dates.

(see below), in Mangap-Mbula (Table 11.12 in §11.5.1.3), in Barok (Table 11.18 in §11.5.3.2), in Micronesia (Table 11.22 in §11.5.7) and Polynesia (Table 11.23 in §11.5.8.1).

Table 11.1 Apparent risings and settings of the Pleiades

	2016 AD	1200 BC
first pre-dawn rising	around 7 June	around 3 May
last pre-dawn setting	around 5 November	around 1 October
first post-dusk rising	around 6 December	around 1 November.
last post-dusk setting	around 1 May 2017 AD	around 27 March 1199 BC

In Western Oceanic communities the position of the Pleiades in the night sky provides a series of indicators to stages in the yam cycle. In a number of languages of the north coast of New Guinea, the Pleiades (Gedaged *bałas*, Bing *barahas*, Takia *baras*, Wogeo *baras*, Manam *barasi*) are associated with young women and fertility rituals marking the start of the agricultural cycle. It is worth quoting Mager's (1952:17–18) Gedaged dictionary entry for *bazas* (= *bałas*) in full. It refers to the Pleiades' first pre-dawn rising.

The Pleiades constellation thought of as young unmarried women. When they reappeared on June 13th or 14th the fertility rites were observed. When first seen the *tauiz* triton shell was blown and a big rumpus made by beating and shouting. All the young people were awakened and driven into the sea to bathe; this was to cause them to be healthy, tall and beautiful. ... When the Pleiades reappeared the people knew that it was time to prepare the fields for planting yams.

Hogbin (1938b) describes the situation in Wogeo (§11.5.1.1), an island off the north New Guinea coast, where certain rites known as *baras losalosa* 'washing the Pleiades' (or 'washing the pubescent girls'), are performed.

These are associated with the changing position of the Pleiades, a constellation known as *Baras*, the term for a girl passing through her first menstruation. ... The purpose of the rite is to secure protection from sickness during the coming year and to ensure a good nut harvest (1938:138).

Wedgwood (1934:397) describes an apparently identical rite in nearby Manam, *barasi diru?u* 'they wash the Pleiades', marking the beginning of the agricultural year. It takes place in the months of April, May or June according to the village which is performing it. Wedgwood comments

I was not able to find out how the people of Manam adjust the lunar year to the solar year, but I was given the names of thirteen 'moons', and was told that the people knew which 'moon' was which by the position of the Pleiades just after sundown in relation to the mountain top (1934:397).

Wedgwood's 'mountain top' refers to Manam Island itself, a near-perfect volcanic cone.

There is a tantalising entry in Chowning's (n.d.) dictionary of Molima (PT): *ve?ovaiya-liwoliwo* 'to greet the reappearance of the Pleiades' (presumably its first pre-dawn rising), but apart from *ovaiya meyavinena* 'Pleiades' there is no elaboration. The word *ovaiya* has no known meaning outside this context, but *meyavine-na* means 'female'. Is this an echo of the association between the Pleiades and pubescent girls attested in Gedaged, Wogeo and

Manam? Intriguing is the fact that *ovaiya meyavinena* ‘Pleiades’ contrasts with *ovaiya meʔolotona* ‘Orion’s Belt’, where *meʔolotona* means ‘male’.

In Yabem (NNG) Streicher (1982:80) writes about the period when the Pleiades are prominent in the night sky:

the Pleiades [*dam, damɔ*] are the main constellation seen by the Jabêm [Yabem] during the dry season (October to March) and governing their activities in their gardens; i. e. the felling of trees to clear the ground for new gardens; the burning and planting of fields is done according to the position of the Pleiades.

Along with other terms for the Pleiades from around the Huon Peninsula, Yabem *dam, damɔ* appears to reflect PAn **damaR*. However, PAn **damaR* is also more obviously the ancestor of POc **ramaR* ‘coconut leaf used as a torch when fishing’ (vol.3:382). The Huon Peninsula terms would reflect a putative POc **dramaR*, of which the initial nasal-grade consonant would probably reflect an unknown morphological modification. Its POc reconstruction remains uncertain.

PAn **damaR* ‘tree resin used in torches (?)’ (ACD)

POc **dramaR* (sense uncertain)

NNG: Sio	<i>dɔma</i>	‘January’ (also ‘Pleiades’?)
NNG: Mangap (Marile)	<i>ⁿdāma</i>	‘Pleiades; December’
NNG: Tami	<i>ⁿdam</i>	‘Pleiades’
NNG: Yabem	<i>dam, damɔ</i> <i>dam(saŋiŋ)</i>	‘Pleiades’ ‘approx. June: period of transition between dry and wet seasons’
NNG: Numbami	<i>damana</i>	‘Pleiades, said to herald the rainy season; rainy season, season, year’ (for † <i>damala</i>)

Yabem *dam-saŋiŋ* is a compound which Streicher (1982) explains as follows:

People ask each other, “Have the Pleiades disappeared from the western sky or not?” Disappearance of the Pleiades marks the end of the dry and the beginning of the wet season. Hence *dam* ‘Pleiades’ and *saŋiŋ* ‘enquiry’.

The Yabem term thus refers to the last post-dusk setting of the Pleiades in late April or early May, and the Numbami term evidently marked the same seasonal transition. The Sio and Mangap terms, however, seem to refer to their first post-dusk rising in early December, and an ethnographic note in Bugenhagen & Bugenhagen (2007a) says that this marked the canarium trees beginning to form buds (Table 11.12).

Although the Pleiades carry less weight for the Maenge of New Britain (NNG), their appearance and disappearance are noted. Panoff (1969:156) writes that

The movement of the Pleiades, which are called *kumana puni me*, literally ‘a dense cluster of young taros’ has failed to suggest to the Maenge the notion of a yearly cycle, although their disappearance [their last post-dusk setting—MO & MR] is interpreted as a signal to plant the last taros before the heaviest rains of the wet season.

In Bwaidoga (PT) in the northern D’Entrecasteaux, Jenness & Ballantyne (1920:161) write that the Pleiades

is the best known of all the constellations.... The natives often date their yam harvest from the time when the Pleiades appear in the east in the early evening till the time when they have moved over to the west.

In Dobu (PT), Fortune (1963:127) writes that

gathering times are regulated by the position of the Pleiades in the sky ... When he rises at about 15° angle with the ocean the bush is cleared; at about 30° the land is planted. He climbs from the north-eastern to the south-western sky, sets in the south-west, and is unseen for over a month. Then, when he rises in the north-east, harvest time is come.

Damon (1990:39) notes with regard to Muyuw speakers (PT; §11.5.2.1.2) that yams should be planted when the Pleiades “is thirty or so degrees above the western horizon at dusk, in February” en route to their last post-dusk setting.

For the Barok people of New Ireland (MM), “the timing of the gardens is regulated by three celestial indicators: the moon, the sun and the Pleiades” (Wagner 1986:37). A discussion of the Barok calendar is provided in §11.5.3.2.

In his discussion of local knowledge of the heavenly bodies in north Vanuatu, Codrington (1891:348) writes that

The Banks’ Islanders and Northern New Hebrides people content themselves with distinguishing the Pleiades, by which the approach of yam harvest is marked.

The Pleiades play a significant calendrical role throughout Micronesia where it takes its place in a sequence of twelve stars or constellations that serve as monthly timekeepers (§11.5.7).

The calendrical uses of the Pleiades described above refer to single events. In some EOC languages, however, this has developed into a marking of the two seasons into which the year is divided (§11.3).¹²

Kirch & Green (2001:260ff) have made a detailed examination of the reckoning of time and the ritual cycle in Polynesia, and we have drawn on their account for much of the following. They quote from early descriptions – Tahitian King Pomare in 1818 (quoted by Henry 1928), and Gill (1876) on Mangaia, among others – showing that the risings and settings of the Pleiades were widely observed in many Polynesian societies, “where they were used to mark the change in seasons and/or to mark the commencement of the year” (Kirch & Green 2001:262). In this they concur with Makemson (1941:76) who wrote that

undoubtedly the Polynesians carried the Pleiades year with them into the Pacific from the ancient homeland of Asia. With but few exceptions they continued to date the annual cycle from the rising of these stars until modern times.

Gill (1876:317) writes that in Mangaia

The arrival of the new year was indicated by the appearance of Matariki, or Pleiades, on the eastern horizon just after sunset, i.e. about the middle of December. Hence the idolatrous worship paid to this beautiful cluster of stars in many of the South Sea Islands. ... In many islands extravagant joy is still manifested at the rising of this constellation out of the ocean.

Kirch and Green note (Kirch & Green 2001:261–262) that the pre-dawn rising of the Pleiades is observed as a significant event in East Futuna, Tikopia, Rakahanga, Pukapuka, Mangareva, Tuamotu and New Zealand, while the post-dusk rising is significant in Tokelau,

¹² It is possible that this is also true of the WOC language Barok, discussed in §11.5.3.2.

Tuvalu, Tahiti and Mangaia. Both are significant in Hawaii. The pre-dawn rising counts as the beginning of the year in Tokelau and Rakahanga, while in other locations across Polynesia it is the post-dusk rising that counts. Kirch and Green infer from these distributions that both dates were important for the early Polynesians, the May and October risings – or the new moons which followed them – marking the beginnings of the two seasons, PPn **taqu*, into which most Polynesian communities divided their annual cycle. Strictly, it was probably not the rise of the Pleiades themselves that counted as the beginning of the new season, but the appearance after their rise of the first sliver of a new moon.

As Kirch and Green note, the ancestral Polynesian calendar was inseparably linked to the horticultural year, and especially the seasonal yam crop, whose scheduling depended on climatic seasonality within the Polynesian homeland (Kirch & Green 2001:265). The pre-dawn rising in May signalled the onset of the dry season in the Tonga-Samoa region, the Polynesian homeland, while the post-dusk rising in October announced the onset of the wet.

A POc term for the Pleiades, repeated here from vol. 2:171, can be tentatively reconstructed – “tentatively” because the Nakanai, Roviana and Gela reflexes are phonologically irregular. However, no reflexes have been found in calendrical terms.

PMP **buluq* ‘a constellation, the Pleiades’ (ACD)

POc **bulu(q)* ‘a constellation, the Pleiades’ (ACD: **puluq*)

MM:	Nakanai	<i>vulu</i>	‘Pleiades’ (<i>v</i> for † <i>b</i>)
MM:	Roviana	<i>bi-bolo</i>	‘Pleiades’ (<i>o</i> for † <i>u</i>)
SES:	Gela	<i>buru-buru</i>	‘Pleiades’ (<i>r</i> for † <i>l</i>)
SES:	Kwaio	<i>bulu-bulu</i>	‘star, firefly’
SES:	Lau	<i>bu-bulu</i>	‘star’
SES:	’Are’are	<i>puru-puru</i>	‘star, firefly’
SES:	Arosi	<i>buru</i>	‘Pleiades’ (<i>buru-buru</i> ‘firefly’)

Apart from the small groups of New Guinea north coast and Huon Peninsula languages mentioned above, terms for the Pleiades in Western Oceanic show no evidence of cognacy. They are reconstructable as month names only in Micronesia (PChk **m^wakariker* ‘about July; the Pleiades’; §11.5.7) and Polynesia (PNPn **mataliki* ‘month name, June’, from PPn **mataliki* ‘Pleiades’; (§11.5.8).

11.4.3 Palolo risings

The palolo worm, *Eunice viridis* (also *Leodis viridis* or *Palolo viridis*) is a segmented sea worm that lives in crevices in a coral reef. Its annual spawning occurs in a widely distributed number of places, but always at a time associated with the lunar cycle. In Eastern Oceanic communities this is typically six to nine days after the full moon in October and November (Burrows 1955:141) while in Wogeo Hogbin (1938b:132) identifies it with the week preceding the full moon. There is a minor rising, followed one lunation later by a major rising. Occasionally, if the first rising occurs very late in the cycle there may be no second rising. The lunar cycle moves back about eleven days every year, so that the critical dates actually occur, as far as there are records, at variable dates between mid-October and mid-December (Burrows 1955; Caspers 1984).

Each year, before spawning, the palolo generates a tail, often several times larger than its body, containing eggs and sperm. When the lunar timing is right the tails are released and undulate to the surface where they form a writhing mass, the segments bursting and releasing a milky, gelatinous soup of eggs and sperm. A rising lasts about four hours before dissolving away. Its occurrence is predictable, and in many Oceanic locations the palolo's breeding frenzy is interrupted by people who scoop up the tails before they burst and cook them as a culinary delight.

The palolo's appearance, although recorded in various places in Western Oceanic, carries less calendrical weight there than in Eastern Oceanic. Damon reports that on Muyuw (Woodlark Island) although the palolo (*milamala*) appears around the full moon of, usually, October, it is neither eaten nor used for any calendrical purposes (1982:229). Similarly, although Maegon on the south coast of New Britain

seem to be able to foretell with good accuracy the time of appearance of *Palolo viridis*, they have never thought of making a time marker of this striking phenomenon (Panoff 1969:158–59).

However, Hogbin (1938b:132) writes for Wogeo on the NNG coast that

the seven or eight days preceding the night of the full moon in late October or early November are deliberately avoided when fixing dates for festivals. On this one night of the year (or occasionally on the night following) that curious marine annelid, the palolo worm [*manuam*], rises to the surface of the sea for spawning. It is regarded –with reason – as a great delicacy, but the haul is so uncertain that a taboo is imposed beforehand on all save urgent tasks in an attempt to ensure the co-operation of supernatural forces in securing favourable conditions.

Mondragón (2004:294) writes that in Loh in the Torres Islands of northern Vanuatu the palolo rising is not simply a source of food but has elicited long-standing ritual.

Once a year at dawn (on November 15th by the Gregorian calendar), if the sky is clear, the people of Loh gather in Peliauluwo to observe the rising sun as it emerges just to the south of the outline of Ureparapara. This, they claim, is a signal that the Palolo shall emerge from the ocean later that day. Although there has never been a tradition of horizon-based astronomical observation in the Torres, Loh islanders have long employed the peculiar solar alignment as a key indicator of the emergence of the Palolo and the approach of the summer solstice.

Although there are obvious errors in linking the rising of the palolo with a fixed solar event rather than a more mobile lunar one, as Mondragón notes, the association is presumably a remnant of some earlier calendrical ritual which has now been mistakenly fixed into the western calendar.

Because the palolo worm is tied directly to the lunar cycle, it plays a substantial role in the naming of lunar months. Many languages with month names that include a palolo term have a pair of such names associated with the small and big risings and denoting successive months around October and November. A number (Sa'a, 'Are'are, Loh, Mota, Mwotlap) use the term for palolo to refer to a season that may extend for several more months, while in Kwaio its regular appearance marks the span of a year. The palolo occurs in month names in a few Western Oceanic languages (Kairiru *munuan*,¹³ Wogeo *manuan*, Yabem *igeyan*, Bing

¹³ Kairiru *munuan* is inferred to have meant 'palolo' because of its evident cognacy with Wogeo *manuan*. It is not glossed by Wivell (1981b).

yagyahag, Kilivila/Muyuw *milamala*), but the only reconstructed terms are PEOc **(o,u)du* ‘palolo worm’ and PCP **balolo* ‘palolo worm, season name’ (vol.4:212). Below is a list of SES and NCV palolo month names. From these it is clear that PEOc would have had a term meaning literally ‘big palolo’ referring to the month of the major rising, with a range of possible terms for ‘big’.¹⁴

SES:	Gela	<i>odu</i>	‘November, when the <i>odu</i> [palolo] comes’
		<i>odu lade</i>	‘October’ (<i>lade</i> ‘flower of nut tree’)
		<i>odu tina</i>	‘November’ (<i>tina</i> ‘big’)
SES:	Arosi	<i>ogu</i>	‘palolo’; ‘late October/November’
		<i>ogu raha</i>	‘December’ (<i>raha</i> ‘big’)
SES:	’Are’are	<i>oku rate</i>	‘September’ (<i>rate</i> ‘small bamboo used to stake yams’)
		<i>oku māʔa</i>	‘October’ (<i>māʔa</i> ‘very’)
		<i>oku tanu</i>	‘November’ (<i>tanu</i> ‘ladle’)
		<i>oku paina</i>	‘December’ (<i>paina</i> ‘big’)
SES:	Sa’a	<i>oku lade</i>	‘September’ (<i>lade</i> ‘flower of nut tree’)
		<i>oku mʷā</i>	‘October’ (<i>mʷā</i> ‘full’)
		<i>oku denu</i>	‘November’ (<i>denu</i> ‘ladle’)
		<i>oku paine</i>	‘December’ (<i>paine</i> ‘grow big’)
SES:	Kwaio	<i>odu</i>	‘palolo worm; year; span of a year’
		<i>buli-ʔi odu</i>	‘December-January’ (<i>buli-ʔi</i> ‘after’, ‘last of’)
NCV:	Loh	<i>n-ut</i>	‘palolo’; (≈ November)
		<i>n-ut lavə</i>	‘≈ December’ (<i>lavə</i> ‘big’)
		<i>n-ut wir</i>	‘≈ January’ (<i>wir</i> probably ‘rump’)
		<i>n-ut mələyehə</i>	‘≈ February’ (<i>mələyehə</i> ‘green’)
		<i>n-ut meməʔarə</i>	‘≈ March’ (<i>meməʔarə</i> ‘red’)
NCV:	Mota	<i>un yoyona</i>	‘≈ September’ (<i>yoyona</i> ‘bitter’)
		<i>un lava</i>	‘≈ November’ (<i>lava</i> ‘big’)
		<i>un werei</i>	‘≈ December’ (<i>werei</i> ‘rump’)
NCV:	Mwotlap	<i>n-in-yon</i>	‘≈ September’ (<i>yon</i> ‘bitter’)
		<i>n-in-yiy</i>	‘≈ October’ (<i>yiy</i> ‘small’)
		<i>n-in-lap</i>	‘≈ November’ (<i>lap</i> ‘big’)
		<i>n-in-wey</i>	‘≈ December’ (<i>wey</i> ‘rump’)

Semantically the Fijian languages agree with the languages above in reflecting PEOc ‘big palolo’. They also agree with Loh, Mota and Mwotlap in having month names meaning ‘small palolo’, suggesting that the latter occurred in PROc.

Fij:	Bauan	<i>balolo lailai</i>	‘October’ (<i>lailai</i> ‘small’)
		<i>balolo levu</i>	‘November’ (<i>levu</i> ‘big’)
Fij:	Wayan	<i>balolo sewa</i>	‘October’ (<i>sewa</i> ‘small’)
		<i>balolo levu</i>	‘November’ (<i>levu</i> ‘big’)

Like Fijian, Polynesian languages reflect PCP **balolo* ‘palolo worm’, but differ in replacing ‘small’ and ‘big’ with reflexes of PPN **muqa* ‘first’ and **muli* ‘last’. Palolo risings have not

¹⁴ Proto Banks–Torres month terms are listed and reconstructed in §11.5.5, Table 11.20.

been reported in Polynesia outside Tonga and Samoa, and month names have become divorced from their original reference and are now simply recurring names in a list. Even in Samoan the terms refer inexplicably to two non-palolo months.¹⁵

Pn:	E Futunan	<i>palolo muʔa</i>	‘August’ (<i>muʔa</i> ‘first’)
		<i>palolo muli</i>	‘September’ (<i>muli</i> ‘last’)
Pn:	Samoa	<i>palolo-mua</i>	‘July’ (<i>mua</i> ‘first’)
		<i>palolo-muli</i>	‘August’ (<i>muli</i> ‘last’)
Pn:	Tuvalu	<i>palolo mua</i>	‘August’ (<i>mua</i> ‘first’)
		<i>toe palolo</i>	‘September’ (<i>toe</i> ‘again’)
Pn:	Manihiki	<i>paroro-mua</i>	‘September’ (<i>mua</i> ‘first’)
		<i>paroro-muri</i>	‘October’ (<i>muri</i> ‘last’)
Pn:	Tokelauan	<i>palolo-mua</i>	‘June’ (<i>mua</i> ‘first’)
		<i>toe palolo</i>	‘July’ (<i>toe</i> ‘again’)
Pn:	Tahitian	<i>paroro-mua</i>	‘July’ (<i>mua</i> ‘first’)
		<i>paroro-muri</i>	‘August’ (<i>muri</i> ‘last’)
Pn:	Penrhyn	<i>paroro-mua</i>	‘July’ (<i>mua</i> ‘first’)
		<i>paroro-muri</i>	‘August’ (<i>muri</i> ‘last’)

What the listings above do not show is that the palolo month names were integrated into a system that included other aspects of the annual cycle, aspects which are sometimes mentioned in the notes attached to lists of names. Thus in Wogeo *manuan* also marks the beginning of *yavara* ‘north-west monsoon season’ (< POC **apaRat*, vol.2:129–130) while in Sa’a *oku peine* marks the *awalosi* (vol.2:130), again the northwest monsoon that brings the rainy season (Hogbin 1938b:137; Ivens 1927:397). Kilivila *milamala* marks the beginning of the new year, preceded by the yam harvest and followed by the burning, clearing, and planting of next year’s gardens (Damon 1982:231). Similarly in Loh, yams and other crops are planted around *nut* ‘palolo’ and poles are erected for the climbing vines around *nut lavü* ‘big palolo’. The series of *nut* month names continues with *nut melüyehe* ‘green palolo’ and *nut memüdarü* ‘red palolo’. According to Durrad (1939) and Alexandre François (fieldnotes) ‘green palolo’ is when the yam vines are in full green leaf and ‘red palolo’ is when they begin to turn red. Codrington (1891) records ‘small palolo’ as the season of maturity and ‘big palolo’ as the time for digging up the tubers. Thus his yam calendar runs a month behind those for Kilivila and Loh.

Although no POC term for palolo can be reconstructed (vol.4:212), there is enough evidence to suggest that POC speakers may have had at least a calendrical checkpoint named for the palolo.

11.4.4 Yam or taro cultivation

The one marker of the time of year that would have been consistently recognised by all members of a community was the stage of development of the staple crop, particularly the yam, *Dioscorea* spp., on which many communities depended for their survival (vol.3:258–261). Yams are seasonal, with planning essential for prior garden preparation and sowing. Once established, the developing vines are usually given a stake or frame for support. Leaves change colour and die off, indicating the appropriate time for harvesting. The yam crop

¹⁵ A set of Proto Nuclear Polynesian month names is reconstructed in §11.5.8.2.

effectively serves as a kind of time line along which various points may be identified to mark a particular occasion or event. Thus, almost the whole life of a community, the times for greatest gardening activity, for rituals, for feasting, for trading, would be dependent on the timing of the staple crop. So it is not surprising that month names based on the various stages of yam cultivation, are common in Oceanic languages such as Kwaio (Table 11.3), Mota (Table 11.4), Fijian (Table 11.5) and Tongan (Table 11.2), although they do not extend beyond Tonga, which lies at the eastern extreme of cultures practising yam cultivation. Tongan itself, however, has one of the most articulated (or perhaps best described, by Collocott 1922) sets of agriculturally based month names.

At the opposite extreme, there are almost no Western Oceanic month names that directly denote stages of yam cultivation. However, certain Sinaugoro names refer indirectly to yam growing (Table 11.16 in §11.5.2.2). The term *y^wa-koli* ‘April approx.’ means ‘month of no food’ (*yue* ‘moon, month’, *koli* ‘finished’), referring to the time of hunger, while *y^wa-yaniyani*

Table 11.2 Tongan month names that allude to yam cultivation

Month name	Word glosses	Accompanying notes
12-01 <i>liha-mua</i>	‘early nit’	The first planted yams are forming roots. Little protuberances or roughnesses, like nits, appear on the heads of the roots.
01-02 <i>liha-mui</i>	‘late nit’	All the yams, late as well as early, show the little nit-like protuberances.
04-05 <i>fakaafu-moui</i>	‘putting forth living shoots’	Vigorous growth with healthy suckers and shoots appearing on many plants.
05-06 <i>fakaafu-mate</i>	‘putting forth dead shoots’	Suckers are now not so vigorous, and dead tops of the yams appear.
06-07 <i>hiliŋa-kelekele</i>	‘laying earth’	The precise meaning is not clear.
07-08 <i>hiliŋa-meā</i>	‘laying <i>meā</i> ’	Time to dig and store the remaining yams. The meaning of <i>meā</i> is unclear in this context.
09-10 <i>fuufuunekinaŋ</i>	‘full leafiness’	The yams planted around June and July are now in full leaf.
11-12 <i>tanu-maŋa</i>	‘throwing soil on branch, fork’	A growing yam is likely to project slightly above the ground. Frequently a small yam grows down from the same stem thus making a branch or fork on the head of the root. In this month if the head of a yam appears forked (<i>maŋa</i>), the gardener banks it over with soil (<i>tanu</i>).

‘May approx.’ means ‘month of eating’ (*yaniyani* ‘eating, food’) heralding harvest after *y^wa-koli*.

Other month name sets that refer to agriculture are from the SE Solomons and Vanuatu, and refer to stages of yam cultivation. Table 11.3 lists Kwaio (SES) month names that refer to such stages.

Loh (NCV) month names are set out in Table 11.20 in §11.5.5. Here the colour terms in *n’ut mäləyehə* ‘green palolo (January)’ and *n’ut memətarə* ‘red palolo (February)’ refer to the leaves of the yam, not to the palolo.

Codrington (1891) lists a set of alternative month names in Mota (Table 11.4) which clearly refer to gardening activities, and these are echoed in the limited data available from central and southern Vanuatu. Thus Atchin (Malakula) *hil-hilen* ‘name of a feast’, literally ‘digging up’ and *ruwan* ‘clearing (forest)’. Two other Atchin month names echo the Sinaugoro

Table 11.3 Kwaio month names that allude to yam cultivation (Keesing 1975)

Kwaio month name	Word glosses	Accompanying notes
01 <i>labaniŋa</i>	‘staking plants’	roughly January and February
03 <i>kai-galogalo</i>	<i>kai</i> ‘yam’, <i>galo</i> ‘twist’	yams are climbing on trellises
05 <i>luŋufi-luma</i>	<i>luŋufi-</i> ‘search for’, <i>luma</i> ‘house’	segment of year when yams are ripening
07 <i>māŋe-falisi</i>	<i>māŋe</i> ‘section, group, part, portion’, <i>falisi</i> ‘yam harvest’	the beginning of the yam harvest
08 <i>ŋeli-ladāŋi</i>	<i>ŋeli</i> ‘dig’, <i>lada</i> ‘dig with a stick’	August, September and October
11 <i>kai-laŋaŋa</i>	<i>kai</i> ‘yam’, <i>laŋaŋa</i> ‘garden’	yams are ready to produce first shoots, roughly November and December

Table 11.4 Mota yam cycle ‘months’

Mota month name and gloss	Codrington’s definition	POc ancestor
04 <i>tara</i> ‘chop’	‘chopping down trees’	* <i>taRaq</i> ‘adze’, vol.1:90
05 <i>rakasag</i> ‘turn upward’	‘turning over and piling up cleared vegetation’	
06-07 <i>siŋ</i> ‘burn (VT)’	‘burning cleared vegetation’	* <i>sinaR</i> ‘shine’, vol.2:157
08 <i>nur</i> ‘dig a hole’	‘digging yam holes’	
09 <i>riv</i> ‘plant (V)’	‘planting’	
10 <i>tau matua</i> ‘season’ + ‘ripe’	‘season of maturity’	* <i>taqun</i> , §11.2 + *[<i>ma</i>]tuqa ‘old’, vol.2:211
11 <i>yoro</i> (<i>yoroyoro</i> ‘cutting of yam vines’)	‘dig (tubers up with digging stick)’	
12 <i>um^wa</i> ‘clear away growth from a garden, the first stage in preparation’	‘clearing garden’	* <i>quma</i> ‘garden’, vol.1:117

Table 11.5 Terms in Wayan Fijian that denote stages of yam cultivation

Month name	Word glosses	Accompanying notes
04-05 <i>vula i keli-keli</i>	<i>keli</i> ‘dig’	season for harvesting root crops
04-05 <i>vula i visa-visa</i>	<i>visa</i> ‘have the leaves wither and die after maturity’	harvesting season for yams
07-11 <i>vula i lau-lau</i>	<i>lau-lau</i> ‘plant’ (v)	season for planting
10-03 <i>vula i k^wadre-k^wadrē</i>	<i>k^wadre</i> ‘sprout, shoot up’	growing season
11-03 <i>vula ōola</i>	<i>ōola</i> ‘grow’	season of (crop) growth

pair above: *boŋ hoal wele* ‘days of little food’ and *boŋ hoal lep* ‘days of much food’. Crowley (1998:154) notes that in Sye (SV) some month names refer to the yam cycle. They consist of *mov* and a verb. Thus *mov-yorovoh* (August) where *yorovoh* means ‘s/he cleared a garden site’ is ‘month of clearing a garden site’. Similarly *mov-yerevei* (September) ‘month of trimming’, *mov-yowi* (November) ‘month of planting’.

There are terms in Wayan Fijian (Table 11.5) that look suspiciously like month names as they begin with *vula* ‘moon, month’, but it is clear from the period lengths they denote (in the leftmost column) that they here mean ‘season, time of year’, as Pawley & Sayaba (2022) note. The same is probably true of the similar expressions in Bauan Fijian in Capell (1941).

11.4.5 *Canarium* arboriculture

Canarium arboriculture was practised in New Guinea probably for millennia before the arrival of Oceanic speakers. There are numerous tree species of the genus *Canarium*. Those grown by Oceanic speakers are discussed and terms for them reconstructed in vol.3. POc *[ka]ŋaRi referred to *C. Indicum* and probably was also used as the generic term (vol.3:312–317). The edible fruit is often called the canarium nut or canarium almond.¹⁶

Canarium almonds continue to be highly valued in Near Oceania and Vanuatu because they are good eaten raw or smoked, and pounded almonds are an essential ingredient in much appreciated oily puddings. As a result, their annual harvest in July and August has given rise to various ceremonies and rituals (vol.3:314), and these have come to mark certain months of the year in various communities in Near Oceania.¹⁷

The most extreme instance of canarium-based month names in the data is in Mangap (NNG) from Bugenhagen & Bugenhagen 2007a, listed in Table 11.12 in §11.5.1.3. The ethnographic definitions shown in the “Accompanying notes” column of Table 11.12 all refer to canarium (Tok Pisin *galip*) trees.

The Roviana month names in 11.4.5 are from Waterhouse’s (1949) dictionary. Only *muzara* ‘approx. October’ is assigned to a western month. The month *haele* can be assigned to July–August as its gloss (‘climb’) and the accompanying note indicate that it is the time of the canarium harvest. The month *lomu kubata* must also be somewhere around harvest time.

Waterhouse’s definition of *okete* ‘*Canarium*’ reads

okete, a tree [*Canarium* sp.]. The ripening, gathering and storing of the nuts were important features in Roviana life, and several of the months take their names from various phases of the *okete* cult.

Not much appears to be known about the Roviana canarium cult, but the month names in 11.4.5 indicate that canarium was sacrificed at *hope*, ‘the general name for sacred places, especially where skulls are placed’ (Waterhouse 1949). There is plentiful archaeological evidence of canarium in Roviana shrine excavations (Aswani & Sheppard 2003). A perhaps similar cult is recorded on neighbouring Choiseul by McClatchey et al. (2006). About canarium, they write:

¹⁶ ‘Canarium almond’ is technically more appropriate, as the canarium ‘nut’ is botanically not a nut but a drupe, like the almond. A drupe is a seed contained in a hard covering that makes up the ‘stone’ of a stone fruit like the peach (vol.3:312).

¹⁷ We have found no instances in Vanuatu, but our collection of Vanuatu calendars is not well distributed and in some instances not well understood (see §11.5.5).

Its usage so permeated peoples' ceremonial and dietary lives that some ancient and special relationship is connotated particularly through usage as a sacrificial offering and as a principal symbol of land tenure and authority ... The uses and interactions with Canarium by the Babatana and Ririo are extensive and permeate most aspects of traditional life. It is difficult to imagine these cultures in the absence of Canarium.

Various month names referring to canarium almonds in other Oceanic languages are listed in Table 11.7. These mostly denote the time when the canarium almonds are first ready for harvesting, and the geographic distribution of these names further attests to the cultural importance of canarium.

No reconstructions of month names involving the canarium almond can be made, even at quite local levels, but the data and discussion in this subsection indicate that in cultures of Near Oceania the canarium almond is more important than any other food stuffs except the yam (§11.4.4), and that it has (or had, traditionally) a significance that goes beyond nutrition. In the western Solomons there was a canarium cult. Whether or not the naming of months for

Table 11.6 Roviana month names

Month name	Word glosses	Accompanying notes
<i>haele</i>	'climb'	the climbing month (i.e. for canarium almonds)
<i>h<in>aele</i>	<in> NOMINALISER + 'climb'	the season when women may eat canarium almonds
<i>lomu kubata</i>	<i>lomu</i> 'fall' <i>kubata</i> 'black ripe canarium'	the name of a month
<i>muzara</i>	'crush'	approx. October
<i>m<in>uzara</i>	<in> NOMINALISER + 'crush'	month name: men then commence to eat smoked canarium almonds
<i>susuni</i>	<i>suni</i> 'prick'	month name; the season for general offering of smoked canarium almonds at a <i>hope</i>
<i>tome-lajono</i>	<i>tome</i> 'hide' <i>lajono</i> placename	month name: canarium almonds are then packed in special baskets, and put away to be smoked. Some are taken to the <i>hope</i> of Langono.

Table 11.7 Oceanic month names that refer to the canarium almond

Month name	Word glosses	Accompanying notes
Kove (NNG) (Chowning 2009)		
07 <i>kokopalai</i>	<i>koko</i> 'cooked, eaten', <i>palai</i> 'canarium almond'	about July?
Maringe (MM) (White et al. 1988)		
07 <i>posa-sit^ha</i>	<i>posa</i> 'arrive', <i>sit^ha</i> 'Canarium'	time of year around July at which almond nuts first mature
08 <i>finoya</i>	'year'	time of year around July and August when almond trees (<i>sit^ha</i>) are full of ripe nuts; conceived as completion of yearly cycle

Kwaio (SES) (Keesing 1975)		
09 <i>faʔamada</i>	<i>faʔa-</i> CAUSATIVE; <i>mada</i> ‘ripe’	heavy rains in season when canarium almonds are ripening (September)
Sa’a (SES) (Ivens 1927)		
08 <i>hure’i lade</i>	<i>hurei</i> ‘emerge’, <i>lade</i> ‘form’	emerge and form (of canarium almond); August, winds S.E.
08 <i>ʔali maelo</i>		the month of August, the time of ripe nuts
Owa (SES) (Mellow 2014)		
<i>meotogo ni anjari</i>	<i>anjari</i> ‘Canarium’	3rd lunar month, when the galip nuts ripen

events in the canarium cycle reflects an earlier canarium cult, is unknown. However, the cultural significance of the canarium is widely enough spread in Near Oceania to suggest that if there was a term in POc-speaking communities labelling a lunar month around June, July and August it was likely to be one that referred to the ripening or harvesting of canarium almonds.

11.4.6 Wild plants

The Maenge calendar (Table 11.11, §11.5.1.2) represents the most extreme instance of months being named for wild plants, but such names are fairly common across Oceania. One of the most widespread is the flowering of the coral tree or erythrina (POc **rarap* ‘*Erythrina* spp.’, POc **baR[baR]* ‘*Erythrina variegata*’; vol.3:158–161), with distinctive bright orange-red spiral flowers at the end of each branch. It occurs in month names in Maenge (NNG), Sinaugoro (PT; Table 11.16) and Mota (NCV; Table 11.20). The tree is often a salient feature in and around Melanesian coastal villages, and its flowering is often taken as an indicator that it is time to plant yams. Other references to the erythrina are less specific (or less well understood). Two NCV languages of Malakula refer to the erythrina. They are Avava, which has the name *ivlemial* for November, glossed ‘red, *Erythrina variegata*’ by Crowley (2005), and Atchin, for which Capell & Layard (1980) give the month names *rere tsar* ‘the leaves of the erythrina are falling’ (*tsar* ‘erythrina’) and *ni-rere* ‘[the erythrina is] red’.

Also featuring in month names are two tall grass species. In Western Oceanic this is usually *Saccharum edule* (PWOC **tabuqaR*, vol.3:301), known in Papua New Guinea as *pitpit*, a tall grass related to sugarcane (*Saccharum officinarum*). It is cultivated for the unopened inflorescence at the tip of the cane, which is harvested as a seasonal vegetable that is either roasted in its leafy sheath or cooked in coconut cream with other vegetables. The other grass is *Miscanthus floridulus* (POc **pi(y)uj*, vol.3:253), a reed-like grass which grows on dry hillsides, to about 2 metres tall.

Table 11.8 shows that the month names that refer to the two grasses are more or less in complementary distribution, with *Saccharum edule* in NNG and *Miscanthus floridulus* in SES, Vanuatu and Fiji. The event that is marked across the languages in Table 11.8 is the flowering of the grass, usually in April or May (Bariai, Yabem, Arosi and Wayan Fijian). It is at least plausible to suggest that this month was also labelled in this way in POc, and that

Table 11.8 Month names involving tall grasses in Oceanic languages

Month name	Word glosses	Accompanying notes
Bariai (NNG)		
04 <i>tabual aea laoe</i>	<i>tabual</i> ‘ <i>S. edule</i> , eaten’, <i>laoe</i> ‘a fruit’s time of ripeness’	season characterised by good weather near the month of April when <i>S. edule</i> ripens
Mangseng (NNG)		
12 <i>tovu=po epei ko</i>	<i>tovu=po</i> ‘ <i>S. edule</i> season’, <i>epei</i> ‘half’, <i>ko</i> ‘there’	middle of <i>S. edule</i> season
Yabem (NNG) (Streicher 1982)		
05 <i>dabu?-benoŋ</i>	<i>dabu?</i> ‘ <i>S. edule</i> ’, <i>benoŋ</i> ‘calm’.	the time between the dry and the rainy seasons; the time of ripening of <i>S. edule</i> and abatement of the NW monsoon; the resulting calm is/was ascribed to <i>S. edule</i> hulls being thrown into the sea
Sinaugoro (PT): see Table 11.16		
Sa’a (SES) (Ivens 1927)		
09 <i>ōku rate</i>	<i>ōku</i> ‘dry season’, <i>rate</i> ‘ <i>M. floridulus</i> ’	3rd lunar month, when the galip nuts ripen
Arosi (SES) (Fox 1978)		
05 <i>raŋisi m^waō</i>	<i>raŋisi</i> ‘rain on’, <i>m^waō</i> ‘grass sp.’	month when this grass flowers
Mota and Mwotlap (NCV): see Table 11.20		
Anejom (SV) (Lynch 2001b)		
03 <i>niau</i>	<i>niau</i> ‘reed sp.’	flowers in March
08 <i>niyeŋ-ayen</i>		bitter wild cane
Wayan (Fij) (Pawley & Sayaba 2002)		
04 <i>vula i ŋasau</i>	<i>vula</i> ‘moon, month’, <i>ŋasau</i> ‘ <i>M. floridulus</i> ’	end of hurricane season, when <i>ŋasau</i> , reeds, are in flower; season for harvesting yams

terms for *S. edule* were replaced by terms for *M. floridulus* as Oceanic speakers moved eastward.

11.4.7 Weather patterns

The weather cycle of Pacific communities is dominated by the contrast between the wet and the dry seasons. In the dry season, typically from May to October, the southeast trades (POc **raki*) blow, in the wet the northwesterlies (POc **apaRat*), from December to March, and the sea is rough (vol.2:131–135). Between the seasons are the doldrums.

Month names in some languages make fairly simple reference to the seasons. Thus in Kove (NNG) May is called *hai kanŋaŋa*, presumably the start of *hai* (< POc **raki*), August simply *hai*, and the period from September to November *sua-hai* (Chowning 2009). Sinaugoro and

Motu (PT) each have a month *lailai*, but in Sinaugoro it denotes June, in Motu March. Sinaugoro also has the term *lai-toya* ‘quiet *lai*’ for the June–July period.

‘Are’are (SES) has several month names that refer to the dry, calm season *ōku*: *ōku rate* ‘*Miscanthus* dry season, September’, *ōku māʔa* ‘very dry season, October’, *ōku paina* ‘big dry season, December’ (Geertz 1970).

Fewer languages have month names reflecting POc **apaRat*. Those that do are on the south coast of Papua: Lala *avala* ‘thirteenth month’ (Clunn & Kolia 1977), Sinaugoro *avala-kavata* and *raba-avala*, both labels for December and presumably meaning ‘start of *avara*’.

Some languages refer directly to rain, e.g. Tongan (Pn) *vai-mua* ‘early water, February–March’ and *vai-mui* ‘late rain, March–April’. Others refer to the rainy weather a little more obliquely, for example, Arosi (SES) *hura-doa* ‘blind month (because windy and rainy), April’ (*hura* ‘month’, *doa* ‘blind’); *waru-ahe* ‘all streams flooded, May’ (*waru* ‘stream’; *ahe* ‘flooded’); *waro ŋaŋara* ‘violent winds, August’ (*waro* ‘month’, *ŋaŋara* ‘rough (of weather)’).

Table 11.9 Yabem month names that allude to the weather

Month name	Word glosses	Accompanying notes
01 <i>kəm-siŋ</i>	<i>kəm</i> ‘field’, <i>siŋ</i> ‘sword’	The sheaths of sago leaves (<i>labi-siŋ</i>) were used by rain-makers for making rain-magic.
02 <i>peŋgɔʔ-àwà-àndaŋ</i>	<i>peŋgɔʔ</i> ‘bird sp.’, <i>àwà</i> ‘voice’, <i>àndaŋ</i> ‘hot’	There is no rain and the cry of the <i>peŋgɔʔ</i> bird can be heard during the dry season.
04 <i>niplema</i>	<i>nip</i> ‘coconut palm’, <i>lema</i> ‘arm, hand’	The NW monsoon turning to the north blows so strongly that it often shakes the fronds from the palms, much to the despair of the women cooking their meals in front of their houses under the palms of the village square.
05 <i>dabuʔ-benoŋ</i>	<i>dabuʔ</i> ‘wild sugarcane’, <i>benoŋ</i> ‘calm’	The time between the dry and the rainy seasons: it is getting cooler; wild sugarcane is ripening; the NW monsoon is abating. The resulting calm was ascribed to the wild sugarcane hulls being thrown into the sea.
08 <i>buani</i>	<i>bu-ŋa-dani</i> ‘water its-thicket’	The height of the rainy season.

The Sa’a (SES) term for a month around August is *ro hutuhuto* ‘the two foam’, obviously a reference to rough seas, but the allusion of *ro* ‘two’ in this context is not known.

One of two languages of communities that undertook long-distance voyaging refer to the odd month with a reference to this. Thus Motu *veadi hiri-hiri* ‘July’ refers to the *hiri*, the annual trading voyage westward to the Elema communities of the Papuan Gulf, powered by the southeast tradewind. Arosi *ʔariha* ‘January’ is a nominalisation of *ʔari* ‘come, go’ and denotes the month ‘when voyages are made’ at the beginning of the northwesterlies season.

Months in Yabem (Table 11.9) show poetic allusions to phenomena associated with the seasons. The numbers in the leftmost column are approximations to the lunar months denoted. The use of metonymic allusion is not restricted to Yabem. It is found in Mangap (NNG) (Table 12) and the Torres and Banks Islands languages (NCV) (Table 11.20). It was probably widespread, and perhaps many of the month names we cannot gloss are due to the fact speakers have forgotten their meanings or that researchers have not collected them.

11.4.8 Land crab migration

Apart from the palolo, the only animal mentioned in month names across a range of languages is the land crab. Pawley (vol.4:173) writes:

The large land crabs, *Cardisoma* spp., are an important food source in many Oceanic communities and there are often several terms relating to their growth stage and spawning behaviour. For example, Foale (1998) reports that in west Gela (central Solomons) females of the abundant land crab *Cardisoma hirtipes* [*Discoplax hirtipes*] migrate to the beach at certain phases in the lunar cycle in the wet season, from October to December, releasing zoea larvae from their egg mass (*lami*). ... Three weeks before doing this they migrate to the sea to immerse themselves, an event known as the *sapa toga* (thousands go seawards). This is the preferred time to take them because they are fatter. In Fiji, Wayans refer to the mass migration of *C. hirtipes* as *vui*.

Pawley notes elsewhere (2022) that spawning time of land crabs (*tubā*) in Waya ‘happens at high tide on two or three evenings in December, January and February’. Hence Wayan Fijian labels the season from December to February *vula ni vūsē* (*vūsē* ‘have or carry eggs or spawn’).

Panoff (1969:157) notes that in Maenge (NNG), the first month of the wet season (end of April to end of May) is called in some villages *goga*, the name given to ‘land crabs [which] leave the bush at night and gather on the beach where they are extensively caught by torch-light’.

Roviana (MM) has four month names, roughly October to February, that allude to the *yarumu* ‘land crab’: *yarumu kara* ‘month of the sea crabs’; *yarumu leana* (*lea-na* ‘good’) ‘[month] when crabs move to beach [to spawn – MR]’; *porana hite* (*porana* ‘poor condition’, *hite* ‘small’) ‘[month] when crabs are going off in condition, but some are still good; *porana lavata* (*lavata* ‘big’) ‘[month when] crabs are no good for food’ (Waterhouse 1949)

Fox (1955) defines Gela (SES) *kakau* (k.o. land crab) as ‘the name of the month of December when crabs come down to the sea to spawn’ while the following month, *tivu popolo*, lit. ‘look for [crabs] in covering’ refers to the time ‘when crabs return from the sea and hide in bushes’.

We have not been able to ascertain why the Maenge month name is attributed to May whilst the remainder centre on December.

11.5 Lunar ‘months’

Lunar months were a useful way of planning for forthcoming festivals or intended trading voyages, or counting off the period of time during which a taboo applied to individuals following a birth or death. Ross quotes an elderly Takia (NNG) speaker describing the timing of a planned event (vol.2:288):

All right, and so they waited – in the old times they didn’t know about years. They always kept time by the moon. Thus, when they wanted to set a time – when they wanted to set a time, they mentioned the month. But they also didn’t know the names of the months. The moon waned and waxed, that’s all. They would say the months in this way: they would count the months with their hands, they would count them with their fingers. And then they would say, the month of the little finger will come and will die, the next finger will die, and the next and in the fourth months the man and woman will

get married. They said this – well – with regard to their saying that they would marry in four months ...

Ross saw in this a striking similarity with Whorf's description of the Hopi conception of time. While westerners see time as if it is a physical entity, made up of measurable, countable units (minutes, hours, days of the week, months of the year), the Hopi do not make this extension. Ten days cannot be imaginatively experienced by the Hopi as if they were ten men. "[They] experience only one day, today; the other nine (or even all ten) are something conjured up from memory or imagination" (1956:139).

As Whorf describes it (1956:148):

The count [of days] is by *ordinals*. This is not the pattern of counting a number of different men or things, even though they appear successively, for, even then, they *could* gather into an assemblage. It is the pattern of counting successive reappearances of the *same* man or thing, incapable of forming an assemblage.

Like the Hopi, the elderly Takia speaker was counting successive visits of the same moon. Successive passings of cycles could be counted but *they could not be aggregated into a countable unit* forming a solid block of time. So although it is perfectly acceptable for Oceanic speakers to name different parts of a day (as when the sun is low in the sky) or a month (as when the moon appears as a slim sliver) or a year (as when the yams are sprouting), *they did not add separate parts together to form a whole, or see a period of time as a whole that could be neatly subdivided*. This conceptualisation applied to all astronomical cycles, whether daily, lunar or annual.

In spite of the elderly Takia speaker's claim that "they didn't know the names of the months. The moon waned and waxed, that's all", we have gathered lists of apparent lunar month names from more than thirty languages from Western Oceanic, the SE Solomons, Vanuatu, Micronesia, Fiji and Polynesia. These lists consist of, usually, 12 or 13 names for or references to natural features that mark roughly sequential points or periods of time in an annual cycle and reflect the complex conceptual system of astronomical, meteorological, ecological and horticultural checkpoints that made up the annual cycle in traditional Oceanic communities.

The lists are varied. While some listed names are direct references to or descriptions of events (see e.g. Sa'a, [Table 11.19](#)), others are largely untranslatable (e.g. Kilivila, [Table 11.13](#); Nakanai, [Table 11.17](#)). Some are strictly local references (e.g. Motu, [Table 11.15](#)). Still others refer to events through metaphors or allusions to shared narratives (e.g. Mangap-Mbula, [Table 11.12](#); Yabem, [Table 11.9](#)). Some languages, like Sinaugoro ([Table 11.16](#) in §11.5.2.2) and Mota ([Table 11.4](#) in §11.4.4, [Table 11.20](#) in §11.5.5) have many more month names than can fit in a year, and it seems that some or all months have alternative names depending on the checkpoints the speaker is focussed on. Indeed, the considerable variation in month names across Oceanic languages and even among closely related languages (e.g. Sinaugoro/Motu/Lala in §11.5.2.2; SE Solomonic in §11.5.4; northern Vanuatu in §11.5.5) suggests that alternative names have long been the norm.

It is significant that named natural features have a central focus but no precise beginnings and endings, so it is impossible to say when one period ends and another begins. There may be periods of overlap or gaps. This means that even if individual names for times of year were fixed, they could not be aggregated into a solar year. No doubt this explains the response of local speakers that they could not provide memorised lists when requested (in the Trobriands,

§11.5.2.1.1, in Fiji, §11.5.6, in Tahiti, §11.5.8.1). Where neat sets of names exist, these are assumed to result from attempts to fit them into a western time frame

It is easy to read these lists of names as loosely comparable to our calendar months and assume because of their number that the names total a year. But this represents the intrusion of a western concept of time. Oceanic ways of talking about time may be compromised both by speakers' own efforts to interweave the old system with the western one and by descriptions from ethnographers who have interpreted what they saw in terms of western concepts. The number of named lunar months in a list evidently had little or no place in Oceanic speakers' conceptions of time. The fact that they are often organised into lists of 12 or 13 is a reflection of a western need to associate activities with western calendar months while also offering local speakers a link to a full moon or a lunar cycle if required. Theoretically, the number of names local speakers could use to identify points of time in a solar year is limited only by local knowledge.

In this light it is unsurprising that a set of POc month names cannot be reconstructed, even though it is reasonably clear from §11.4 which checkpoints were of importance to early Oceanic speakers. There is evidence, however, that in some places, related communities share similar month names, permitting low-level reconstructions. Examples include Loh, Mota and Mwotlap in the Banks Islands of northern Vanuatu, the Chuukic languages of Micronesia, and Polynesia. It needs to be stressed that the results cannot be regarded as a fixed system. Names cannot be combined to form a solar year. Lists will always include a degree of flexibility to ensure that descriptive names match natural features, and allow alternative names to be substituted as desired.

The following collections of month names are included with some discussion in an attempt to identify any systematic approaches.

11.5.1 North New Guinea

11.5.1.1 *Wogeo*

The Wogeo language is spoken on two of the Schouten Islands, Wogeo and Koil, located off the north coast of PNG. Table 11.10 shows Wogeo month names, pieced together from Hogbin (1938b:138–140). However, it is clear from Hogbin's comments that the periods thus named may overlap.

Table 11.10 Wogeo month names

Month name	Comments and glosses	Month name	Comments and glosses
01	<i>rakum</i> 'land crab'	07-08	<i>wasek</i> harvest of an unidentified nut with purple husk
02	<i>kasawara</i> moon of Bariat	09	<i>kama lava</i> 'big southeast trade wind'
03	— moon of Dap	10	<i>kama lig</i> 'little southeast trade wind'
04	— moon of Bagiau	11	<i>manuan</i> 'palolo worm'
05	<i>wabu</i> [canarium] almond harvest	12	<i>rakakajarak</i> —
06	<i>kame</i> [canarium] almond harvest		

The ‘washing the Pleiades’ ceremony, mentioned in §11.4.2.1, was performed separately by each of four groups of villages. It is performed by the most northerly group in Bariat village in February “during the month when the Pleiades hang over this part of the island at sunset”, by a second group a month later “when the stars have moved round and the Pleiades are at sunset over Dap [village]”. A third group follows in April when the Pleiades are at Bagiau village, and a fourth group with their own month, at a time not noted by Hogbin. The months of, roughly, February, March and April are simply named the moons of Bariat, Dap and Bagiau. The moon of Bariat is also called *kasawara* (no gloss given). Where he does give the local names, Hogbin glosses some and comments on others. We have added one gloss, as *rakum* evidently reflects POc **rakum(u)* ‘land crab’ (vol.4:173–174).

It is noteworthy that this is not primarily a horticultural calendar, as the staple crops, taro and bananas, are grown all year round, and so do not provide checkpoints. Instead, the calendar is based on various events in the natural environment. The months that refer to the Pleiades (§11.4.2.1), to the harvesting of canarium almonds (§11.4.5) and *wasek* nuts and to the southeast trade winds (§11.4.7) are anchored in the solar, not the lunar, year. Lunar-related events are the spawnings of (probably) the land crab (§11.4.8) and the palolo worm (§11.4.3).

11.5.1.2 Maenge

Maenge (a dialect of Mengen, NNG) is located on the southeast coast of New Britain. Panoff’s (1969) listing of the months is shown in Table 11.11.¹⁸ The leftmost column numbers the western months, but each Maenge month begins a few days earlier. This is the only calendar in our data in which almost every month name reflects the flowering of a wild plant (cf §11.4.6). Panoff writes:

despite the continuous character of the process and the obvious impossibility of recognising clear demarkations between the stages, flowering always remains the final criterion and accounts for some calendar variations from village to village. Moreover, there are unavoidable discrepancies between time reckoned in lunar and in botanical terms whenever flowering happens to be late. (1969:156)

Table 11.11 Maenge month names

	Month name	Gloss	Notes
01	<i>vega pana</i>	between two flowering periods	This period corresponds to no flowering time, but bridges the gap between the previous ‘month’ and the following one. Its duration is variable—15 to 30 days—depending on the length of the previous and next months. Felled bush trees are burnt in the new collective gardens. Festivals happen.
02	<i>tolova e volau</i>	<i>Evodia elleryana</i> (<i>volau</i>) flowers	The second driest month of the year. The best varieties of taro are planted in the new collective gardens. The last festivals of the cycle take place.

¹⁸ Panoff’s notes are lightly abbreviated. He glosses *ulasi* as ‘small unidentified fish’, but Madden’s (2002) more precise gloss is used in Table 11.11.

03	<i>tolova e sina</i>	the <i>sina</i> flowers	The <i>sina</i> is an unidentified tree which differs from the <i>volau</i> in the size of its leaves. The driest month of the year. There may be food shortage as a result of both drought and the huge consumption of taro through the previous months. Pig fences are erected around the collective gardens.
04	<i>tava</i>	<i>Alphitonia incana</i> flowers	<i>Tava</i> corresponds to a significant rise in the curve of rainfall (the average figure is 250 mm, double that in the previous months). In most gardens the taros become available that were planted about the time the Pleiades disappeared.
05	<i>oalo kuna</i>	vine head (= vine flower)	The name refers to two climbers, a <i>Calamus</i> species and <i>Zizyphus papuanus</i> . This is the first month of <i>vinte</i> (the wet season). Some people start introducing yams into their diet. Land crabs (<i>goga</i>) leave the bush at night and gather on the beach, where they are extensively caught by torchlight. Hence this month is called <i>goga</i> in Pomio and Sali villages.
06	<i>piri a kamana kena</i>	flowers appear on one branch of <i>Erythrina indica</i>	The erythrina is shedding its leaves, and flowers appear on a few twigs. The northern solstice approaches. The last taros are planted before the heaviest rains.
07	<i>piri manajana</i>	the true flowering time of <i>Erythrina indica</i>	The erythrina has lost its leaves and is entirely covered with flowers. This and the following month are the wettest months of the year.
08	<i>kereje kemera</i> OR <i>kereje kau soali</i>	<i>Pterocarpus indicus</i> has shed all its leaves and is bare	Throughout this month the weather is so bad that 'nobody knows who may have died in the neighboring village as communication is too difficult.'
09	<i>kerenge manajana</i>	<i>Pterocarpus indicus</i> is flowering	The rains decline, and the sky is less cloudy. Yams cease to prevail in the Maenge diet. Travel from village to village is resumed.
10	<i>ulasi</i>	a small fish, the bluestripe squirrelfish (<i>Sargocentron tiere</i>)	A transitional month between <i>vinte</i> and <i>kaepâ</i> (wet and dry). Squirrelfish swarm in shallow waters near the beach.
11	<i>paugala ka siana</i>	<i>Albizzia falcata</i> is pregnant	The <i>Albizzia</i> is budding. It is the first month which definitely belongs to <i>kaepâ</i> (the dry season). Preparations for the great festivals of the dry season are well under way.
12	<i>paugala enga valipola</i>	the flowers of <i>Albizzia falcata</i> burst	The southern solstice approaches and the rains are getting very scarce. The palolo make their appearance on the surface of shallow waters for one or two nights and are skimmed off as delicacies by the inhabitants of Malakuru and Pomio. Many villages start their festivals. Usually large sections of bush are cleared for preparing the collective gardens, the harvest of which is designed for the following year's festivals.

This unit of time follows the phases of the moon very erratically. A *vega matana* 'tree category' ~ 'month' may last for as few as 15 days or for as long as five weeks. The Maenge

turn their attention to the phases of the moon only to secure a correlation with the tree behaviour. Nevertheless the system is said to work satisfactorily with a margin of uncertainty of less than one month. Perhaps it is precisely the flexibility of the system which has allowed the Maenge not to add a thirteenth month to their calendar, as the observation of the shifting sunrise on the horizon through the year should have urged them to do if their monthly unit had been exclusively lunar (Panoff 1969:156).

The two seasons, *vinte* ‘the wet’ and *kaepa* ‘the dry’ (§11.3), each have six lunar months, and are separated by *ulasi*, the one month that has a fish name.

The Maenge are able to foretell palolo risings (§11.4.3) and also are aware of the appearance and disappearance of the Pleiades (§11.4.2.1), but Panoff does not recognise either of these events as a calendrical marker (1969:156, 158).

11.5.1.3 Mangap-Mbula

The Bugenhagens’ listing of lunar month names in Mangap-Mbula (Vitiav Straits:NNG) (2007a:420; Table 11.12) focusses almost solely on the annual cycle of the canarium almond crop (§11.4.5), although their accompanying notes are necessary to make that interpretation. For example, *man^mbule mamāza* ‘the bird’s anus is dried up’ makes little sense without the accompanying note. ‘Galip’ is the Tok Pisin term for the canarium tree and almond. The ‘Word glosses’ represent our best attempt to gloss the component parts of the month names.

The one interpretable month name that refers less directly to canarium almonds is *ⁿdām-bula* ‘December’, where the first element reflects *ⁿdāma* ‘Pleiades’ (in the Marile dialect of Mangap this month name is simply *ⁿdāma*), but the Bugenhagens note that this marks budding of the canarium (and thus the beginning of the cycle).

11.5.2 Papuan Tip

11.5.2.1 Kilivila and Muyuw

The calendars of closely related Kilivila and Muyuw provide a rare example of an apparently fixed list of names, to some extent divorced from the seasonal events reflected. Kilivila is the language of the Trobriand Islands. The Trobriand calendar has been the subject of considerable ethnographic debate (Malinowski 1927, 1935; Austen 1939; Leach 1950). There are two main areas of confusion. One centres on the number of months. The other is the difficulty of correlating these months with specific times of year in a place where four different calendars operate, and identifying the recognised standard by which the lunar months are kept in step

Table 11.12 Mangap (Yangla dialect) month names

	Month name	Word glosses	Accompanying notes
01	<i>^mbui</i>	‘flower (VI)’	The galip trees are flowering.
02	<i>gomsala</i>	<i>gom</i> ‘?’, <i>-sala</i> ‘go up’)	The galip trees are budding, flowering.
03	<i>turgom</i>	<i>-tur</i> ‘nod off’, <i>gom</i> ‘?’	Clusters of galip nuts are breaking off and falling down.

04	<i>ayo buzāna</i>	<i>ayo</i> ‘?’, <i>buzāina</i> ‘disgusting’	When we (INC) dig the new harvest up to eat them, they are not very good. A lot of mosquitos appear.
05	<i>ro matāna</i>	? ‘first leaves’	The first galip nuts fall down.
06	<i>muna</i>	‘food made of galip nuts and tapioca or taro, baked in an earth oven’	A huge amount of galip nuts comes down, galip nuts are spreading out [all over the ground].
07	<i>kara-tete</i>	<i>karakāla</i> ‘be constipated’, <i>tetekat</i> ‘wrapped food made of sweet potatoes or taro and crushed canarium nuts’	A huge amount of galip nuts comes down onto the ground.
08	<i>aigere</i>	...	A time for rain, and [the time when] bats bite off the skins of galip nuts. They bite their skins, but don’t swallow them. A bad month.
09	<i>man^mbule mamāza</i>	<i>man</i> ‘bird’, <i>mbule</i> ‘anus’, <i>mamāza</i> ‘dried up’	The pigeon’s anus gets torn [due to having eaten so many galip nuts and defecating them], and it cannot swallow any more galip nuts. The time for galip nuts is now finished.
10	<i>manpur</i>	<i>man</i> ‘bird’, <i>pur</i> ‘fart’	Birds fly up and look for galip nuts but are unable to find them.
11	<i>ŋese</i>	...	You (SG) want galip nuts, but can’t find them. [Time for] scratching around looking for isolated nuts.
12	<i>ⁿdām-bula</i>	<i>ⁿdāma</i> ‘Pleiades’	The galip trees bud again.

with the solar year. The various descriptions of Trobriand lunar months by Malinowski and Austen throw up several unresolved issues, not only between the two authors, but also between Malinowski’s earlier and later papers. Leach’s paper is an attempt to resolve some of the differences.

11.5.2.1.1 *The Trobriands*

The Trobriands have a unique system, whereby four regions, Kiriwina (the major dialect of Kilivila) (in the north), Kuboma (centre), Kitava (east) and Vakuta (south), each run a distinct calendar with similar names and similar sequencing, but each starting their year with the *milamala* moon at a different time: Kitava roughly in June, Kuboma in July, Kiriwina in August and Vakuta in September. The moon called *milamala* is always the first (Malinowski 1935:463). The name *milamala* is also the name of the palolo worm (§11.4.3), which appears on the fringing reef of the Vakuta district during the moon of *milamala* ‘in September or even October’ (1935:54), presumably giving the moon its name. But the time of year to which it refers varies from one district to another. In other words, its sequence in a recognised list has taken precedence over its original association with a natural event.

Malinowski argues (1927:210) that the fact that each district starts its year at a different time is a reflection of different gardening systems. In places where taro is the staple food, gardens start early and are harvested early. In the main agricultural districts where small yams form the main crop, harvest occurs at least two months later than in the earliest yam districts.

The thirteen names, as given in Malinowski 1935 are: *milamala*, *yakosi*, *yavatakulu*, *toliyavata*, *yavatam*, *gelivilavi*, *bulumaduku*, *kuluwotu*, *utokakana*, (*ilaybisila*), (*yakoki*), (*kahuwalasi*), *kuluwasasa*. However, Malinowski (1927) and Austen (1939) are agreed that only ten names are significant. The three names whose existence is questioned (bracketed above) are those where informants are least certain, or are names recognised in one or two districts but not all. Two – *yakoki* and *kahuwalasi*—are listed by Malinowski in 1935 but not 1927. In 1927 he wrote (1927:215) that although

several moons seem to have different names in different districts, ... it is significant that ten moons are identical everywhere and easily obtained, while the remaining odd moons, for which sometimes one to three names are obtained, always fall outside the scheme division of two groups of five.

Austen suggests that *kuluwasasa* is a corruption of *k^weluvāsasa*, translated as ‘passageway between the [two] garden periods’ (1939:240). He writes that “the garden periods following *ilaybisila* are vague, and the moons really have no definite names and it is often a time of confused ideas” (1939:244).

Malinowski (1927:211) writes that *milamala* is the moon of festivities after the harvest, and that the sequence *kuluwasasa*, when harvesting is done, *milamala* and *yakosi* “are universally known to the natives and they are used by everybody”. Other month names figure less in people’s minds.

Leach (1950) offers an ingenious solution to the question of how this accords with a solar year. He suggests that the *milamala* period is the key, being a flexible period when taken as a whole across all four districts.

The *milamala* period of the whole group covers four months, this plus the other nine month names is sufficient to cover a full lunar year of 12-13 months. Thus in an ordinary 12-month year Kitava celebrates *milamala* nine months later than Vakuta, which is the ‘standard’, Kuboma one month after Kitava, Kiriwina one month after Kuboma, Vakuta one month after Kiriwina, which completes the annual cycle. The whole territory can thus complete a 12-month cycle without any one area bothering to count more than 10 months. So long as each group knows the relative position of its own calendar to that of its neighbour, the system is complete. ... Vakuta *milamala*, as checked by the appearance of the palolo worm, is the beginning of a 12 or 13 month cycle which ends with the three months Kutava *milamala*, Kuboma *milamala*, Kiriwina *milalmala* (1950:254–255).

Austen (1939), however, sidesteps completely the difficulties of reconciling the palolo rising with the timing of the *milamala* month. Although his fieldwork in the Trobriands followed closely on the heels of Malinowski, he takes a position against Malinowski in arguing that the Trobrianders used a systematic series of solar observations in keeping the lunar months in step with the solar year. Austen believed that relations between month names, *k^weluva*, and stars were more important than those between the month names and the moon. He writes that

there are quite a number of star groups (native constellations) connected with gardening, the most important being ... *Uhuwa /Uruwa* ‘Pleiades’ and *Kibi* ‘three stars of Aquila, the central one being Altair’.

In addition Austen lists *sinata* ‘part of Scorpio’, *lakum* (‘land crab’) ‘part of Cancer and Hydra incl. Praesepe’, *dubukavivila* ‘native constellation incl. Hamel’, *kauwoma* ‘native constellation incl. Aldebaran’, *kiyadiga* ‘Orion’s Belt’ and *munukaiwau* ‘Sirius’ (1939:240). And he adds

later, “For the correction of the annual lunar cycle, the star group *kibi* is used” (1939:243). He notes that the community depended on inhabitants of Wawela, a village in the central Trobriands who were the accepted experts in knowledge of the stars, and who were consulted each year as to the timing of forthcoming rituals (1939:239).

Malinowski had written in 1927

that at certain seasons certain configurations of stars appear in the sky in the evenings. They have names for a number of constellations, for the Pleiades, for a part of Orion, the Southern Cross, and many others; and they know in which season these stars are visible, *but they do not use them as a means of measuring time*’ (1927:203).¹⁹ (our italics)

In 1935 Malinowski correlated moons, winds, and gardening and other activities with western months, but his chart (1935:50–51) contains no mention of stars. Austen’s evidence is discussed further together with Damon’s evidence for Muiuw.

11.5.2.1.2 *Muiuw and the Trobriands*

Damon (1982, 1990) describes the lunar calendar in Muiuw, spoken on Woodlark Island east of the Trobriands, and contrasts its system with that of the Trobriands, with which Muiuw is linked through the Kula Ring trading network. The calendars share similar names and month sequences, but differ in their starting positions and thus their relationship to the western calendar.

Table 11.13 contains 13 names of Kiriwina months (Malinowski 1935:51) and 13 names of Muiuw months (Damon 1990:290) aligned to highlight similarity of names (they are not aligned with reference to western month names). Nine of the thirteen show cognacy, evidence of a recent shared past. The names listed third, fourth and fifth contain a reflex of POC **apaRat* ‘north-west wind’, the wind that holds sway from December to April. Apart from these three and *milamala* the names are, as far as we can tell, largely untranslatable and therefore without meaning-based association with particular seasonal events. Those pairs that are not cognates are marked with #, and occur close together in the sequence.

Table 11.13 Kilivila and Muiuw month names

Kilivila	Muiuw
# <i>milamala</i>	# <i>yanak</i>
<i>yakosi</i>	<i>yakous</i> (‘finish’)
<i>yavatakulu</i>	<i>yevtakun</i>
<i>toliyavata</i>	<i>tenyavat</i>
<i>yavatam</i>	<i>yevtom</i>

¹⁹ Malinowski in fact reported this in his first major Trobriand publication in 1916, but later either forgot or dismissed it. He wrote in 1916 in describing the *milamala* festival, “[The festival] is held always at the same time of the year, in the first half of the moon, which is also called *milamala*. This moon is determined—as their calendar in general—by the position of the stars. And in Kiriwina proper, the full moon of *milamala* falls in the second half of August or first half of September.” And later he adds, “The dates of the moons are fixed by the position of the stars, in which astronomical art the natives of Wawela, a village lying on the beach in the southern half of the island, excel.” (1954 [1916]: 179, 262).

#gelivilavi	#gag
bulumaduku	bulumaduk
kuluwotu	kunuwut
utokakana	wutukan (Central Muyuw only)
ilaybisila	veneybis
#yakoki	#oneveig
kuluwalasi	aluwanas
#kuluwasasa	#ikokio

Although the two lists imply a shared system, Muyuw lacks a *milamala* moon. Oddly enough, the palolo worm appears in some Muyuw lagoons at the full moon of, usually, October, and it is called *milamala*. But it is neither eaten nor used for any calendrical purpose (Damon 1982:229).

However, there is, or was, another system of regulating time in Muyuw, one shared with the Trobriands, namely that provided by the stars. Damon (1990:29) provides a list of thirteen star groups and roughly aligns them with lunar months and other seasonal events or activities, although he warns: “Although stars are conceived to rise in a sequential order just as *kwel* [lunar months] follow one another, Muyuw do not associate particular stars with specific *kwel*.” (1990:38).²⁰

Several star names (Table 11.14) are cognate with Austen’s list for the Trobriands, although there are minor variations in their identity. Austen’s *kibi* refers to Aquila while Damon’s *kib* is Delphinus, an adjoining constellation. Strangely, although both list the Pleiades, their names for the star cluster are not cognate. In the Trobriands it is *ulawa* and in Muyuw *gumeaw*.

Damon (1990:38–40) implies that Muyuw rely on the stars rather than lunar months to arrange their yearly activities. He describes Muyuw knowledge of celestial bodies as impressive. “It is yam harvest time, people note, when the long axis of the Southern Cross stands vertical in the dark of a young night, mid-July or so”. And although other crops – taro, bananas, sweet potatoes – may be and are planted throughout the year: yams should be planted when *gumeaw* ‘is thirty or so degrees above the western horizon at dusk, in February.’”

Table 11.14 Trobriands/Muyuw cognate star names

Trobriands	Muyuw	
<i>kibi</i>	<i>kib</i>	Aquila or Delphinus (lit. ‘k.o. triggerfish’)
<i>lakum</i>	<i>lakum</i>	Praesepie (part of Cancer and Hydra) (lit. ‘crab’)
<i>kiyadiga</i>	<i>kiyad</i>	Orion’s Belt (lit. ‘poles connecting outrigger to hull’)
<i>sinata</i>	<i>sinat</i>	Stars in Scorpio (lit. ‘comb’)

²⁰ In order, starting mid-March, the list runs *kib* (Delphinus), *kiyad* (Orion’s Belt), *gumeaw* (Pleiades), *kowun*, *nowagteit* and *lakum* (Praesipie) all rising pre-dawn, followed from mid-September, *bytanaboub* (Southern Cross), *tabwakum* (Coalsacks), *dagelio/sinat* (Scorpius), *alisig*, *kup*, *kuluwit* (Big Dipper) and *usay*.

Table 11.15 Motu month names

	Month name	Word glosses
01	<i>gui-raura</i>	<i>gui</i> ‘embark, tie, prepare a torch’
02	<i>goha</i>	cf <i>goheahu</i> ‘shut out (of clouds veiling the sun or moon)’
03	<i>lailai</i>	‘prepare a place by cleaning’
04	<i>daro-daro</i>	<i>daro</i> ‘sweep’
05	<i>divaro</i>	?
06	<i>veadi [hadohado]</i>	<i>hado-hado</i> ‘planting’
07	<i>veadi hiri-hiri</i>	<i>hiri</i> ‘long trading voyage to the west’
08	<i>uria</i>	
09	<i>laya</i>	‘breathe’
10	<i>manu-maura</i>	<i>manu</i> ‘bird’; <i>maura</i> ‘a token, sign of pledge’
11	<i>biri-a-kei</i>	<i>biri</i> ‘nipa palm leaf used as thatch’, <i>kei</i> ‘small’
12	<i>biri-a-bada</i>	<i>biri</i> ‘nipa palm leaf used as thatch’, <i>bada</i> ‘big’

11.5.2.2 Motu, Sinaugoro and Lala

Motu, Sinaugoro and Lala are considered together as they are clustered in the middle of the segment of New Guinea’s south coast occupied by the Central Papuan group of Oceanic languages.

Lister-Turner & Clark’s (1954) Motu dictionary includes twelve month names, given in Table 11.15 with glosses drawn partly from Andrew Taylor’s (pers. comm.) notes and partly from Lister-Turner & Clark’s glosses.

The Motu sailed their *layatoi* (double-hulled canoes) annually westward to the Gulf of Papua to trade with the Elema. They would wait for the mid-year wind change, then sail back to their villages (around present-day Port Moresby). These trading voyages were known as *hiri*, also used as the month name for a period roughly corresponding to July. The names for January and October also seem to be associated with these voyages. The term *maura* (part of the month name for October) is glossed by Lister-Turner & Clark as

s.t. small given as a pledge, to remind recipient of his promise to return; a token that the messenger who brings it has been sent by the owner, an Elema man who sails on a *layatoi* and stays till next year.

The ‘promise to return’ probably alludes to a man’s pledge to his Elema trading partner to return the following year. ‘An Elema man who sails on a *layatoi* and stays till next year’ is almost self-explanatory: he is a man from the Gulf who is transported on the *layatoi* to its owner’s Motu village, and remains there as a guest until he can return to the Gulf on next year’s *hiri*.

Sinaugoro, to the east of Motu, shares some month names with Motu, but none that are associated with the *hiri*, in which Sinaugoro speakers did not traditionally participate. Instead, names peculiar to Sinaugoro often reflect the fact that its speakers live in the savanna. Whether the names shared with Motu are loans or shared inheritances is difficult to know, as the languages are phonologically similar. Table 11.16 is drawn from two sources, Kolia

(1975) and Tauberschmidt (2006), marked K and T respectively in the leftmost column. Kolia's data are from the Balawaia dialect. He does not assign his month names to western calendar months, but does gloss them. Tauberschmidt on the other hand, whose month names

Table 11.16 Sinaugoro month names

	Month name	Gloss	Etymology
TK 01	<i>manu-bada</i>	'big bird'	[bird-big] < Motu?
TK 02–03	<i>bili-a-kei</i>	'small harvest'	[sago-a-small] cf Motu November
TK 03	<i>bili-a-bara</i>	'big harvest'	[sago-a-big] cf Motu December
TK 04	<i>y^wa-koli</i>	'no food'	<i>yue</i> 'moon, month', <i>koli</i> 'finished'
TK 05	<i>y^wa-yaniyani</i>	'new food'	<i>yue</i> 'moon, month', <i>yaniyani</i> 'food'
T 06	<i>lai-lai</i>	...	< POc * <i>raki</i> 'SE trade winds'
T 06–07	<i>lai-toya</i>	...	see above + <i>toya-toya</i> 'quiet'
T 07	<i>bune</i>	'magpie' (R)	
T 07–08	<i>magara</i>	...	
T 07–08	<i>uria</i>	...	cf Motu August
T 09–10	<i>koko-uriuri-na</i>	...	
TK 11–12	<i>aya-bada</i>	'big wind'	[breath-big]
K 12 ? (R)	<i>raba-avala</i>	'dry season'	<i>avala</i> 'northwest monsoon'
K 12 ? (R)	<i>avala-kavata</i>	'NW wind season'	<i>avala</i> 'northwest monsoon'
K ...	<i>daga</i>	'white feathery grass'	
K ...	<i>yau-yala-bara</i>	'burning tall grass'	<i>yau</i> 'tree', <i>yala</i> 'burn VI', <i>bara</i> 'big'
K ...	<i>yau-yala-kei</i>	'burning short grass'	<i>yau</i> 'tree', <i>yala</i> 'burn VI', <i>kei</i> 'small'
K ...	<i>viniyi-mole</i>	'flame tree', probably erythrina	<i>viniyi</i> 'flame tree', <i>mole</i> 'firelight'
K	<i>bona-rakava</i>	'smell of burning'	<i>bona</i> 'smell', <i>rakava</i> 'bad'
K	<i>yorava</i>	'chestnuts'	<i>yorava</i> 'chestnuts'
K	<i>tukakereani</i>	'lightning'	
K	<i>vitiyo-walo</i>	'red leaves and rope'	<i>walo</i> 'rope, vine'

are from the Saroa dialect, assigns them to western months, but does not gloss them further. Some glosses, marked (R) (= Ross), are inferred from Kolia's and Tauberschmidt's vocabularies.

The range of names in Table 11.16 demonstrates that month names even in dialects of the same language can diverge quite widely. It also reveals how culture-specific month names can be. Where some Motu names reference seafaring, names from the Balawaia dialect reference a grass species and burning in the surrounding savanna. Both dialects refer to the end of the harvest in April and the beginning of a new crop in May.

Both dialects also include *manu-bada*, perhaps the 'big bird' constellation of Sirius, Canopus, Procyon, Betelgeuse and Rigel described in volume 2 (pp168–170), which Tauber-

schmidt assigns to January. Immediately after sunset in January this huge constellation dominates the eastern sky over the Motu and Sinaugoro villages. That ‘big’ has its Motu shape *bada* rather than Sinaugoro *bara* suggests that it may be a loan.

Clunn and Kolia (1977:143) list thirteen month names for closely related Lala, situated to the west of Motu. The name for the thirteenth Lala month, *avala*, is literally ‘north-west’, reflecting POC **apaRat* ‘northwest wind; wet season when westerlies blow and sea is rough’ (vol.2:129). This is cognate with Sinaugoro *avala*, occurring in two month names. Otherwise no Lala month name is cognate with either a Motu or a Sinaugoro month name.

11.5.3 Meso-Melanesian

11.5.3.1 *Nakanai*

Chowning (2016) lists eight lunar month names from Nakanai, on the north coast of New Britain. The eight are considered a complete set, and their ordering is clear, running from *e tolo bubu* ‘1st moon of the calendar year, approx. Sep.–Oct. (starts about autumn equinox)’ to *e sakalu kea* (lit. ‘white reef’) ‘8th and last moon—actually several moons of the same name, approx. June–Sep.’ Apart from the 8th month, the names are, as far as we can tell, untranslatable, and there is no discussion apart from brief descriptions included in the dictionary entries.

Table 11.17 Nakanai lunar months (Chowning & Goodenough 2016)

	Month name	Annotation
1	<i>e tolo bubu</i>	1 st moon of calendar year, approx. Sept.-Oct. (starts about autumn equinox)
2	<i>e tolo pura</i>	about Nov.
3	<i>e vulea</i>	around Jan.-Feb. Assoc. with NW monsoon and height of rainy season
4	<i>e vito</i>	time when makusa fish are running in the Kapeuru River
5	<i>e uaga</i>	about March
6	<i>e rave taro kitoa</i>	beginning of dry season, about March to April
7	<i>e vatu</i>	around May-June when sea and reef are free of debris.
8 ++	<i>e sakalu kea</i>	lit. ‘white reef’. 8 th and last moon. Actually several moons of same name, roughly June-Sep.

11.5.3.2 *Barok*

Wagner (1986) describes the timing of the gardening cycle in Barok, New Ireland. He writes that “a cycle of six named lunations seems to have been recognised, and used in conjunction with gardening, in pre-European days.” (1986:38). His own observations and his conversations with Barok speakers about the traditional calendar lead him to conclude that the *awat ni nien* ‘season of plenty’ and the *awat nere loŋ* ‘season of hunger’ each represent a six-month cycle, but because the large garden is planted only four months after the small (see Table 11.18), the gardening calendar cannot be described within a single six-month cycle. He points out that the Barok observe lunar, solar and sidereal events (1986:41), which do not correspond exactly. However, he concludes that each *awat* effectively begins at the new moon closest to when the Pleiades are crossing the meridian, i.e. in the evening on 21 February and predawn

on 22 August. The position of the sun around these dates is also not far from its position at the solstice.

Table 11.18 Barok lunations

Lunations	Co-ordinate events	Gardening	Seasons
01 <i>marana-kai</i>	Pleiades on meridian in evening	large garden planted	<i>awat ni nien</i>
02 <i>murana-kai</i>	Pleiades ‘turn their bottom’	bananas planted	
03 <i>matana-aler</i>	sun rises ‘in the middle’	...	equinox 20 March
04 <i>muruy-aler</i>	...	...
05 <i>tege ni kuka</i>	crab-hunting (lit., moon of crabs)	...	
06 <i>tege gowo</i>	— (literally, the moon that is left)	...	S solstice 21 June
07 <i>marana-kai</i>	Pleiades on meridian before dawn	...	<i>awat nere loy</i>
08 <i>murana-kai</i>	Pleiades ‘turn their bottom’	...	
09 <i>matana-aler</i>	sun rises ‘in the middle’	small garden planted	equinox 22 Sept
10 <i>muruy-aler</i>	...	...
11 <i>tege ni kuka</i>	crab-hunting (lit., moon of crabs)	...	
12 <i>tege gowo</i>	— (literally, the moon that is left)	large garden prepared	N solstice 21 Dec

Table 11.18 is the table given by Wagner but augmented from the text (1986:36–44). Since the Barok reckoned time in terms of six-month seasons, the same set of six months occurs in each *awat*, i.e. twice in a year, a unit that the Barok were allegedly unaware of. The blanks in the “Gardening” column of the table are due partly to the fact that Wagner’s table includes them, but partly to the fact that Wagner does not mention the harvests. The numbers in the leftmost column represent the month whose second half falls into this lunation, e.g. 01 represents the latter part of January and the earlier part of February.

We note that this account contains one oddity: since the months in each *awat* have the same names, *tege ni kuka* ‘moon of crabs’ occurs twice a year. In reality, however, land crab spawning (nom11.4.8) occurs only once a year, presumably in November. This leads to the speculations that the Barok were aware of the annual cycle (as the distribution of garden planting described by Wagner also implies) and that the six-month cycle represents a reduction of a set of terms that once covered the year.

Table 11.19 Sa’a month names (adapted from Ivens 1927)

	Month name	Gloss
09	<i>hule i lade</i>	‘arrive [canarium] flowers’
10	<i>oku lade</i>	‘palolo flowers’
11	<i>oku m^{wā}</i>	‘palolo full’
12	<i>oku telu/danu</i>	‘palolo nets’
	<i>oku peine</i>	‘palolo big’
01	<i>hulo lapani</i>	‘sponge?’
02	<i>hulo laha</i>	‘sponge big’

03	<i>asi m^wane</i>	‘sea barren’ (we have opted to translate <i>m^wane</i> ‘male’ in the sense used for plants which do not produce fruit, so ‘barren’)
04	<i>loʔa wai</i>	‘month water’
05	<i>loʔa madala</i>	‘month morning star’
06	<i>loʔa maliʔe</i>	‘month [yams] cooked’
07	<i>āu marawa</i>	‘season purple’ (indicates nuts almost ripe)
08	<i>ŋali maelo</i>	‘nuts ripe’
	<i>ro hutohuto</i>	‘two froth/foam’

Particular importance is attached by the Barok to the Pleiades. In one *marana-kai* they are crossing the meridian at dusk on 21 February, but have already been prominent in the evening sky for about a month. In the other *marana-kai* they are crossing the meridian at dawn on 22 August, and will remain prominent in the pre-dawn sky for about a month.²¹ This account is puzzling, as Western Oceanic speakers typically make no use of the meridian (it is not clear how they would identify it). A possibility is that Barok speakers observed the risings and settings of the Pleiades. Their apparent first pre-dawn rising around 7 June would very roughly fit the beginning of *awat nere loŋ* ‘season of hunger’, and their apparent pre-dawn setting around 5 November would be a herald of the monsoon and the *awat ni nien* ‘season of plenty’.

11.5.4 Southeast Solomons

Sets of lunar months have been recorded for Gela (Fox 1955), To’aba’ita (Lichtenberk 2008a), Sa’a (Ivens 1918, 1927), Kwaio (Keesing 1975) and Arosi (Fox 1978). Other dictionaries including ’Are’are (Geerts 1970) and Owa (Mellow 2014) contain partial lists. Except for Gela, these languages belong to the Malaita-Makira subgroup of SES.

The most comprehensive of these lists is Ivens’ (1927:396-397) for Sa’a, shown in [Table 11.19](#), which varies in some respects from that in Ivens (1918). In 1927 he describes the year as “beginning with the flowers of the canarium almond in September (*hule i lade* ‘flowers arrive’) and ending with the period of ripe almonds (*ŋali maelo*) in August”.²² August is also called *ro hutohuto* ‘froth, foam’, referring to the month of wild weather and big seas. (In Arosi the same month is referred to as *waro ŋavara* ‘rough weather month’.) Four months – October to December – are prefaced by *oku*, the palolo worm, while three – April to June – are prefaced by *loʔa* (meaning unknown, but used also as month name prefix in Lau (*loa*) and possibly in To’aba’ita (*loʔi*)). Ivens describes the *loʔa* months as relating to ‘the yam harvest which is dug about the beginning of May’.

A comparison of month names across languages shows broad agreement in Gela, Sa’a, Arosi and ’Are’are with respect to the palolo months, although both Sa’a and ’Are’are give the name for the palolo to four months, suggesting it now means something like ‘month, season’. SES palolo month names are listed in §11.4.3.

²¹ The two transit dates would more accurately be 26 February and 6 August. The first date does not strictly fit into *marana-kai* and seems to belong in the next lunation, but Wagner attributes minor discrepancies to the approximateness of the whole Barok calendar.

²² In 1918 (under *wārowāro* ‘moon’) Ivens wrote “the names of the months in Sa’a begin from July, the harvest month.”

11.5.5 Vanuatu

Unusually detailed lists of month names are available for the Torres and Banks islands of northern Vanuatu, thanks to various anthropological studies (Codrington 1891 for Mota, Durrad 1940 and Mondragón 2004 for the Loh dialect of Lo-Toga, François 2023 for Mwotlap, and François pers. comm. for Lo, Mota, Mwotlap and partial Mwesen). They are summarised in [Table 11.20](#).²³

In the leftmost column of [Table 11.20](#) numbers approximate western months. Terms for October, November and December in Loh, Mota and Mwotlap make reference to the small and big risings of the palolo (§11.4.3). Loh appears to be out of sync with Mota and Mwotlap by a month, but this probably reflects the vague relationship between western months and the lunar months labelled here.

According to Durrad, five Loh months, from April to August, are named for the seasonal *Panax* grass called *moyot*, which springs up as winter ends (cf §11.4.6). In April the grass is fresh (*meta* ‘wet’) and in May it dries off (*rej* ‘dry’). The name continues to be associated with the next three months—becoming a seasonal name now associated with digging up first the yam-like *tamey* in June and then the *k^wetā* in July. A further five months, from November to March, are named for the palolo worm, *n’ut*. As with *moyot* the name continues beyond the true palolo months, becoming a seasonal name. Durrad also links each month with gardening activity, and at times, as in June and July, this is reflected in the month name. As planting is carried out in September and October, the yam vines are in full green in February and turning rusty red in March, giving rise to the terms for green and red in their respective month names. Yam harvesting occurs in May, the *tamey* [wild yam] and *k^wetā* mentioned above reaching maturity later than cultivated yams.

In Mota, as there are many more month names than can be fitted into a lunar year, the list given is a selection among the possible names. Included are three *mayoto* months, May to July, two *rara* months, August and September, and three palolo (*un*) months, October to December. The *mayoto* month of May is translated as ‘fresh grass’, equivalent with Loh ‘wet grass’. Codrington (1891:350) writes that, for Mota, *mayoto* and *rara*, the erythrina or coral tree (from POc **rarap*, vol.3:158, 257) have become seasonal terms for summer and winter respectively, roughly equating with the annual division of the Loh calendar (cf §11.4.6).

²³ Our thanks to Alexandre François for orthographic assistance and rich ethnographic notes for Torres-Banks languages. He reports that his elderly Mwesen consultants did not know the old terms for other months, but they provided ample ethnographic information for those they could remember.

Table 20.0 Morphemes from the 1000 and 10000 corpora

Label (Durrell, 1940; Frangou, 2004, 2008)	Morpheme	Meaning	Frangou (1991)	Frangou (2003)	Frangou (2004, 2008)
01	the best wine	Gloss	Gloss	Gloss	Frangou (2004, 2008)
02	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
03	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
04	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
05	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
06	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
07	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
08	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
09	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
10	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
11	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)
12	the best available	Gloss	Gloss	Gloss	Frangou (2004, 2008)

The Mota, Mwotlap and partial Mwenen calendars display more similarity with each other than any of them does with Loh. The three make similar references, even when the terms are not cognate. The terms for April, however, are cognate, reflecting what François (pers. comm.) reconstructs as Proto Banks **lam^was-aki dorodoro*, apparently a serial verb construction consisting of **lam^was-* ‘to hit, strike’, the applicative suffix **-aki*, hence ‘strike against’, and *dorodoro* ‘to rattle’. The meaning of the construction is evidently ‘to strike against so that it rattles’, the agent being the wind, the patient the reed-like grass *Miscanthus floridulus* which makes a rattling sound when the dry reeds, blown by the wind, strike each other (François, pers. comm.).

The terms for January, February and March in Mota, Mwotlap and Mwenen all make oblique reference to the (monsoon) winds, in Mwotlap and Mwenen striking the reeds, and in Mota, *vusi-arū* [beats casuarina], where the wind instead strikes the casuarina (*aru*). The terms for January refer to the reeds thickening (Mwenen *revsos*), budding (Mwotlap *ni-wityoy*) and flowering (Mota *wotyoro*). In February the reeds are preparing to expel their seeds. In Mwenen they *ristek taqan* ‘grab hold’ (of their bellies, like pregnant women), and in Mwotlap they *towowoh* ‘burst open’. In March the wind blows so hard that in Mota fragments of the reeds break off and fly away (*tete*), while in Mwenen it ‘blows off white hair’ (whether the hair belongs to the reeds or the old men is uncertain). François has no gloss for the Mwotlap terms, but it is probable that *tit* is cognate with Mota *tete* ‘fly away’.

Lest the explanation for the abbreviated sentences used as month names here appear too imaginative, it is worth noting that Codrington & Palmer’s dictionary entries tell the same story as François recorded from Mwotlap and Mwenen speakers.

Codrington (1891:349) warns that in Mota

it is impossible to fit the native succession of moons into a solar year; months have their names from what is done and what happens when the moon appears and while it lasts; the same moon has different names. If all the names of moons in use in one language were set in order the periods of time would overlap, and the native year would be artificially made up of twenty or thirty months.

The reason for Codrington’s warning is that Mota months were named not only for the palolo and the effect of the seasons on wild plants as in Table 11.8 but also for periods in the yam cycle. It would be possible to list month names in order from April to December that referred to events from preparing the yam garden to planting, maturing, harvesting and clearing.

Because there are some cognate forms among these languages, it is possible to reconstruct three lunar month names for Proto Torres-Banks, using Clark’s (2009) orthography, and partially reconstruct two others.²⁴

Proto Torres-Banks **ud (?) gogona* ‘bitter (palolo)’ ≈ September

NCV: Loh	<i>wo yocnə</i>	‘bitter (palolo)’ ≈ September (<i>wo</i> ‘month?’)
NCV: Mota	<i>un yoyona</i>	‘bitter palolo’ ≈ September
NCV: Mwotlap	<i>n-in-yon</i>	‘bitter palolo’ ≈ September

²⁴ Since Mota, Mwotlap and Mwenen are closely related and Loh is clearly more distant from them than they are to each other, one criterion for a reconstruction is that it be reflected in Loh and one of the other three languages. Two reconstructions are only partially cognate, one because the Loh term reflects the descriptor ‘bitter’ of the other two but not the topic, the other where ‘fresh’ and ‘wet’ are taken as equivalent descriptions of the new grass.

Proto Torres-Banks **ud lava* ‘big palolo’ ≈ November–December

NCV: Loh	<i>n’ut lavə</i>	‘big palolo’ ≈ December
NCV: Mota	<i>un lava</i>	‘big palolo’ ≈ November
NCV: Mwotlap	<i>n-in-lap</i>	‘big palolo’ ≈ November

Proto Torres-Banks **ud were* ‘rump of palolo’ ≈ December–January

NCV: Loh	<i>n’ut wir</i>	‘rump of palolo’ ≈ January
NCV: Mota	<i>un werei</i>	‘rump of palolo’ ≈ December
NCV: Mwotlap	<i>n-in-wey</i>	‘rump of palolo’ ≈ December

Proto Torres-Banks **m^wakoto* + ‘fresh/wet *Panax* grass’ ≈ April–May

NCV: Loh	<i>nə moyot metə</i>	‘wet grass/season’ ≈ April
NCV: Mota	<i>mayoto b^waro</i>	‘fresh grass/season’ ≈ March

Proto Torres-Banks **m^wakoto rajo* ‘dry grass’ ≈ May–June

NCV: Loh	<i>nə moyot rej</i>	‘dry grass/season’ ≈ May
NCV: Mota	<i>mayoto rajo</i>	‘dry grass’ ≈ June–July

Lists of names are available to us from three Malakula languages: Atchin, Naman and Avava. However, these display almost no cognate forms either with each other or with the Torres-Banks languages. The exceptions are Atchin *ul wele* ‘little palolo’ and *ul lep* ‘great palolo, October–November’. Moreover, Capell & Layard (1980) contains nineteen Atchin ‘month’ names, whilst in Avava the year is divided into just eight periods. Clearly, these are not strictly lunar month terms.

Also available are lists of month names from southern Vanuatu: Sye, Kwamera, Lenakel and Anejom. However, apart from a brief discussion of Sye names by Crowley (1998), the names are compiled from dictionaries without ethnographic description or interpretation of their meanings. There are almost no cognates, even between Kwamera and Lenakel, the two languages from Tanna island.

11.5.6 Fiji

Hale (1846:68) offers a list of twelve names for Fijian lunar months obtained from missionary sources, with two (February and March) referring to flowering of the *yasau* reed (*Miscanthus floridulus*), three (April–June) referring to garden cultivation, two (October, November) to the palolo and two (December, January) to the *muga*, a rabbitfish (*Siganus vermiculatus*). However, he comments

Besides the appearance of the mbalolo, the natives have few means of determining with exactness the progress of time. Indeed, they pay little attention to this, and we were unable to obtain from several to whom we applied, the names of the months in their regular series. ... The Feejeeans know nothing of astronomy, and have not even names for the most important constellations.

Seemann (1862:296–299) refers more confidently to “the eleven months into which the calendar is divided”, quoting “an intelligent Bauan chief and the consular interpreter.” He comments that “the names given by me, as well as their succession, do not quite agree with those given by Wilkes (i.e. Hale from the Wilkes expedition). The names of the months may

also be different in different parts of the group”. However, the list in Table 11.21 from Seemann, including his comments, substantially mirrors the horticultural/faunal/floral annual cycle, and accords with later broad descriptions such as those of Hocart (1929) for the Lau Islands of eastern Fiji and Pawley and Sayaba (2022) for Wayan, spoken in western Fiji.²⁵

Table 11.21 Bauan Fijian month names according to Seeman (1862)

	Month names	Gloss
06-07	<i>vula i werewere</i>	clearing, weeding
08	<i>vula i ōukiōuki</i>	loosen ground with digging stick
09	<i>vula i vāvākada</i>	putting reeds to yams to enable them to climb up
10	<i>vula i balolo lailai</i>	small [rise of] palolo
11	<i>vula i balolo levu</i>	big palolo
12	<i>vula i nuga lailai</i>	small [few] <i>nuga</i>
01	<i>vula i nuga levu</i>	big [many] <i>nuga</i>
02	<i>vula i sevu</i>	offering of first yams to the priests
03	<i>vula i kelikeli</i>	dig (yams)
04	<i>vula i gasau</i>	reeds sprout (<i>Miscanthus</i>)
05	<i>vula i doi</i>	k.o. buckthorn in flower (<i>Alphitonia zizyphoides</i>)

He notes that Hazlewood, who published a Fijian–English dictionary in 1850, allowed four months, from May to August, to be effectively the clearing month. Presumably this provided the degree of flexibility necessary so that the more precise seasonal events such as the rising of the palolo occur at the expected time.

11.5.7 Micronesia

In passing from Fiji to Micronesia we encounter a change in the way the year is envisioned. In Micronesia, unlike the other areas examined, there is internal consistency in that stars, and stars alone, are seen to mark the passing of time. All month names reconstructed are star or constellation names (vol.2:166–184), reflecting a calendar with a smooth transition from one star or star cluster to the next. Alkire (1970:37–38) writes that in Woleai “the seasons and their subdivision of months or moons (*maram*) are initiated by the rising and setting of designated stars.” The months that define the winter (approximately November to April) and summer (approximately May to October) seasons are all named after the star or star grouping which heralds the beginning of the period (1970:38). As names of months the Micronesian terms are strictly speaking only reconstructable for Proto Chuukic, based on month names for Truk (= Chuuk) (Goodenough & Sugita 1990), Mortlock and Lamotrek (Christian 1899), Ponape (Kubary 1895; Christian 1899), Woleai (Alkire 1970), Carolinian (Jackson & Marck 1991), Puluwat (Elbert 1972) and Sonsorol (Capell 1969). However, some of the terms have non-Chuukic cognates within Micronesia and are reconstructable at least as star or constellation names as far back as PMic. Proto Chuukic reconstructions are given here in the same

²⁵ It is of passing interest that while Seeman and Hocart both identify December/January with *nuga*, the rabbitfish, which appear then in greater numbers, Pawley and Sayaba identify them with *nuga*, a tree, *Decaspermum vitiense*, which bears fruit at this time.

orthography as PMic, that of Jackson (1986). Terms from Mortlock and Lamotrek are given in the orthographies of their sources, as we have insufficient information to convert them to the orthography otherwise used in this volume.

Speakers from the Polynesian outlier island of Kapingamarangi, which lies roughly midway between Mussau and the Caroline Islands of Micronesia, have largely adopted the Chuukic calendar, ten of their twelve months according in order with the Micronesian listing (Elbert 1948). These are treated as borrowings. A single Kapingamarangi month, *matariki*, accords with a Polynesian term.

Sources for Puluwat and Carolinian each list twelve names and link them to western months; those for Mortlock, Lamotrek and Sonsorol list months in regular sequence from one to twelve. The Trukese Dictionary lists fourteen names as months in the traditional sidereal calendar, only four of which are numerically ordered. An additional one is listed as ‘named for a month in some calendars’. Some of the cognates in the sets listed below include star names that are not month names. Sixteen Proto Chuukic terms have been reconstructed that, taken in sequence, albeit with some overlap, represent a solar year. Of these, four (Leo, Corona Borealis, Vega and Andromeda) are represented as month names in only two or three languages, and are regarded as probably substitutions for other nearby stars or star clusters.

Because each year the new moon rises eleven days earlier than in the previous year, the time of year thus delineated moves between two adjacent western months.²⁶

We have no clear evidence that any star or star cluster is regarded in the Chuukic group as heralding a new year. Christian begins his list with Leo for Mortlock and Corvus for Lamotrek, while Capell also starts with Corvus for Sonsorol, i.e. roughly September or October, but neither author discusses his choice. In Woleai the star Arcturus, identified with November, is identified as marking the change of seasons from summer to winter while Pegasus, identified with May, gives its name to the summer season. Because of its dominant role elsewhere in the Oceanic world we begin our list with the Pleiades.

Proto Ponapeic-Chuukic **m^wakariker* ‘about July; the Pleiades’

Mic:	Ponapean	<i>makeriker</i>	‘Pleiades’ (Kubary 1895:107)
Mic:	Carolinian	<i>m^wærixar</i>	‘Pleiades’ (not a month name)
Mic:	Chuukese	<i>m^wëriker</i>	‘month in the traditional sidereal calendar; the Pleiades’
Mic:	Mortlock	<i>mariker</i>	‘Pleiades, month 10’
Mic:	Puluwat	<i>m^wariker</i>	‘Pleiades, a month about July’
Mic:	Woleaian	<i>maxaraxar</i>	‘Pleiades, a summer month’
Mic:	Lamotrek	<i>magarigar</i>	‘Pleiades’ (not a month name)

It is tempting to try to associate this with PPn **mataliki* ‘Pleiades’ (lit. ‘small eyes’), but this is apparently a chance resemblance.

There is some overlap in associating the next two reconstructions with roughly the same month. Although Lamotrek and Sonsorol attribute terms to two successive months, Mortlock combines both for the same month. Christian (1899:393) does, however, offer alternative

²⁶ Timing is also influenced by the precession of the equinoxes. If we date the breakup of Proto Micronesian as at least two thousand years ago, this progression of stars would have occurred three or four weeks earlier than today.

Mortlock terms. Aldebaran and Orion's Belt are close together in the night sky, and both could be identified with the same time of year.

POc **u(C)unu* 'Aldebaran' (given as PEOc in vol.2:167)

PMic **ūnu* 'Aldebaran'

Mic: Kiribati *un* 'star name'

PChk **ūnu* 'late July, early August; the star Aldebaran'

Mic: Carolinian *wūn* 'Aldebaran; synodic month approximately July–August'

Mic: Chuukese *wūn* 'month in the traditional sidereal calendar; Aldebaran'

Mic: Mortlock *un(allual/elluel)* 'Aldebaran and Orion'

Mic: Puluwat *wūn* 'Aldebaran, a month about late July'

Mic: Woleaian *ūz* 'Aldebaran, a summer month'

Mic: Lamotrek *ul* 'Aldebaran, month 9'

Mic: Sonsorol *ūr* 'month 9'

cf. also:

Pn: K'marangi *ūnu te* 'star name' (Pukui & Elbert 1971)

PWMic **telu-telu* 'about August; three stars of Orion's Belt' (POc **tolu*, PMic **telu* 'three')

Mic: Marshallese *cālcā* 'Orion's Belt, including sigma Orionis'

PChk **elu-elu* 'about August; three stars of Orion's Belt'

Mic: Carolinian *eluwel* 'Orion's Belt; month in the traditional synodic calendar, about August'

Mic: Chuukese *aruwer* 'name for a month in some calendars; Orion's Belt'

Mic: Mortlock *elluel* 'Aldebaran and Orion; month 11'

Mic: Ponapean *eliel* 'Orion's Belt' (Kubary 1895:108)

Mic: Woleaian *yeriyer* 'Orion's Belt; a summer month'

Mic: Lamotrek *oliel* 'the constellation Orion including the star Rigel; month 10'

Mic: Sonsorol *yoru-yoru* 'month 10'

Although the next set takes its name from the giant Bird constellation, which covers a considerable area of the sky, it is the appearance of its brightest star, Sirius, that is most consistently identified with the moon rising in September.

PMP **manuk* 'bird'

POc **manuk* 'bird; Bird constellation including Canopus, Sirius, Procyon'²⁷ (vol.2:162); 'flying creature'; 'animal' (vol.4:271)

Adm: Seimat *mān* 'constellation including Canopus, Sirius, Procyon'

²⁷ **manuk* is one of the few constellation names reconstructed for POc, with reflexes from the Admiralties, Micronesia and two Polynesian outliers. Ross (1996) conjectures that because Admiralty Islanders almost certainly had contact with Micronesian speakers in pre-modern times, it is possible that Seimat (Ninigo) *mān* in the sense given here was borrowed from a Micronesian language.

PMic **manu* ‘bird; Bird constellation consisting of Canopus, Sirius, and Procyon’ (lit. ‘bird’) (Bender et al. 2003a: PCMic **manu* ‘a bright star’)

Mic: Kiribati *man* ‘a star, Canopus’

PChk **manu* ‘about September; Bird constellation consisting of Canopus, Sirius, and Procyon’ (lit. ‘bird’)

Mic: Carolinian *mān* ‘the star Sirius; month in the traditional synodic calendar, about September’

Mic: Chuukese *mān* ‘month in the traditional sidereal calendar; constellation equated probably with Sirius or Procyon’

Mic: Mortlock *man* ‘Sirius; month 12’

Mic: Puluwat *mān* ‘a scattered group of stars, Canopus, Sirius, Procyon; a month about August’

Mic: Satawal *mān* ‘Canopus, Sirius, Procyon’

Mic: Woleaian *man* ‘Canopus, Sirius, Procyon’

Mic: Lamotrek *mān* ‘the constellation Canis Major (includes Sirius and Procyon); month 11’

Mic: Sonsorol *māūrū* ‘month 11’

Pn: Tikopia *manu* ‘Rigel’ (part for whole) (Lewis 1994)

Pn: Anutan *manu* ‘Bird constellation, consisting of Sirius (*manu*’s body), Canopus (east wing), Procyon (north wing) and a few stars in between’ (Feinberg 1988:100)

cf. also:

Pn: K’marangi *manu* ‘month name’

PChk **icci* ‘about September, the constellation Leo’ (lit. ‘rat’) (Bender et al. 2003b)

Mic: Chuukese *īç* ‘a star’ (not a month name)

Mic: Mortlock *yis* ‘the constellation Leo; month 1’

Mic: Woleaian *iççi* ‘star in Leo (Hydra or Regulus) (not a month name)’

Mic: Satawalese *iç* ‘a star, month (= November)’

Mic: Lamotrek *iç* ‘month 12’

Mic: Sonsorol *isi* ‘month 12’

Mic: Pulo Annian *isi* ‘month (= December)’

cf. also:

Pn: K’marangi *itiit* ‘month name’

Proto Ponapeic-Chuukic **tarobolu* ‘about October, the constellation Corvus’

Mic: Ponapean *corop^wel* ‘Corvus’ (Christian 1899:388)

Mic: Carolinian *sarob^wel* ‘star in Corvus; synodic month about October’

Mic: Chuukese *serep^wer* ‘month in the traditional sidereal calendar; probably Corvus’

Mic: Mortlock *sorop^wel* ‘Corvus; month 2’

Mic: Woleaian *saraf^wöl* ‘Corvus; a summer month’

Mic:	Lamotrek	<i>sorabol</i>	‘Corvus; month 1’
Mic:	Sonsorol	<i>taleb^wōri</i>	‘name of a star; month 1’

cf. also:

Pn:	K‘marangi	<i>sarapori</i>	‘month name’
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According to Christian (1899:389), Lamotrek *sorabol* is derived from *sor* ‘look’ and *bol* ‘taro patch’ and means ‘viewer of the taro patches’ because it shines during the taro season.

PChk **aremoi* ‘about November; the star Arcturus’

Mic:	Carolinian	<i>arem^woy</i>	‘the star Arcturus; synodic month about November’
Mic:	Chuukese	<i>rom^woy</i>	‘month in the traditional sidereal calendar; star probably Arcturus’
Mic:	Mortlock	<i>aramoi</i>	‘Arcturus; month 3’
Mic:	Puluwat	<i>yoromoy</i>	‘a star and a month, about November’
Mic:	Woleaian	<i>yazemoi</i>	‘Arcturus; month between summer and winter’
Mic:	Lamotrek	<i>aramoi</i>	‘Arcturus; month 2’
Mic:	Sonsorol	<i>yalamauđi</i>	‘month 2’

cf. also:

Pn:	K‘marangi	<i>aromoi</i>	‘month name’
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Lamotrek *aramoi* is allegedly derived from *ara* ‘conclude’ and *moi* ‘come’, as the ascendancy of Arcturus marks the end of the NE winds that bring visiting parties to the island (Christian 1899:389).

PChk **cēwu* ‘about December, January; constellation Corona Borealis (lit. ‘dipping net?’) (Bender et al. 2003b)

Mic:	Carolinian	<i>sēw</i>	‘constellation Corona Borealis; synodic month about January’ (lit. ‘dipping net; seine net’)
Mic:	Chuukese	<i>cēw</i>	‘month in the traditional sidereal calendar; a star, probably Corona Borealis’
Mic:	Mortlock	<i>seu</i>	‘Corona Borealis’
Mic:	Puluwat	<i>rōw</i>	‘a star and a month at the end of the breadfruit season, about December’
Mic:	Woleaian	<i>soū</i>	‘name of a Corona Borealis star’
Mic:	Lamotrek	<i>cou</i>	‘Corona’

PMic **sum^wuru* ‘the star Antares’ (Bender et al. 2003a: PCMc ‘the star Antares’) (vol.2:169:

PMic *(*d,z*)*umuri* ‘Antares’)

Mic:	Kiribati	<i>rim^{wi}(mata)</i>	‘Antares’
Mic:	Marshallese	<i>tūm^wur</i>	‘stars in Scorpius; Antares’

PChk **sum^wuru* ‘about January; the star Antares’

Mic:	Carolinian	<i>tum^wur</i>	‘Antares; synodic month approximately December-January’
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Mic:	Chuukese	<i>tum^wur</i>	‘month in the traditional sidereal calendar; star Antares; coming in December it was the first month of the year’
Mic:	Mortlock	<i>tumur</i>	‘Scorpion; month 4’
Mic:	Ponapean	<i>tumur</i>	‘Antares’ (Christian 1899:388)
Mic:	Puluwat	<i>tum^wur</i>	‘Antares, about January’
Mic:	Woleaian	<i>tum^wiri</i>	‘Antares, a winter month’
Mic:	Lamotrek	<i>tumur</i>	‘Antares; month 3’
Mic:	Sonsorol	<i>tumuli</i>	‘Antares; month 3’
Mic:	Pulo Annian	<i>tum^wuli</i>	‘a sidereal month equated with March’

cf. also:

Pn:	K‘marangi	<i>tumuru</i>	‘month name’
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It is tempting to associate the next reconstruction with PPn **mataliki* ‘Pleiades’ (lit. ‘small eyes’), but the similarity is evidently accidental.

PMic **māti-ciki* ‘stars in Sagittarius’ (Bender et al. 2003a)

Mic:	Marshallese	<i>(le)mec-riḱrik</i>	‘star in Scorpio’ (<i>dikdik</i> ‘small’)
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PChk **māti-ciki* ‘about February; stars in Sagittarius’

Mic:	Carolinian	<i>mæisix</i>	‘month in the traditional synodic calendar, about February’
Mic:	Chuukese	<i>mæçik</i>	‘month in the traditional sidereal calendar; a star’
Mic:	Mortlock	<i>meisik</i>	‘stars in Hercules; month 5’
Mic:	Ponapean	<i>maitik</i>	‘star in Sagittarius?’ (Christian 1899:388)
Mic:	Lamotrek	<i>mairik</i>	‘month 4’
Mic:	Sonsorol	<i>maḍisigi</i>	‘month 4’
Mic:	Pulo Annian	<i>madi-siki</i>	‘a sidereal month equated with April’

cf. also:

Pn:	K‘marangi	<i>maetiki</i>	‘month name’
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Christian (1899) attributes this constellation name in Mortlock to stars in Hercules, but the star chart suggests that Abo et al (1976) are correct in assigning it to stars in Sagittarius, as there is nowhere near a month’s difference between Antares (the previous month) and Hercules.

PChk **mæal* ‘about February; the star Vega in Lyra’

Mic:	Carolinian	<i>mæal</i>	‘Vega’ (not a month name)
Mic:	Chuukese	<i>mæan</i>	‘month in the traditional sidereal calendar; the star probably Vega’
Mic:	Mortlock	<i>moel</i>	‘Lyra’
Mic:	Puluwat	<i>mæal</i>	‘Vega, a month about February’
Mic:	Woleaian	<i>mel</i>	‘Vega, a star in Lyra’
Mic:	Lamotrek	<i>meal</i>	‘Vega, in the constellation Lyra’

The next reconstruction, literally ‘big *mati*’ contrasts with PMic **māti-ciki* above, ‘small *māti*’ (meaning of *māti* unknown). Elbert (1972) attributes the meaning ‘big/old breadfruit’ to

the Puluwat term, since the Puluwat breadfruit season lasts from May until December (*mæy* > PROc **maRi* ‘breadfruit’). However, there is clear support for PMic **mati-* as the first element.

PMic: **māti-lapa* ‘the star Altair (or perhaps the constellation Aquila including Altair)’ (Bender et al 2003a: ‘Altair, constellation in Aquila’)

Mic: Kiribati *matinapa* ‘three stars in a line in Capricorn’

Mic: Marshallese *māclep* ‘Altair; constellation: alpha, beta, gamma Aquilae’

PChk **māti-lapa* ‘about March; the star Altair (or perhaps the constellation Aquila including Altair)’

Mic: Carolinian *māilap* ‘the star Altair; synodic month about March’

Mic: Chuukese *māēnap* ‘third month of the traditional sidereal calendar; star Altair’ (for †*māēyinap*)

Mic: Mortlock *meilap* ‘the constellation Aquila; month 6’

Mic: Ponapean *mailap* ‘star name, Altair?’ (Christian 1899:388)

Mic: Puluwat *māēylæp* ‘Altair; a month about March’

Mic: Satawal *mailap* ‘Altair’ (McCoy 1976)

Mic: Woleaian *māirapa* ‘Altair, the most prominent star in Carolinian navigation; a winter month’ (for exp. †*māsirapa*)

Mic: Lamotrek *mailap* ‘month 5’

Mic: Sonsorol *maðirap* ‘month 5’

cf. also:

Pn: K‘marangi *maerapa* ‘month name’

PChk **taidā* ‘about April; the constellation Equuleus’ (Bender et al. 2003b: ‘a star’)

Mic: Mortlock *sota* ‘Equuleus; month 7’

Mic: Chuukese *səta* ‘fourth month in the traditional sidereal calendar; a star (probably Alpha Equulei)’

Mic: Carolinian *səta* ‘synodic month, about April’

Mic: Puluwat *həta* ‘a constellation, Equuleus; about April’

Mic: Woleaian *sətā* ‘Aquarius; a winter month’

Mic: Lamotrek *seuta* ‘month 6’

Mic: Sonsorol *taita* ‘month 6’

Christian (1899:394) records Yapese orthographic *lagu* (probably *laxu*) for a month around June. If this is an early borrowing from a Micronesian language, the PMic form was probably **laku*.

PWMic **laka* ‘stars in the constellation Pegasus’ (vol.2:170) (Bender et al. 2003a: PWMic **laka* ‘stars in Pegasus’)

Mic: Marshallese *lʷak* ‘stars in Pegasus’

PChk **laka* ‘about May; stars in the constellation Pegasus’ (Bender et al. 2003b)

Mic: Mortlock *la* ‘Pegasus; month 8’

Mic: Chuukese *nā* ‘fifth month in the traditional sidereal calendar; a star (probably Beta Pegasi)’

Mic:	Puluwat	<i>la</i>	‘star in Pegasus; month at the beginning of the breadfruit season, about May’
Mic:	Woleaian	<i>lāxe</i>	‘Pegasus; seasonal name, approx. May–Oct.’
Mic:	Pulo Annian	<i>nnaka</i>	‘a sidereal month equated with July’
Mic:	Lamotrek	<i>lax</i>	‘month 7’
Mic:	Sonsorol	<i>naxe</i>	‘month 7’
Mic:	Polo Annian	<i>nnaka</i>	‘a sidereal month equated with July’

cf. also:

Pn:	K‘marangi	<i>rak</i>	‘month name’
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PChk **kua* below evidently reflects PMic **kua* ‘Dolphin constellation, a constellation including Cassiopeia and approximately equivalent to Aries’ (vol.2:170).

PChk **kua* ‘porpoise; May/June; huge constellation including Cassiopeia and Aries’ (Bender et al. 1983)

Mic:	Mortlock	<i>kii</i>	‘Aries; month 9’
Mic:	Chuukese	<i>kii</i>	‘sixth month in the traditional sidereal calendar; a star probably Beta Andromedae’
Mic:	Carolinian	<i>xiiw</i>	‘constellation Aries; synodic month about May’ (porpoise; head louse)
Mic:	Puluwat	<i>kiiw</i>	‘Cassiopeia plus some other stars: a month about late April’
Mic:	Woleaian	<i>xiiwe</i>	‘porpoise; constellation including Cassiopeia and Cetus (?); a winter month’
Mic:	Satawal	<i>kiiw</i>	‘porpoise; constellation (Cassiopeia)
Mic:	Lamotrek	<i>kū</i>	‘month 8’
Mic:	Sonsorol	<i>kuye</i>	‘month 8’

PChk **yalimadai* ‘Andromeda (within **kua* constellation)’ (Bender et al. 1983)

Mic:	Carolinian	<i>alimate</i>	‘Andromeda; month in the traditional synodic calendar, about June’
Mic:	Chuukese	<i>enimatə</i>	‘month in the traditional sidereal calendar, named for the star’
Mic:	Puluwat	<i>yemmātur</i>	‘a star and a month about June’
Mic:	Woleaian	<i>yalimatā</i>	‘a star in Andromeda’

Table 11.22 Proto Chuukic progression of rising stars

Proto Chuukic	star/star group	approx. month
<i>*m^wakariker</i>	Pleiades	about July
<i>*ūnu</i>	Aldebaran	late July, early August
<i>*ehu-ehu</i>	Orion’s Belt	August
<i>*manu</i>	Sirius	September

* <i>icci</i>	*Leo (Hydra, Regulus)	September
* <i>tarobolu</i>	Corvus	October
* <i>aremoi</i>	Arcturus	November
* <i>cēwu</i>	*Corona Borealis	December
* <i>sum^wuru</i>	Antares	January
* <i>māti-ciki</i>	Sagittarius	February
* <i>məəl</i>	*Vega	February
* <i>māti-lapa</i>	Aquila (Altair)	March
* <i>taidā</i>	Equuleus	April
* <i>laka</i>	Pegasus	May
* <i>kua</i>	Cassiopeia/Aries	May/June
* <i>yalimadaï</i>	*Andromeda	June

The Proto Chuukic reconstructions in Table 11.22 show a smooth progression of rising stars over a year. Carolinian, Chuukese, Mortlock, Puluwat, Woleaian, Lamotrek and Sonsorol follow this sequence closely, each containing reflexes of 12 of the 16 reconstructions, although varying slightly as to which are not represented. The four star clusters marked with an asterisk are those listed as calendar stars in only two or three languages and are probably alternatives for other close stars representing the same period.

The only Micronesian language outside western Micronesia (Marshallese + Chuukic) in which terms for divisions of a year have been located is Kiribati, which has a rather different sidereal calendar. Grimble (1931) provides a detailed account of Gilbertese [Kiribati] astronomy. The year is considered to begin with the appearance of the Pleiades about 15 degrees above the eastern horizon just after sunset, in about the first week of December. The Kiribati uniquely use the rafters of the meeting house as a grid reference by which they locate their stars. Each six-monthly season is subdivided into eight periods called *boŋ*, measured by the successive altitudes of the seasonal star at the hour after sunset as observed through the grid of the rafters of the meeting house (1931:200). These sixteen named divisions, each a little over three weeks long, subvert any need for a calendar based on lunar months.

11.5.8 Polynesia

11.5.8.1 Organisation of the lunar calendar

Lunar calendars are ubiquitous in Polynesia, or at least were, prior to the introduction of the western calendar. Names commonly recur, theoretically permitting reconstruction to PPn, but comparison of lists shows immediate problems. Makemson (1941:97–98) has noted that different islands of the Hawaiian group use more or less the same month names, but in different orders. Not only do starting months differ, but the order of months is often scrambled. The same is true of lists from Tahiti, Samoa, Tokelau and the Marquesas. Some calendars consist of twelve months, others thirteen, while some, including Tonga, Manihiki, Tahiti and Hawaii, have a thirteenth month interspersed occasionally. East Futuna has fourteen months recorded but this apparently occurs because two months, December and January, each have two names, presumed alternatives, listed. Kirch and Green (2001:310) comment that

since ... the original calendar was strongly correlated with local ecological conditions and with yam horticulture, it is not surprising that the calendar was significantly reorganised once people had left the homeland region, and once their ecological settings and horticultural practices had changed.

Table 11.23 The assignment to months of reflexes of reconstructed lunar month names in selected Polynesian languages (numbers approximate Gregorian months: January = 1 etc.)

	Tongan	E Futunan	Samoan	Tuvalu	Manihiki	Tokelauan	Penrhyn	Tahitian	Hawaiian
<i>*mataliki</i>	—	6	—	—	—	—	—	—	1
<i>*tolu</i>	—	7	—	—	—	—	—	—	—
<i>*kau-unuunu</i>	—	—	5	5	7	4	5	5	—
<i>*siliŋa kelekele</i>	6	—	—	12/1	13	10	9	—	8
<i>*siliŋa maqa</i>	7	—	—	12/1	1	11	10	—	12
<i>*oloamanu</i>	—	4	6	6	8	5	2	—	—
<i>*palolo muqa</i>	—	8	7	8	9	6	6	7	—
<i>*palolo muri</i>	—	9	8	9	10	7	7	8	—
<i>*muri(a)fa</i>	—	10	9	10	11	8	3	9	—
<i>*tokaŋa</i>	—	—	—	11	12	9	4	4	7
<i>*lisa muqa</i>	12	12	—	—	—	—	—	—	—
<i>*lisa muri</i>	1	1	—	—	—	—	—	—	—
<i>*utua muqa</i>	—	—	—	2	2	12	11	—	—
<i>*utua muli</i>	—	—	—	3	3	1	12	—	—
<i>*wai muqa</i>	2	12	—	—	—	2	—	—	—
<i>*wai muri</i>	3	1	—	—	—	—	—	—	—
<i>*faka-qafu-maquiri</i>	4	2	—	—	—	—	—	—	—
<i>*faka-qafu</i>	—	—	3	4	—	3	1	—	—
<i>*faka-qafu-mate</i>	5	3	—	—	—	—	—	—	—

A further explanation for these discrepancies comes from Gill (1876:317) in his description of lunar months on Mangaia in the southern Cook Islands:

The knowledge of the calendar belonged to the kings, as they alone fixed the feasts in honour of the gods, and all public spectacles. For others to dare to keep the calendar was a sin against the gods, to be punished by *hydrocele* [drowning?].

This perhaps explains why many lists have been recorded with a degree of doubt by the informant as to their veracity. Even the earliest records show a degree of uncertainty, as in the

following 1789 account from Bligh who sought lunar month lists from Tahiti (quoted by Oliver 1974:268):

To get a certain Knowledge of their division of time has given me much trouble, for altho many people pretend to know it, Yet I have found them so contradictory in their Accounts as convinced me they were not acquainted with the particulars of it. Tynah assured me only a few Old People could give me any information and that he knew it but very imperfectly himself.

For practical purposes the account here relies on Williamson (1933) and Collacott (1922) for Tongan, Rensch (1986) (based on Grézel 1878) for East Futunan, Williamson (1933) (based on Turner 1884) for Samoan, Besnier (1981) (based on Kennedy 1931) for Tuvalu, Makemson (1941) for Manihiki, Williamson (1933) for Tokelauan, Gill (1876) for Mangaia, Makemson (1941) for Penrhyn, Oliver (1974) for Tahiti, and Makemson (1941) for Hawaii.

Comparison of these lists shows frequent recurrence of lunar month names, but some diversity in the month attributed to each name. While reconstruction of the form has been possible, its position in a sequence has proved arguable. Twenty one reconstructions of the name (but not the associated month) have been made, with 8 from Proto Polynesian, 11 from Proto Nuclear Polynesian and 2 from Proto Ellicean. There are a number of pairs, identified by *muqa* ‘in front’ vs *muri* ‘behind, last’ (or *toe* ‘again’) and others by contrasting terms *kelekele* ‘dirty’ vs *maqa* ‘clean’ and *maquri* ‘alive’ vs *mate* ‘dead’. Their cognate sets appear below in §11.5.8.3.

A major clue in the ordering of putative PPn lunar months lies in the fact that a number of languages follow similar sequencing for up to four or five month names, as shown in [Table 11.23](#).

The table shows the assignment to months (January = 1 etc.) of reflexes of reconstructed lunar month names in Tongan, East Futunan, Samoan, Tuvalu, Manihiki, Tokelau, Penrhyn, Tahiti, and Hawaii. It can be shown that East Futunan, Samoan, Tuvaluan, Manihiki, Tokelau and Tahiti share some sequences. These are genealogically and geographically quite widely scattered languages, and their sequencing can be taken as a good indication that the system in PPn was similarly ordered.

The difficulty then becomes one of arranging the preferred sequencing into the appropriate times of the calendar year. Names could be expected to relate to horticultural processes, particularly in parts of western Polynesia to the yam crop, or in parts of eastern Polynesia to the breadfruit season, and to the wet-dry seasons, while links to the palolo worm are prominent. There are also links to significant stars or star groups. In Futuna, for example, successive months were marked by the Pleiades, Orion’s Belt, Sirius, Regulus and a group of stars recorded as possibly the Southern Cross. In Hawaii successive months were marked by the Pleiades, Betelgeuse, Sirius and other stars whose names were not recorded. In particular, however, it is the appearance and disappearance of the Pleiades that plays a significant role in the determination of the annual calendar.

11.5.8.2 Reconstructions

PPn **mataliki* is reconstructable for ‘Pleiades’ (vol.2:165), but as a month name only in PNPn (not in Tongic), where it is marked by the new moon after the first pre-dawn rising of the Pleiades which occurred in 500 BC in mid-May, so here accorded to June. As Kirch and Green have noted (2001:262, Table 9.4), the risings and settings of the Pleiades were widely

observed in many Polynesian societies, “where they were used to mark the change in seasons and/or to mark the commencement of the year.”

Since the internal subgrouping of Polynesian languages is relevant here, the entries below are marked either ‘To’ for ‘Tongic’ or ‘NPn’ for ‘Nuclear Polynesian’, the two first-order subgroups within Polynesian.

PPn **mataliki* ‘Pleiades’

To:	Tongan	<i>mataliki</i>	‘Pleiades’
To:	Niuean	(<i>fetū</i>) <i>mataliki</i>	‘Pleiades’

PNPn **mataliki* ‘month name, June’

NPn:	Anutan	<i>matariki</i>	‘Pleiades’
NPn:	E Futunan	<i>mataliki</i>	‘Pleiades; third month: June’
NPn:	Tikopia	<i>matariki</i>	‘Pleiades (sign of advent of trade wind season when appears on eastern horizon before dawn, also sign for turmeric extraction)’
NPn:	Pukapukan	<i>mataliki</i>	‘Pleiades’
NPn:	Samoaan	<i>mataliʔi</i>	‘Pleiades’
NPn:	Tuvaluan	<i>mataliki</i>	‘Pleiades’
NPn:	K’marangi	<i>matariki</i>	‘Pleiades’
NPn:	Takuu	<i>matariki</i>	‘Pleiades’
NPn:	Rapanui	<i>matariki</i>	‘Pleiades’
NPn:	Hawaiian	<i>makaliʔi</i>	‘Pleiades; December–January; the six summer months collectively’
NPn:	Marquesan	<i>mataʔiʔi</i>	‘Pleiades; June’
NPn:	Tahitian	<i>matariʔi</i>	‘Pleiades’
NPn:	Maori	<i>matariki</i>	‘Pleiades, the first appearance of which before sunrise indicated the beginning of the Maori year (about the middle of June)’

PNPn **[kau]unu-unu* is reconstructed for the next term, rather than **kaununu*. It immediately suggests a link with PChk **ūnu* ‘late July, early August; the star Aldebaran’, and an ordering following the Pleiades and preceding Orion’s Belt as in Micronesia. The PPn prefix **kau-* had two functions: to derive a collective noun meaning a ‘group, company, bunch of s.t.’, and to derive an instrumental noun, generally a long thin object (here PPn **kau* < POc **kayu* ‘tree’). The Samoan and Tahitian reflexes lack an expected initial ʔ-

PNPn **[kau]unu-unu* ‘June’

NPn:	Samoaan	<i>aununu</i>	‘May’
NPn:	Tokelauan	<i>ka-unu-unu</i>	‘April’ (<i>oa-unono</i> : Williamson 1933)
NPn:	Tuvaluan	<i>ka-unu-unu</i>	‘May; second month of the trade wind season’
NPn:	Manihiki	<i>unu-unu</i>	‘July’
NPn:	Penrhyn	<i>haka-unu-unu</i>	‘May’
NPn:	Tahitian	<i>au-unu-unu</i>	‘April–May’
NPn:	Tuamotuan	<i>ka-unu</i>	‘December’
NPn:	Mangaian	<i>ka-unuunu</i>	‘September to October’

Strictly speaking, the next item should not be reconstructed, as it is reflected in only one language. However, it is noted here because it is a self-evident case of a (part-)constellation marking a month. Orion's Belt is a salient three-star feature in the sky. The middle star, Alnilam, has its pre-dawn rising in late May, i.e. about two weeks after the Pleiades and a month before Sirius, which occurs as a month name for July. Hence the attribution of **tolu* to June. Note also PChk **tolu-tolu* 'about August; three stars of Orion's Belt'.

PNPn (?) **tolu* 'three; the stars of Orion's Belt; June' (cf. vol. 2:164)

NPn: E Futunan *tolu* 'three; the stars of Orion's Belt; 4th month: July'

Kirch and Green assign the two **siliŋa* months to January and February, whereas here they are assigned to June and July. Their reasons for the former assignment are that Outlier and East Polynesian languages place them around January and February and that the second word of **siliŋa kelekele* seems to be cognate with Fijian *kelikeli* 'March'. However, neither of these grounds holds strongly. Both first-order subgroups of Polynesian, To and NPn, have reflexes pointing towards June and July, whereas the January/February reflexes occur only in NPn, specifically in Outlier and East Polynesian languages which are unreliable witnesses because of their lengthy and sometimes tortuous migration histories. Tongan evidence is weighted more strongly because it lies in the Polynesian homeland. PPn **kelekele* here means 'dirty', in contrast with **maqa* 'clean', and is cognate with Fijian *gelegele* 'dirty', not with *kelikeli* 'a hole dug, a ditch' or *kele* 'pile up (yams)'.

Unfortunately, whilst the meanings of **kelekele* and **maqa* are clear, the meaning of PPn **siliŋa* is not: it is probably a nominalisation of either PPn **sili* 'exceed' or PPn **sili* 'put on top of' (Biggs & Clark 1993). It is possible that it is derived from the latter and denotes stages of garden preparation. The Tuvaluan reflexes have each lost one word of the two-word phrase, while Hawaiian has replaced *hilina* with *hinaia* (a word which crops up in several month and star names). Penrhyn has adopted the pattern of other month pairs and replaced **kelekele* and **maqa* with reflexes of **muqa* and **muri*. Each of these changes probably reflects the fact that speakers no longer knew the meanings of the terms.

PPn **siliŋa kelekele* 'June'

To:	Tongan	<i>hiliŋa kelekele</i>	'June' (<i>hiliŋa</i> 'place where things are laid', <i>kelekele</i> 'dirty')
NPn:	Tokelauan	<i>hiliga-muamua</i>	'October'
NPn:	Tuvaluan	<i>kelekele</i>	'December; third month of the westerly winds'
NPn:	Manihiki	<i>hiriŋa-kerekere</i>	'December'
NPn:	Penrhyn	<i>siliŋa-mua</i>	'September'
NPn:	Hawaiian	<i>hinaia-eleele</i>	'July' (<i>eleele</i> for expected <i>?ele?ele</i>)

PPn **siliŋa maqa* 'July'

To:	Tongan	<i>hiliŋa-meaʔa</i>	'July' (<i>meaʔa</i> 'fairly clean', variant of <i>maʔa</i> 'clean')
NPn:	Tokelauan	<i>toe hiliga</i>	'November' (<i>toe</i> 'once more')
NPn:	Tuvaluan	<i>siliŋa-mā</i>	'January; seventh month of the westerly winds'
NPn:	Manihiki	<i>hiriŋa-ma</i>	'January'

NPN:	Penrhyn	<i>siliŋa-muri</i>	‘October’
NPN:	Hawaiian	<i>hiliŋa-ma</i>	‘September’
NPN:	Tuamotuan	<i>hiriŋa</i>	‘May or July’

PPn **takulua* is readily reconstructed as the name of a bright star (vol.2:163), and scattered reflexes in Eastern Polynesian languages indicate that this was Sirius. The NPN languages listed below are all Eastern Polynesian. It is assigned here to July on the grounds that its pre-dawn rising at Niuatoputapu occurred in late June, but this may be to project too much back to the PPn stage. In Micronesia the star Sirius is linked with September.

PPn **takulua* ‘a bright star’

To:	Tongan	<i>takulua-tua-ʔalofi</i>	‘name of a large star’
		<i>takulua-tua-fanua</i>	‘name of a large star’

PNPN **takulua* ‘Sirius; July’

NPN:	Hawaiian	<i>kaʔulua</i>	‘Sirius; February’
NPN:	Marquesan	<i>takuʔua</i>	‘Sirius; July’
NPN:	Tahitian	<i>taʔurua tuirai</i>	‘July’
		<i>taʔurua-faupapa</i>	‘Sirius’
		<i>taʔurua-e-tupu-tainaniu</i>	‘Canopus’
NPN:	Tuamotuan	<i>takurīa</i>	‘star name: may be Venus, Jupiter or Saturn’
NPN:	Maori	<i>takurua</i>	‘Sirius; winter’
		<i>takurua-whare-ana</i>	‘Altair’

We assign PNPN **oloamanu* to August (as do Kirch and Green) on the basis of its ordering relative to other months, and especially of the fact that it precedes **palolo muqa*, which cannot be assigned earlier than September. The East Polynesian data (Manihiki, Penrhyn, Marquesan and Tongarevan) are unreliable because of their lengthy and tortuous migration histories.

PNPN **oloamanu* ‘August’

NPN:	Samoa	<i>oloamanu</i>	‘June’ (<i>olo</i> ‘coo’, <i>manu</i> ‘bird’)
NPN:	Tokelauan	<i>oloamanu</i>	‘May’
NPN:	Tuvaluan	<i>luamanu</i>	‘June; third month of the trade wind season’
NPN:	Manihiki	<i>oroamanu</i>	‘August’
NPN:	Penrhyn	<i>oroamanu</i>	‘January’
NPN:	Marquesan	<i>oaoamanu</i>	‘November’
NPN:	Tongarevan	<i>aroamanu</i>	‘January’

In parts of Polynesia, just as in parts of western Melanesia, the palolo worm (*Eunice viridis*) spawns in a spectacular and predictable manner during October/November and November/December during the last quarter of the moon. It is a well known phenomenon in Tonga and Samoa, as it is in Fiji, but, as far as we can tell, either does not occur or is not recognised in other parts of Polynesia. However, the name for the worm is known in Tuvalu and East Uvean at least. In East Futuna *palolo-muʔa* and *palolo-muli* refer to star names and thus the lunar months identified with these stars. In Tokelau, Mangaia, Tuamotu, Tahiti and no doubt other parts, the terms exist apparently only as month or seasonal names.²⁸ Lack of Tongic reflexes

²⁸ The palolo rising occurs in the Tuamotus but there it is referred to as *koiri-taki-veve*.

means we cannot reconstruct these terms to PPn in spite of the fact that reflexes occur in compounds in well separated languages. PNPn **palolo muqa* and **palolo muli* referred to the minor and major spawnings of the palolo. More than any of the other month names, we can be reasonably sure of the chronological assignment of the palolo months because of the regular pattern of the palolo's spawning. Their association with the wrong months, even in Samoa, indicates that they have become primarily names in a system divorced from their original meaning.

PNPn **palolo muqa* 'first (minor) spawning of the palolo worm; month name, September—October' (**muqa* 'be first')

Pn:	Samoa	<i>palolo mua</i>	'July'
Pn:	Tokelauan	<i>palolo muamua</i>	'June'
Pn:	E Futunan	<i>palolo muʔa</i>	'star, Sirius; 5th month: August'
Pn:	Tuvaluan	<i>palolo mua</i>	'August; fifth month of the trade wind season'
NPn:	Tahitian	<i>paroro mua</i>	'June–July'
NPn:	Manihiki	<i>paroro mua</i>	'September'
NPn:	Mangaian	<i>paroro</i>	'June–July (weather very dry)'
NPn:	Marquesan	<i>paroro mua</i>	'July'
NPn:	Tuamotuan	<i>paroro mua</i>	'either 3rd or 10th month'
NPn:	Penrhyn	<i>paroro mua</i>	'July'

PNPn **palolo muli* 'second (major) spawning of the palolo worm; month name, October–November' (**muli* 'be last')

NPn:	Samoa	<i>palolo muli</i>	'August'
NPn:	Tokelauan	<i>toe palolo</i>	'July' (<i>toe</i> 'again') (also <i>palolo lua</i>)
NPn:	E Futunan	<i>palolo muli</i>	'star, Regulus; 6th month: August–September'
NPn:	Tuvaluan	<i>toe palolo</i>	'September; sixth month of the trade wind season'
NPn:	Manihiki	<i>paroro muri</i>	'October'
NPn:	Marquesan	<i>paroro muri</i>	'August'
NPn:	Tahitian	<i>paroro muri</i>	'July–August'
NPn:	Tuamotuan	<i>paroro muri</i>	'either 4th or 11th month'
NPn:	Penrhyn	<i>paroro muri</i>	'August'

Kirch and Green (2001:268–271) cite the Bauan Fijian terms *balolo lailai* 'small balolo' and *balolo levu* 'big balolo', respectively October and November, as external evidence for the PPN terms. Although the words for 'small' and 'big' in Fijian have been replaced in PPN by 'be first' and 'be last', this is a legitimate inference. The durability of these month names can perhaps be attributed to the co-occurrence of three events: the major palolo spawning, the last post-dusk setting of the Pleiades, and the beginning of the wet season and the season of abundance. Together, these events made **palolo muli* a highly marked time in the Polynesian annual cycle.

Kirch and Green assign PNPn **munifa* to December. Although the meanings of its reflexes do not give much support to this reconstructed meaning, they seem to be correct, as the month denoted by its reflexes immediately follows **palolo muri* in E. Futunan, Samoa, Tokelau, Tuvalu, Manihiki and Tahiti. The term may be more correctly *muri-afā* 'end of storms' (< POC

**muri* + **apaRat*), referring to the end of the trade-wind season. Tuvaluan *murifa* seems to represent a halfway stage en route from PNPn **munifa* to PEPn **muriāfa*.

PNPn **munifa* ‘November–December’

NPn:	Samoan	<i>mulifa</i>	‘September’
NPn:	Tokelauan	<i>mulifa</i>	‘August’
NPn:	E Futuan	<i>munifa</i>	‘constellation, Southern Cross (?); 7th month, October’
NPn:	Tuvaluan	<i>murifa</i>	‘October; first month of the season of westerly winds’

PEPn **muriāfa* ‘November–December’

NPn:	Manihiki	<i>muriaha</i>	‘November’
NPn:	Penrhyn	<i>muriaha</i>	‘March’
NPn:	Tahitian	<i>muriaha</i>	‘September’
NPn:	Tuamotuan	<i>muriaha</i>	‘either 5th or 12th month’
NPn:	Mangaian	<i>muriaʔa</i>	‘April to May’

PNPn **takaōŋa* is attributed to January because it follows the Tuvaluan and Penrhyn month whose name reflects **muri(a)fa*. Makemson (1941:214) and Pukui and Elbert (1971) both write that it is the name of a star in Hawaii.

PNPn **takaōŋa* ‘January’

NPn:	Tokelauan	<i>takaōŋa</i>	‘September’
NPn:	Tuvaluan	<i>takaōŋa</i>	‘December–January; second month of the westerly winds’
NPn:	Manihiki	<i>takaōŋa</i>	‘extra (thirteenth) month’
NPn:	Penrhyn	<i>takāŋa</i>	‘March’
NPn:	Tahitian	<i>tāoa</i>	‘March’ (for expected <i>taʔoʔa</i>)
NPn:	Hawaiian	<i>kaʔaōna</i>	‘June’

The next two month names contain the term **lisa* ‘louse’s egg, nit’. Kirch and Green (2001:271) attribute them to July and August. They cite Collocott (1922:167), who explains that little protuberances (“nits”) appear on the seed yams during these months as they are forming roots. PPN **muqa* and **muri* respectively mean ‘be first’ and ‘be last’. Month names are instead attributed here to December and January on the basis of the glosses of their reflexes. They are at best weakly supported reconstructions.

PPn **lisa muqa* (?) ‘December’

To:	Tongan	<i>liha muʔa</i>	‘December’
NPn:	E Futunan	<i>lisa muʔa</i>	‘11th month: December (first month of strong winds)’

PPn **lisa muri* (?) ‘January’

To:	Tongan	<i>liha mui</i>	‘January’
NPn:	E Futunan	<i>lisa muli</i>	‘12th month: January (second month of strong winds)’

The reconstruction of PNPn **utua muqa* ‘January’ and PNPn **utua muli/ *toe utua* ‘February’ is fairly straightforward, as the meanings of their component words are clear and match the horticultural season in which their glosses place them. PPn **utu* meant ‘harvest yams’, its nominal form *utua* referring to ‘yam harvest’.

PNPn **utua muqa* ‘January’

NPn: Samoan	<i>utu-va-mua</i>	‘January: start of yam harvest’ (<i>utu</i> ‘yam harvest’, <i>mua</i> ‘be first’)
NPn: Tokelauan	<i>utua muamua</i>	‘December’
NPn: Tuvaluan	<i>utua-e-mua</i>	‘March; fifth month of westerly winds’
NPn: Manihiki	<i>utua mua</i>	‘February’

PNPn **utua muli, *toe utua* ‘February’

NPn: Samoan	<i>toe-utuva</i>	‘February: remains of yam harvest’ (<i>toe</i> ‘again’, <i>utu</i> ‘harvest yams’)
NPn: Tokelauan	<i>utua lua</i>	‘January’
NPn: Tuvaluan	<i>toe-utua</i>	‘April; sixth month of westerly winds’
NPn: Manihiki	<i>utua-muri</i>	‘March’

PNPn **tākelo* ‘Orion’s Belt or Betelgeuse; January’ is attributed to January on a combination of clues. It appears to have referred to stars in the constellation of Orion. Whereas **tolu* above evidently marked their pre-dawn rising in June (as does the Marquesan reflex of **tākelo*), the glosses of the Samoan (‘January’) and Nukuria (‘February’) reflexes together with a Samoan comment that this is ‘a month of wind and storms’ (Henry 1928:234), imply that **tākelo* referred to the post-dusk rising of the stars in Orion’s Belt in December.

PPn **tākelo* ‘name of a star or stars, possibly in Orion constellation’ (vol.2:163)

To: Tongan	<i>takelo</i>	‘two stars in the northern sky’
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PNPn **tākelo* ‘Orion’s Belt or Betelgeuse: January’

NPn: Samoan	<i>taʔelo</i>	‘January: a month in the wet season’(?)
NPn: Nukuria	<i>dākero</i>	‘February’
NPn: K’marangi	<i>takero</i>	‘constellation of three stars in a row; month name’
NPn: Hawaiian	<i>kāʔelo</i>	‘a star, perhaps Betelgeuse; name of a wet month, January’
NPn: Marquesan	<i>takeo</i>	‘a star; June–July’
NPn: Tahitian	<i>taʔero</i>	‘Mercury’
NPn: Tuamotuan	<i>tākero</i>	‘Orion’s Belt’
NPn: Maori	<i>tākero</i>	‘an unidentified star; Mercury’

Kirch and Green interpret PPn **wai muqa* and **wai muri*, where **wai* is ‘fresh water’ or ‘rain water’, as referring to the months at the end of the wet season. The three Sa’a (SES) months which make reference to *wai* ‘fresh water’: Feb. *loʔa wai m^wai-m^wai* ‘small water’, March *loʔa wai paine* ‘big water’ and April *loʔa wai* (meaning of *loʔa* unknown) also fall in the same period (Ivens 1927).

PPn **wai muqa* ‘February–March’ (**wai* ‘fresh water’, **muqa* ‘be first’)

To:	Tongan	<i>vai muʔa</i>	‘February’
NPn:	E Futunan	<i>vai muʔa</i>	‘11th month (first month of heavy rains)’
NPn:	Tokelauan	<i>vai noa</i>	‘January–February’ (‘just water’)

PPn **wai muri* ‘March–April’ (**wai* ‘fresh water’, **muri* ‘be last’)

To:	Tongan	<i>vai mui</i>	‘March’
NPn:	E Futunan	<i>vai muli</i>	‘12th month (second month of heavy rains)’

Kirch and Green’s (2001:272) reconstructions for the next two months contain the word **faka-qafu* ‘cause to be heaped up’ (**faka-* ‘causative’ + **qafu* ‘[be a] heap’). They take this to denote the preparation of gardens for yam planting at the beginning of the dry season. However, the Tongan and East Futunan reflexes point to PPn **faka-afu* (**afu* ‘shoot or sucker’).

PPn **faka-afu maquri* ‘a month name, April–May’ (**maquri* ‘be alive’)

To:	Tongan	<i>fakāfu-moui</i>	‘April’
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PNPn **faka-afu* ‘a month name, April–May’

NPn:	E Futunan	<i>fakāfu-ola</i>	‘13th month: February (winds diminish)’
NPn:	Samoa	<i>fāʔāfu</i>	‘March’
NPn:	Tokelauan	<i>fakāfu</i>	‘February’
NPn:	Tuvaluan	<i>fakafu</i>	‘May; first month of the trade wind season’
NPn:	Tahitian	<i>fāʔāhu</i>	‘January–February’
NPn:	Maori	<i>fakāhu</i>	‘Castor; spring’
NPn:	Tuamotuan	<i>fakāhu</i>	‘September’
NPn:	Mangaian	<i>ʔakaʔu</i>	‘December to January’

PPn **faka-afu-mate* ‘a month name, May’ (**mate* ‘be dead’)

To:	Tongan	<i>fakāfu-mate</i>	‘May’
NPn:	E Futunan	<i>fakāfu-mate</i>	‘14th month: March (winds cease)’
NPn:	E Uvean	<i>fakaʔafu-mate</i>	‘May–June’

It seems that the Polynesians were more systematic than speakers in western Melanesia in tying names specifically to lunar months rather than just to times of year. Although we have established a more or less sequential order of month names, we need to be cautious. Perhaps we need to be reminded here that a) the idea of a year as a fixed period of time did not exist for early Oceanic speakers (note Williams’ Maori definition of *tau* as ‘season, year, the recurring cycle being the predominating idea rather than the definite time measurement’), and b) times identified within a year were identified not by their length but rather by their central focus. It is easy but mistaken to read the lists through western eyes, and interpret them as fully equivalent to western calendar months. The interpretation is reinforced because we have little option other

Table 11.24 Lunar month names in Polynesian interstage languages after Kirch and Green (2001) and as reconstructed here

	Kirch and Green (2001:271)			The present analysis			Semantic category
	PPn	PNPn	PEPn	PPn	PNPn	PEPn	
June				—	*mataliki	<	star
				—	*[kau]unu-unu	<	star
				—	(?) *tolu	—	star
				*siliŋa kelekele	<	<	agri.
July	*li(h,s)a mua	<	*kau-nunu	*siliŋa maqa	<	<	agri.
				—	—	*takulua	star
August	*li(h,s)a muli	<	*oroa-manu	—	*oloamanu	<	?
Sept–Oct	*palolo mua	<	<	—	*palolo muqa	<	palolo
Oct–Nov	*palolo muli	<	<	—	*palolo muri	<	palolo
Nov–Dec				—	*munifa	muriafa	star?
December	...	*munifa	*murifa	*lisa muqa (?)	...	...	agri.
Dec–Jan	...	...	*takaoŋa				—
January	*siriŋa kelekele	*siliŋa kelekele	<	*lisa muri (?)	...	...	agri.
				—	*takaoŋa	<	?
				—	*utua muqa	...	agri.
				—	*tākelo	<	star
February	*siriŋa maqa	*siliŋa ma	<	—	*utua muli, *toe	...	agri.
					utua		
Feb–March	*wai mua	<	*utua mua	*wai muqa	...	...	wea.
March–April	*wai muli	<	*utua muli	*wai muri	...	...	wea.
	—	—	*wai (noa)				—
April–May	*faka-qafu muli	<	...	*faka-qafu maquri	<	<	agri.
May	*faka-qafu mate	<	*faka-afu	*faka-qafu mate	...	...	agri.

Abbreviations in rightmost column: agri. = agriculture; star = star name; wea. = weather.

than to translate local terms for time of year either with western month names or by numbering lunar months from 1 to 12, with an arbitrary starting point. But there was no attempt by local speakers to fit the lunar months into a fixed period of time. The lists were not fixed; rather they were ready lists of more or less sequential markers of time within an annual cycle that could be moved or added to if moons became out of step with natural features.

Two particular checkpoints – the rising and setting Pleiades and the palolo rising – are those around which most people fitted their month names. The first are fixed in their annual cycle, the second move to and fro according to the lunar cycle. The palolo rising is thus separated from the others by slightly variable periods, with the result that the number of

moons between these markers sometimes varies. If one had to be omitted early, another could be slotted in later, maintaining more or less the same reference to the agricultural cycle. But their sequencing could not be fully fixed.

What we have reconstructed, therefore, is a lunar month calendar with assumed built-in flexibility. Kirch & Green (2001:271) have also reconstructed a list, varying from ours in some of its month assignments and in the interstage to which a number of terms are reconstructed. Under our analysis fairly complete sets of month names are reconstructed for PNPn and PEPn, and a partial set for PPn. The two calendars are reproduced as [Table 11.24](#), where “<” means ‘a reflex of the term to the left’.

As the rightmost column of the table shows, month names are largely a mixture of agricultural terms and star names. However, none of the PPn terms as reconstructed here are star names, and it is a reasonable speculation that PPn had a set of month names based on the yam cycle, the weather and the palolo risings, and that star names replaced some of these as Polynesian speakers moved further eastward and left their yam-growing culture behind them.

11.6 Moon phases

Sets of moon phase terms in Oceanic languages show considerable variety. This may be due in part to the possible incompleteness of sets that have been retrieved from entries scattered across a dictionary. Even so, this variety shows certain patterns, described below, but providing only vague pointers to the POc set. No cognate sets have been found, except among very closely related languages. The two phases that are most often named are the full moon and the new moon. The latter raises a glossing snag that we return to in §11.6.2.

11.6.1 Full moon and associated terms

One piece of evidence that month names primarily label full moons (§11.5) is found in the distribution of moon phase terms. Almost all available moon phase sets have a term for ‘full moon’. Some WOc languages (Dobu, Manam, Halia) have no other phase terms listed. Other languages have terms that cluster around or after the full moon, and these are shown in [Table 11.25](#). The leftmost column numbers the approximate²⁹ nights of a lunar month, counting the western “new moon” (the night when the moon does not appear) as ‘1’ and the night it is last seen before the next “new moon” as ‘30’. The second column labels the phases by their conventional western names.

A striking feature of [Table 11.25](#) is the number of empty cells in it. Kilivila and Maringe ([Table 11.26](#)) also have a set of moon phase terms, but not the remaining languages. The blanks highlight the fact that each of these languages has names for the days in a sequence that includes the full moon,³⁰ but no names for the rest of the days of the month.³¹ Evidently, the time around the full moon was the most important part of the lunar cycle in these communities, and the full

²⁹ “Approximate” because the lunar cycle lasts 29.53 days.

³⁰ No Atchin term has been found for full moon. This is perhaps an omission from Capell & Layard (1980).

³¹ The Motu terms are exceptional in labelling periods between the full moon and the third quarter. A few Oceanic languages have a name for every day of the month: see §11.6.4.

Table 11.25 Terms for phases that cluster around full moon

	Phase	Kilivila	Roviana	Kokota	Maringe	Kwaio	Atchin
9	First quarter	<i>kalubuwotu</i> <i>tubukola</i>	—	—	—	—	—
10	Waxing gibbous	<i>bitovila</i>	—	—	—	—	—
11		<i>urokaywo</i>	—	—	—	—	—
12		<i>yomkovila</i>	—	—	<i>hakla-fayalo</i>	—	—
13		<i>yapila</i>	—	—		—	—
14		<i>valaita</i>	—	—	<i>nat^hoklu</i>	—	—
15		<i>woulo</i>	<i>gaba</i>	—		—	—
16	Full moon	<i>touluk^waya</i>	<i>hobo rimata</i>	<i>ylaba nare</i>	<i>ylaba-rane</i>	<i>?elete?o</i>	—
17	Waning gibbous	<i>mamisa</i>	<i>puta koburu</i>	<i>ŋalu baisu</i>	<i>tithibuhi</i>	<i>fulufulu?i alo</i>	<i>bat rofer</i>
18		<i>taygagibuli</i>	—	<i>fa-birho suli</i>	—	<i>logo ni k^walaja</i>	<i>rofer to-nac</i>
19		<i>misilowa</i>	—	—	—	<i>lalatalu</i>	<i>lih^wen nav</i>
20		<i>misidagu</i>	—	—	—	<i>?isu-fulaafola</i>	<i>horhor mare</i>
21		—	—	—	—	—	<i>fur hamben</i>
22		—	—	—	—	—	<i>lok-malac</i>
23	3rd quarter	—	—	—	—	—	<i>lok mulac</i> <i>melmel</i>

moon was (at least until recently) still celebrated through the night in some Oceanic communities.³²

The only cognate terms for ‘full moon’ are Kokota *ylaba nare* and Maringe *ylaba-rane*, literally ‘moon daylight’. Roviana *hobo rimata* evidently has similar sense, as *rimata* means ‘sun’ (the meaning of *hobo* is unknown). Many terms for ‘full moon’ and other moon phases are partly or wholly un glossable, but the available terms reveal certain semantic patterns. In many languages ‘full moon’ is ‘moon’ plus an attribute meaning ‘all, whole, entire’.

NNG: Manam	<i>kalea zomzom</i>	‘full moon’ (<i>zomzom</i> ‘all, whole, entire’)
NNG: Mangap	<i>puulu munjana</i>	‘full moon’ (<i>munjana</i> ‘all’)
NNG: Bariai	<i>taiko dodol</i>	‘full moon’ (<i>dodol</i> ‘whole’)
NNG: Kove	<i>rorolu</i>	(vi) ‘whole, unbroken; full, of moon’
NNG: Mutu	<i>kaiyo dodoli</i>	‘full moon’ (<i>dodoli</i> ‘full, complete, whole’)
NNG: Yabem	<i>ayoŋ ke-tu sàmu?</i>	‘full moon’ (<i>sàmu?</i> ‘whole, all’)
MM: Babatana	<i>tavabela</i>	‘full moon’ (<i>tava</i> ‘day’, <i>bela</i> [perhaps] ‘openly, fully’)
SES: Lau	<i>sinali laulau</i>	‘full moon’ (<i>bubu</i> ‘whole, full’)
SES: Owa	<i>fafayaenani na fayaiŋa</i>	‘full moon’ (<i>fayaenani</i> ‘whole, complete’)

Elsewhere the attribute makes reference to roundness:

³² In the 1980s Ross observed nightlong Takia full moon celebrations.

PT:	Iduna	<i>vaikohi gi-vivilina</i>	‘(the) moon became full’ (- <i>vivilina</i> ‘form a circle’)
SES:	Gela	<i>vula vovoyo</i>	‘full moon’ (<i>vovoyo</i> ‘encircle’)
SES:	Kwaio	<i>ʔeletoʔo</i>	‘full moon’ (<i>ʔele</i> ‘round’)

And elsewhere the attribute is ‘big’:

MM:	Teop	<i>sivao a bēra</i>	‘full moon’ (<i>bēra</i> ‘big’)
SES:	Lau	<i>[wa]wane baita</i>	‘full moon’ (<i>wane</i> ‘male, man’, <i>baita</i> ‘big’)
SES:	Arosi	<i>hura ahora</i>	‘full moon’ (<i>ahora</i> ‘broad’)
NCV:	Ambrym	<i>kolol</i>	‘be fat, swell’; ‘(of moon, be full)’
Fij:	Wayan Fijian	<i>vula levu</i>	(N & V) ‘full moon’ (<i>levu</i> ‘big’)

Beyond these semantically obvious terms, a number of metaphorical expressions are found, some, no doubt, making references that cannot be retrieved. Indeed, some of the unglossable terms for ‘full moon’ presumably fall into this category.

PT:	Motu	<i>matoa</i>	‘full moon’; ‘plant, <i>Typhonium</i> sp., the root of which is eaten in famine time’
MM:	Nakanai	<i>e-balala</i>	‘full moon’; ‘a very large coiled basket’
MM:	Halia	<i>saloboto</i>	‘full moon’ (lit. ‘be greedy’)
SES:	Kwaio	<i>fulabala</i>	‘full moon, night when it is light from moonrise to dawn’; ‘four string shell valuable, all white shell, old and traditional’
SV:	Lenakel	<i>mouk ramep^{wep} n-m^wanuvie</i>	‘full moon’ (lit. ‘moon pats pandanus’)
NCal:	Drehu	<i>deu uma teu</i>	‘full moon’ (<i>deu</i> ‘cooked beneath the embers’, <i>uma</i> ‘house’)

11.6.2 New moon

The vast majority of Oceanic languages also have a term for ‘new moon’. However, there is a terminological snag here. The western “new moon” anachronistically denotes the time when there is no visible moon in the sky. This is also true of some Oceanic languages, but in at least some of these this reflects post-contact western influence (and the term is a word-for-word translation of ‘new moon’). In others, it is clear from its literal meaning that the term glossed ‘new moon’ actually denotes the very first trace of a waxing crescent moon. In Longgu, for example, we find *madamai vaolu-i* [moon new-DEF], calqued on the English term and contrasting with *tada madamai* [face-up moon] ‘new moon’, which evidently denotes the first visible trace of the moon’s crescent rising convex edge upward, as seen from a few degrees south of the equator.

Terms for a night when no moon appears usually refer to darkness (Drehet [Adm] *puy lokxop* [moon darkness], Bariai [NNG] *taiko i-mata dodom* [moon its-face dark] Kwaio [SES] *logo bulubulu* [darkness stars]) or contain a verb alluding to the moon’s absence (Mangseng [NNG] *ɲov i lou* [moon it run.away], Numbami [NNG] *kambalaŋa i-soloŋa* [moon it-go.inside], Yabem [NNG] *ayoj ke-so* [moon it-go.inside], Banoni [MM] *madava ke mate* [moon it died], Maringe [MM] *yrugu-lehe* (moon-die), Lau [SES] *sinali ka liu* [moon it pass.by]).

Terms for a newly appeared moon, a very thin crescent, fall into three groups. In the first group are expressions that mean ‘the moon is rising’ or ‘the moon is appearing’:

NNG:	Mangap	<i>pūlu i-pet</i>	[moon it-appear]
MM:	Banoni	<i>madava ke puke vāgu</i>	[moon it break today]
SES:	Sa’a	<i>wārowāro e raŋa</i>	[moon it rise]
NCal:	Drehu	<i>la mama teu</i>	[the visible moon]
Fij:	Wayan	<i>toko na vula</i>	[rise the moon]

The second group has glosses that refer to the ‘immaturity’ of the moon:

MM:	Nehan	<i>koburu-ŋ bialoko</i>	[immature.fruit-LIGATURE moon]
SES:	Lau	<i>sinali riri</i>	[moon small] ‘new moon, when first seen’
SES:	Sa’a	<i>raŋa i gare</i>	[rise the child]
SES:	Owa	<i>kare-na fayaiŋa</i>	[child-its moon]

The third group uses metaphors denoting the appearance of the young moon:

PT:	Iduna	<i>vaikohi bakabakalina</i>	[moon serrated]
PT:	Motu	<i>doyayi</i>	‘pearl-shell crescent’
MM:	Nakanai	<i>kalisu</i>	‘nose-plug made of pearlshell’
MM:	Maringe	<i>peko</i>	‘war canoe’

11.6.3 Half moon

Fewer languages have a term for the half moon (the ‘quarter moon’ in western phase terminology) and a number of them mean ‘a piece of the moon’.

Adm:	Drehet	<i>kisiŋe puŋ</i>	[moon piece]
NNG:	Kairiru	<i>qareo m^waŋ/valuŋ</i>	[moon piece]
NNG:	Bariai	<i>taiko ilia</i>	[moon piece]
NNG:	Mutu	<i>kaiyo sirivu</i>	[moon piece]
NNG:	Yabem	<i>ayoŋ ŋa-makeŋ(geŋ)</i>	[moon its-piece]
NCV:	Mwotlap	<i>no-wol na-yayte-yi</i>	[DEF-moon DEF-piece-SUFF]

11.6.4 Sets of phase terms

Setting aside phase term sets that only have terms for the new moon and the full moon, phase term sets fall into two types. Type 1 sets include terms that indicate whether the moon is waxing or waning. Terms in a type 2 set describe only the shape of the moon (so that, for example, a waxing half moon and a waning half moon are both described by a single term). Strictly speaking, the latter are not phase terms proper, but shape terms. Both types include terms for full moon and for new moon, and it would be possible to divide the terms in §11.6.1 and §11.6.2 into phase terms and shape terms, but we have elected not to do so, partly because there are full and new moon terms that have no explanatory gloss.

Sets of both types differ along another dimension, namely how many phases or shapes they distinguish. This presupposes that the source from which we derive each set includes all members of that language’s set. The sets in §11.6.4 are each made up of phase terms, but these

are short phases clustering around the full moon. Table 11.26 is a tabulation of the Maringe moon phase terms found in various entries in White et al. (1988).

Maringe terms for specific days cluster after the new moon and full moon, and the remaining terms cover the periods in between. Where other meanings for the terms are known, these are shown in the column headed ‘Glosses’. Some are descriptive, like *k^hakla-fagalo* ‘hibiscus leaf’ = waxing gibbous moon, and *ylaba-rane* ‘daylight moon’ = full moon. Others are perhaps drawn from narratives associated with the moon, e.g. *kak^hana-yolihe* ‘the spirit reappears’ = second day of the waxing crescent moon, and *fajala-ba?esu* ‘the shark bites’ = second day of the waning gibbous moon. The likelihood that the latter belongs to a narrative is supported by an alternative term for the previous night, *fafiau-fihalu ba?esu*, glossed by White et al. as “‘shark sniffs (the moon)’ as it waits under cover of darkness for the moon to rise”. The Maringe term for the western ninth day (first quarter) appears odd, as it contains the word *fitu* ‘seven’, but White et al. explain that it marks the seventh day (the middle) of the period between *bugayra*, the first crescent moon, and the full moon, i.e. the seventh day if the day following *bugayra*, i.e. *kak^hana-yolihe*, is counted as the first.

Table 11.26 Moon phase terms in Maringe (MM, Santa Isabel)

Day	Western phase	Maringe	Glosses
1	New Moon	<i>yrugu-lehe</i>	<i>yrugu</i> ‘darkness’; <i>lehe</i> ‘die’
2	waxing crescent	<i>bugayra</i>	
3	waxing crescent	<i>kak^hana-yolihe</i>	<i>kak^hana</i> ‘reappear’; <i>yolihe</i> ‘spirit’
4–8	waxing crescent	<i>k^hafa</i>	
9	First quarter	<i>fitu-p^hiep^hile</i>	<i>fitu</i> ‘seven’; <i>p^hile</i> ‘half’
10	waxing gibbous	<i>tiotiro-p^hegu</i>	<i>tiro</i> ‘look out down’; <i>phegu</i> ‘cliff’
12–13	waxing gibbous	<i>k^hakla-fagalo</i>	‘hibiscus leaf’
14–15	waxing gibbous	<i>nat^hoklu</i>	
16	Full moon	<i>ylaba-rane</i>	<i>ylaba</i> ‘moon’; <i>rane</i> ‘be daylight’
17	waning gibbous	<i>tithibuhi</i>	‘ocean, sea’
18	waning gibbous	<i>fajala-ba?esu</i>	<i>fajala</i> ‘bite’ (?); <i>ba?esu</i> ‘shark’
19–22	waning gibbous	<i>yrasemusi</i>	
23	Third quarter	<i>nakro</i>	
24–27	waning crescent	<i>fada-ka-rugu</i>	<i>fada</i> ‘shoot’; <i>ka</i> PREP; <i>rugu</i> ‘darkness’
28–30	waning crescent	<i>yrugu</i>	‘darkness’

The Maringe set nicely illustrates the use of metaphor and of allusion to narrative in Oceanic moon phase terms, and shows why the origins of moon phase terms may often be lost to us. It is either a more elaborated or a less eroded set of moon phase terms than those found in many Oceanic languages. A more usual set comes from the Kavataria dialect of Kilivila (PT) (Ralph Lawton, pers. comm.):

<i>kapatu</i>	‘new moon’ (- <i>kapatu</i> ‘become small’)
<i>tubu-geguda</i>	‘first quarter’ (i.e. waxing crescent—MR) (<i>tubukola</i> ‘moon’, <i>geguda</i> ‘unripe, green’)
<i>kalubuwo<u>tu</u> tubukola</i>	‘second quarter, 8th or 9th day’ (i.e. half moon—MR) (<i>tubukola</i> ‘moon’)

<i>b^wata</i>	‘full moon’
<i>odubiliveka</i>	‘last quarter’

Another set comes from Motu (PT). Note the clustering of terms after the full moon, somewhat like the sets in Table 11.25.

<i>doyayi</i>	‘crescent-shaped new moon’ (<i>doyayi</i> ‘crescent shaped pearl-shell’)
<i>hua karukaru</i>	‘young moon’ (<i>karukaru</i> ‘undercooked, immature’)
<i>matoa</i>	‘full moon’ (plant, <i>Typhonium</i> sp., its root eaten in famine)
<i>hua daulao</i>	‘moon soon after full’ (<i>hua</i> ‘moon’; <i>daulao</i> ‘grope after; go and touch; to reach out towards s.t.’).
<i>hua haeno</i>	‘moon next to <i>daulao</i> ’ (<i>haeno</i> , used euphemistically of unmarried people having sex)
<i>hua matoa-torea</i>	‘moon about three-quarters; moon after <i>haeno</i> ’

Lichtenberk (2008a) includes the following To’aba’ita (SES) terms. These are verbs, forming clauses like *madami e siki* [moon it small] ‘it’s new moon’. Note the second stage of waxing, which can be glossed as ‘like a hibiscus leaf’, semantically the label that Maringe applies to the same phase.

<i>siki</i>	‘be new (of moon)’
<i>sūsuʔiuʔa</i>	‘be just past the new stage’ (‘still have sharp points’)
<i>reʔefakaθo</i>	‘be in the second stage of waxing’ (<i>reʔe</i> ‘leaf’, <i>fakaθo</i> ‘tree sp., <i>Hibiscus tiliaceus</i> ’)
<i>dolosuʔu</i>	‘be in the last waxing phase before being full moon’ (<i>dolo</i> ‘giant clam sp.’)
<i>arak^wa</i>	‘be full (of moon)’
<i>dek^we</i>	‘be past the full phase, beginning to wane’ (<i>dek^we</i> VI ‘break into pieces; break, crack open’)
<i>taθa</i>	‘be in the final waning stage before new moon’ (<i>taθa</i> ‘go past’)

Similar sets evidently occur further east, but the data are sparse. The Mwothlap (NCV) set consists of clauses with the subject *no-wol* ‘the moon’ —

<i>no-wol tɔgyɔw</i>	‘new moon’ (<i>togyow</i> ‘appear’)
<i>na-ŋyeyye mes</i>	‘crescent moon’
<i>no-wol na-gayte-gi</i>	‘half moon’ (<i>gayte</i> ‘piece’)
<i>no-wol ni-tp^wεtp^wε-p^wɔ</i>	‘waxing gibbous moon’ (lit. ‘the moon becomes a pig’s belly’)
<i>no-wol wɔnwɔn</i>	‘full moon’ (<i>wɔnwɔn</i> ‘complete’)
<i>no-wol ni-tp^wεtp^wε-p^wɔ lok</i>	‘waning gibbous moon’ (lit. ‘the moon becomes a pig’s belly again’)

—and the Lenakel (SV) set of clauses with the subject *mouk* ‘moon’ (John Lynch, pers. comm.).

<i>mouk vi</i>	‘new moon’ [moon new] (English calque?)
<i>mouk rə-nail etuatu</i>	‘first quarter’ [moon it-stand straight]
<i>mouk r-amep^wep^w nəm^wanuvie</i>	‘full moon’ [moon it-pat pandanus]
<i>mouk rə-napinap</i>	‘last quarter’ [moon it-is dark]

Table 11.27 Moon phases in Hawaiian³³

1 New Moon	<i>muku</i>	
2 waxing crescent	<i>hilo</i>	‘twisted’; ‘navigator’
3 waxing crescent	<i>hoaka</i>	‘crescent’
4–6 waxing crescent	<i>kū-</i>	[stand-]
8–11, 22–24 (9=) First quarter	<i>ʔole-kū-</i>	[not stand-]
12 waxing gibbous	<i>huna</i>	‘hidden horns’
13 waxing gibbous	<i>mōhalu</i>	
14 waxing gibbous	<i>hua</i>	‘fruit, seed, egg’
15 waxing gibbous	<i>akua</i>	name of a god
16 Full moon	<i>hoku</i>	
17 waning gibbous	<i>māhea-lani</i>	
18 waning gibbous	<i>kulu</i>	
19–21 waning gibbous	<i>lāʔau-kū-</i>	[plant-stand-]
25–27 waning crescent	<i>kāloa-kū-</i>	‘sacred to the god Kanalo’
28 waning crescent	<i>kāne</i>	name of a god
29 waning crescent	<i>lono</i>	name of a god
30 waning crescent	<i>mauli</i>	

The seemingly most articulated set of Oceanic moon phase terms is found in Hawaiian, where every day of the lunar cycle has a name, as in Table 11.27. However, a little deconstruction shows that a number of the phase terms fall into smaller sets, and the days within each set are numbered. Thus days 4–6 share *kū-* ‘stand’, giving *kū-kahi* [stand-1], *kū-lua* [stand-2], *kū-kolu* [stand-3], *kū-pau* [stand-last]. The *ʔole-kū-* ‘not stand’ set for days 8–11 recurs, counting again from *kahi* ‘1’, as days 22–24. Presumably *kū-* was once a term covering several days, in the same way as certain Maringe terms in Table 11.26 covered several days. Numbers were later added to enumerate the days within that phase. Days with their own names cluster around the full moon (as in Table 11.25) and the new moon. The glosses appear to reflect a mixture of names of Hawaiian deities and names designating good (*kū-* ‘stand’) and bad (*ʔole-kū-* ‘not stand’) planting and fishing days.

In its full listing the most complex set of moon shape terms is from ‘Are’are (SES), listed by Geerts under *hura* ‘moon’, but the analysis in Table 11.28 shows that it is less complex than it looks. The days from 1 to 14, i.e. the days before the full moon, are labelled in pairs. Thus day 1 (new moon) is *tari-warō ara*, day 2 *tari-warō oreta*. Each pair is labelled with *ara* ‘first’³⁴ and *oreta* ‘last’. Days 15 and 16, the latter the full moon, are *inoni ara* and *inoni oreta*, after which days 17–30 repeat the pair labels of days 1–14 but in reverse order, so that day 17 is *hura-para ara* and day 18 is *hura-para oreta*, and so on. The terms are at least partly metaphorical.

³³ Glosses of the Hawaiian terms are based on on Pukui & Elbert (1971) and on those at <http://www.in-stanhawaii.com/cgi-bin/hi?Weather.moon> (accessed 25 February 2022).

³⁴ Geerts (1970) has no gloss for *ara* in this context.

Table 11.28 Moon phases in 'Are'are

1-2, 29-30	new moon (=1)	<i>tari-warō</i>	[get-moon]
3-4, 27-38	thin crescent	<i>husi</i>	'banana'
5-6, 25-26	medium crescent	<i>roa</i>	'black lipped pearl shell used as scraper for coconut'
7-8, 24-26	thick crescent	<i>hehere</i>	'pounded taro'
9-10, 21-22	half-moon	<i>akoru</i>	'gnawed'
11-12, 19-20	just gibbous	<i>ruruai</i>	'a pair'
13-14, 17-18	very gibbous	<i>hura-para</i>	[moon-white]
15-16	full moon (=16)	<i>inoni</i>	'person'

Other shape terms, for example, in Bariai (NNG), are simpler. 'Moon' is *taiko*.

<i>taiko i-tal dodom</i>	'night with no moon' (<i>i-tal</i> 'it causes'; <i>dodom</i> 'dark(ness)')
<i>taiko i-mata dodom</i>	'new moon' (<i>i-mata</i> 'its face'; <i>dodom</i> 'dark')
<i>tue iragia</i>	'crescent' (<i>tue</i> 'small black mussel shell'; <i>iragia</i> 'shard or fragment, especially of seashell')
<i>taiko ilia</i>	'half moon' (<i>ilia</i> 'part')
<i>taiko dodol</i>	'full moon' (<i>dodol</i> 'whole')

In Owa (SES), 'moon' is *fagaiifa*.

<i>kare-na fayaiifa</i>	'new moon' (lit. 'moon's baby')
<i>rau-ni afanaru</i>	'quarter moon' (<i>rau</i> 'leaf'; <i>ni</i> 'of'; <i>afanaru</i> 'plant sp.')
<i>ura-fayaoto</i>	'be half moon' (<i>ura</i> 'moon' [archaic?]; <i>fayaoto</i> 'straightened')
<i>rau-ni apato</i>	'gibbous moon' (<i>rau</i> 'leaf'; <i>ni</i> 'of'; <i>apato</i> 'plant sp.' (?))
<i>fafayaenani na fayaiifa</i>	'full moon' (<i>fayaenani</i> 'whole, complete')

Languages with shape terms rather than phase terms also have expressions meaning 'the moon is waxing' or 'the moon is waning', which, in combination with shape terms allow them to refer to a given moon phase.

11.6.5 Moon phases in Proto Oceanic?

What does the account in §11.6.1–6.4 tell us about POc moon phase terms? As no terms can be reconstructed, it tells us nothing with certitude, but the following are reasonable inferences:

1. There were terms for full moon (§11.6.1), for the nights of darkness and the newly appeared crescent moon (§11.6.2), and a little less certainly for the half moon (§11.6.3).
2. The structure of the set of terms centred on the full moon, such that days around the full moon (and perhaps around the new moon) had dedicated labels, whereas other phases had labels that covered more than one day (§11.6.1).

3. The names of the phases may have alluded to narratives or to shapes. Shape terms often depended on comparisons with common objects. Only one such comparison, of a crescent moon to a crescent-shaped piece of shell, occurs across subgroups (Bariai [NNG] *tue iragia* ‘shard of mussel shell’, Motu [PT] *doyayi* ‘crescent shaped pearl-shell’, ‘Are’are [SES] *roa* ‘black lipped pearl shell used as scraper for coconut’). However, the possibility of the same comparison being made independently in different places is too high to allow a POC reconstruction.

11.7 Summing up

Apart from the Micronesian and Polynesian month terms reconstructed respectively in §11.5.7 and §11.5.8, very few reconstructions of terms denoting seasonal cycles or lunar ‘months’ have resulted from the research reported in this chapter. However, our exploration of the data when seen in the light of various insightful quotes from ethnographers has resulted in a better understanding of the way in which POC speakers conceptualised time. Our conclusions may be summarised as follows.

11.7.1 Proto Oceanic speakers saw time in terms of recurring cycles.

The times they used as reference points came from various cycles – plant cycles, weather cycles, wild life cycles – all subsumed under POC **taqun* ‘any regular seasonal cycle’, and all moving within a grand unified scheme controlled by the sun. POC **taqun* did not refer to a fixed period of time. It could be used to refer to the season appropriate to different contexts, perhaps most commonly the growing season of the yam (§11.3). If speakers wished to talk of the dry time or the time of voyaging they could refer more specifically to **raki* ‘dry season when the southeast trades blow’, or if referring to the wet season or the period when bad weather affected their fishing, to **apaRat* ‘wet season when northwesterlies blow and the sea is rough’ (§11.4.7). They recognised another cycle, the lunar cycle (POC **pulan* ‘moon’), as one that moved to a different beat, independently of the others.

11.7.2 POC speakers had no concept of a year as a fixed period of time or unit of measurement.

A year was simply a cyclic entity (§11.2). If speakers conceived of a cycle encompassed by the sun’s annual path, they could refer to it either by **taqun* or by any natural feature recurring in that cycle. As recurrent cycles they could be counted but not as fixed periods of time. Hence, people might talk about something happening three yam seasons ago or three wet seasons ago. Reflexes of **taqun* have more recently been widely adopted to refer to the western concept of ‘year’.

11.7.3 Lunar months were useful for planning but named lunar months could not be added together to form a system.

If POC speakers had regular names for times of year, they did not form a fixed list. Lunar months, like seasons, are named by the events that define them. They are identified by their focus and not their length. It is impossible to say when one named period ends and another begins. Periods may blend into each other or overlap or leave gaps. Alternative names may be

possible. Hence they cannot be added together to form a system. And because for POc speakers there was no concept of a year as a fixed period of time, there was no point in trying to combine them into a fixed list that could be aggregated to form a solar year. Instead, it was important that names be used flexibly so that adjustments could be made when necessary so that a month name matched its designated time of year. Where fixed lists exist, or have been reconstructed, they are usually seen as an attempt to integrate the western conception of time, and unless recognised as independent of the moon, must carry some way of intercalating the lunar and solar systems. The list reconstructed for Proto Chuukic ignores lunar months, being based purely on star movements as they trace a solar year.

Although similar kinds of checkpoints identifying times in the annual cycle were recognised throughout the Oceanic world, few POc reconstructions have been possible. There are reconstructions only to PEOc **(o,u)du* and PCP **balolo* for the palolo worm as a specific marker of time. And although we have reconstructed a rather tentative POc **bulu(q)* for the Pleiades, the constellation carries little weight in named lunar month terms. The inclusion of its name in a Micronesian list is purely as part of a star sequence while in Polynesia it serves either as the start an annual cycle or as a seasonal term.

11.7.4 Moons could be named as one-offs but not as part of a system.

For those communities where the palolo rising was celebrated, two successive moons might be named by the event. They might then form part of a regular seasonal pattern as in the Torres and Banks Islands (Table 11.20). But the names, now referring to weather and plant cycles, could not continue to refer strictly to moons. Those who tried to connect regularly named times of year with the lunar cycle would quickly get out of sync. So if particular moons other than the palolo moons were named, they were moons identified by their relationship with some event in village life. Malinowski offers an explanation for naming particular moons. He writes that in the Trobriands:

the whole scheme is not a division of the year into a number of moons, rather a method of calculating moons, especially full moons, standing for important tribal movements, which cover interesting and dramatic times of the year. And as the year—that period of garden cultivation and other important tribal events—interests them first with regard to gardens and supply of food, so moons which are relevant in these respects are named and known by name and are divided into a scheme of growth represented by plenty and scarcity. (1927:215)

For instance, he writes (1927:211), that *Milamala* is the moon of festivities after the harvest, and that the names of *Milamala*, *Kuluwasasa*, the preceding month when harvesting is done, and *Yakosi*, the moon that follows *Milamala* “are universally known to the natives and they are used by everybody” (p32). See also §11.5.1.1 (Table 11.10) for three moons similarly marked in Wogeo. It seems that a community might name a small number of full moons that mark a special time in their cultural life. A situation when 12 or 13 are named would mean a fixed list with some way of adjusting to the solar year, an exercise for which there was no evidence in POc times.

11.7.5 The stars were the ultimate markers of time.

Stars could be relied on when careful planning was required (§11.4.2). Although there is considerable variation among communities today in their degree of familiarity with the stars,

the Pleiades, POc **bulu(q)*, are widely recognised throughout the Oceanic world as significant markers of the annual cycle. Star knowledge may have been considered of greater importance before the introduction of the western calendar. Evidence ranges from almost total lack of interest among the Maenge (Panoff 1969:156; cf §11.5.1.2) to Muyuw's recognition of thirteen stars or star groups as calendar stars (Damon 1990:37–40; cf §11.5.2.1) and to the knowledge of the Micronesian (§11.5.6) and Polynesian (§11.5.8) navigators, for whom the night sky effectively served as both calendar and compass (Lewis 1972), (vol.2, ch.6). It seems that although probably everyone in a community could identify a few stars or constellations, there were usually some people of authority, such as in the Trobriands, who were expected to have more detailed knowledge of the night sky. When more precise planning became necessary for trading voyages or ritual events, people would turn to experts in astronomical knowledge. Alkire (1970:38) writes that in Woleai “seasonal time keeping [is] a responsibility of the chiefs, the Star of the Seasons (*fūsaliṛag*)”, while Gill writes that in Mangaia the responsibility for such planning lay with the king himself (1876:317).

12 *Talking about speaking*

MALCOLM ROSS, BETHWYN EVANS AND MEREDITH OSMOND

12.1 Introduction¹

One thing people often talk about is what they and others say. When they talk about speech, they often conceptualise it as an act: ‘she promised me’ or ‘he accused me’ or ‘I reprimanded him’ or ‘he lied to me’ or ‘they congratulated you’ or ‘I persuaded her to ...’. The list of possible ‘speech acts’ is long, and has generated a substantial literature. Much of this of a philosophical bent extending the work of Austin (1962) and Searle (1969; 1976; 1998). Some of it more inclined toward linguistics in that it deals with the pragmatics of speech—how we interpret and respond to what someone says (e.g., Leech 1983, ch.8; Shuy 2015), or with the structure of conversations (e.g., Sinclair & Coulthard 1975; Tsui 1994; O’Grady 2010).

Here, however, we set these matters aside and focus on speech act verbs, the verbs that speakers use to refer to the kinds of act exemplified above. Alongside these, languages have speech manner verbs like *shout*, *stammer*, and *whisper*; about which the literature has much less to say as they are relatively uncontroversial. Both speech act verbs and speech manner verbs are reconstructed below.

12.1.1 Categorising speech act verbs

A number of studies have examined the meanings of speech act verbs. Verschueren (1980) and Wierzbicka (1985a,b; 2003) argue that we must not assume that each language encodes the same set of speech acts in its speech act verbs. Verschueren’s (1980:4) claim is that only the speech acts which are relevant within the given culture will be lexicalised (that is, have words or expressions that denote them) and thus the analysis of speech acts and their classification should be done through detailed analysis of different languages’ speech act verbs (Verschueren 1980:34). Wierzbicka (1987, 2003) presents similar argumentation, stating that

every language imposes a certain categorization on the universe of speech acts, by offering labels such as *exclaim*, *promise*, *complain*, *reproach*, and so on. These labels are language-specific. This means the categorization offered by one language is different from that offered by another (1987:10).

¹ The division of labour among the authors is roughly as follows: BE compiled most of the cognate sets and contributed to the introductory sections; MO did the research underlying §12.6 and suggested various revisions of the text; and MR wrote most of the text of the chapter.

She argues that these categorisations are ‘crucially important to the way we perceive the world we live in— the world of human relationships and human interaction.’ (1987:3). Further, “the primary act of speech act verbs consists in interpreting people’s speech acts, not in performing speech acts,” (1987:16) and thus

The set of English speech act verbs reflects a certain interpretation of the world of human action and interaction’...‘but the categories for which English does provide names are evidently seen by the speakers of English as particularly important. They shape their perception of human attitudes and human relations (1987:10).

Thus the only way to understand this categorisation in a given language and through it its speakers’ interpretations of human actions and interactions, is to first analyse the structure of its speech act verbs (Wierzbicka 1987:9).

Ideally, then, this chapter would pursue two questions: (i) What types of meaning are lexicalised in Oceanic languages and appear to have been lexicalised in Proto Oceanic; and (ii) what is the grammatical behaviour of these lexemes, both in the modern languages and in Proto Oceanic? However, the available data limit what can be done. Dictionary definitions of speech act verbs are often only one or two words, and we are left guessing how a term is/was used in practice. As a result there are more question marks against reconstructed glosses in this chapter than elsewhere in these volumes. Sometimes examples tell us about a term’s grammatical behaviour, but we find that cognates differ in behaviour, so that (ii) has proven largely unachievable, other than that the subject is usually the speaker.²

Although absence of exact equivalence between speech act verbs in different languages is the norm, Leech (1983:205–226) sorts speech act verbs into five broad categories based on their sense and on the grammatical constructions in which they occur. We re-label four of them in order to avoid some of the jargon that has grown up around speech acts and speech act verbs.³ English constructions and examples follow.⁴ We take a following clause or *to* + verb phrase to be the verb’s complement, while object_A refers to an addressee. The morpheme introducing a complement is called a complementiser. In this terminology, then, *that*, *if/whether* and *to* are complementisers.

- | | | |
|----|--|---|
| 1) | a. report verbs (Leech’s assertives): e.g. <i>say, declare, argue, mention</i> | |
| | verb + object noun phrase | <i>I said a few words.</i> |
| | verb + [<i>that</i>] clause | <i>I said that I was coming.</i> |
| | verb + clause with <i>wh</i> -word | <i>I said what they wanted to hear.</i> |
| | b. question verbs (Leech’s rogatives), e.g. <i>ask, enquire, discuss, wonder</i> | |
| | verb + object noun phrase | <i>She asked a question.</i> |
| | verb + <i>if/whether</i> clause | <i>She asked if/whether the school would be closed.</i> |
| | verb + clause with <i>wh</i> -word | <i>She asked who would be invited.</i> |

² Very few Oceanic dictionaries meet our criteria. Those that do include Bugenhagen & Bugenhagen (2007; Mangap), Samson et al. (2018; Sursurunga) and Pawley & Sayaba (2022; Wayan Fijian).

³ Leech admits that his categorisation, based on Searle’s (1976), has rough edges, but nothing better has appeared, and it serves our comparative purposes well enough.

⁴ For simplicity’s sake the examples given in (1a) and (1b) have simple transitive verbs. Some report verbs, e.g. *tell, inform, advise*, add an object_A to the constructions above (e.g. *I told John that I was coming*), as do some question verbs (e.g. *We asked the inspector if/whether the school would be closed*). The constructions in (1) are indicated informally and omit various stipulations that are not relevant here.

- c. influence verbs⁵ (Leech's directives), e.g. *tell, urge, order, request, ask*
 verb + object_A + [that] clause *I told the children that they should go home.*
 verb + object_A + to verb phrase *I told the children to go home.*
- d. commitment verbs (Leech's commissives), e.g. *offer, promise, agree, refuse*
 verb + [that] clause *We agreed that we would paint the schoolroom.*
 verb + to verb phrase *We agreed to paint the schoolroom.*

Influence constructions resemble commitment constructions, except for the addition of an addressee object (the person the speaker seeks to influence) in influence constructions.

Semantic definitions of the four classes in (1) are inevitably wide. Report verbs refer to speech acts by which speakers convey the information in the complement to their addressee(s) (§12.3.1). A question verb refers to a speech act that seeks from some other person a verbal response to the complement (§12.3.3). An influence verb refers to a speech act that seeks to have the addressee(s) perform an act described in the complement (§12.3.4). A commitment verb refers to a speech act whereby the speaker(s) undertakes to perform (or in the case of *refuse*, not to perform) an act described in the complement. No commitment verbs are reconstructed below, a lacuna that is discussed in §12.3.5.

Leech's expressives, e.g. *greet (s.o.), thank (s.o. for s.t.), excuse (s.o. from s.t.), accuse (s.o. of s.t.), praise (s.o. for s.t.), congratulate (s.o. on s.t.), apologise (to s.o. for s.t.)* differ from report verbs in that they usually occur without a complement clause because the speech act's semantic content is expressed by the speech act verb itself (Leech 1983:217–218). Expressives are particularly specific to their speakers' culture in the sense discussed by Verschueren and Wierzbicka, but we do find a few cognate sets that permit the reconstruction of earlier expressive speech act verbs (§12.4).

In both English and many Oceanic languages the same verb may occur in different constructions with different meanings. *Tell*, for example, is both a report and an influence verb. The distinction is made by the complement construction: report *I told him that I was going home* vs influence *I told them that they should go home* or *I told them to go home*. *Ask* is both a question and an influence verb: *We asked if the school would be closed* vs *We asked the children to go home*. Thus it is the verb and the construction together that convey whether the speech act being talked about is conceived as reporting, questioning, influencing or committing.⁶

In light of the above, data for this chapter were assembled in two ways. First, as usual, we searched all the available lexical sources for speech act and speech manner verbs. We also searched grammatical descriptions for examples of speech act verb usage in the context of the constructions with which they occur. Examples from sixty or so Oceanic languages were collected, but these are sometimes incomplete. Often we do not find construction data for commitment verbs. This is apparently a result of the distribution of the four classes in the data. Where '>' means 'is more frequent than', we find report > influence > question > commitment.

⁵ The labels of 370c and 370d are borrowed from Sag & Pollard (1991).

⁶ Leech (1983:211) notes that the constructions themselves also occur with non-speech-act verbs. They convey speech act meaning only with a speech act verb.

12.1.2 Complements in Oceanic languages

The framework above seems messy: a few English speech act verbs belong to two or more of the four classes, and some English constructions occur in more than one class. The apparent mess reflects the interaction of numerous factors which we gloss over here. What is interesting is that each Oceanic language for which there are adequate data on the co-occurrence of constructions with speech act verbs displays a similar set of overlaps. Just as the complementiser *that* occurs with English report, influence and commitment verbs, in Sursurunga (MM, St George, south New Ireland) the complementiser *ŋo* occurs with all four classes. And just as a conditional *should* or *would* occurs in the *that*-complement of an English influence or commitment verb, so the verb in the complement of a Sursurunga influence or commitment verb is in the irrealis mood, as in (5) and (6). We saw from (1c) and (1d) above that English influence and commitment constructions differ only in the addition of an addressee object to influence constructions, an addition that follows from their semantics. The same difference is reflected in (5) and (6) below.

In each of (2) to (6) the speech act verb is underlined and the complement clause is surrounded by square brackets. The complementiser is bolded.

2) report

*mutwən dan ə Uiam di lu parai [**ŋo** a lu arpukus]*
 river.mouth river ART U. S:3P HAB say C S:3S HAB dangerous
 ‘The mouth of the Uiam river, they say that it is dangerous...’ (Samson et al. 2018:105)

3) question: polar

*kalilik di gatna [**ŋo** də-k lu kas ioh mə]...*
 guys S:3P ask C S:3P.IRR-SEQ HAB dig,up earth.oven now
 ‘The guys asked if they could open the earth oven now, ...’ (Samson et al. 2018:96)

4) question: *wh*-

*Mə pəkənbuŋ iau gəltə di [**ŋo** dənih a loŋoi ə kalik er ə-k taŋ,...]*
 CJ then S:1S ask O:3S C what S:3S do spec child dem S:3S-SEQ cry
 ‘And then I asked them what that child had done so that he cried, ...’
 (Samson et al. 2018:203)

5) influence

*əi tata a dos-i iau suri [**ŋo** ina sari lamas munəŋ,...]*
 D:3S dad S:3S command-TR O:1S PURP C S:1S.IRR climb coconut.tree that.below
 ‘Dad told me to climb that coconut down there ...’ (Samson et al. 2018:715)

6) commitment

*... tan kələmul di sorməŋət mai muswan [**ŋo** da tur talum*
 PL person S:3P assent with faithfulness C S:3P.IRR stand together
suri loŋoi ə rumə-n aratintin kə-n elementiri]
 PURP build ART house-P:3S teaching PCL-P:3S elementary
 ... the people undertook faithfully to stand together to construct an elementary school building. (Samson et al. 2018:483)

Another instance of similarity between English and Oceanic is that some speech act verbs occur in more than one category. English *tell* and Wayan Fijian *veðe* ‘tell’ both occur as both report (7) and influence (8) verbs

- 7) *a nei veðe-i au o Taina [me gu dau vakateke-i Adi]*
 S:3S HAB tell-TR O:1S ART T. C S:1S HAB spoil-TR Adi
 ‘Taina used to tell me that I always spoiled Adi.’ (Pawley & Sayaba 2022)
- 8) *gu sã veðē [me vakarau laka]*
 S:1S PERFECTIVE tell.O:3S C prepare go
 ‘I told her to get ready to go.’ (Pawley & Sayaba 2022)

The same can be said of Mussau *ue*, Wuvulu *-ware*, Lou *pa*, Kele *pe*, Mangap *-so*, Bariai *-keo*, Yabem *-sɔm*, Minaveha *-vone*, Tawala *-baha*, ‘Ala’ala *-tani-*, Bola *taki-*, Nakanai *vei*, Tabar *oɛŋ*, Siar *war-*, Halia *hate-*, Teop *sue*, Papapana *-vatani-*, Zabana *kahe-*, Kokota *ōe*, Maringe *ceke-*, Gela *bosa*, Tolo *koe*, Longgu *ili-*, Arosi *woi*, Teanu *-ko*, Vurës *yayney*, Mwotlap *vap*, Maskelynes *-kel*, Tamambo *viti-*, NE Ambae *veve*, Neverver *-ver*, Paamese *vite*, Lewo *-pisa*, Nêlêmwa *xab^we*, Tinrin *hĩđo*, Kosraean *fæk*, Marshallese *ciŋoŋ*, Mokilese *p^wēŋ*, Boumaa Fijian *tuʔu-*, Tongan *tala*, Tuvalu *fai*. The fact that the same word can be used with both report and influence constructions in so many Oceanic languages points to the likelihood that POC also had verbs similar in sense to English *tell*, meaning roughly ‘communicate (s.t. to s.o.)’. Two such verbs are tentatively reconstructed in §12.3.2. But the fact that the just listed verbs form a number of cognate sets (or belong to no known set) is a warning that speech act verbs are quite labile in Oceanic languages.

Of all these verbs, just two also occur as question verbs: Tawala *baha* and Boumaa Fijian *tuʔu*, probably because they are general verbs of saying.

Although English *ask* occurs as both a question and an influence verb, the only clear Oceanic instances of this semantic range in our data are Micronesian: Kosraean *siyAk*, Marshallese *kaccitAk*. This is not really surprising, as English *ask* is unusual in this regard. Many languages, it seems, use different speech act verbs in contexts that approximately correspond to English *ask*, e.g. German *fragen* (question) vs *bitten* (influence), Spanish *preguntar* vs *rogar*, Russian *sprosit’* vs *poprosit’*, Hungarian *kérdezni* vs *kérni* (Verschueren 1980:27), Japanese *tazuneru* vs *tamomu*, Mandarin *wèn* vs *yào*.⁷ Note, however, that there is a derivational relationship between the two verbs in Russian and in Hungarian.

One difference between English and many Oceanic languages resides in the fact that English question, influence and commitment verbs have an alternative construction, *to* + verb phrase. This is an instance of “desententialisation” (Lehmann 1988), the tendency across languages for non-report verbs to occur with reduced complements that are no longer sentence-like. Like Sursurunga in (2)–(6), most Oceanic languages appear to lack reduced complements. Of the sixty or so Oceanic languages examined, only four have them. One is Teop (MM, Northwest Solomonian, north Bougainville), where influence verbs occur with two constructions. In (9) the complement clause is marked with the imperative preverbal clitic *=re*, and is a full clause. Alone, but with a second-person plural pronoun, its clause would be an imperative: ‘You go to the garden!’.

- 9) *na tariko ma=e Saritavi [enam=re nao mohina].*
 R ask DIR=ART S. D:1EP IMPERATIVE go garden
 ‘Saritavi asked us to go to the garden.’ (Schwartz et al. 2007: 227)

⁷ These examples simply support the claim that English *ask* is unusual in its semantic range. It is almost certainly not the case that the members of these pairs are semantically equivalent across languages.

In (10) the complement is reduced: the complementiser is purposive *tea* and the subject is deleted as it is identical with the addressee (*mōn* ‘female’) of the influence verb *sue* ‘tell’.

- 10) *e iā na sue ki bona mōn [tea mamata bono matavu]*
 ART mother R tell PREP ACC female C open ACC door
 ‘Mother told the girl to open the door.’ (Mosel & Thiesen 2007, §10.1.4)

Other languages in which we have found reduced complements are Wayan Fijian (see example 8), Kosrean (Lee 1975:307) and Mokilese (Harrison 1976:293–294).⁸

English and Oceanic complement clauses differ in another respect. It is well known that the complements of English speech verbs (‘indirect speech’) are potentially affected by two phenomena relative to the clauses they are allegedly quoting. Thus a direct quotation like ‘*I don’t want to be here,*’ *John said* becomes *John said [he didn’t want to be there]*. The first phenomenon is deictic shift. As the speaker of the latter sentence is not John and is not at the place where John had spoken, the *I* of direct quotation becomes *he* and *here* becomes *there*. The second phenomenon is tense shift. As the speech act verb *said* of the latter sentence is in the past tense, the present tense verb *don’t want* of direct quotation shifts tense to past *didn’t want*. Oceanic languages employ deictic shift, but to our knowledge none shift tense. This appears to be a common pattern around the world.

It should be noted here that in Oceanic narrative texts direct quotation is much more common than indirect speech.

12.1.3 Ways of referring to speech acts

Thus far, we have assumed that speech acts are referred to by dedicated verbs, and indeed sometimes they are, as shown by the reconstructions in the following sections. But languages differ in this regard. For example, Mangap (NNG) has numerous apparent compounds that refer to speech acts. These consist of a verb plus an element that may be an adverb, a noun or another verb. The dictionary usually treats an adverb or noun as a separate word but joins a second verb to the first as a single word.⁹ Some of these compounds are semantically quite transparent, especially those with adverbs, e.g. *-so katkat* ‘speak frankly’, where *-so* means ‘say, speak’ and *katkat* means ‘openly, directly’. Others are fairly opaque, like *-so-pe* ‘advise (s.o.), instruct (s.o.)’, where *-pe* is ‘be firm, be settled’. Further compounds with *-so* are shown in (11).

11)	Compound	gloss	second element with gloss
	<i>-so katkat</i>	‘speak frankly’	<i>katkat</i> ‘openly, directly’
	<i>-so sorok</i>	‘speak baselessly’	<i>sorok</i> ‘insignificant, ordinary’
	<i>-so-kāla</i>	‘cut s.o.’s talk short’	<i>-kāla</i> ‘go on top of’
	<i>-so-pe</i>	‘advise (s.o.), instruct (s.o.)’	<i>-pe</i> ‘be firm, be settled’
	<i>-so-kere</i>	‘talk s.o. into doing s.t. wrong’	<i>-kere</i> ‘lead, take the lead’

⁸ In many Oceanic languages every verb has a prefixed or proclitic subject pronominal. This is also true of the verb in a complement clause whose subject is coreferential with the subject or object of the speech act verb. Teop is different: a subject pronominal is phonologically independent of the verb, allowing its deletion in a complement clause, giving clause reduction. Whether this is true of other Oceanic languages with clause reduction is a matter for research.

⁹ No attempt is made here to investigate how ‘apparent compounds’ fit into the grammars of the languages in which they occur, nor what their history is. For this, see papers in Brill & Ozanne-Rivierre (2004).

-so-yāra ‘speak publicly, proclaim’ *-yāra* ‘shine, give off light’

The compounds above are report or influence expressions. Compounds formed with *wi-* ‘ask’ are question expressions, as seen in (12). Alone, *-wi A pa B* (*pa* is a multipurpose preposition) means either ‘ask A about B’ or ‘ask A for B’.

12)	Compound	gloss	second element with gloss
	<i>-wi kankāna</i>	‘ask stupid questions, ask a rhetorical question’	<i>kankāna</i> ‘stupid’
	<i>-wi kinkin</i>	‘interrogate, persist in asking’	<i>kinkin</i> ‘persistently’
	<i>-wi tapāra</i>	‘ask repeatedly’	<i>-tapāra</i> ‘repeatedly’
	<i>-wi-sese</i>	‘interrogate, ask repeatedly’	<i>-sese</i> ‘sew up, mend’
	<i>-wi-nanāna</i>	‘investigate, ask many people’	<i>-nanāna</i> ‘chase’
	<i>-wi-pe</i>	‘ask in order to hear well’	<i>-pe</i> ‘be firm, be settled’

A number of other speech act compounds are listed in (13). The first verb is one of *-suŋ*, *-kuru* and *-ŋgal*. Alone *-suŋ A pa B* means ‘ask A for B’. The other two verbs are not speech act verbs when used alone: *-kuru* means ‘thread (s.t.) through a hole, put into a container’, and *-ŋgal* ‘throw’ or ‘pierce’.

13)	Compound	gloss	second element with gloss
	<i>-suŋ sosor</i>	‘wish evil, threaten, curse’	<i>sosor</i> ‘wrongdoing’
	<i>-kuru kopo-</i>	‘stir up, incite, provoke (s.o.)’	<i>kopo-</i> ‘stomach’
	<i>-kuru lele-</i>	‘stir up, incite, provoke (s.o.)’	<i>lele-</i> ‘inside’
	<i>-kuru sua pa A</i>	‘accuse A falsely’	<i>sua</i> ‘talk (N)’
	<i>-ŋgal sua pa A</i>	‘accuse A (often falsely)’ (= ‘throw talk at’)	<i>sua</i> ‘talk (N)’
	<i>-ŋgal lele-</i>	‘speak publicly, proclaim’ (= ‘pierce the inside’)	<i>lele-</i> ‘inside (N)’
	<i>-ŋgal talŋa-</i>	‘tell a secret, tip off’ (= ‘pierce the ears’)	<i>talŋa-</i> ‘ear’
	<i>-ŋgal-rāma</i>	‘teach (s.o.), instruct (s.o.)’	<i>rāma</i> ‘be together’
	<i>-ŋgal-sek pa A</i>	‘forbid someone from doing s.t.’	<i>-sek</i> ‘??’

Among the expressions in (13) is (in two versions), *-kuru/-ŋgal sua pa A* ‘accuse A falsely’. It includes the noun *sua* ‘talk’. Mangap has many speech act expressions that include *sua*, and a sample is listed in (14).

14)	Compound	gloss	semi-literal gloss
	<i>-ur sua pa A</i>	‘order A, command A’	‘put talk to A’
	<i>-piri sua pa A</i>	‘curse A, speak badly to A’	‘toss (bad) talk at A’
	<i>-gībi sua pa A</i>	‘curse A, speak badly to A’	‘throw talk at A’
	<i>-suk sua pa A</i>	‘accuse A’	‘??’
	<i>-tōro sua</i>	‘speak figuratively’	‘turn talk’
	<i>-kam sua pa A</i>	‘rebuke A, exhort A’	‘do talk to/about A’
	<i>-kam sua bōzo pa A</i>	‘complain about A’	‘do a lot of talk about A’

<i>-mbuk sua pa A pa B</i>	‘promise A concerning B’	‘tie talk to A concerning B’
<i>-la sua lelē-ne</i>	‘have an in-depth discussion’	‘go (to) the talk's inside’
<i>-so le-A sua</i>	‘have a chat with A’	‘say A's talk’

The last entry above perhaps needs explanation. The noun *sua* ‘talk’ is indirectly possessed, that is, the possessor suffix is attached not to the possessed noun *sua* but to the possessive classifier *le-* to give *le-n sua* ‘their talk’ in (15).

- 15) *zin mōri ti-zzo le-n sua*
 PL girl¹⁰ S:3P-REDUP.say PCL-P:3P talk
 ‘The girls were having a chat.’ (more literally, ‘The girls were saying their talk.’)

Finally, (13) includes four body-part expressions, *-kuru kopo-* ‘stir up, incite, provoke (s.o.)’, *-kuru lele-* ‘stir up, incite, provoke (s.o.)’, *-ŋgal lele-* ‘speak publicly, proclaim’, *ŋgal talŋa-* ‘tell a secret, tip off’, which include the body-part terms *kopo-* ‘stomach’, *lele-* ‘inside’ and *talŋa-* ‘ear’. Body-part terms play a large role in denoting emotions in Oceanic languages (vol.5, ch.9), and—not unexpectedly—Mangap *k^wo-* ‘mouth’ figures in a number of speech act expressions. Some of these appear in (16).

16)	Compound	gloss	semi-literal gloss
	<i>k^wo- ingal</i>	‘warn, remind’	‘mouth pierces’
	<i>-yo k^wo- pa</i>	‘complain about (s.o.)’	‘collect mouth concerning’
	<i>k^wo- i-belek pa</i>	‘mock, ridicule (s.o.)’	‘mouth despises’
	<i>k^wo- i-kanan</i>	‘nag, be after’	‘mouth is biting/eating’
	<i>k^wo- i-pun</i>	‘attack verbally, tear into, rip into’	‘mouth hits’
	<i>k^wo- i-pusuk</i>	‘urge, push someone to do s.t.’	‘mouth pushes’
	<i>k^wo- i-sala OR i-se</i>	‘raise one’s voice’	‘mouth ascends’
	<i>k^wo- i-su</i>	‘talk calmly’	‘mouth descends’
	<i>k^wo- i-sala ŋwa-</i>	‘order one’s superiors around’	‘mouth ascends on top of’
	<i>k^wo- i-sala ute-</i>	‘talk disrespectfully to people older than oneself’	‘mouth goes over the head’
	<i>k^wo- sanāna</i>	‘cry out, yell, scream, shriek’	‘mouth is bad’

The grammar of these expressions is straightforward. The noun *k^wo-* ‘mouth’ essentially stands in for the speaker, so that in (17) *k^wo-ŋ* [mouth-P:1S] ‘my mouth’ stands in for ‘I’. As the subject of the clause is ‘my mouth’, the verb takes a third person singular subject coreferencing prefix *i-*.

- 17) *k^wo-ŋ i-belek pa mōri tana*
 mouth-P:1S S:3S-mock PREP girl DEM
 ‘I mocked that girl...’

The distribution across Oceanic languages of compounds like those in Mangap is impossible to ascertain, as typically neither dictionaries nor grammars pay much attention to them. However, Lewo (NCV) makes plentiful use of speech act compounds that resemble

¹⁰ More accurately *mōri* means ‘unmarried female’.

those in (11) and (12). These are described by Early (1993), and (18) gives a selection of his examples.¹¹

18)	Compound	gloss	semi-literal gloss
	<i>visa-ari</i>	‘promise’	say-duration
	<i>visa-kare</i>	‘criticise’	say-spoil
	<i>visa-lup^wari</i>	‘forbid’	say-prohibit
	<i>visa-wali</i>	‘announce’	say-away
	<i>visa-mumu</i>	‘grumble’	say-crush
	<i>visa-lawe</i>	‘say without thinking’	say-thoughtless
	<i>visa-lua</i>	‘command’	say-separate
	<i>visa-ro</i>	‘interrupt’	say-divide
	<i>visa-yu</i>	‘discuss’	say-extend
	<i>viun-kare</i>	‘ask impolitely, be nosey’	ask-spoil

Motu (PT) *g^wau* ‘say, speak’ behaves like Lewo *visa* ‘say’, as a glance at Lister-Turner & Clark’s (1954) dictionary shows. Wayan Fijian *tata* ‘say, speak’ behaves similarly, as shown by the examples from Pawley & Sayaba’s (2022) dictionary listed in (19).

19)	Compound	gloss	second element with gloss
	<i>tata beḍi-</i>	‘speak belittlingly of s.o.’	<i>beḍi</i> ‘fail to show respect for s.o.’
	<i>tata ḍakaḍā</i>	‘swear or speak vulgarly’	<i>ḍakaḍā</i> ‘be bad, of poor quality’
	<i>tata leke</i>	‘speak briefly’	<i>leke</i> ‘be short’
	<i>tata moḍe</i>	‘talk in one’s sleep’	<i>moḍe</i> ‘sleep’
	<i>tata musuki-</i>	‘interrupt s.o.’	<i>musu</i> ‘be cut crossways’
	<i>tata g^wau</i>	‘boast, be a loud mouth’	<i>g^wau</i> ‘be too big, over-sized’
	<i>tata matani-</i>	‘scold or criticise s.o. to their face’	<i>mata</i> ‘opening, interstices as in the mesh of a net’
	<i>tata sese</i>	‘speak idly’	<i>sese</i> ‘without normal constraints’
	<i>tata vaka-mōmō</i>	‘speak with dignity’	<i>mōmō</i> ‘chief’ (<i>vaka-</i> MANNER)
	<i>tata ḍadruḍadru</i>	‘stutter, stammer’	<i>ḍadruḍadru</i> ‘keep picking things out’
	<i>tata āsagasaga</i>	‘speak in a trembling voice’	<i>āsagasaga</i> ‘be unsteady, shake’

However, one cannot assume that all Oceanic languages function like Mangap or Lewo. A search of the Wayan dictionary suggests that not many Wayan speech act verbs behave like this. Instead, there are many different lexical verbs, and the language also employs derivational affixes to produce verbs with senses that are sometimes not predictable from the root. Thus *tata* occurs in a basic transitive *tata-ni-* ‘speak to (s.o.)’, an applicative *tata-takini-* ‘talk about (s.t), complain or speak angrily about (s.t.)’, a reciprocal *vī-tata-ni* ‘converse, talk to one another’, and a frequentative *tātata*, ‘talk a lot, be talkative’. The verb *k^wai* ‘say (s.t.), mention (s.t.)’ (transitive: *k^waya*) appears not to occur in compound expressions, but only in derived forms: the frequentatives *k^wak^wai* (transitive: *k^wak^waiti-*) ‘gossip (about s.o.), talk

¹¹ In accord with his descriptive framework Early calls these ‘nuclear layer serialisations’.

critically or slanderously about s.o. in their absence’ and *k^waya-k^waya* ‘keep mentioning (s.t.), keep talking about (s.t.)’. The same is evidently true of *rō* (transitive: *rōti-*) ‘send a request to s.o. (asking for s.t.), give information to s.o.’ with its derived forms *vaka-roti-* ‘go and tell (s.o.)’ (*vaka-* causative) and *vīrōroti* ‘invite or summon people, bring in or gather people or animals’. Similar derivations occur with many other speech verbs.

12.2 Reconstructing Oceanic speech act and speech manner verbs

Various obstructions stand in the way of speech act verb reconstruction. One is their lability, (§12.1.2). Another is that reconstructions are often difficult to gloss. This, too, is partly due to lability: the meaning of a POC speech verb’s reflexes can change considerably as one moves eastward. But, more importantly, it is because many sources gloss them too briefly, leaving us with no information as to which class(es) of speech act verb a verb belongs to or, if the verb is transitive, whether its object is the speaker’s addressee or an indirect speech complement or a piece of direct speech (§12.1.1). Reconstructing POC usage is thus fraught with uncertainties.

One development that occurs at various times and places in the development of Oceanic speech act verbs is the occasional grammaticalisation of one of these verbs as a complementiser.

The first stage in this development is represented by Paamese (NCV). In (20) the verb *-vit* ‘say’ functions as a report verb. In (21) it is the second verb of a serial verb construction that consists of the question verb *-vīsi-* ‘ask (s.o a question)’ and *-vit* ‘say’. Here *-vit* simply has the function of introducing the complement clause, but it is syntactically a verb, as it takes a subject prefix (‘they asked me . . . they said. . .’).

- 20) *a-vit* [eimas kan keilu]
 S:3P-say sorcery eat D:3D
 ‘They said that the two of them were killed by sorcery.’ (Crowley 1992:20)
 (more literally: ‘They said that sorcery ate the two of them.’)

- 21) *a-vīsi-nau a-vit* [vakili ona-k mat]
 S:3P-ask-O:1S S:3P-say canoe PCL-P:1S die
 ‘They asked me if my canoe had capsized.’ (Crowley 1982:74)

Nêlêmwa (NCal) represents the second step. In (22) the verb *xab^we* ‘say’ functions as a report verb and is preceded by a subject pronoun.

- 22) *i xab^we* [io kio i uya]
 S:3S say FUTURE NEGATIVE S:3S arrive
 ‘He said he would not come.’ (Bril 2002:457)

In (23), *xab^we* follows the verb *fāyēn* ‘ask’, but this is no longer a serial construction like (21), as *xab^we* has lost its subject pronoun and become grammaticalised as a complementiser. Example (24) confirms this nicely, as it contains the verb *i u xab^we* ‘he said’ and then the complementiser *xab^we* that no longer has semantic function, only the syntactic function of introducing the complement.

- 23) *na fāyēn* [*xab^we* buca da hōli]
 S:1S ask C noise what that
 ‘I asked what that noise was.’ (Bril 2002:460)

- 24) i_x u xab^{w_e} fi $p^{w_{ayili}}$ [xab^{w_e} io i_x u \tilde{a}]
 S:3S PERFECTIVE say PREP P. C FUT S:3S PERFECTIVE depart
 ‘He said to Pwaili that he would leave.’ (Bril 2002:457)

A third stage in this development occurs when a complementiser is phonologically reduced. Some of these appear in the cognate sets below.

12.3 Complement-taking speech act verbs

Reflexes of the report, question, influence and commitment verbs reconstructed in §§12.3.1–12.3.5 are commonly found with an indirect speech complement, as described in §12.1, and one may infer that this was also true of the reconstructed verbs.

Some of the POC report verbs reconstructed below were very probably also used in senses that went beyond their speech act senses. Data supporting this inference are given in §12.6.

12.3.1 Report verbs

We infer from the glosses in the cognate sets below that POC $*k^{w_a}/*k^{w_{ai}}$ - and $*p^{w_a}/p^{w_{ai}}$ -, both ‘say, tell’, were perhaps the most neutral POC report verbs. Their similarity in form is probably fortuitous, and we see no difference in reconstructable meaning. Reflexes of both are well distributed across Oceania, although there are areas where one or the other predominates: $*k^{w_a}/k^{w_{ai}}$ in Guadalcanal (SES), in northern Vanuatu and in Fiji; $*p^{w_a}/p^{w_{ai}}$ in Western Oceanic, in Malaita (SES), in central Vanuatu and in Polynesia. The two coexist in Micronesia.

Some of the reflexes of both verbs are complementisers, glossed simply with (C). We infer that complementisers of the form *ka* reflect intransitive $*k^{w_a}$, while those of the form *ke* reflect transitive $*k^{w_{ai}}$ -. A parallel observation applies to complementiser reflexes of $*p^{w_a}/p^{w_{ai}}$ -, but with complications due to the reflexes of $*p^{w_{-}}$ -, which are discussed in connection with POC $*p^{w_{aca}}(q)$ below. Maskelynes *ke*, true to the description in §12.2, is an instance of a form that survives as both a verb and a complementiser, like Nêlêmwa *xabwe* in (23) and (24). The same is true of NE Ambae *-vo* and Mafea *-v*.

Just a few reflexes of $*k^{w_a}$, $*k^{w_{ai}}$ - appear also to be influence verbs, either because their glosses show this (Arosi, Kosaeen, Rotuman) or because we have influence examples (Vurës). Similarly there are influence examples of reflexes of $*p^{w_a}$, $*p^{w_{ai}}$ - (Tolai, Papapana, Mwotlap, Kosraean and Marshallese). These seem to be an extensions of the use of a ‘say’ verb in various languages rather than a feature reconstructable to POC.

POC $*k^{w_a}$ was inherited from a PMP form which Reid (2012) writes $*kuwá$, with final stress. It is easy to see that this might have been pronounced $*k^{w_a}$.

PAn $*kuaS$ ‘say’ (Wolff 2010:878)¹²

PMP $*kuwá$ ‘say’ (Reid 2012)

POC $*k^{w_a}$, $*k^{w_{ai}}$ - ‘say, tell’ (Ross 2011:29-30)

¹² This renders Wolff’s $*kuwas$ in the ACD orthography used in these volumes. Blust’s ACD does not list PAn $*kuaS$. He reconstructs PWMP $*kua$ ‘whatchamacallit, filler for word that cannot be recollected’ and $*kua-n$ ‘quotative [complementiser]’. The latter is almost certainly an undergoer voice form (vol. 5:27) of $*kua$. The glosses of some reflexes of both forms suggest that the reconstructions can be glossed ‘say’ and ‘what is said’ respectively. Reid (2011) gives Kambera *wá* ‘say’, providing a CMP reflex.

Adm:	Seimat	<i>ka-k</i>	‘talk’ (reduplication?)
		<i>ka</i>	(C)
NNG:	Gitua	<i>ɣai</i>	‘say, tell’
NNG:	Mumeng	<i>kəy-aŋ</i>	(N) ‘speech, talk’ (-aŋ NOM)
PT:	Gapapaiwa	<i>kae</i>	‘tell a story, ask (a question), ask (for s.t.)’
MM:	Halia	<i>ka</i>	(C)
MM:	Blablanga	<i>o-ʔoe</i>	‘say’
MM:	Kokota	<i>oe-ni</i>	‘say’
SES:	Gela	<i>ko-koe</i>	‘converse’ (reduplication)
SES:	Birao	<i>koe-</i>	‘say’
SES:	Talise	<i>koe-</i>	‘say’
SES:	Lengo	<i>kœ-</i>	‘say’
TM:	Äiwoo	<i>kɸ-</i>	‘say, think, want to’
NCV:	Vurës	<i>k^wa-k^w</i>	‘talk, speak, say’ (reduplication)
NCV:	Mwotlap	<i>ka-ka</i>	‘tell story’ (reduplication)
NCV:	Lonwolwol	<i>ke</i>	(C)
NCV:	Rerep	<i>ke</i>	(C)
NCV:	Maskelynes	<i>-ke</i>	‘say’
		<i>ke</i>	(C)
NCV:	Port Sandwich	<i>-ka, -kae</i>	‘say’
SV:	Anejom	<i>-ka</i>	‘say’
PMic * <i>kai</i> ‘inform’ (Bender et al. 2003a)			
Mic:	Kosraean	<i>kai</i>	‘talk to; warn, advise; admonish, instruct, persuade’
Mic:	Chuukese	<i>æ</i>	‘tell it, sing it’
Mic:	Carolinian	<i>æ-</i>	(N, VI) ‘say, speak’
Mic:	Woleaian	<i>xāi-u</i>	‘tell, mention, say’
Mic:	Ulithian	<i>kay-a</i>	‘say’
PCP * <i>k^wai</i> ‘say, tell’			
Fij:	Rotuman	<i>ʔe-</i>	‘say, tell, instruct, request’
Fij:	Wayan	<i>k^wai-</i>	‘say s.t., mention s.t., talk about s.o.’
Fij:	Nadrau	<i>k^way-a</i>	‘say’ (Geraghty 1983:45)
Fij:	Bauan	<i>kai</i>	‘say’ (mostly used in <i>kai-naki</i> ‘it is said’)
Pn:	Tongan	<i>ke</i>	(C)
Pn:	Tuvalu	<i>kē</i>	(C)
PNPn * <i>kai</i> ‘traditional story’			
Pn:	Tikopia	<i>kai</i>	‘traditional tale’ (originally from Firth)
Pn:	Nukuoro	<i>kai</i>	‘legend, story’
Pn:	K’marangi	<i>kai</i>	‘recount, history of’
Pn:	Nukuria	<i>kai</i>	‘legend, story’
Pn:	Māori	<i>kai</i>	‘riddle, puzzle, toy’
Pn:	Tuamotu	<i>ka-kai</i>	‘story, tale, fable’

It is tempting to associate POc **p^wa*/**p^wai-* ‘say, tell’ with *[*p^wa*]p^wa(*q*) ‘inner mouth’ (vol.5:128), but it seems more probable that this is a chance resemblance. The earliest

convincing ancestor of **p^wa/*p^wai-* is reconstructable as PCEMP **bai* ‘say’. Non-Oceanic evidence for the latter consists of PCMP **bei* ‘say’ (ACD) and PSHNG **ba/*be*.¹³

The forms listed under ‘cf. also’ are probably reduplications of reflexes of **p^wa* and **p^wai-*.

PCEMP **bai* ‘say’

POc **p^wa, *p^wai-* ‘say, tell’

Adm: Mussau	<i>ba</i>	(C)
Adm: Wuvulu	<i>pa</i>	(C)
Adm: Lou	<i>pa</i>	‘say’
Adm: Baluan	<i>p^wa</i>	‘say, express, think’
Adm: Pak	<i>p^way</i>	‘say, tell’
Adm: Titan	<i>p^wa</i>	‘say’
Adm: Kele	<i>-pe</i>	‘say’
Adm: Loni	<i>-p^way</i>	(VT) ‘say’
NNG: Mangap	<i>be</i>	(C)
NNG: Kaulong	<i>vo</i>	‘talk, say, speak; suppose, intend’
NNG: Bebeli	<i>p^wa</i>	‘say, express, think’
NNG: Mato	<i>ba</i>	(C)
NNG: Gedaged	<i>pai</i>	‘tell, say, speak to, declare, impart, announce, acquaint, proclaim’
NNG: Manam	<i>be</i>	(C)
NNG: Yabem	<i>-be</i> <i>(ge)be</i>	‘think, mean, want’ (C) ‘it means’
NNG: Labu	<i>-pɛ</i>	‘say’
NNG: Mumeng	<i>v^wa</i>	(N) ‘talk, language, speech, animal noise’ (<i>v^w-</i> < POc <i>*p^w-</i>)
PT: Misima	<i>ba</i>	‘say’
PT: Bunama	<i>be</i>	(C)
PT: Tawala	<i>-pa</i> <i>pa</i>	‘say’ (C)
PT: Motu	<i>-g^wa</i>	(VI) ‘speak’
MM: Nakanai	<i>vei-</i>	(VT) ‘say’
MM: Tabar	<i>va</i>	(C)
MM: Tolai	<i>ba</i>	(C)
MM: Tolai	<i>ve</i>	‘tell’ (Franklin et al. 1974)
MM: Papapana	<i>wa</i>	(VT) ‘say’
MM: Banoni	<i>va</i>	‘say’
MM: Sisingga	<i>vö</i>	‘say’
SES: Lau	<i>bae</i> <i>bae-a</i>	‘speak, talk, say, tell’ (also in compounds) (N) ‘speech, word’
NCV: NE Ambae	<i>-vo</i>	‘say’
NCV: Mafea	<i>-v</i>	‘say’
NCV: Sa	<i>vé</i>	(C)

¹³ Supporting SHWNG reflexes are (Rajah Ampat) Kawe, Laganyan *ba*, (CB) Serui-Laut (*a)fa*, Dusner *ve*, Biak (*a)p*, Waropen *-fa* (< **mba*) (Dalrymple & Mofu 2012; Kamholz 2014:205; Mofu 2010).

NCV:	Tirax	<i>-ve</i>	‘say, tell’
NCV:	Uripiv (Atchin)	<i>wa</i>	(C)
NCV:	Lewo	<i>ve/pe</i>	(IRREALIS/REALIS) ‘say’
NCal:	Paicî	<i>páa</i>	‘speak, discuss’
PMic <i>*p^wā</i> (VT) ‘tell’ (Bender et al. 2003a)			
Mic:	Kosraean	<i>fæ-k</i>	(VT) ‘say, tell, announce’
Mic:	Marshallese	<i>p^wa</i>	(VT) ‘tell’
		<i>p^we</i>	(C, DEONTIC)
Mic:	Mokilese	<i>p^wa</i>	(V; C) ‘say’
Mic:	Ponapean	<i>p^wa</i>	‘say’
Mic:	Woleaian	<i>f^we</i>	(C)
Mic:	Ulithian	<i>v^wo</i>	(C)
Pn:	Tongan	<i>fai</i>	‘do, utter, tell’
		<i>pe</i>	(C)
Pn:	Samoaan	<i>fai</i>	‘do, say’
		<i>fai mai, fai atu</i>	‘say’
Pn:	Tuvalu	<i>fai</i>	‘say’
cf. also:			
SES:	Longgu	<i>vava</i>	‘speak’
PNCV <i>*vava</i> ‘speak, say’			
NCV:	Mota	<i>vava</i>	‘speak, say’
NCV:	Lolovoli	<i>veve</i>	‘tell (s.o. s.t.), tell (s.o. to do s.t.)’
NCV:	Raga	<i>veve</i>	‘say’
NCV:	Tamambo	<i>veve(nasa)</i>	‘whisper’ (Jauncey 2011:397)
NCV:	Apma	<i>vep</i>	‘say, speak’

POc **p^waca(q)*, **p^waca(q)i-* ‘speak, say’ appears to have been a straightforward report verb. The near-absence of ‘tell’ from the glosses of its reflexes suggests that it was not used as an influence verb. Exceptions are the Tawala transitive form *bahe-* and Gela *bosa-*, which are recorded in both report and influence constructions.

Intransitive **p^waca(q)* may have been used in the sense of ‘speak’, i.e. to denote the act of speaking. The glosses of the Tawala, Gela, Longgu, Chuukese and Boumaa Fijian reflexes suggest that this POc form was also used as a noun meaning ‘word, speech, language’.

The reconstruction of the POc consonant **p^w* is discussed in vol.1:16, and it has since been investigated in some detail by Lynch (2002). Its rarity of occurrence means that its reflexes have not been fully formulated. Lynch (2002:337) finds that it is in any case unstable. The sequence **p^wa* often becomes **po* or **bo*, or simply **pa*, and it is a combination of these reflexes that points to POc **p^wa*, as Lynch’s examples show. This is also true of the cognate set below.

Given the overall rarity of forms in POc **p^wa-*, one wonders whether there is a historical connection between **p^waca(q)* below and **p^wa* above, but if there is, it probably lies too far back in time to be elucidated.

PAn **bajaq* ‘tell, inform, ask, enquire, know, understand’ (ACD)

POc **p^waca(q)* (V) ‘speak’; (N) ‘word, speech, language’; **p^waca(q)i-* ‘speak (s.t.), say (s.t.)’

Adm:	Lou	<i>poso-ek</i>	‘talk slowly’
NNG:	Bariai	<i>-posa-posa</i>	‘speak’
NNG:	Kove	<i>-posa</i>	‘speak’
NNG:	Sio	<i>pai</i>	‘speak to someone; address’ (-i < POc * <i>-s/c</i>)
PT:	Tawala	<i>-baha</i>	(VI) ‘speak, talk’; (N) ‘word’
		<i>-bahe</i>	(VT) ‘tell (s.o.)’
MM:	W Kara	<i>ve-bos</i>	‘speak’
MM:	Teop	<i>boha</i>	(VT) ‘say (s.t.), speak, talk, converse’
SES:	Gela	<i>bosa</i>	(V; N) ‘say, speak, talk, tell, command; word, command)’
SES:	Lengo	<i>bosa</i>	‘say’
SES:	Longgu	<i>bosa</i>	(N) ‘word, language’
SES:	Arosi	<i>pota?i</i>	(VT) ‘beg, beseech; ask for s.t.’

PNCV **v^wasa* ‘speak, say’

NCV:	Nokuku	<i>ve-vas</i>	‘invite’
NCV:	Kiai	<i>vosai</i>	‘advice, admonishment’
NCV:	Tamambo	<i>vasa</i>	‘speak’
NCV:	Namakir	<i>(manu)vas</i>	‘title of man who speaks on behalf of the chief’
NCV:	Nguna	<i>vasa</i>	‘talk, speak, preach’
Fij:	Bauan	<i>vosa</i>	‘speak, talk’
		<i>vosa-k-</i>	‘speak to’
Fij:	Boumaa	<i>vosa</i>	(V; N) ‘speak, talk; language, word’

Cognate sets supporting the reconstructions below are far more limited than those above, and the data do not show whether these were complement-taking verbs.

The distribution of reflexes of **b^wala* ‘say, speak’ is sufficient to support a POc reconstruction.

POc **b^wala* ‘say, speak’

NNG:	Mato	<i>bo</i>	‘say’
		<i>bala</i>	‘tell (s.o. to do s.t.)’
NNG:	Gedaged	<i>-bol</i>	‘speak’
NNG:	Takia	<i>-bol</i>	‘say (s.t.), speak, tell story’
NNG:	Ulau-Suain	<i>-b^war</i>	‘speak’
PT:	Gumawana	<i>bo-b^wala</i>	‘speak about (s.t.)’
NCV:	Maskelynes	<i>b^wol (mai-i)</i>	‘tell (story to her/him)’
Fij:	Wayan	<i>bolē</i>	‘offer to (do s.t.)’

It is possible that PWOc **sowa*, **sowai-* ‘say, speak’ was a reflex of PMP **sau* ‘word; talk; conversation; language’ (ACD). Although the ACD’s gloss classes this as a noun, its non-Oceanic reflexes show that it was also a verb root.

PWOc **sowa*, **sowai-* ‘say, speak’

NNG:	Mangap	<i>-so</i>	‘speak’
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	<i>-so-soa</i>	‘speak’
NNG: Sio	<i>sowe</i>	‘speak’
NNG: Mindiri	<i>suawi</i>	‘speak’
MM: Teop	<i>sue</i>	‘say’
MM: Tinputz	<i>soē</i>	‘say (s.t.); parable’

cf. also:

NCV: Mwotlap	<i>so</i>	(c)
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The cognate set supporting PEOc **bata* ‘speak, utter’ is entirely from Bender et al. (2003b).

PEOc **bata* ‘speak, utter’

SES: Kwaio	<i>bā(tafe-)</i>	‘praise, extol’ (<i>tafe-</i> ‘praise, cheer, applaud’)
SES: Sa’a	<i>pā(lahe)</i>	‘praise’ (<i>lahe-</i> ‘praise, extol’)

PChk **pata* ‘spoken, said, uttered’ (Bender et al. 2003b)

Mic: Puluwatese	<i>(a)paha</i>	‘say s.t.’
Mic: Mortlockese	<i>(a)pasa</i>	‘say s.t.’
	<i>(kka)pas</i>	‘word, speech, talk, language’
Mic: Chuukese	<i>(a)pasa</i>	‘speak, utter it’
	<i>(kka)pas</i>	‘talk, speech, utterance, language; talk, speak’
Mic: Satawalese	<i>(a)pasa</i>	‘speak about it’
Mic: Carolinian	<i>(a)pasa</i>	‘say s.t.’
	<i>(kka)pas</i>	‘word, speech, talk, language’

12.3.2 Report/influence verbs

The reconstructed forms in this section appear to have been used both as report verbs and as influence verbs, as described in §12.1.

The most widely reflected of these is POc **waRa*, **waRai-* ‘say (to s.o.), tell (s.o.)’. The Mussau, Wuvulu (Adm) and Siar (MM) reflexes are known to be used as both report and influence verbs, the Araki (NCV) reflex as an influence verb, and the Mafea (NCV) reflex as a report verb. In Araki and NE Ambae the object is the addressee. In Mussau and Wuvulu the object is the complement. In Siar the object is the complement when *warai* is used as a report verb but the addressee when it is used as an influence verb. We have inferred that POc **waRai-* behaved like Siar, as the other configurations can be derived from it via analogy, but this is weak evidence.

This verb was evidently already present in PEMP, as there is an EMP reflex, Dusner (CB) *vre* ‘say’.

POc **waRa*, **waRai-* ‘say (s.t.), tell (s.o. to do s.t.)’

Adm: Mussau	<i>ue</i>	‘say, tell’
Adm: Wuvulu	<i>ware</i>	‘say’
Adm: Lou	<i>war</i>	‘call’
PT: Sudest	<i>vare</i>	‘tell’
MM: Sursurunga	<i>wor</i>	‘speak’ (occurs only as first verb in a compound)
	<i>wor-wor</i>	(vi) ‘talk, converse’

MM:	Siar	<i>warai</i>	(VT) ‘say (s.t.), tell (s.o. to do s.t.)’
MM:	Ramoaina	<i>wara-ŋa</i>	(N, VI) ‘call, name’ (nominalisation)
MM:	Label	<i>wara</i>	‘speak’
MM:	Konomala	<i>were-k</i>	‘speak’
PSES * <i>waRa-</i> ‘speak’ (Geraghty 1990: 80)			
SES:	Lau	<i>k^wala</i>	‘curse, use bad language, mention human dung’
SES:	Lau	<i>k^wala-ŋi-</i>	‘curse, swear at’
SES:	Kwaio	<i>k^wala</i>	‘blame, accusation’
		<i>k^wala-</i>	(N) ‘voice’
SES:	’Are’are	<i>wara</i>	‘speak’
		<i>wara-</i>	‘word, voice, speech, sound, language’
SES:	Sa’a	<i>wala-</i>	‘word, speech, voice, language’
		<i>wala-a?i</i>	(VT) ‘speak’
		<i>wala-?aŋa</i>	‘speech’
SES:	Ulawa	<i>wala-?a</i>	(N, VT) ‘speak’ (ADJ used as VERB)
SES:	Arosi	<i>(rai ni) wara</i>	(N) ‘speech at a gathering to collect a debt’
PNCV * <i>v^wara</i> ‘speak, say, call’ (Clark 2009)			
NCV:	Mota	<i>v^wara</i>	‘the cry of an owl; to cry in that way’
NCV:	Lolovoli	<i>ware</i>	‘call (s.o.)’ (Catriona Malau, pers. comm.)
NCV:	Raga	<i>ware</i>	‘call, beckon’
NCV:	Kiai	<i>vara-vara</i>	‘speak, talk’
		<i>vara</i>	(N) ‘language, story’
NCV:	Araki	<i>vara</i>	‘tell, say’
NCV:	Mafea	<i>-varai</i>	‘tell’
NCV:	Sa	<i>war</i>	‘speak, say’
NCV:	Nese	<i>var</i>	‘tell, say’
NCV:	Big Nambas	<i>-ǰara</i>	‘call out’
NCV:	Ninde	<i>wor</i>	‘yarn, tell stories, talk,’
NCV:	Naman	<i>var</i>	‘say, think’
NCV:	Neve’ei	<i>v^wer</i>	‘say’
NCV:	Uripiv	<i>wera</i>	‘say’
NCV:	Rerep	<i>forei</i>	‘says it’
NCV:	Nguna	<i>pa-vara</i>	‘say’
Pn:	Takuu	<i>vā-</i>	(VT) ‘say’
Pn:	Hawaiian	<i>wā</i>	(N, VI) ‘make a noise; gossip, talk loudly back and forth, to reason’

It is difficult to see a difference in meaning between POc **p^witi((r,R))*, **p^witi((r,R))i-* ‘say (s.t.), tell (s.o. to do s.t.)’ below and POc **waRa*, **waRai-* above. Evidence that the former was used as both a report and an influence verb is relatively strong. Its reflexes in Buma, Tamambo, Paamese and Tirax are all used as both. Its reflexes in Mangap, Sursurunga and Vinitiri are used as influence verbs, those in Tolai and Lewo as report verbs.

The POc form was apparently inherited from PEMP, as there is a cognate in the Raja Ampat language Biga (= Misool), namely *bitino* ‘say’. As usual, the parentheses around stem-final **r*; **R* indicate that we cannot tell whether the POc consonant was **r* or **R*. The extra set

of parentheses says that, as we have only reflex, Minigir *vitiri*, the presence of the stem-final consonant is uncertain.

POc **p^witi((r,R)), *p^witi((r,R))i-* ‘say (s.t.), tell (s.o. to do s.t.)’

NNG:	Mangap	<i>-pit</i>	‘talk; tell story’
MM:	Sursurunga	<i>bit</i>	‘tell (s.o. to do s.t.)’
MM:	Minigir	<i>vitiri</i>	‘say (that s.o. should do s.t.)’ (Van Der Mark 2007)
MM:	Tolai	<i>biti</i>	(v, vc) ‘say’
SES:	Kahua	<i>visi-</i>	‘say’

PNCV **viti* ‘speak, say’ (Clark 2009: **veti*)

NCV:	Mota	<i>vet</i>	‘say, speak, give the word; lead off (a song)’
NCV:	Nduindui	<i>viti</i>	‘say’
NCV:	Nokuku	<i>veti-</i>	‘say’
NCV:	Tamambo	<i>viti</i>	‘speak, talk, tell story; say (to s.o. to do s.t.)’
NCV:	Tamambo	<i>viti-</i>	‘tell (s.t.)’ (Jauncey 2011:397)
NCV:	Paamese	<i>vit</i>	(v, c) ‘say’ (see §12.2)
		<i>vite-ni-</i>	‘say (to s.o. to do s.t.)’
NCV:	Tirax	<i>-ver</i>	‘say (to s.o. to do s.t.)’
NCV:	Ninde	<i>-mbiti</i>	‘say’
NCV:	Port Sandwich	<i>uc</i>	‘speak, talk’
		<i>uc-in-i</i>	‘speak somebody’
NCV:	Lewo	<i>visi</i>	‘talk, pass on message’
NCV:	Baki	<i>veri</i>	‘say’
NCV:	Bieria	<i>mbetin</i>	‘say’
NCV:	Namakir	<i>vet-og</i>	‘tell, say, speak’

12.3.3 Question verbs

Somewhat surprisingly only three high-order question verbs can be reconstructed, one each for POc, PWOc and PEOc. Why so few? In our construction data there are a number of languages for which we found no examples of indirect questions, probably because indirect speech is infrequent in texts, and indirect questions are rarer than report or influence constructions. On the other hand our search for question verbs in lexical sources found plenty, but they do not form cognate sets. How is this explained? Words that are less frequently used are replaced more rapidly than more frequently used words, and this is perhaps why there are so few question verb reconstructions, and why the reconstructions that can be inferred have relatively few reflexes.

A single question verb is tentatively reconstructed to POc, **nanasa*, **nanasai-* ‘ask’. Its question verb reflexes are restricted to WOC, as the Arosi reflex is not a question verb.

POc (?) **nanasa*, **nanasai-* ‘ask’

PT:	Motu	<i>he-nanadai</i>	‘ask’
MM:	Bola	<i>nana, nane-</i>	‘ask’
MM:	Roviana	<i>nanasa, nanasi-</i>	‘ask’
MM:	Hoava	<i>nanasa-ni-</i>	‘request’

SES: Arosi *nanasi* ‘wait for, expect’

It is hard to be sure of the meaning of PWOC **tore*. Only the Lukep and Iduna reflexes are question verbs. The reflexes in the close relatives Maringe and Kokota are influence verbs, but this is not completely surprising, as the shift from ‘ask a question’ via ‘ask whether s.o. will do s.t.’ (still a question) to ‘ask s.o. to do s.t.’ (an influence construction) is intuitively quite probable, even if infrequent (see §12.1.2). The shift to a report verb in Notsi, however, is curious, but we would need far more than the available data in order to elucidate this.

If the Kwaio form reflects **to(r,R)e*, then the reconstruction is promoted to POC.

PWOC **tore* ‘ask, enquire’ (?)

NNG:	Lukep (Pono)	<i>-toru</i>	‘ask’
PT:	Iduna	<i>toli</i>	‘enquire’
		<i>toli-ena</i>	‘enquire about s.t.’
MM:	Notsi	<i>tole</i>	‘speak’
MM:	Maringe	<i>tore</i>	‘ask for, make a request’
		<i>tore-ni</i>	‘ask (s.o. to do s.t.)’
MM:	Kokota	<i>tore-</i>	‘ask (s.o. to do s.t.)’

cf. also:

SES: Kwaio *olisi-* ‘ask, question; replace’

PEOC **vaizu/*vaizuni-* is a more solid reconstruction than either of those above.

PEOC **vaizu, *vaizuni-* ‘ask, enquire’

SES:	W Guadalcanal	<i>vesu-</i>	‘ask’
SES:	Talise	<i>vaisu-</i>	‘ask’
SES:	Malango	<i>veisu-</i>	‘ask’
NCV:	Lewo	<i>viun</i>	‘ask’
Pn:	Tongan	<i>fehu?i</i>	‘ask, inquire’
Pn:	Nukuoro	<i>heui</i>	‘ask question’

To the three reconstructions above, we add the following cognate set, but make no reconstruction, as there is a semantic mismatch between the three MM languages clustered around the St George Channel between southern New Ireland and northeastern New Britain, and the Malaita-Makira languages (SES). Reflexes in the St George languages are all glossed ‘ask’, whereas those in the Malaita-Makira languages are all report verbs. We are encouraged to think that they may reflect PSES **tili-* by the fact that the one NCV reflex is also a report verb. This would allow us to reconstruct a POC speech act verb **tiRi-*, but what exactly would it mean?

MM:	Ramoaaaina	<i>tiri</i>	‘ask’
MM:	Minigir	<i>tiri</i>	‘ask’
MM:	Tolai	<i>tir</i>	‘ask’

Proto Malaita-Makira **ili-* ‘say’

SES:	Longgu	<i>ili-</i>	‘say it, tell it’
SES:	Lau	<i>ili-?ai-</i>	‘tell (news)’
SES:	Kwaio	<i>ili-</i>	‘say, tell, think’

SES:	'Are'are	<i>iri-</i>	'say, speak, talk, tell'
SES:	Oroha	<i>iri</i>	'say'
NCV:	Lelepa	<i>til</i>	'say'

It is not clear whether PNCV **usi-* meant 'ask (a question)' or 'ask (s.o. for s.t.)'. As noted above, the shift from 'ask (a question)' to 'ask (s.o. for s.t.)' is probable. A shift in the opposite direction seems less likely, so PNCV **usi* is included here rather than in §12.3.4.

PNCV **usi* 'ask' (Clark 2009)

NCV:	Vurës	<i>vör-us</i>	'ask'
NCV:	Mota	<i>var-us</i>	'ask, enquire, enquire for'
NCV:	Baetora	<i>usi</i>	'ask'
NCV:	Nduindui	<i>uhi</i>	'ask'
NCV:	Nokuku	<i>usi</i>	'ask, ask for'
NCV:	Tolomako	<i>usi</i>	'call, invite'
NCV:	Kiai	<i>usi-</i>	'ask, ask for'
NCV:	Tangoa	<i>a-usi</i>	'ask'
NCV:	Mafea	<i>-us</i>	'ask'
NCV:	Paamese	<i>vīsi-</i>	(VT) 'ask (s.o. for s.t.)'
NCV:	Nese	<i>us</i>	'ask (s.o.)'
NCV:	Naman	<i>us-us</i>	'ask (a question), ask (s.o. for s.t.)'
NCV:	Neve'ei	<i>wus-wus</i>	'ask (s.o.)'
NCV:	Uripiv	<i>os-us-i</i>	'ask'
NCV:	Maskelynes	<i>-us</i>	(VT) 'ask'

PPn had two question verbs that are reflected across the whole subgroup: **huqi* 'ask (a question)' and **sili* 'ask questions'.

PPn **huqi* 'ask (a question)'

Pn:	Tongan	<i>fe-huʔi-</i>	'ask'
Pn:	Nukuoro	<i>he-ui-</i>	'question carefully'
Pn:	Pukapukan	<i>ui</i>	'ask'
Pn:	Rarotongan	<i>ui</i>	'ask'
Pn:	Tahitian	<i>ui</i>	'to question'
Pn:	Tuamotuan	<i>ui</i>	'ask a question'
Pn:	Hawaiian	<i>ui</i>	'ask'
Pn:	Māori	<i>ui</i>	'ask, enquire'
Pn:	Marquesan	<i>ui</i>	'to question'
Pn:	Mangarevan	<i>ui</i>	'to question'

PPn **sili* 'ask questions'

Pn:	Tongan	<i>fe-hili</i>	'ask'
Pn:	Samoan	<i>fe-sili</i>	'ask, question, inquire'
Pn:	E Futunan	<i>ve-sili</i>	'ask'
Pn:	Luangiua	<i>va-sili</i>	'ask'
Pn:	Pileni	<i>fe-ili-a</i>	'ask'

Pn:	Pukapukan	<i>yili-yili</i>	‘ask, question’
Pn:	Rennellese	<i>he-sigi</i>	‘ask questions, inquire’
Pn:	Tikopia	<i>siri</i>	‘ask, inquire’
Pn:	Tikopia	<i>fe-siri</i>	‘ask, inquire’
Pn:	Tokelauan	<i>fe-hili</i>	‘question, inquire’

12.3.4 Influence verbs

It was noted in §12.3.2 that there appear to have been POc verbs that served as both report and influence verbs. We also mentioned in §12.3.3 that some question verbs meaning ‘ask (s.o. a question)’ seem to have had the influence sense ‘ask (s.o. to do s.t.)’. This leaves only a few other influence verbs, all meaning ‘ask s.o. for s.t.’, ‘ask s.o. to give self s.t.’.

The two sets supporting POc **noŋi* and PEOc **noqi* below entail some formal puzzles. In fact, we infer that they have a single origin, but we have few data to undergird this inference.

The regular reflex of PMP **ŋeni* is POc **ŋoni*, but the latter is reflected only in Labu and in an alternant Arosi form. All other Oceanic forms reflect a metathesised **noŋi*, the form reconstructed by Milke (1968). We surmise with Blust (ACD) that Arosi *ŋoni* may be a chance (re)metathesis.

The second set, reflecting putative PEOc **noqi*, is suspect on two grounds. First, it is reflected only in Guadalcanal (in Ghari and Tolo) and in Pn languages. Gela, in the same major subgroup within SES as Ghari and Tolo, reflects **noŋi*. Second, the Ghari and Tolo forms are not regular cognates of PPn **noqi*. The expected cognate form is †*noyi* or †*noi*.

A possible explanation of the the Ghari and Tolo forms is that speakers reanalysed reflexes of **noŋi* as transitives. In many EOC languages the transitive is marked by *-Ci*, where *C* is one of several consonants, and so **noŋi* was apparently reanalysed as **no-ŋi*, giving an intransitive root **no*, reflected in Ghari. This **no* in turn became the root of newly innovated transitives like **no-ki* (cf Tolo *noki*) or PPn **no-qi*.

There is another minor complication in the reflexes of POc **noŋi*. The Central Papuan languages Aroma, Motu, Gabadi and Roro have forms that could reflect **noŋi*, **noki* or **noqi*. They are interpreted as reflexes of **noŋi* because this is the source of all other WOc forms.

PMP **ŋeni* ‘beg, ask for’ (ACD)

POc **noŋi/ŋoni* ‘beg, ask (for s.t.)’ (Milke 1968: **noŋi*; ACD: **ŋoni*)

NNG:	Tami	<i>noŋ</i>	‘beg’
NNG:	Labu	<i>ŋɔ-</i>	‘ask’
NNG:	Mangseng	<i>noŋ</i>	‘beg, pray, shout’
PT:	Aroma	<i>noyi-noyi</i>	‘beg’
PT:	Motu	<i>-noi-</i>	(VT) ‘ask for s.t.’
PT:	Gabadi	<i>noi-noi</i>	‘ask for, beg’
PT:	Roro	<i>noi-noi</i>	‘beg’
MM:	Kara (E)	<i>nuy</i>	‘ask a favour; pray to a spirit’
MM:	Label	<i>nuy</i>	‘ask for’
SES:	Gela	<i>noŋi</i>	‘ask for’
		<i>noŋi-</i>	‘ask him, ask for s.t.’
SES:	Arosi	<i>ŋoni, noŋi</i>	‘ask for, beg’

SES: Owa *noŋi* (VT) ‘ask for s.t.’

PEOc **noqi* ‘ask for, beg’ (?)

SES: Ghari *no-no* ‘ask for’
 SES: Tolo *noki-* ‘ask for, request’

PEPn **noqi* ‘ask for, solicit’ (POLLEX)

Pn: Pukapuka *noi-noi* ‘be greedy’
 Pn: Rapanui *no-noʔi* ‘ask, beg, request, implore, pray, solicit’
 Pn: Rarotongan *noi-noi* ‘covet, desire greedily’
 Pn: Māori *(i)noi* ‘beg, ask for s.t.’
 Pn: Hawaiian *noi* ‘ask for s.t., make a request’

Compared with the above, POc **suga*, **sugai-* ‘ask s.o. for .s.t.’ is a straightforward reconstruction.

POc **suga*, **sugai-* ‘ask s.o. for .s.t.’

NNG: Mangap *suŋ* (VI) ‘ask s.o. for .s.t.’
 MM: Tolai *uge* ‘agree; sing in tune with s.o.’

PSES **suga*, **sug(a,e)ti-* ‘desire (s.t.), ask for (s.t.)’

SES: Gela *huga, hugati* ‘keep talking about a gift’
 SES: Birao *suŋeti-* ‘ask’
 SES: Talise *suge* ‘ask’
 SES: ‘Are’are *suka* ‘ask to be given (s.t.)’
 SES: Sa’a *suke* ‘beg, ask for (s.t.), borrow, ask permission’
 SES: Arosi *sukat-* ‘long for, grieve for’
 Fij: Bauan *suge* ‘try to obtain, stir s.o. up’

POc **taman* ‘ask’ is something of a mystery, in two respects. First, we cannot provide a more specific gloss than ‘ask’ because only the non-Admiralties reflexes below have extended glosses. Second, the initial consonant of the Admiralties reflexes other than Seimat—members of the Eastern Admiralties subgroup—reflects Proto E Admiralty **ntaman*. Whilst initial prenasalisation is expected on a noun, it is not expected on a verb (Ross 1988:337–341).

POc **taman* ‘ask’

Adm: Seimat *ame-i* ‘ask’
 Adm: Lindrou *dremeñ-a* ‘ask, question’
 Adm: Loniu *temen-ani* (VT) ‘ask’
 Adm: Bipi *damen* ‘ask’
 Adm: Sori *dimeŋ* ‘ask’
 MM: Maringe *tamn-ai* ‘prayer, church service’ (*-ai* < POc **-aki*)
 Fij: Wayan *taman-i* ‘ask s.o. to give services/help in a considerable task’

12.3.5 Commitment verbs

It is possible that Longgu *alanja?i*, Lau *alanjai*, Wayan Fijian *ala* and Bauan Fijian *yala* reflect a PEOc **ala(ŋ)* ‘promise’. Otherwise no reconstructions of commitment verbs have been made. One reason for this is that commitment verbs are the least frequently occurring of the four complement-taking classes of speech act verbs (§12.1.1). Another is that verbs meaning ‘promise’ are often compounds, as listed in (25).¹⁴ There is some evidence (Tolo, Tamambo, Lolovoli) that there was a PEOc term for ‘promise’ made up of the verbs ‘say’ and ‘put’ (POc **taRu(q)*, vol.5:449).

25)	language	speech act expression	gloss	semi-literal gloss
	Mangap	<i>mbuk sua pa A pa B</i>	‘promise A regarding B’	tie talk to A about B
	Yabem	<i>səm su</i>	‘promise (s.t.)’	say away
	Motu	<i>g^wau-ha-mata</i>	‘promise’	say-CAUSATIVE-foremost
	Teop	<i>sue vaovoi</i>	‘promise (s.t.)’	say bless
	Zabana	<i>nakai uŋene</i>	‘promise (s.t.)’	leave speak
	Tolo	<i>koe talu</i>	‘promise (s.t.)’	say put
	Tamambo	<i>viti tauhi</i>	‘promise (s.t.)’	say put-TR
	Lolovoli	<i>vara-tau</i>	‘promise (s.t.)’	say(?)–put
	Lewo	<i>visa-ari</i>	‘promise’	say-DURATION

12.4 Expressive speech act verbs

When speakers use an expressive speech act verb, they categorise the intention or meaning of a speech act. For this reason most expressive speech act verbs are not followed by a complement clause

12.4.1 Respond co-operatively to another speaker

The single verb in this category refers to interactive conversational structure. A questioning speech act requires an answer and an influencing speech act requires agreement to do what the influencer wants. That is, the first speaker looks for a co-operative response from the addressee, and this response is the meaning of POc **taRam*, **taRami*- ‘answer, agree’.

A minor formal mystery is that final *-m* of the root seems to have become **-m^w*- in the transitive form in NCV (Clark 2009).

The Admiralties forms under ‘cf. also’ seem at first sight to be reflexes of **taRami*. However, they reflect a putative POc †**ja(Ra)m^wi*, and we are at a loss as to how to explain the difference in the initial consonant from POc **t-*.

PEMP **taRam* (v) ‘answer, agree’

CB: Biak *karem* ‘answer, assent’

POc **taRam*, **taRami*- ‘allow, agree, co-operate’

NNG: Yabem *tilam* (N, VI) ‘shout over distance’

¹⁴ Mangap and Lewo are copied from (14) and (18). Sources not listed in the Appendix are Fitzsimons 1989:147 (Zabana), Jauncey 2011:397 (Tamambo) and Hyslop 2001:393 (Lolovoli).

PT:	Misima	<i>talam</i>	‘let, allow, permit, give’
PT:	Saliba	<i>talam</i>	(N, VI) ‘answer’
MM:	Sursurunga	<i>taram</i>	(VI) ‘obey, cooperate; go along with, accede to’
		<i>tərmai</i>	(VT) ‘obey’
MM:	Ramoaina	<i>taram</i>	‘obey, agree, serve, answer to a call’
MM:	Patpatar	<i>taram</i>	‘obey, listen, hear’
MM:	Tolai	<i>tarami</i>	(N, VI, VT) ‘obey, agree, consent’
SES:	Gela	<i>tala-</i>	(VT) ‘answer; allow, permit; agree, be willing’
		<i>talam-ayi</i>	(VT) ‘agree to, allow, obey’
SES:	Kwaio	<i>ala</i>	‘agree’
		<i>alami-</i>	‘allow, permit’
SES:	’Are’are	<i>arami-</i>	(VT) ‘permit, consent, allow’ (ACD)
SES:	Sa’a	<i>ʔala, ʔala-ʔala</i>	‘answer, obey, give attention to’
SES:	Arosi	<i>ara</i>	‘answer, agree mutually’
		<i>arami-</i>	(VT) ‘answer, acknowledge, assent to’

PNCV **taRam^{wi}* ‘allow, accept, agree’ (Clark 2009)

NCV:	Mota	<i>tarama</i>	(N, VI) ‘answer a call’
		<i>taram-ay</i>	(N, VI) ‘answer another’
NCV:	Nokuku	<i>tami, tame</i>	‘answer’
NCV:	Kiai	<i>tame</i>	‘allow, consent’
NCV:	Araki	<i>rarami</i>	‘meaning, symbolic or magic significance’
NCV:	Tamambo	<i>darami</i>	‘answer s.o.’
NCV:	W Ambrym	<i>rɛma, rɛma-nɛ</i>	‘allow, let, agree (to)’
NCV:	Port Sandwich	<i>^wram^w-ini</i>	‘let, permit’
NCV:	Atchin	<i>tam^we</i>	‘salute, welcome, receive’
NCV:	Lewo	<i>tam^w-ani</i>	‘allow, permit, vote for; agree to, lend to, admit, confess’ (<i>-ani</i> TRANSITIVE)

cf. also:

Adm:	Lou	<i>sam^{wi}</i>	‘answer’
Adm:	Titan	<i>cam^{wi}</i>	(VT) ‘agree, permit, reply’
Adm:	Loniū	<i>cum^{wi}</i>	‘agree with’

12.4.2 Tell a story

Storytelling was an important activity in perhaps all traditional Oceanic-speaking societies. The PNPn term **[ka]kai* ‘traditional story’ is reconstructed in §12.3.1 above under POc **k^wa*, **k^wai-* ‘say, tell’. In §6.3.7 two speech-act verbs meaning ‘tell a story’ are reconstructed: POc **takunu* ‘tell a story, narrate’ and PPn **tala* ‘tell stories; tale, story’.

12.4.3 Call out

In a small community where many of the people one relates to are within hailing distance, calling out is a fairly frequent occurrence. It seems to fall into two distinct speech acts: calling out to greet or welcome someone (§12.4.3.1) and calling out to attract attention (§12.4.3.2).

12.4.3.1 Greet

The verb for calling out a greeting was evidently POC **paila*/**pela*. The form **paila* is reflected only in Iduna, but the unidirectionality of sound change means that it is the older form, and **pela* is (only slightly?) more recent.

POC **paila*, **pela* ‘greet/welcome loudly; exclamation of welcome’

POC **pelapela* ‘shout, exclaim’ (ACD)

Adm:	Levei-Drehet	<i>pele</i>	‘voice’
NNG:	Kaulong	<i>pel</i>	‘shout, yell’
NNG:	Takia	<i>pele</i>	‘greeting, welcome exclamation’
PT:	Iduna	<i>-faina(ena)</i>	‘shout at, abuse angrily’
MM:	Nakanai	<i>bela-bela</i>	‘talk about, gossip’ (<i>b-</i> for † <i>p-</i> or † <i>v-</i>)
MM:	Halia	<i>ele</i>	‘speak strongly, loudly, speak with authority’ (zero for † <i>p</i> or † <i>h</i> .)
MM:	Roviana	<i>vela-vela</i>	‘shout (as an official at a gathering, or in anger, etc.)’
SES:	Longgu	<i>velo-</i>	‘rouse on, get cross with’
SV:	Anejom	<i>pec</i>	‘greeting, reply to <i>pō</i> ’ (<i>pō</i> ‘greeting to s.o. met suddenly’) ¹⁵
Fij:	Bauan	<i>velavela</i>	interjection of surprise

The only other form reconstructable with this meaning is POC **k^waro*, for which just three reflexes are known to us.

POC **k^waro* ‘call out a greeting’

Adm:	Lou	<i>-uaro</i>	‘hail, call out’
Adm:	Nauna	<i>-ualu-y</i>	‘call out, hail (s.o.)’
MM:	Patpatar	<i>karo</i>	‘shout at (s.o.) with words or beckoning) as a greeting’

12.4.3.2 Call to attract attention

Two POC terms and one PEOC term meaning ‘call out to s.o.’ can be reconstructed. The first, **pato*, **patoli-* ‘say or call s.o.’s name; say, speak’ seems to be focussed on the act of calling itself. The second, **soRo(p)* ‘call, summon’ also includes the intention to attract someone’s attention or to summon them. The third, **kai* has a similar meaning to **soRo(p)*, but the glosses of its reflexes suggest an added element of forcefulness.

The **-l-* of **patoli-*, the transitive form, is reconstructed on the basis of the stem-final consonants of the Mangap, Kwaio and Arosi transitive reflexes.

POC **pato*, **patoli-* ‘say or call s.o.’s name; say, speak’

NNG:	Mangap	<i>-patil-i</i>	‘keep calling s.o.’s name’
NNG:	Poeng	<i>pato</i>	‘say’
NNG:	Poeng	<i>pato-e</i>	(v) ‘address s.o., call, name’

¹⁵ Anejom *-c* for †*l*, as POC **l > c* before **i*, **e* or **o*, but remains *l* before **a* or **u*.

NNG:	Takia	<i>-pate</i>	‘confer a name, call out (s.t.), say s.o.’s name’
PT:	Sudest	<i>varo-varo</i>	‘call’
PT:	Gumawana	<i>vatoi</i>	(N, VT) ‘say s.t.’ (-i TR)
PT:	Sarua	<i>vato</i>	(V) ‘to mention, say’
PT:	Motu	<i>hato-</i>	‘pronounce a name’
MM:	Lamasong	<i>pata</i>	‘say’
MM:	Tinputz	<i>vatō</i>	‘talk’
MM:	Torau	<i>ato</i>	‘speak’
MM:	Hoava	<i>pato</i>	‘say’
SES:	Gela	<i>patopato</i>	‘forbid’
SES:	Kwaio	<i>faol-eʔenia</i>	‘talk out against, talk about one’s failure to meet norms of kinship obligation’
SES:	Arosi	<i>haor-aʔi</i>	(VI) ‘give a name to’
Mic:	Woleaian	<i>ffas</i>	(VI) ‘call’
Fij:	Bauan	<i>vato</i>	‘utter a wish; invoke evil with a ceremony’

Putative stem-final **-p* of POC **soRo(p)*, **soRo(p)i-* below is reconstructed on the basis of the stem-final consonants of the Arosi and Wayan Fijian transitive reflexes. However, the consonant can be reconstructed with certainty only for PEOc, as the only non-EOc transitive form, Minaveha *hone-i*, lacks a stem-final consonant.

POc **soRo(p)*, **soRo(p)i-* ‘call, summon’

NNG:	Mapos Buang	<i>rɔ̄</i>	‘express love, greet, send greetings’
PT:	Minaveha	<i>hone-i</i>	‘call s.o.’
MM:	Tolai	<i>oro</i>	‘call’
SES:	Gela	<i>holo-</i>	(VT) ‘call, name’
SES:	Tolo	<i>solo-</i>	(VT) ‘beckon, call by gesture’
SES:	Arosi	<i>toro</i>	‘shout, give news’
		<i>toroh-aʔi</i>	(VT) ‘shout to (s.o.)’
NCV:	Araki	<i>soro</i>	(V; N) ‘talk, say; language, dialect’
		<i>soroh-i</i>	‘speak of, mention’
Mic:	Chuukese	<i>-o-sɔra, o-sɔrɛy</i>	‘call, cause to be summoned’
Fij:	Wayan	<i>ðō</i>	‘call, call out’
		<i>ðōv-i-</i>	‘call s.o. or s.t. to come’
		<i>ðōv-akini-</i>	‘call for s.o. or s.t.’

Although the forms listed below look as if they could be reflexes of POC **kʷa*, **kʷai-* ‘say, tell’ (§12.3.1), on closer inspection this is implausible, first because the base form of the reconstruction below is clearly **kai*, whereas the base form of the reconstruction in §12.3.1 is **kʷa*, and second because there is a clear difference in meaning between the set in §12.3.1 and the set below. Also to be noted is an extension of the meaning to the vocalisations of animals in the southernmost languages of the set, Nguna and Xârâcùù.

PEOc **kai* ‘call out to (s.o.), say forcefully’

Proto Malaita-Makira **yai*, **yai(li)-* ‘shout to s.o., insist on s.t.’

SES:	Longgu	<i>aili-</i>	‘call s.o.’
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SES:	To'aba'ita	<i>ʔai</i>	‘shout, yell, call out’
		<i>ʔaili-</i>	‘shout to s.o., call s.o.’
SES:	Kwaio	<i>ʔai-</i>	‘insist, force’
		<i>ʔai-taʔi</i>	‘be insistent, insist on s.t.’
SES:	Arosi	<i>ʔai, ʔaiʔai-</i>	‘incite, urge’
PNCV * <i>kai</i> ‘call out (to s.o.), vocalise loudly’ (Clark 2009: ‘call out’)			
NCV:	Raga	<i>(bi-)yai-yai</i>	‘argue’
NCV:	SE Ambrym	<i>kei</i>	‘call’
NCV:	Lonwolwol	<i>ke</i>	‘call, call out, mention’
NCV:	Big Nambas	<i>yai</i>	‘sing’
NCV:	Nāti	<i>ʔāi</i>	‘call, shout to’
NCV:	Uripiv	<i>-kai</i>	‘cry out, shout’
NCV:	Rerep	<i>ke</i>	‘cry out, shout, cooee’
		<i>ke-ke</i>	‘sing’
NCV:	Port Sandwich	<i>kai</i>	‘call s.o.’
		<i>ka-kai</i>	‘sing’
NCV:	Nguna	<i>kai</i>	‘cry, sing (birds)’
NCal:	Xârâcùù	<i>xa</i>	‘speak, bark, sound’

12.4.4 Talk behind someone's back

In any human community there are inevitably some speech acts that are perceived as unpleasant. These are the subject of this section, §12.4.5 and §12.4.6.

Blust's reconstruction of PWMP **kunu* ‘it is said, people say...’ (ACD) as an impersonal expression is supported by his western Malayo-Polynesian reflexes. He also cites Arosi *ʔunu* as a reflex, and this clearly belongs to the SES cognate set below. POc **kunu* can be reconstructed, but without Admiralties or WOc reflexes its gloss is uncertain.

PMP **kunu* ‘it is said, people say...’ (ACD)

PSES **kunu* ‘gossip, talk negatively about s.o.’

SES:	Gela	<i>kunu, kunuhi-</i>	‘beg’
SES:	Kwaio	<i>kunu-</i>	‘gossip about be jealous of; accuse of infidelity’
SES:	Sa'a	<i>ʔunua</i>	‘say, bid, tell, reckon’
SES:	Arosi	<i>ʔunu</i>	‘speak, name, call’
		<i>ʔunu-ʔunu</i>	‘slander, gossip, talk angrily, quarrel’

12.4.5 Talk negatively to someone

The verb reconstructed below is reflected only in NNG and MM languages. The gloss ‘speak negatively or scornfully to (s.o.)’ is reconstructed on the basis of the Buang and Nakanai forms. They are far enough apart geographically and genealogically to be independent pieces of evidence. In the Schouten languages Wogeo and Manam, reflexes of **pila* have lost their negative element and are verbs of speaking in general. The Kaulong reflex, it seems, cannot be explained without more local knowledge.

PWoc **pile* ‘speak negatively or scornfully to (s.o.)’

NNG:	Kaulong	<i>pil</i>	‘sing to warn others of one’s presence, whistle to lure game’
NNG:	Wogeo	<i>-fila-fila</i>	‘speak’
NNG:	Manam	<i>pil</i>	(VI) ‘say; speak, talk’
NNG:	Buang	<i>plɛ</i>	‘scoff, mock, inspect, examine’
MM:	Nakanai	<i>vile</i>	(N, VI) ‘scorn, be critical of’

12.4.6 Deceive, tell a lie

Working with dictionaries, it becomes obvious that many Oceanic-speaking communities recognised various degrees of lie-telling, rather like English *fib*, *white lie* and *lie*. Unfortunately, the available data do not allow us to rank the eight verbs of lie-telling reconstructed below, although POC **balau* stands out as having a more specific gloss than the others.

POc **rup^was*, **rup^wasi-* ‘tell lies to s.o., deceive s.o.’

NNG:	Takia	<i>-rpai</i>	‘tell’
PT:	Tawala	<i>lupos</i>	‘lies regarding sex’
PT:	Saliba	<i>lupo</i>	‘trick s.o.’ (Margetts 1999:280)
MM:	Roviana	<i>rupasa</i>	‘using different words to convey a certain meaning’
NCV:	Paamese	<i>luvos</i>	(VI) ‘tell lies, pretend’ (-s unexpectedly retained)
		<i>luvosi</i>	(VT) ‘trick, deceive; lie to’
Mic:	Kosraean	<i>læfa</i>	(VT) ‘deny, deceive; disclaim, contradict’ (-f- for †∅)

The three items that follow have few reflexes, but they are in each case sufficiently distributed genealogically for, respectively, a POc, a PEOc and a PCP reconstruction to be made.

POc **koron* ‘lie, tell a lie’ (ACD)

Adm:	Mussau	<i>koron-ana</i>	‘false; lie’ (-ana ADJECTIVISER)
NNG:	Gedaged	<i>koʔ</i>	‘rumour, hearsay, tittle-tattle, gossip’
NNG:	Manam	<i>koro, koro-koro</i>	‘lie, tell a lie’

PEOc **sori(t)* ‘lie, tell a lie’

SES:	Gela	<i>sori</i>	‘lie deliberately, cheat’
		<i>sori-sori</i>	‘false, lying’
Fij:	Wayan	<i>ḍori</i>	‘lie, tell lie/falsehood, fib’
		<i>ḍori-ḍori</i>	‘tell lies; a liar’
		<i>ḍoriti-</i>	‘lie to (s.o.), deceive (s.o.)’
Pn:	Māori	<i>hori</i>	‘speak falsely; false, untrue’

PCP **lasu* ‘tell a lie, deceive’

Fij:	Bauan	<i>lasu</i>	(V; ADJ; N) ‘tell a lie; false; a lie’
Pn:	Luangiua	<i>lahu</i>	‘trick, deceive’

POc **lami* seems to have added an element of temptation or enticement to the telling of a lie.

POc **lami* ‘tell a lie’

MM:	Sursurunga	<i>lem</i>	‘lie’ (<i>lem</i> is more serious than fibbing, but less serious than strong lying)
MM:	Ramoaaaina	<i>lami</i>	‘tempt, tantalise, by offering and withdrawing’
MM:	Tolai	<i>lām</i>	‘entice, deceive, coax, tempt, decoy, tantalise, lead astray’
Fij:	Bauan	<i>lami</i>	‘tell a lie’ (archaic)
Pn:	Tongan	<i>lami</i>	‘conceal from sight’

Finally, POc **balau* has non-Pn reflexes that appear simply to mean ‘lie’, but Pn reflexes that roughly mean ‘lie by exaggeration’. Unfortunately, evidence that would narrow down the meaning reflected in non-Pn languages is not known to us.

POc **balau* ‘lie (by exaggeration?)’

Adm:	Lou	<i>parawa</i>	(N; ADJ) ‘lie; false’ (Blust 1998a) (- <i>r</i> - for †- <i>l</i> -)
NNG:	Kairiru	<i>bil</i>	‘lie’
SES:	Bugotu	<i>pilau</i>	‘deceive’ (POLLEX)
		<i>pia-pilau</i>	‘tell a lie’ (POLLEX)

PPn **palau* ‘lie by exaggeration’ (POLLEX)

Pn:	Tongan	<i>pālau</i>	‘talk much, do little’
Pn:	Rarotongan	<i>parau</i>	‘pride, conceit’
Pn:	Hawaiian	<i>pālau</i>	‘tell tall tales, exaggerate’

12.5 Speech manner verbs

Speech manner verbs are those which refer to the manner in which an utterance is produced, without assigning a particular significance to the utterance. The reconstructions in this section denote speaking loudly or shouting, whispering, stammering and speaking a foreign language or something that sounds like one.

The evidence for POc **kabat* ‘call or speak loudly’ is drawn almost entirely from Micronesian reflexes, but the apparent cognacy of Lou (Adm) *kapat* ‘speak out’ and Nakanai (MM) *aba* ‘call, announce (loudly)’ makes this a POc term. However, the Lou and Nakanai terms attest to POc **kap^wat* (or possibly **kab^wat*), while the Micronesian forms reflect **kap^wata*, with unexplained final **-a*. Vangunu *kepoto* ‘say’ is shown under ‘cf. also’ because its gloss doesn’t match those of other cognates. It is a regular reflex of POc **kap^wat*.

POc **kap^wat* ‘call or speak loudly’

Adm:	Lou	<i>kapat</i>	‘speak out’
MM:	Nakanai	<i>aba</i>	‘call, announce, esp. loudly’

PChk **kap^wata* ‘call loudly, shout’ (Bender 2003b)

Mic:	Chuukese	<i>ap^was, akkap^was</i>	‘shout or cry <i>wehuhu</i> as an exclamation at falling down or narrowly escaping an accident’
Mic:	Puluwat	<i>yap^wah</i>	‘shout’

		<i>yakkap^waha</i>	‘shout’
Mic:	Carolinian	<i>ab^was, akkab^was</i>	‘shout, call loudly’
		<i>ab^wasāxceli</i>	‘call loudly to s.o., call over to s.o.’
Mic:	Satawalese	<i>ap^wəs, akkap^wasa</i>	‘scream, shout’
Mic:	Woleaian	<i>xef^wata</i>	‘yell, shout, bark’
Mic:	Pulo Annian	<i>kkav^wati</i>	‘scream, shout’

cf. also:

MM:	Vangunu	<i>kepoto</i>	‘say’
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Only a few reflexes of POc **ŋulu* ‘in a whisper’, **ŋulu-ŋulu* (v) ‘whisper’ are known to us, but their distribution requires a POc reconstruction.

POc **ŋulu* ‘in a whisper’; **ŋulu-ŋulu* (v) ‘whisper’

Adm:	Loniu	<i>(-p^wa)ŋunu-ŋun</i>	(vi) ‘whisper’ (-p ^w a ‘say’)
NNG:	Sio	<i>ŋuru-ŋuru</i>	‘whisper’
SES:	Kwaio	<i>(k^wala)ŋulu</i>	‘whisper’ (k ^w ala ‘speak’)
SES:	’Are’are	<i>(wai)nuru</i>	‘murmur, whisper’ (wai does not occur independently)

cf. also:

SES:	Bugotu	<i>ŋuŋū</i>	‘whisper’ (†-l- is absent)
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It is possible that the two terms for ‘stammer’ below are independent innovations. A verb *ta* ‘speak’ occurs in Bola and Tolai, and it is possible that *tata* and *tatata* are onomatopoeic formations based on it.

PEOc *[*ta*]*tata* ‘stammer’ (?)

SES:	Gela	<i>tatata</i>	‘stammer’
Fij:	Bauan	<i>tata</i>	‘stammer, speak indistinctly’

The two reconstructions below are verbs meaning ‘talk in a foreign languages’, but some reflexes of PROc **kato* are perhaps metaphorical variations on the meaning. Proto Micronesian appears to have changed the final vowel from *-o to *-a.

It is just possible that PPn **kote* does reflect PROc **kato*, but with unexpected changes in its vowels.

PROc **kato* (v) ‘speak a foreign language’; (N) ‘speech, language, foreign language’

NCV:	Vurës	<i>yat</i>	‘say’
NCV:	Mwotlap	<i>yatyat</i>	(v; N) ‘speak, speak another language; language, dialect’
NCV:	Mota	<i>yato</i>	(v; N) ‘speak, speak another language, talk nonsense in delirium; foreign language’
NCV:	Lolovoli	<i>kato</i>	‘talk, speak’

PMic **kata* (N) ‘speech, language, foreign language’; (v) ‘talk, chatter, talk a foreign language’ (Bender 2003a: ‘talk loudly’)

Mic:	Kosraean	<i>kæs</i>	(N) ‘word, speech, language’
		<i>kæs-kæs</i>	(v) ‘talk, chirp repeatedly’

Mic:	Kiribati	<i>kaka(rabakau)</i>	‘talk together, conspire, plot insurrection’ (*t > k after *k)
Mic:	Marshallese	<i>kac, kkac-kac</i>	(N) ‘idiom, language, motto, pun, saying, slang’
Mic:	Carolinian	<i>kkas, kkasa-</i>	(N) ‘language, speech’
Mic:	Chuukese	<i>kasa-kas</i>	‘talk aloud’
Mic:	Woleaian	<i>kkase</i>	(N; V) ‘speak in foreign language; foreign language’

PPn **kote* ‘talk incomprehensibly, talk in a foreign language’

Pn:	Tongan	<i>kote</i>	(VI) ‘talk in a foreign language, talk jargon’
Pn:	Samoan	<i>ʔote</i>	‘scold, tell s.o. off’
Pn:	E Futunan	<i>kote</i>	‘talk in a foreign language’
Pn:	Tikopia	<i>kotē</i>	‘babble, chatter’
Pn:	W Futuna	<i>kote</i>	‘speak a foreign language’
Pn:	Māori	<i>kote-kote</i>	‘make a smacking noise with lips’

12.6 Other uses of report verbs

In a number of Oceanic languages verbs with a report sense (§12.3.1) are also used like English ‘think’, in the sense of ‘opine’, as we noted in vol.5:542–544:

... OPINE is quite often expressed by a language’s default verb of saying, so that in Baluan (Adm), for example, it is sometimes difficult to tell whether the speaker intends the complement of *p^a* to be spoken or simply thought (Dineke Schokkin, pers. comm.).

This is also true of Mangap (NNG) *-so* ‘say, think’. Bugenhagen & Bugenhagen (2007) gloss the Mangap sentence in (26) as both ‘I say that is not good’ and ‘I think that is not good’.

- 26) *nio aŋ-so ina a^mbai som*
 I 1SG-say that.DEM good not

The Äiwoo (TM) verb *-kæ/kv-* is also used in both senses (Næss 2016:48–49):

- 27) *kä demo kä pæko*
 say.ITR hermit.crab say okay
 ‘The hermit crab said, “Okay”.’

- 28) *kʷ-m^wæ idoo*
 say.TR-A:2A what
 ‘What do you think?’

The Äiwoo verb *-kæ/kv-* has a further extension of meaning: it is also used in the sense of ‘want’ (Næss 2016:49):

- 29) *kʷ-m^wæ mi-kuwæ ñv?*
 say-A:2A S:2A-go where
 ‘Where do you want to go?’

Verbs of speaking in a number of Oceanic languages are also used in the sense of ‘want’ or ‘intend’, as the following sentence examples show.

- 30) Kele (Adm) (Ross 2002a:139)
yu u-pe k-u-le
 D:1S S:1S-say IRR-S:1S-go
 ‘I wish(ed)/intend(ed) to go.’
- 31) Yabem (NNG) (Streicher 1982:35)
ae ga-be ya-ʷgom
 D:1S S:1S-say S:1S-IRR:do
 ‘I want to do it.’
- 32) Lamem (NCV) (Early 2002:680)
ne-vere ne-va
 S:1S-IRR:say S:1S-IRR:go
 ‘I want to go.’

The hallmark of this construction in the last three examples is that when the verb of saying is used in this sense, it is followed by an irrealis complement.¹⁶

Intuitively it seems likely that the sequence of extensions was ‘say’ > ‘think’ > ‘want’/‘intend’, but the evidence is insufficient to test this.

It seems likely that at least POC **p^wa*, **p^wai-* ‘say, tell’ and **p^waca(q)*, **p^waca(q)i-* ‘speak, say’ were used in these senses. It might be argued that in the ‘think’ and ‘want’/‘intend’ senses, these are no longer speech act verbs, as nothing is actually uttered. However, the extensions of meaning occur precisely because speakers apprehend thinking and wanting as unuttered speech.

The following list of examples where ‘say’ can also mean ‘think’ or ‘want’/‘intend’ is expanded from that given in vol.5:544. A number of these verbs are listed in the cognate sets in §12.3.1.

Adm: Baluan	<i>p^wa</i>	(VT) ‘say, express, think’
Adm: Lou	<i>pa</i>	(VT) ‘say, want’
Adm: Nyindrou	<i>aña</i>	‘think, say’
Adm: Kele	<i>pe</i>	‘say, wish, intend’
NNG: Yabem	<i>-be</i>	‘say, want, will, desire, like, mean, think, intend’
NNG: Numbami	<i>-ʷgo</i>	‘say, scold (s.o.), tell (s.t.), talk (to s.o.), intend (to do s.t.)’
NNG: Bariai	<i>oaga</i>	‘think, say’
NNG: Kaulong	<i>vo</i>	‘talk, say, speak; suppose, intend’
NNG: Mangap	<i>-so</i>	‘say, speak, communicate, talk, tell; think’
NNG: Kairiru	<i>wot</i>	‘say; intend, wish’
PT: Iamalele	<i>vo</i>	‘say, think’; quotative marker (= c)
MM: Nakanai	<i>vei</i>	‘think, opine, talk, tell, say’
MM: Sursurunga	<i>ʷo-</i>	‘say, think’
MM: Teop	<i>boha</i>	‘think, say’
SES: Gela	<i>ne</i>	‘say, think’

¹⁶ These are not serial verb constructions, as the two verbs of a SVC match in reality status (realis or irrealis).

SES:	To'aba'ita	<i>sore-</i>	'say, think'
SES:	Kwaio	<i>ili-</i>	'say, tell, think'
TM:	Aiwoo	<i>-kæ/kv-</i>	(VI/VT) 'say, want'
NCV:	Lamen	<i>vere</i>	'say, want'

It is noted that expressions like 'I want/hope/wish' sometimes take the form of a body-part metaphor like those described in volume 5, ch.9. This metaphor is literally translatable as 'my insides say'. Examples are:

- 33) Takia (NNG) (Ross, field notes)
ilo-g *i-bol...*
 insides-P:1S S:3S-say
 'I want...'
- 34) Sursurunga (MM) (Samson et al. 2018:474)
ŋo-i *i* *bəl*
 say-TR TOPIC stomach
 'I want...'

12.7 Conclusion

In the foregoing sections 22 POC speech act verbs have been reconstructed, along with two PWOc, six PEOc, four PPN and one each for PSES, PNCV and PCP. In making this count only a cognate set's highest-order reconstruction has been counted. Reconstructions at levels older than POC have been ignored.

These numbers are low in comparison with the multiplicity of speech act verbs in the Fijian languages or in English, a fact accounted for by paucity of data¹⁷ and the presence of numerous compound speech act expressions in some, perhaps many, Oceanic languages (§12.1.3). Gaps in the data prevent us making a more specific generalisation. In the discussion of compound expressions in §12.3.5 we noted that PEOc perhaps had a compound speech act expression for 'promise' consisting of the verbs 'say' and 'put'. Further research would probably lead to further findings of this kind.

We have also examined the grammatical behaviour of speech act verbs (§12.1.2), and seen that the same verb used with different grammatical constructions may have distinct senses. Understanding this behaviour and its grammaticalisation allows us to recognise that at least some complementisers are derived from verbs (§12.2).

Reconstructable expressive verbs—verbs, that is, that need no complement as they express propositional meaning themselves—include some of the normal interactions of any human conversation: replying (§12.4.1), talking behind someone's back (§12.4.4), abusing them (§12.4.5) and lying to them (§12.4.6). But telling stories (§12.4.2), calling out a greeting (§12.4.3.1), calling to attract attention (§12.4.3.2) and shouting loudly (§12.5) reflect the essentially oral communication of traditional Oceanic societies.

¹⁷ One factor perhaps contributing to paucity of data is that direct quotation is apparently much more common in Oceanic narrative texts than indirect speech. Where an English speaker says *She asked him about ...*, an Oceanic speaker seems likely to quote the question as direct speech. This reduces the frequency of speech act verbs. In this respect the Oceanic narrative genre seems different from anything that might be regarded as its English counterpart. But how one might measure or define this difference lies outside the scope of this chapter.

The data in §12.6 support the possibility that POc report verbs were in some cases also used in the senses ‘think, opine’ and ‘want, intend’.

13 *Trade, exchange, distribution and transfer of possession*

MEREDITH OSMOND AND MALCOLM ROSS

13.1. Introduction

This chapter aims first to describe the development of trade and exchange in early Oceanic society. It includes any activity carried out for the benefit of its participants involving not only the transfer of goods but also intangibles like labour and knowledge (§§13.1–2). The nature of wealth is described (§13.2, §13.5). It then takes a wider view of verbs involved in the transfer of possession, subsumed under verbs of giving and receiving (§13.6).

In Melanesia as a general rule, food and shelter are available to all members of a community. Land is owned by the family or clan, and industry alone is required to provide food. For shelter, the bush provides the material, everyone knows the rudiments of house-building, and the assistance of relatives is readily secured for a slight compensation. As Powdermaker (1933:223) writes, describing life in Lesu (= Notsi), a small village of Oceanic speakers in New Ireland:

There is no problem in securing the fundamentals of food, shelter and clothing. Yet there is private property; ornaments, implements of work, currency, pigs, knowledge, medical and magical, are all privately owned. There is wealth and there are rich men, but poverty does not exist. ... The importance of wealth is that it allows a man to make the elaborate rites for his dead ancestors, and so gain prestige for himself. Wealth is not hoarded but is always being put in circulation at the constant ritual feasts. And there is no reason why wealth should be saved over any long interval. Old age does not mean economic insecurity. For every old person is well taken care of by either his own children or by classificatory ones. The old people, men and women, are the most respected members of the community, and it is unthinkable that any one of them should be in want.

As Powdermaker summarises on p.225, “the underlying social forces – the principle of reciprocity, the desire for prestige, respect for the old, the mutual obligations within the kinship system – are the animating principles for the economic organisation.”

Nonetheless, no community can claim to be fully self-sufficient. There will be times when subsistence crops are affected by drought or disease. There will be desire for a greater variety

of foodstuffs. There will be the urge to acquire what other communities have – better cutting implements or cooking pots. Within the community, individuals will have particular needs for an accumulation of wealth to be available for brideprice, for feasts to mark ritual occasions (§14.1.2.1), for payment in restitution or to cancel a debt, and for sacrifice to the ancestors. There will be people who have specialised skills that others want and there will be people ambitious for prestige. Above all, wealth is desired because it permits generosity, the essence of goodness. All these needs act as motivation for some sort of transfer of wealth.

13.2. Development of trade patterns

It is archaeology (Kirch 1997; Spriggs 1997) rather than linguistic reconstruction that provides our best evidence for early trade. Archaeology has shown that the early Lapita period, from about 3400 to 3100 BP, the period leading to the consolidation of POc, was a time of intensive exchange. One of its most prominent markers was obsidian, volcanic glass that served as a fine cutting implement, used for hair cutting and shaving and in surgical operations. Oceanic speakers sourced it first from Lou island in the Admiralties and Talasea on the Willaumez Peninsula of New Britain, and it has been found widely distributed in Lapita sites (Galipaud & Kelly 2007; Summerhayes 2009). Reconstructed terms include POc **koto* ‘obsidian head of spear; obsidian knife or blade’, POc **nad(r)i* ‘flint, obsidian, stone with a cutting edge’, and PWOc **qa(r;R)ij* ‘obsidian; razor’ (vol.1:93). Flint or chert were also exchanged as useful sources for flake tools, and reflexes of reconstructions for obsidian at times refer to such alternatives. Oven stones with good heat-retention qualities, useful in lining earth ovens or boiling food by being dropped into wooden bowls containing food and liquid (vol.1:150), were also in demand. Mussau, which evidently occupied a central position in the early exchange network, shows a considerable range of imported goods in this period: trade in obsidian, chert, oven stones and adzes (Kirch 1997:242; Spriggs 1997; Summerhayes 2001).

The early Lapita communities were settled on the islands of the Bismarck Archipelago, many of them small islands. Moving around by canoe was a part of the daily life of people, and there would have been regular movement between sister communities. The earliest kinds of interaction would have existed to satisfy material needs of newly established settlements and settlements on small islands where resources were limited, as well as meeting social needs such as obtaining spouses. Roger Green (1979:38) describes this early trade as “a network of reciprocal exchanges between related communities that maintained frequent contact.”

As the Lapita people ventured further afield, to the Reefs-Santa Cruz group, Vanuatu, and beyond, so did the trading networks cover greater distances. Kirch (1988) writes that the remarkable rapidity and success in colonising new Lapita settlements was largely due to the maintenance of contacts with the ‘mother’ communities.

The importance of exchange for Lapita communities did not lie in assuring access to certain material resources such as obsidian or temper, but as a formal mechanism assuring a lifeline back to larger and securely established homeland communities. In the formative period of a new settlement, such linkages could be crucial in the event of unpredictable hazards (drought or cyclone), or to augment demographically small and unstable groups with suitable marriage partners. The ability to draw upon the total range of social and

demographic, as well as material, resources of a homeland community could have meant the difference between survival and extinction. (Kirch 1988:113–4)

Pawley (1981:295) writes that “for a time the sister communities continued to regard themselves as people of one stock and, for a longer period, as people of one language. As the centuries passed, however, contacts between scattered sister communities tended to become relatively less important and less frequent. Adaptive changes in economic and social life led to ... weakening of the lines of communication.” Kirch (1988:107) describes the emergence of two distinct Lapita trading networks, a western one from the Bismarcks to New Caledonia which lasted over 700 years, and an eastern one involving Fiji, Tonga and Samoa, and several of the smaller isolated islands (Niuatoputapu, Futuna, Uvea), which “may not have operated for much more than two or three centuries, if even that long”. The two networks were separated by a water gap of 850–1000 km between Vanuatu and Fiji which was sufficiently large to inhibit regular two-way voyaging contacts and maintenance of exchange relationships.

Over time, as populations increased and spread, coastal settlements moved inland and into locations where geographic resources dictated differences in diet. Among the simplest forms of trade was exchange of foodstuffs recognised as equivalent in value. Blackwood (1935:439) describes the exchange of fish and taro between coastal and inland villages in Buka, while Hogbin (1939:17) recognises a similar exchange of fish and vegetables in Malaita between the bush and the saltwater people.

Reciprocal exchange typically becomes regulated, occurring at fixed times and widened in scope to include a greater variety of produce. Communities take advantage of natural resources to develop specialisations, often manufactured items, and regular trade patterns emerge as a result. They may be undertaken both individually and collectively, and may be planned months in advance so that the items to be traded can be collected, and undertaken when the sailing season is at its most reliable.

The following accounts describe ways in which a range of trade patterns have developed over time. They vary in scale, from the small Manam trade exchange (Wedgwood 1934) to the large *hiri* expeditions of the Western Motu (Seligman 1910), and in complexity, with goods moving through multiple stages as in the Kula Ring (Malinowski 1922) and Vitiaz Straits (Harding 1967) networks. They also vary in intent, with the primary need for material goods and maintenance of social ties now at times being overtaken by the desire for profit as noted in the trade networks of both the Vitiaz Straits (Harding 1967:139) and Santa Cruz (Davenport 1964:62). In contrast, Powdermaker (1933:202), writing of Lesu, and Hogbin (1964a:50), writing of the middlemen in Longgu, describe them as deriving no financial profit from their position. They enter into a transaction because it provides them with an excuse for engaging in social intercourse with peoples whom they would otherwise see only rarely.

Arrival of a trade group is an occasion of heightened social activity. The Siassi, for example, are renowned as performers, with added reputation as storytellers and retailers of gossip (Harding 1967:183). They bring songs and dances, sometimes by invitation, both to perform and trade. These are owned, and rights by others to perform them must be paid for. Particularly for people from small communities, such occasions also offer an opportunity for obtaining marriageable partners.

Brief ethnographic descriptions follow of some of the better-known trade patterns that have emerged from these beginnings.

13.2.1 Manam

Wedgwood (1934:392–3) describes a trade pattern on the island of Manam off the north coast of New Guinea. Soil is poor and the main crops, taro and bananas, cannot be stored for any length of time, so people are generally faced with food shortage towards the end of the dry season. At this time the men make expeditions to the mainland to exchange baskets of canarium nuts and bundles of native-grown tobacco for sago. Every man in Manam has in two or three villages of the mainland some one man who is his trading partner (*tawa*) through whom all exchanges of goods or valuables are made.

13.2.2 Western Motu

On a much larger scale, the great *hiri* expeditions of the Western Motu were undertaken annually by coastal-dwelling fishermen and potters of the Port Moresby area to unrelated people living at the head of the Papuan Gulf in order to exchange pottery for sago and for new hulls for their *lakatoi* (F. R. Barton in Seligman 1910:96ff). As summarised by Bellwood (1979:102):

Every year, towards the end of the south-east trade-wind season in September or October, the Motu would fit out several *lakatoi* – giant canoes up to 20 metres long by 16 broad with covered superstructures and several parallel hulls, capable of carrying in some cases over 1600 pots or 30 tons of sago – and head along the coast to the northwest to carry out exchange along the normal partnership pattern. They would then return with the sago on the north-west monsoon after about three months.

13.2.3 The Kula Ring

The Kula Ring, described by Malinowski (1922), is a more complex form of exchange, largely ceremonial. It is a circulating system based on group voyaging between neighbouring islands when trade partners engage in exchange, both of utilitarian goods and also non-utilitarian armshells and necklaces which travel in fixed directions around a chain of islands including the Trobriands, Muyuw, Misima, Tubetube and Dobu, integrating the whole system. Some of the islands are ecologically poor and have become highly specialised – the Amphlett Islands, for instance, are poorly supplied with food, and can obtain this by trading the pots which they make from clay brought from Fergusson Island. As Malinowski describes it, “The main principle underlying the regulations of actual exchange is that the Kula consists in the bestowing of a ceremonial gift, which has to be repaid by an equivalent counter-gift after a lapse of time” (1922:93). Bellwood (1979:102) sees the cycle as “a highly elaborate ritual, closely bound up with magic and considerations of personal status, which at base circulates needed goods to needy localities, but in more general terms serves a fundamental social function of high complexity”.

13.2.4 Vitiaz Strait

Another example of a highly developed trade system is that described by Harding (1967) which stretches from the western end of New Britain through the islands of the Vitiaz Strait, to the long coastline between Madang and Morobe. As summarised by Bellwood (1979:103) the trade networks involved in this system are very complex and transcend any form of local identity. Hundreds of communities are involved, exchanging inland root crops for coastal fish, coconuts and pottery. Three groups of sea-borne middlemen, based on Bilbil Island in Austrolabe Bay, the Siassi Islands and the Tami Islands, articulate the flow of commodities with three overlapping trading spheres. It was possible, for instance, for obsidian from the base of the Willaumez Peninsula in New Britain to move step by step and increasing in value all the time, right through the system. Harding (1967:42) notes that “as obsidian moved farther from its source, the size of the pieces traded progressively decreased and the relative value increased.” As well as obsidian, Harding (p.55) lists live pigs, dogs’ teeth, bows and arrows, net bags, pottery and taro amongst present-day mainland exports, while from the islands of the Straits boars’ tusks, live dogs, mats, shell discs, beads, betel nut, red ochre and sago move in return to the mainland. Communities typically specialise; thus Siassi and Tami Islanders make the best canoes, Bilbil, Sio and Gitua clay cooking pots.

Exchanges are made predominantly in terms of equivalence, rather than involving currency. But items vary in quality and size and are more desired in some communities than others, creating opportunities for profit. Harding provides the following series of exchanges to illustrate how the Siassi can turn a basic product into a valuable pig (p.139):

6–12 coconuts > 3 pots > 1 block obsidian > 10 pots > 1 pig.

13.2.5 Reef-Santa Cruz

Davenport (1964:62–64) describes a complex trade system from the Reefs-Santa Cruz group which, with the inclusion of the nearby Polynesian-speaking island of Taumako (Pileni,) in earlier times operated as a single, self-contained social and economic system. Demand is based less on environmental differences and more on the fact that there is a high degree of specialisation of skills and technical abilities within the group. Raw materials such as kinds of shell and stone, and partially processed materials such as cordage, turtle shell and feathers, move from one district or island to another where they are manufactured into products and re-exported. When timber is available, Taumakoans build large sailing outriggers (*puke*) constructed for trade, load them with sago flour and small paddling canoes, sell both cargo and large canoes to villages of the northeastern Reef Islands, and paddle home with their exchanges in small canoes. The Reef Islanders can then use the *puke* canoes to trade with the larger southern islands.

Davenport also describes (p.63) the elaborate system whereby feather currency is manufactured by specialists on only one island, Nidu (Santa Cruz), making use of red feathers acquired from Utupia and Vanikoro. This feather currency then has to be fed into wider circulation where it is needed in brideprice. The Reef Islands give up some of their women to Santa Cruz in exchange for brideprice paid in feather currency, and Taumako people give up some of theirs to the Reefs in the same manner. Davenport describes women in this system as “the most valuable commodity of all.”

13.3. Reconstructing trade-related verbs

POc **poli* is a well-attested reconstruction for ‘buy’ with antecedents in PAn and PMP. While Blust (ACD) accepts that ‘buy’ is the attested gloss in the great majority of reflexes of PAn **beli*, he adds a cautionary note. He writes:

Buying, however, is an activity which involves the acquisition of objects through a common medium of exchange – i.e. some form of money. There is no known evidence of any kind that speakers of PMP (circa 3,000 BC) were familiar with a money economy; moreover, various reflexes of **beli* both in WMP and in CMP languages indicate that this item in particular referred to the ‘brideprice’. Since brideprice is a set of economic arrangements between the families or descent groups involved in a marriage, the gloss ‘to buy’ for this form is best seen as an imposition upon an earlier economic order based on exchange by a later one based on purchase.

PAn **beli* ‘buy’ (ACD)

PMP **beli* (N) ‘value, price; marriage prestations, brideprice’; (V) ‘purchase’ (Dempwolff 1938: ‘buy’)

POc **poli* (V) ‘to barter, purchase by exchange’; **poli* (N) ‘price, brideprice; value’

NNG: Gedaged	<i>poali</i>	(VT) ‘to barter, trade, exchange’
NNG: Wogeo	<i>oalage</i>	‘ritual exchange between villages’ (Anderson 2003)
NNG: Bilbil	<i>poli</i>	‘to barter’
NNG: Bariai	<i>ol</i>	‘to buy’
NNG: Mangseng	<i>ol</i>	‘to buy’
NNG: Hote	<i>vuli</i>	‘to buy’
NNG: Kove	<i>oli</i>	‘to buy’
	<i>oli-ŋa</i>	‘third, full marriage payment’
NNG: Yabem	<i>(ŋa)oli</i>	(N) ‘payment, reward, price, compensation’
PT: Wedau	<i>unei</i>	‘to buy, barter’ (<i>unelei</i> ‘to sell, barter’)
PT: Motu	<i>hoi-a</i>	(VT) ‘to buy, sell, exchange’
PT: Sinagauro	<i>voi</i>	(VT) ‘to buy’
MM: Tigak	<i>pul</i>	‘to buy’
MM: Tabar	<i>vo-vori</i>	‘to buy’
MM: Halia (Haku)	<i>hol</i>	‘to buy’
MM: Teop	<i>von</i>	‘to buy, reward’
MM: Maringe	<i>foli</i>	(VI, VT) ‘buy’
SES: Bugotu	<i>voli</i>	(VT) ‘to buy, sell, pay; price’
SES: Gela	<i>voli</i>	‘barter, buy and sell’
SES: Longgu	<i>voli-a</i>	(VT) ‘to buy, pay for s.t.’
SES: Lau	<i>foli</i>	‘to buy, hire, pay wages’
SES: Kwaio	<i>foli-a</i>	‘buy’
SES: Arosi	<i>hori</i>	‘buy, sell, pay’
SES: Sa’a	<i>holi(te)</i>	(N) ‘price, payment’ (<i>-te</i> not understood)
SES: Owa	<i>wori</i>	(VT) ‘buy s.t., pay for s.t.’
NCV: Mota	<i>wol</i>	‘to barter, buy or sell by exchange’

NCV:	Raga	<i>voli</i>	‘buy, barter’
NCV:	Tamambo	<i>voli</i>	(VT) ‘buy s.t.; pay bride price’
Fij:	Wayan	<i>voli-</i> <i>voli</i>	(VT) ‘buy or purchase s.t., obtain by trade’ (VSt) ‘be bought, obtained by trade’
Fij:	Bauan	<i>voli-a</i> <i>i voli</i>	‘to buy, purchase’ ‘price, cost’

cf. also:

Mic:	Carolinian	<i>(li)weli</i>	‘to change or take the place of s.o.; to exchange one thing for another; trade’
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A number of languages retain both single and reduplicated forms. It is possible that in some instances the reduplicated form carries the sense of repeated exchanges, but the pattern is not consistent. Longgu and Sa’a use the reduplicated form specifically for ‘brideprice’ while Tamambo identifies ‘brideprice’ with the single form.

POc **poli-poli* ‘trade, barter’

PT:	Motu	<i>hoi-hoi</i>	‘barter’
SES:	Gela	<i>voli-voli</i>	‘barter, buy and sell’
SES:	Lau	<i>foli-foli</i>	‘buy, hire, pay wages; to measure’
SES:	Longgu	<i>voli-voli</i>	‘bride price’
SES:	Sa’a	<i>holi-holite</i>	‘bride price’ (Ivens 1927:71)
SES:	Arosi	<i>hori-hori</i>	‘buy, sell, pay’
NCV:	Tamambo	<i>voli-voli</i>	(VI) ‘trade, barter’
Fij:	Bauan	<i>(vei)voli, vovoli</i>	‘trade, barter’ (<i>vei-</i> RECIPROCAL)

The name ‘Kula’ as in ‘Kula Ring’ evidently is derived from the following:

PWoc **kul(a,e)* ‘exchange, buy’

NNG:	Kaulong	<i>kul</i>	(VT) ‘buy, purchase, hire, make compensation, pay a fine, bribe with money’
PT:	Gumasi	<i>kula</i>	‘exchange of shell wealth in Milne Bay Province’ (for † <i>kuna</i>)
PT:	Dawawa	<i>kune</i>	‘exchange’
PT:	Tawala	<i>une</i>	‘trading circle, trade items’
PT:	Bwaidoga	<i>ʔune</i>	‘trade’
MM:	Ramoaina	<i>kul</i>	(VT) ‘buy, pay’
MM:	Madak	<i>kun</i>	‘exchange’
MM:	Patpatar	<i>kul</i>	(VT) ‘buy’
MM:	Tolai	<i>kul</i> <i>ku-kul</i>	‘pay, buy’ (VI) ‘deal, buy, engage in trade or commerce’

cf. also:

NNG:	Poeng	<i>koli(rea)</i>	(VT) ‘buy’
NNG:	Kove	<i>koli</i> <i>koli-ŋa</i>	‘pay a debt’ (N) ‘repayment’

The ACD lists PCEMP **matay* as a noun meaning ‘money, payment, medium of commercial exchange’ with a single non-Oc reflex. Glosses of Oceanic terms may be either noun meaning ‘price’ or ‘payment’, as in SE Solomonic languages and Hawaiian, or verb meaning ‘exchange, buy’ as in Tolai and Kosraean. It is noteworthy that in both Gela and Arosi the reflex of POC **mate* when referring to ‘price/payment’ is inalienably possessed, implying that price/payment is an inherent attribute of the item.

PCEMP **matay* ‘money, payment, medium of commercial exchange’ (ACD)

CMP:	Buru	<i>mata-n</i>	‘money’
POc * <i>mate</i> (N) ‘price’; (V) ‘transact’			
MM:	Tolai	<i>mate</i>	(VT) ‘to change, exchange, buy’
SES:	Gela	<i>mate-</i>	‘the price of a thing’ (<i>mate-na</i> ‘its price’)
SES:	’Are’are	(<i>pata</i>) <i>mae</i>	‘very fine shell money, having great value, used to make necklaces and for buying pigs’ (<i>pata</i> ‘money’)
SES:	Arosi	<i>mae(-na)</i>	‘payment for work done or land bought’
Mic:	Kosraean	<i>mise</i>	‘buy on credit’
Pn:	Hawaiian	<i>make</i>	‘price, barter, exchange’

13.4. Forms of wealth

Tradeable wealth in Oceanic societies exists in the form of items such as domestic pigs, manufactured items used both as currency, and as valuables ranging from canoes to armbands, and in Polynesia, tapa and fine mats. Surplus foodstuffs will be a valuable source of exchange. Wealth exists as well in intangibles, in labour, and in skills, particularly knowledge of magic and medicine.

13.4.1 Pigs

Domestic pigs (POc **boRok*, vol.4:238) are the supremely valued object in most Melanesian societies. Pigs buy wives, they satisfy important social obligations and needs, and they are the *sine qua non* of any important festive occasion or ritual event as well as being valuable trade items. They are personal possessions. Young men may beg for one or two piglets from the litter of a relative’s sow, or capture a wild piglet, and wives will put much time and attention into rearing them. A man’s wealth is represented by the number of pigs he can contribute to celebratory feasts and other ritual events.

13.4.2 Currency

Bellwood (1979:104) writes:

Throughout Melanesia generally, and also in western Micronesia, goods and services could be exchanged for various kinds of money. These currencies were normally specially manufactured and always had some kind of scarcity value, in the sense that they could not be mass-produced indiscriminately. They were not used simply for trade, but also enabled a man to pay bride price, to recompense injury or murder and to

pay other unilateral payments, and also to give loans with interest in order to accumulate the wealth necessary to become a Big Man. Where services were given in terms of labour, these would be repaid in kind.

The most widespread currency in Oceanic communities consists of strings of shell discs, usually small shells ground flat, pierced with a central hole and then threaded on fathom-long strings of native cord. They may be collected into various denominations. In Baluan in the Admiralty Islands *sean* is the name given to shell money of the best quality, while *ulit* refers to that of lower quality (Schokkin 2015). In Lesu the currency is the *tsera*, one unit of which consist of an arm length of tiny flat shell discs strung together. There are two kinds, red and white, the red twice the value of the white (Powdermaker 1933:200). In Kwaiwo the medium of exchange is *bata*, tiny beads fabricated from cone shells and strung on fibre into conventional lengths and denominations (Keesing 1982:20). In Longgu, they are fastened into sets of 12, 10, 8, 6 and 4, each set individually named (Hogbin 1964a:19). In Äiwoo on the Reef Islands *manahau* is the name given to a coil of shell money (Koch 1971:156). Names across communities vary along various parameters, according to variety, colour and quality of shell, specified denominations, and so on.

A POC reconstruction, **saRa* ‘shell money made from small shells’, is proposed. Final *-ŋ* of Baluan *sean* is puzzling. It does not reflect a final POC consonant, as these are lost in Baluan.

POC **saRa* ‘shell money made from small shells’

Adm:	Baluan	<i>sea(ŋ)</i>	‘best quality shell money’
NNG:	Mangseng	<i>sara</i>	‘shell money’
MM:	Nakanai	<i>sara</i>	‘small cut shells (<i>Nassa</i> sp.), used as money by the Tolai and primarily for decoration by Nakanai’
MM:	Notsi	<i>cera</i>	‘shell money’
MM:	Siar	<i>sar</i>	‘shell money’

Terms used in the measurement of shell money are reconstructed in §16.7.

13.4.3 Teeth

Also valued as currency are teeth of dogs, porpoises and flying foxes (POC **[l,n]ipon* ‘tooth, tusk’, POC **bati* ‘canine tooth’) (vol.4:266). Denominations are typically measured in numbers of teeth. Arosi, for instance, has a unit of money, *abe*, consisting of four porpoise teeth or two dog teeth, and larger denominations like *toa ni iʔa*, made up of 400 porpoise teeth (Fox 1978). Dog teeth may be incorporated into ornaments like headbands or chest ornaments.

Co-existing shell and teeth currencies are not true currencies insofar as they typically have separate roles. In Buka and north Bougainville (Blackwood 1935:446), shell currency called *beroan* is given in payment for certain things including compensation for theft, part payment for pigs, for being taught certain kinds of magic, thrown into the coffin as a sign of grief, and so on, while currency known as *paio*, made of either porpoise or flying fox teeth, “is reserved for use in important transactions”. In Longgu where the local currency consists of fathom-long strings of shell discs, the canine teeth of dogs and the teeth of porpoises, Hogbin

(1964a:48) warns that they are not interchangeable. A fathom of discs or ten dogs' teeth or 50 porpoise teeth may all be assumed to have the same market value, but any one cannot be equated with either of the others. Each traditional transaction requires its own kind of objects – discs alone, dog teeth alone, or, as a bride price, some of all three in fixed proportion. In Sa'a, however, "forty dog teeth was reckoned as a unit and was equivalent to one hundred porpoise teeth, or one shell money of four strings" (Ivens 1927:405).

13.4.4 Valuables

Other valuables not generally classified as currency but included in the most important classes of payments made within a community – brideprice, indemnification, payments to sorcerers – include body ornaments like combs (POc **saRu*), arm and leg bands (POc **bara* 'plaited cane armband'), shell breast plates (POc **japi* 'bivalve, possibly gold-lipped pearlshell; ornament made from this'), necklaces and ornaments for ear and nose (POc **(sabi-)sabi* 'shell disc used as earring') (Hogbin 1939:48).¹ Santa Cruz is noted for its belts of red feathers called *teau* in Natügu (Koch 1971:156), while in Sio in the Vitiaz Strait and along the north coast of New Guinea pairs of curved boars' tusks known as *sajiri* are sought-after (Harding 1967:47). In Polynesia where the giving of gifts is highly ritualised, tapa and fine mats are a major form of wealth (Tcherkézoff 2017).

PPn **taoŋa* 'valuable, alienable property' (POLLEX)

Pn:	Tongan	<i>tōŋoŋa</i>	'custom, habit, conduct, behaviour, characteristic; rite, ceremony'
		<i>tōŋoŋa(pō)</i>	'special gift from a lover'
Pn:	Niuean	<i>tōŋa</i>	'a Samoan fine mat'
Pn:	Samoan	<i>tōŋa</i>	'fine mat, the most significant and valuable object in Samoan culture' (Milner); 'native property consisting of fine mats and <i>siapo</i> [tapa]' (Pratt); 'collective term for fine mats and tapa when presented as offering' (Tcherkezoff 2016)
Pn:	Rennellese	<i>hai toŋoŋa</i>	'artefact, as mat or tapa, as offered to gods'
Pn:	Mangarevan	<i>toŋa</i>	'cloak of barkcloth'
Pn:	Rarotongan	<i>taoŋa</i>	'property, possessions'
Pn:	Tahitian	<i>taoŋa</i>	'object, goods, property, riches'
Pn:	Maori	<i>taoŋa</i>	'property, anything highly prized' (flax and feather cloaks are historically the oldest kinds of <i>taoŋa</i>); 'traditionally anything, tangible or intangible, which represents a kin group's genealogical identity' (Tcherkezoff 2016)
cf. also:			
PT:	Dobu	<i>taŋona</i>	(N) 'payment for personal injury or stolen goods' (V) 'to make such payment' (borrowed from Pn)

¹ The reconstructions given here are presented with their reflexes in vol.1:103–106.

PPn **koloa* ‘valuable possessions’ (POLLEX)

Pn:	Niuean	<i>koloa</i>	‘valuable possessions, goods’
Pn:	Tongan	<i>koloa</i>	‘goods, wealth, possessions’
Pn:	Rennellese	<i>kogoa</i>	‘tapa cloth’
Pn:	Samoan	<i>ʔoloa</i>	‘property, goods, wealth’
Pn:	Tikopia	<i>koroa</i>	‘goods, property, valued object, treasure’
Pn:	Hawaiian	<i>ʔoloa</i>	‘fine white tapa’

13.4.5 Knowledge

In Lesu (Powdermaker 1933:204–6), where there is no profit in trading in pigs, the possession of magic is the most important source of wealth. Both magic and some aspects of medical knowledge, particularly as it relates to childbirth, are private possessions in the hands of a few, and are performed only for payment. See Chapter 8 for examples from Mekeo (Stephen 1987:43), Kove (Chowning 1989:224) and Longgu (Hogbin 1964a:58).

13.5. Wealth movement within a community

In Oceanic communities, a man’s reputation is enhanced not by accumulating possessions but by giving them away. Throughout Oceania the major channel for the distribution of wealth is through the giving of feasts (§14.1.2.1). Other occasions involving the exchange of goods and services include (i) brideprice transactions, (ii) reimbursement for services, (iii) payment as compensation or fines, and (iv) as sacrifice to the gods. Any individual who needs to make a contribution will be met with the assistance of a wide circle of kinfolk and affines. All such assistance will carry with it the obligation to reciprocate in time, as the opportunity occurs.

13.5.1 Feasts and distribution of goods

Every event of importance in a man’s life such as the death of his parents, or the marriage of his children or the offering of a sacrifice to the ancestors, is celebrated by a feast. Feasts are also held to give thanks for services rendered. In particular they are an opportunity for individuals to display and distribute wealth through the giving of pigs to be slaughtered and eaten, and by providing quantities of foodstuffs. The more feasts a man gives and the more lavish he is in the provision of food, the greater is his prestige, and the greater his chances of becoming a big man (Hogbin 1939:61–62). If he is already a big man or is an hereditary chief, he will be careful to uphold his reputation by his actions, and one of his responsibilities will include deciding on the number and timing of feasts. A similar role is undertaken by the Polynesian *ariki*. Goldman (1970:363) describes the situation in Tikopia where, in spite of limits imposed by population pressure on one small island, the same pattern ensues.

In Tikopia, the chief has the ability to control the ritual circulation of goods. Tikopia has no spare land. Population numbers must be kept at a sustainable level. They can produce enough to feed themselves, but no surplus to export. The chief must have wealth. He is the initiator of the grand cycle and is responsible for keeping in motion the distribution and redistribution of food. Circulation is certainly the most conspicuous and pressing obligation of *ariki*.

Three categories of lexical item are associated with feasting: terms for ‘feast’; terms for distributing goods, perhaps especially food items; and terms for counting goods in order to ascertain their exchange value. The last category is described in some detail in §14.1.2.1.

The generic name for a feast was probably a nominalisation of the verb POc **kani[-]* ‘eat’ (vol.4:224–230). Forms in some languages reflect the reduplicated form **kani-kani*, in others **kani-an* with the nominaliser **-an*.

Adm: Titan	<i>kani-an</i>	‘a feast’
NNG: Kove	<i>hani-ŋa</i>	‘a feast’
NNG: Mangap	<i>kan-ŋana</i>	‘eating, meal time, a feast’
NNG: Takia	<i>an-aŋ</i>	‘a feast’
PT: Gumawana	<i>kaika</i>	‘food, meal, eating, a feast’
MM: Tinputz	<i>kæn</i>	‘a feast’
NCV: Mota	<i>yana-yana</i>	‘a feast, meal’
NCV: Kiai	<i>ani-ani</i>	‘a feast’
NCV: Paamese	<i>ani-ene</i>	‘food; meal; staple part of a meal (as against the meat and vegetables), feast’

The forms above also mean ‘food’ and ‘meal’ in some languages, and Clark (2009) lists cognates which do not even include ‘feast’ in their glosses. It is often difficult to find a generic term for ‘a feast’ in a dictionary of an Oceanic language, but easy to find terms for different kinds of feast, i.e. feasts are generally named for their specific function. In Gedaged, for example, a feast, *wei*, is given to repay workers on a big undertaking while *soabul* is a feast primarily to gain prestige for the giver. Numerous terms have been collected for ‘mortuary feast’, ostensibly a feast held some months after a person’s death, to honour the dead person and thank those who rendered burial services, but no reconstructions have been possible except at a low level. In Papuan Tip communities, mortuary feasts have developed into major occasions for the exchange and distribution of wealth (Seligman 1910:276, Malinowski 1922:170, Battaglia 1991:86, Fortune 1963:193–200). However, it has not proven possible to reconstruct terms for these specialised feasts.

Three verbs meaning to ‘distribute’ are reconstructed here:

POc **wase* ‘distribute, as food at a feast’, **wase-* (VT) ‘distribute, divide, give’; **wase-wase* ‘divide into multiple parts’

POc **soli*, **soli(t,ŋ)-i-* ‘distribute, pass to another’

POc **tara(s)*, *taras-i-* ‘distribute, divide up, share’

Distributing food among large numbers of people at feasts continues in many Oceanic speaking cultures, and was apparently the activity denoted by POc **wase*, reflexes of which are well distributed across Oceania. Blust (ACD) glosses **wase* ‘distribute, as food at a feast’, but its uses evidently extended on the one hand to dividing something up and counting the portions, and on the other to giving (freely and without expectation of return). The ‘count’ sense is reflected in the Admiralties, North New Guinea, Meso-Melanesian and Micronesian, but there are indications that the wider senses have persisted in some languages (Gedaged, Sinaugoro). The ‘give’ sense has led to the use of the reflex of **wase* as the default term for ‘give’ in a number of Oceanic languages of SW New Britain and the SE Solomons. In

Central Pacific languages, it is the ‘divide up’ sense that has mainly survived. Thus the reflexes of **wase* attest to several semantic shifts.²

The forms under ‘cf. also’ below reflect a putative POc **waso* rather than the overwhelmingly attested **wase*.

PEMP **wa(n)se* ‘divide’ (ACD)³

POc **wase* ‘distribute (food at a feast), divide up, count out’

Adm: Seimat	<i>wexe</i>	‘count’
Adm: Wuvulu	<i>wake-i</i>	‘count’
NNG: Bariai	<i>wade</i>	‘distribute; count out’
NNG: Sio	<i>wae</i>	‘divide and distribute’
NNG: Tami	<i>(ta)wat</i>	‘distribute’
NNG: Dami	<i>-wese-</i>	‘count; read’
NNG: Arove	<i>wai</i>	‘give’
NNG: Atui	<i>yas</i>	‘give’
NNG: Sengseng	<i>vai</i>	‘give’
NNG: Gedaged	<i>-wae</i>	‘give away, distribute, bestow, deal out, apportion’
NNG: Takia	<i>-wae</i>	‘deal out, distribute, apportion out (work, food), share’
NNG: Numbami	<i>-wesa</i>	‘distribute, divide out, dish out (food)’
NNG: Yabem	<i>-wà</i>	‘separate, sever, divide’
NNG: Manam	<i>-ware</i>	‘count’
NNG: Bam	<i>-war</i>	‘count’
NNG: Kairiru	<i>-was</i>	‘distribute’
NNG: Ali	<i>-wes</i>	‘count’
NNG: Sissano	<i>-wes</i>	‘distribute; deal out’
NNG: Sera	<i>bek-bek</i>	‘distribute’
PT: Sinaugoro	<i>vare-vare</i>	(VI) ‘give gifts’
	<i>vare-vare-vini</i>	(VT) ‘give gifts to’
PT: Roro	<i>-wate</i>	‘distribute’
MM: Vitu	<i>vaðe-ni</i>	‘distribute’
MM: Nakanai	<i>vara(rapu)</i>	‘give gift with no need of return’
MM: Tabar	<i>ase</i>	‘count’
MM: Lamasong	<i>us</i>	‘count’
MM: Patpatar	<i>wa-was</i>	‘count’
MM: Label	<i>uas</i>	‘count’
MM: Sursurunga	<i>wəsə-i</i>	‘count; read’
	<i>wəs talmi</i>	‘count, add’ (lit. ‘count gather’)
MM: Tangga	<i>wes</i>	‘count’
MM: Nehan	<i>aha</i>	‘count’
MM: Halia	<i>ase</i>	‘number, count’

² Some of these may be more apparent than real, as data sources are often limited in their glossing.

³ The ACD offers just one datum in support of the PEMP reconstruction: Numfor (SHWNG) *wās* ‘divide into two parts, as when a path runs through a garden’.

MM:	Taiof	<i>as-as</i>	‘count’
MM:	Teop	<i>ahe</i>	‘count; set store by; read’
MM:	Marovo	<i>ase</i>	‘count’
MM:	Kilokaka	<i>aʔ-ahe</i>	‘count’
MM:	Cheke Holo	<i>-ahe</i>	‘count’
SES:	Gela	<i>vahe</i>	‘give, give to’
SES:	Longgu	<i>wate-</i>	(VT) ‘give, send, offer’
SES:	Lau	<i>k^wate</i>	‘give, give up, hand over, present’
SES:	Kwaio	<i>k^wate, k^wate-</i>	‘contribute, give’
SES:	’Are’are	<i>wate</i>	‘herald at a feast the assigned food portions to the different villages; make an oration at a feast’
SES:	Sa’a	<i>[waʔe]wate</i>	‘distribute food at a feast after making an oration’
SES:	Arosi	<i>wate</i>	‘give’
NCV:	Tamambo	<i>ase</i>	(VT) ‘share s.t., divide out s.t.’
PMic * <i>waSe</i> (VI), * <i>waSe-ki</i> (VT) ‘count’ (Bender et al. 2003a)			
Mic:	Kiribati	<i>ware</i>	‘calculate, enumerate, spell’
		<i>ware-ka</i>	(VT) ‘count or read (s.t.)’
Mic:	Kosraean	<i>oe-oe</i>	(VI) ‘count’
		<i>oe-k</i>	(VT) ‘count’
Mic:	Marshallese	<i>wat-wat</i>	(VI) ‘count up; estimate by counting’
		<i>wate-k</i>	(VT) ‘count up’
Mic:	Woleaian	<i>wate-wate</i>	(VT) ‘count, reckon, enumerate’
		<i>weta-xi,</i>	(VT) ‘count, reckon’
Mic:	Ponapean	<i>wada-wad</i>	(VI) ‘count; read’
		<i>wade-k</i>	(VT) ‘count; read’
		<i>wad</i>	(VI) ‘multiply (in mathematics)’
		<i>wadi-ki</i>	(VT) ‘multiply it’
Mic:	Pulo Anna	<i>wete-wete</i>	‘count’
PCP * <i>wase</i> ‘divide; separate’ (Geraghty 1983: PEOc ‘divide’)			
Fij:	Bauan	<i>wase-</i>	‘divide, separate’
Fij:	Wayan	<i>wase-</i>	(VT) ‘divide, separate into parts or sections’
		<i>wase</i>	(VSt) ‘divided into parts’
PPn * <i>wahe</i> ‘divide, separate’ (POLLEX)			
Pn:	Tongan	<i>vahe</i>	‘divide, divide out, allot, distribute; division’
		<i>vahe-a</i>	‘divide’
Pn:	Samoan	<i>vae</i>	‘divide, separate; cut, sever’
Pn:	E Futunan	<i>vae</i>	‘divide, separate; division’
Pn:	Anutan	<i>vae</i>	‘divide a group of objects into subsets’
Pn:	Pukapukan	<i>va-vae</i>	‘separate, divide into parts’
Pn:	Maori	<i>wae</i>	‘divide, division, separate’
cf. also:			
NNG:	Kove	<i>waðo</i>	‘count’
NNG:	Wogeo	<i>-wayo</i>	‘count’

NNG: Kaiep -*wiau* ‘count’

POc **soli*, **soli(t,ŋ)-i-* appears to have profiled the assignment of a portion to one person, whereas **wase* profiled distribution among a number of people. Again, it has given rise to reflexes meaning simply ‘give’, this time in Central Pacific languages.

POc **soli*, **soli(t,ŋ)-i-* ‘distribute, pass to another’

Adm:	Seimat	<i>solit-i</i>	(VT) ‘change places with, exchange; replace’
SES:	Gela	<i>holi</i>	‘pass from one to another, as a sickness’
		<i>holiŋ-i</i>	(VT) ‘infect’
SES:	Lau	<i>toli</i>	‘distribute, set out portions at a feast’
SES:	Kwaio	<i>toliŋ-i-</i>	‘distribute to, apportion’
SES:	Sa’a	<i>toliŋ-i-</i>	(VT) ‘assign a portion of food to a person at a feast’
SES:	Arosi	<i>toriŋ-i-</i>	(VT) ‘assign a portion’
SES:	’Are’are	<i>torin-i-</i>	‘assign one’s portion of food on a feast; give, grant, permit’
SES:	To’aba’ita	<i>toli</i>	(VI) ‘share out s.t., distribute shares of s.t.’
		<i>toliŋ-i-</i>	(VT) ‘share out, distribute s.t.’
SES:	Owa	<i>toriŋ-i-</i>	(VT) ‘buy s.t.’

PCP **soli[-]* ‘give’

Fij:	Bauan	<i>solit-a</i>	‘give’
		<i>vei-soli</i>	‘exchange’ (<i>vei</i> RECIP)
Fij:	Wayan	<i>soli</i>	‘be given, awarded, granted’
		<i>soli-soli</i>	‘give, keep giving things, be generous’
Pn:	Anutan	<i>tori</i>	‘give’
Pn:	Tuvalu	<i>holi</i>	‘give freely’
Pn:	E Futunan	<i>soli</i>	‘give, present, award’
Pn:	Emae	<i>sori-a</i>	‘give, sell, send’
Pn:	Ifira-Mele	<i>sori-a</i>	‘sell’
Pn:	Tikopia	<i>sori</i>	‘give, hand over’
Pn:	W Uvean	<i>soli</i>	‘give, lend, borrow’

A third reconstruction, POc **tara(s)*, *taras-i-*, apparently had the meaning ‘distribute, divide up, share’ without specific reference to food. Again, a ‘distribute’ verb has become a ‘give’ verb, here in southern New Ireland.

POc **tara(s)*, *taras-i-* ‘distribute, divide up, share’

Adm:	Titan	<i>talas-i</i>	(VT) ‘share, divide up’
		<i>tala-tal</i>	(VI) ‘divide up, share’
NNG:	Takia	<i>-tar(pale)</i>	‘break into smaller pieces, divide, distribute, break, break off’
		<i>-tar(pas-)</i>	‘divide things, separate out into groups’
MM:	Notsi	<i>tals(en)</i>	‘distribute’
MM:	Tangga	<i>til(ni)</i>	‘distribute’
MM:	Sursurunga	<i>tar</i>	(VI) ‘give’

	<i>tar-i</i>	(VT) ‘give’
MM: Patpatar	<i>tar</i>	‘give’
MM: Ramoaina	<i>tar</i>	(VI) ‘give’
	<i>tar-i</i>	(VT) ‘give’
MM: Siar	<i>tar</i>	(VI) ‘give’
	<i>tar-i</i>	(VT) ‘give’

13.5.2 Brideprice

All adults will own some private property, both individually and as a member of a kinship group. Above all, they will need it if they are to marry. Brideprice is a set of economic arrangements between the families or descent groups involved in a marriage. Marriage is ratified by payments, either in the form of wealth given by the man’s kin to the woman’s, or in the form of roughly equal exchanges of wealth between the two sides (Chowning 1977:56). In Melanesia brideprice usually includes a range of goods, strings of shell money as well as pigs, bowls and other valuables. In Polynesia, fine tapa and mats predominate. The bigger the amount, the greater the prestige. POc **poli*, reconstructed above, may have in its earlier manifestation referred to brideprice, or payment of brideprice. The handing over of valuables is always done in public, and typically occurs in stages, each stage separately named (Powdermaker 1933:210, Ivens 1927:71–74, Turner 1884:93).

13.5.3 Payment for services

Relatives give one another assistance in all major undertakings such as house-building, preparing a new garden and ritual celebrations. Payment for labour is most often obtained by stressing bonds of kinship, affinity or residence with an expectation of reciprocity. It is a debt to be repaid when the opportunity arises (Blackwood 1935:450, Hogbin 1939:57–58). A village headman will pay for labour given by men in building a men’s house or by women in providing food by staging a feast. On a personal level, if a person requires the help of a specialist in medical matters or to influence an outcome through magic, the specialist will be paid, usually in some form of currency. In Kove, for example, sorcerers were often hired, both to cause harm to a person and at other times to effect a cure (Chowning 1989:224). Malinowski describes the services of the magician as the most important of services rendered in the Trobriands. As in Kove, the sorcerer is paid by the man who asks him to kill or who desires to be healed. Substantial payments are also given for magic of rain and fair weather (Malinowski 1948:181).

When a debt is assessed in countable terms, as for example, with pigs contributed for a feast or as part of brideprice, a record of the debt may be kept by way of a system of knots on a rope. Harding writes that in Siassi “the formal presentations of the [men’s house] feast are balanced, recorded (by means of knotted cords), and are a matter of public record” (1967:182). In Bwaidoga, “for bananas and coconuts, for the days that must elapse till a friend returns, knots are tied in a piece of string” (Jenness & Ballantyne 1920:61). The POc term for ‘tie a knot’ (also a noun ‘knot’) evidently could also be used metaphorically for ‘debt’.

POc **buku* ‘debt’ (from POc **buku* ‘tie a knot, fasten’: vol.1:85)

NNG: Sio	<i>buku</i>	‘debt’
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PT:	Bwaidoga	<i>-buki</i>	‘be in debt’
PNCV <i>*buku</i> ‘debt’ (Clark 2009)			
NCV:	Mota	<i>pug</i>	‘a debt, fault; to owe a debt’
NCV:	Raga	<i>bugu-na</i>	‘debt which has to be paid with pigs or mats’
NCV:	Nguna	<i>na-puku</i>	‘debt, obligation of reciprocity’
cf. also:			
NCV:	Tamambo	<i>vuhu</i>	(VT) ‘give wedding present’

SE Solomonic reflexes of POc **ponot* and the SE Solomonic reflexes of PEOc **sui* both interpret the payment of a debt as an act of closure. With that meaning it may be applied equally to payment for services and payment as indemnification for compensation. The PPn reflexes of **sui*, however, carry a different interpretation, casting payment of a debt primarily as an act of substitution.

PMP **pened* ‘stopped up, plugged’ (ACD)

POc **ponot* ‘to close up; be full, complete’

NNG:	Sio	<i>pono</i>	‘cover up; hide; block off; mend a net’
		<i>pono-ti</i>	(VT) ‘block up, as one’s breath’

PEOc **pono* ‘to settle a debt; complete, close up’

SES:	Bugotu	<i>pono</i>	‘close’
SES:	Gela	<i>pono</i>	‘blocked up’
SES:	Lengo	<i>pono</i>	‘blocked up’
SES:	Longgu	<i>vono</i>	‘a dam’
SES:	To’aba’ita	<i>fono-a</i>	‘compensation paid for a death; completion’ (Hogbin 1939:92)
		<i>fono</i>	(VI) ‘be closed, shut; be complete’
SES:	Lau	<i>fono</i>	‘to pay in full, settle a debt; complete, fulfil’
NCV:	Mota	<i>wono</i>	‘to pay a debt; to close, fill up’ (Codrington 1891:327)

PEOc **sui* ‘pay, redeem a debt’

SES:	Gela	<i>hui</i>	‘to make a money payment to recover land or property’
		<i>hui-hui</i>	‘to redeem, pay for a service’
		<i>hui-pagu</i>	‘redeem a debt’ (<i>pagu</i> ‘a debt’)
SES:	Bugotu	<i>hui</i>	(VT) ‘to take down, cease, finish, redeem’
SES:	Lau	<i>sui</i>	‘to be finished’
SES:	Kwaio	<i>sui</i>	‘finished’

PPn **sui* ‘exchange, change, replace’ (POLLEX)

Pn:	Niuean	<i>hu-hui</i>	(VT) ‘to change, alter, amend’
Pn:	Tongan	<i>hu-hu?i</i>	(VT) ‘to ransom, redeem’ (unexplained -?-)
Pn:	E Futunan	<i>sui</i>	‘replace, substitute’
Pn:	Rennellese	<i>sui</i>	‘change, replace, substitute for’
Pn:	Pukapukan	<i>yu-yui</i>	‘change, substitute for’

Pn:	Samoan	<i>sui</i>	‘change, as clothes’
Pn:	Tikopia	<i>sī</i>	‘replace, substitute, in special sense, a sacrificial victim killed as equalisation for a death’
Pn:	Takuu	<i>sui</i>	‘replace, change, pay, go after in revenge’
cf. also:			
Pn:	Tongan	<i>totoŋi-huhuʔi</i>	‘pay compensation for’

13.5.4 Restitution

Payment may also be given to compensate for harm done to someone by another, and as a fine if a person has offended community mores. In cases of accidental killing in To’aba’ita, for example, the person actually responsible has always to pay some compensation to the relatives although a sorcerer may be held to be ultimately responsible (Hogbin 1939:96). Ivens writes (1927:241) that the common offering made in Sa’a to appease the family ghosts for an offence or by way of propitiation was a porpoise tooth or a dog’s tooth placed in the relic case. Breaking of a chief’s tabu, however, required a heavy fine payable in shell money (p.255). Reconstruction beyond Proto SE Solomonic is not well supported.

?PEOc **soso* ‘compensate, propitiate’

SES:	Longgu	<i>toto</i>	‘pay compensation’
SES:	’Are’are	<i>haʔa-totoa</i>	‘propitiate’
SES:	’Are’are	<i>toto-rana</i>	‘part of the bride price given back to the husband after the wife has been taken back to her people; restitution’
SES:	Sa’a	<i>toto</i>	‘propitiate a ghost, pay a fine’
		<i>toto akalo</i>	‘sacrifice to a god to remove defilement’
		<i>toto rae</i>	‘payment by a widow who wished to remarry - appease her dead husband’
SES:	Kwaio	<i>toto</i>	‘compensate, pay a fine’
SES:	Lau	<i>toto</i>	‘pay a fine’
SES:	Arosi	<i>toto</i>	‘to pay a fine, give money to be reconciled’
SES:	Owa	<i>toto-mara</i>	‘pay compensation to’
Fij:	Bauan	<i>soso</i>	‘to give in exchange, replace; hence atone, expiate’
		<i>soso-ya</i>	(VT)

13.5.5 Sacrifice to the ancestors

Across the Oceanic world sacrifice to the ancestors typically involves an offering of foodstuffs in return for anticipated goodwill (§8.2.4). No other return is envisaged. In the southeast Solomons, where sacrifice has become highly ritualised, pigs are bred specifically to be sacrificed as burnt offerings (Keesing 1982:80, Ivens 1927:241ff).

In Polynesia Williamson writes that “special ceremonial occasions such as births, marriages and deaths, were accompanied by offerings to the gods. After fishing, it was frequently the custom to offer a share of the catch to the gods, and other important activities such as house-

building, the launching of large canoes, and warfare were likewise occasions for the making of sacrifices” (1937:121).

A single reconstruction with limited distribution, POc **ulak*, **ulak-i-* ‘make an offering to a ghost’ is included in Chapter 8.

13.6. Giving and receiving

A number of the verbs reconstructed in this chapter thus far have sense that includes transferring possession of something from one person to another in some culturally defined or restricted situation. In the terminology of vol.5:422-423 they are ‘caused movement’ verbs. An English caused movement verb that is used in a broad range of situations is *give*: an agent transfers a theme to a recipient. Oceanic languages have verbs with a similar meaning.

Indeed, it is fairly common to find verbs in Oceanic languages that function as caused movement verbs and have ‘give’ among the glosses of their reflexes; see POc **lapi* ‘take, get, give’/PNCV **lavi* ‘carry, take’ and POc **la(q)-i-* ‘take, get, bring’/PNCV **la-i* ‘take, give’ (vol.5:426–427), POc **k^vau*, **k^va(p,b)-i-* (?) ‘get, take’ (vol.5:428) and POc **taRu(q)* ‘put down, lay down’ (vol.5:449). In Hoava (MM), *vale* ‘give, put’, reflecting POc **pala-i-* ‘give’, has both functions:

Koni buma sa kuma pula vale-a goe sa dae buma.
 FUT GREEN ART:SG water if give-3SG 2SG ART:SG dye green

‘The water will be green if you put in the green dye.’

Across languages the archetypal change of possession verb is the one that means ‘give’. In POc this was evidently **pani-*, which took the recipient as its object, as the verbs below with an encliticised or suffixed object marker show.⁴ The fact that it took the recipient as object resulted in use first as the final verb in a serial verb construction, where it marked the recipient or beneficiary, then in its grammaticisation as a benefactive marker or preposition in various languages, as in Manam:

natu i-ruʔu-i-an-a
 child 3SG-wash-3SG-BEN-1SG

‘He washed the child for me.’ (Lichtenberk 1983b:69)

Adm:	Wuvulu	<i>i-na-ware-fan-au.</i>	‘She told me’ [3SG-RLS-talk-give-1SG]
NNG:	Kove	<i>i-pa-yau</i>	‘he gives me (s.t.)’
NNG:	Gitua	<i>van-gau</i>	‘give me (s.t.)’
NNG:	Bing	<i>panu-au</i>	‘give me (s.t.)’
NNG:	Takia	<i>i-pana-g</i>	‘he gives me (s.t.)’
NNG:	Manam	<i>i-aŋ-ʔita</i>	‘he gave it to us’

The reconstruction itself is straightforward. It has no known non-Oceanic cognates and almost peters out at the southeastern boundary of Western Oceanic.

⁴Sources of examples are, for Wuvulu, Hafford (1999:78) and, for Manam, Lichtenberk (1983:33).

POc **pani-* ‘give’ (ACD) (OBJECT is the recipient)

Adm: Wuvulu	<i>fani</i>	‘give’
Adm: Seimat	<i>hani</i>	‘give’
NNG: Kove	<i>-pani</i>	‘give him’
NNG: Gitua	<i>van</i>	‘give’
NNG: Mindiri	<i>pani</i>	‘give’
NNG: Dami	<i>pani</i>	‘give’
NNG: Gedaged	<i>pani</i>	‘give (him); hand over, bestow, grant, confer, impart, accord, yield’
NNG: Takia	<i>-pan-</i>	‘give’
NNG: Medebur	<i>-ana</i>	‘give’
NNG: Manam	<i>-ana</i>	‘give’
	<i>-ani</i>	‘give (him)’
	<i>-(a)n-</i>	benefactive marker
NNG: Wogeo	<i>vani</i>	‘give’
PT: Motu	<i>heni-</i>	‘give to, hand to’
MM: Lihir	<i>hen</i>	‘give’
MM: Tangga	<i>fen</i>	‘give’
MM: Taiof	<i>fan</i>	‘give’
MM: Ghanongga	<i>vani</i>	‘give’
MM: Lungga	<i>vani-</i>	‘give’
MM: Kia	<i>vani</i>	‘give’
NCV: Lewo	<i>(wari)vani</i>	‘carry to; give to’

cf also:

MM: Roviana	<i>poni</i>	‘give’
MM: Hoava	<i>poni</i>	‘give’

The cognate sets below have skewed distributions: they are reflected only in parts of Oceania. There are at least two reasons for this. One is the semantic widening of reflexes of POc **wase*, **soli*, and **tara(s)*, all meaning ‘distribute’ to mean ‘give’ (§13.5.1). Another is inclusion of ‘give’ among the meanings of the caused movement verbs mentioned above, especially in Vanuatu.

The PMP term for ‘give’ was **beRay*. The expected POc reflex would be †**boRe* or †**poRe*, but instead only **peRe* is reconstructable and that only with a few reflexes, restricted in their distribution. It must therefore be regarded as a dubious reconstruction.

PAN **beRay* ‘give’ (ACD)PMP **beRay* ‘give, present gifts to; gift’ (ACD)PEMP **boRe* ‘give’ (ACD)POc (?) **peRe* ‘give’ (for †**poRe*)

PT: Iamalele	<i>-vele-ni</i>	‘give’
PT: Iduna	<i>-vele-</i>	‘give’
PT: Tawala	<i>wele</i>	‘give, donate, hand over’
MM: Bali	<i>viri</i>	‘give’

cf also:

MM: Meramera *bili* 'give'

POc **pala*, **pala-i-* 'give' does not have many known reflexes, spread across just two subgroups, but their geographic distribution clearly warrants a POc reconstruction.

POc **pala*, **pala-i-* 'give'

NNG: Poeng	<i>pal-pale</i>	'distribute'
MM: Vitu	<i>vala</i>	'give'
MM: Haku	<i>hala</i>	'give'
MM: Hoava	<i>vale</i>	'give'
MM: Marovo	<i>vala-ni-</i>	'give'
MM: Ghove	<i>fala(o)</i>	'give'
SES: To'aba'ita	<i>fale-</i>	'give'
SES: Lau	<i>fale</i>	'give'

The converse of English *give* is *receive*: an agent accepts transfer of a theme from a giver, i.e. the agent is recipient. Curiously, we are unable to reconstruct a POc term glossed 'receive'. However, English *get* is used both where the subject is a recipient with little agentivity (*Tom got a medal*) and where the subject is clearly an agent (*Tom got a sandwich from the plate*). It is possible that no POc verb for 'receive' offers itself because POc verbs of transfer of possession like POc **lapi* 'take, get, give' (vol.5:426) and POc **la(q)-i-* 'take, get, bring' (vol.5:427) are as wide in function as English *get* and also serve as 'receive'.

Another English verb where the agent illicitly transfers possession of something to her-/himself from another person is *steal*. *Take* and *get* are relatively unrestricted culturally, whereas *steal* is restricted to a transfer of possession that is proscribed by a law, a rule or a convention. The POc verb **panako* is reconstructed with this meaning. At some pre-POc stage its forerunner was morphologically complex, and this accounts for the fact that, rarely among root forms, it has three syllables (vol.5:29–30). It has a variant, POc **painako*, the etiology of which is not clear. It is reflected in Mussau, in Papuan Tip languages, and in Meso-Melanesian languages other than those around the Willaumez Peninsula. There are a number of reflexes below which, without a detailed knowledge of each language's phonological history, could be assigned to either variant.

PAn **Cakaw* 'steal' (ACD)

PMP **takaw*, **panakaw* 'steal' (ACD)⁵

POc **panako* 'steal'

Adm: Loniu	<i>pa-hena</i>	'steal' (< <i>*pa-penako</i> [ACD])
Adm: Titan	<i>pāna</i>	(VI) 'steal'
	<i>pānawe</i>	(VT) 'steal'
Adm: Papitalai	<i>pena</i>	'steal; thief'
Adm: Lou	<i>panak</i>	'steal'
NNG: Kove	<i>-panaho</i>	'steal'

⁵ This is segmented as **pa-nako* in the ACD, but the explanation offered in the introduction to vol.5 (pp29–30) is to be preferred as it avoids reconstructing two roots, **takaw* and **nakaw*, and is more powerful in that it explains other Oceanic verbs in **pan-* as well as **panako*.

NNG:	Malalamai	<i>-wanoyo</i>	‘steal’
NNG:	Sio	<i>panawe</i>	(VT) ‘steal s.t. from s.o.’
		<i>panawe</i>	(VI) ‘steal’
NNG:	Tami	<i>pi-pinau(adin)</i>	‘thief’
		<i>minau</i>	‘steal’ (<i>m-</i> unexplained)
NNG:	Arop-Lokep	<i>-pinau</i>	‘steal’
NNG:	Malasanga	<i>-puno</i>	‘steal’
NNG:	Ronji	<i>pana-i</i>	‘steal’
NNG:	Mindiri	<i>panek</i>	‘steal’
NNG:	Wab	<i>panuo-ŋ</i>	‘steal’
NNG:	Gedaged	<i>panau</i>	‘steal’
NNG:	Manam	<i>-anako</i>	‘steal’
NNG:	Wogei	<i>-vanako</i>	‘steal’
NNG:	Kairiru	<i>-vanaq</i>	‘steal’
NNG:	Dangal	<i>pina</i>	‘steal’
NNG:	Kapin	<i>panay</i>	‘steal’
MM:	Bali	<i>vanayo</i>	‘steal’
MM:	Bola	<i>panayo</i>	‘steal’
PSS <i>*vanayo</i> ‘steal’			
SES:	W. Guadalcanal	<i>vanayo</i>	‘steal’
SES:	Bauro	<i>hanayo</i>	‘steal’
SES:	Kahua	<i>hanayo</i>	‘steal’
PNCV <i>*vanako</i> ‘steal’			
NCV:	Tamambo	<i>vanaho</i>	‘steal’ (archaic)
NCV:	Uripiv	<i>vena</i>	‘steal’
		<i>venao</i>	‘theft’
NCV:	Big Nambas	<i>ŋnah-i</i>	(VT) ‘steal’
NCV:	Port Sandwich	<i>vönaxö</i>	‘steal’
NCV:	Ninde	<i>vena?</i>	‘steal’
NCV:	Neve’ei	<i>ve-vena?</i>	(VI) ‘steal’
		<i>venokh</i>	(VT) ‘steal’
NCV:	Paamese	<i>henaa</i>	(VI) ‘steal’
NCV:	Lewo	<i>vinau</i>	‘steal’
NCV:	Namakir	<i>banak</i>	‘steal’
NCV:	Nguna	<i>vanako</i>	‘steal’
NCV:	Rotuman	<i>hana?o</i>	‘steal’
SV:	Lenakel	<i>ə-vnak</i>	‘steal’
Pn:	Maori	<i>fānako</i>	‘steal, theft, thief, thievish, thieving’
POc <i>*painako, *penako</i> ‘steal’			
Adm:	Mussau	<i>ainao</i>	‘steal’
PT:	Motu	<i>henao-a</i>	‘steal’
PT:	Gabadi	<i>vainao</i>	‘steal’
PT:	Roro	<i>veinao</i>	‘steal’
PT:	Muyuw	<i>veinau</i>	‘steal’

PT:	Gumawana	<i>vainawa-na</i>	(VT) ‘steal’
		<i>vainao</i>	(VI) ‘steal’
PT:	Ubir	<i>bainau</i>	‘steal’
MM:	E Kara	<i>fenau</i>	‘steal’
MM:	Nalik	<i>vinau</i>	‘steal’
MM:	Nehan	<i>wenaua</i>	‘steal’
MM:	Uruava	<i>vainao</i>	‘steal’

13.7. Conclusion

This chapter has the rather clumsy title of ‘Trade, exchange, distribution and transfer of possession’, but a common thread is that almost all its verbs profile a change of possession of some kind (§§13.3, 13.5.1, 13.5.3–4, 13.6).

Something of what is known about trade prior to European contact is summarised in §13.2. Trade routes cannot be projected back in any detail to Lapita times, but the archaeology shows that trade has always been an important aspect of Oceanic speakers’ ways of life and provides insight into what has been traded.

Verbs relating specifically to trade are reconstructed in §13.3. Trade and exchange entails the movement of wealth, and forms of wealth are described in §13.4, along with the relevant reconstructions. Specific contexts of wealth movement are discussed in §13.5, a topic that again involves verbs denoting change of possession. Finally, change-of-possession verbs with more general meanings, especially ‘give’, are reconstructed in §13.6.

14 *Counting: numerals and numeral classifiers*

MALCOLM ROSS

14.1 Introduction and background¹

The reconstruction of POc numeral terms other than ‘one’ is relatively straightforward, as POc inherited a reconstructable PMP decimal system with single-word terms up to 100. Two related matters contribute to the length of this chapter, however. One is the evident existence of numeral classifiers in POc, intimately involved in the reconstruction of numerals. The other is a search for the reasons why POc numerals and classifiers constituted such an extensive system.

The history of numeral terms since the break-up of POc, especially in Western Oceanic and SOc languages, has been complex, resulting in the loss of some (and in a few languages, all) POc numerals. This history is sketched in Chapter 15.

Recently, traditional numeral systems in many Oceanic languages have been modified or have disappeared because of their speakers’ contact with a European language. The numeral system, writes Comrie (2005), is more endangered than the language itself. The data presented here were collected either before this modernisation or from older members of the speech community who still remembered them.

Section 14.1.1 introduces numeral classifiers, as they play a role in the reconstruction of numerals. Section 14.1.2 discusses the uses of numerals in early Oceanic communities. The remaining sections are devoted to reconstruction: §14.2 to verbs of counting, §14.3 and §14.4 and their subsections to cardinal numerals, §14.5 to non-cardinal numerals, and §14.6 to classifiers.

Both numeral and classifier terms were inherited by POc. Classifiers have been lost or fossilised in many Oceanic languages, but are very much alive in others.

14.1.1 Numeral classifiers and their semantic classes

Grammarians divide English common nouns into two categories. One consists of nouns like *banana*, *chair* or *mouse*, which can form a plural and be counted: *three bananas*, *two chairs*, *six mice*. These are ‘count’ nouns. The other category contains ‘mass’ nouns, like *hay*, *firewood* or *water*, so called because they denote an undifferentiated mass of something. On its own a mass noun cannot be counted. Phrases like *two hays*, *three firewoods* or *six waters*

¹ My thanks go to the late John Lynch for providing the evidence noted in §14.4.2.3.

are odd,² and such nouns are counted using another noun that measures relevant quantities: *two bundles of hay*, *three loads of firewood*, *six glasses of water*. A count noun can also be counted in this way, e.g., *two hands of bananas*, but *bananas* retains its plural form in this construction.

Nouns like *bundle*, *load*, *glass* or *hand* in this construction are conventionally labelled ‘mensural classifiers’, as each denotes a certain measure of the thing(s) denoted by the noun that follows *of*.

Oceanic languages treat common nouns differently. Generally, no common noun has a distinct plural form, and in certain Oceanic languages, the structure used to say things like *two bundles of hay* and *three loads of firewood* is used to count all nouns. Thus for *three dogs* one says something corresponding to ‘three animals of dog’, and for *three men* ‘three humans of man’. This introduces a new complication, as ‘animals’ and ‘humans’ are not mensural, but sortal: they categorise into ‘sorts’ (Lyons 1977:463). Indeed, Oceanic classifiers fall into a number of semantic classes, indicated by the bolded words in what follows and exemplified mostly from Woleaian (Mic).

The Woleaian classifier construction is shown in (1) with **sortal** classifiers. The English classifiers above are nouns, but the Woleaian classifiers are bound forms to which the numeral is prefixed. Oceanic sortal classifiers reflect semantic classes that occur worldwide in languages with numeral classifiers (see Aikhenvald 2000:98; Senft 1995:9).

1) Woleaian (Mic)

- a. *ʒʰwe-mar* *yazemar*
 2-CLF:animate person
 ‘2 people’ (lit. ‘2 animates of person’) (Sohn 1975:59)
- b. *fā-faʒ* *wa*
 4-CLF:long.object canoe
 ‘four canoes’ (lit. ‘4 long objects of canoe’) (Sohn 1975:206)
- c. *ʒʰwe-fau* *fau*
 2-CLF:round.object stone
 ‘two stones’ (lit. ‘2 round objects of stone’) (Sohn 1975:62)

Sometimes a sortal classifier has the same form as the noun it classifies, as in (1c), as classifiers are often derived from nouns. Pe (1965) called such classifiers ‘repeaters’, and Benton (1968) introduced the term into Oceanic studies in his study of Chuukese classifiers. Often the ‘repeater’ denotes a larger category than the classified noun. Here the classifier *-fau* denotes a round object, whereas the noun *fau* denotes one or more stones.

Sortal classifiers can also be used like pronouns: in a conversation in which (1b) has appeared, further reference to the four canoes can be made with *fā-faʒ*, where English uses *they* or perhaps *the four*.

Bril (2014:181) provides a nice Nêlêmwa (NCal) example of meaning contrast between two sortal classifiers used with the same noun. In (2a) a living *fālaga* ‘crab’ is classified as *ā-* ‘animate’, but in (2b) as *p^wa-* ‘default inanimate’, the dead crab sold at market.

² The reader may object that a context where ‘six waters’ is not odd can easily be found, e.g., in a restaurant. This is a usage addressed by, e.g., Lyons (1977:464), Wiese & Maling (2005), but is not relevant here.

- 2) Nêlêmwa (NCal)
- a. *ā-yīk* *ṣāлага*
 CLF:animate-one crab
 ‘one crab’ (living) (Bril 2014:181)
- b. *p^wa-yīk* *ṣāлага*
 CLF:default.inanimate-one crab
 ‘one crab’ (dead, sold at market) (Bril 2014:181)

Note that the numeral is suffixed to the classifier in Nêlêmwa, whereas in Woleaian it is prefixed.

Every Oceanic language that has numeral classifiers has a default sortal classifier that is used with inanimate nouns that do not belong to an obvious classifier category or to save the speaker selecting a classifier. In Woleaian this is *-uw*:

- 3) Woleaian (Mic)
- se-uw* *texax*
 one-CLF cup
 ‘one cup’ (Sohn 1975:61)

The classifiers in (4) are **mensural**.

- 4) Woleaian (Mic)
- a. *wari-gum^w* *ṣar*
 8-CLF:mouthful water.
 ‘8 mouthfuls of water’ (Sohn 1975:202)
- b. *se-ṣim^w* *xaroxar*
 1-CLF:bundle sennit.
 ‘one bundle of sennit’ (Sohn 1975:60)

A numeral + mensural.classifier combination can also be used without a following noun. Thus *wari-gum^w* means ‘8 mouthfuls (of liquid)’, since *-gum^w* always quantifies liquid.

A **multiplicative** classifier itself specifies a numerical quantity. English equivalents are *pair*, *dozen* and *score*.

- 5) Woleaian (Mic)
- se-ix* *f^wuk*
 one-CLF:10 book
 ‘ten books’ (lit. ‘one ten of book’) (Sohn 1975:202)

A multiplicative classifier’s sole function is to be multiplied by the preceding numeral. Thus Woleaian *se-ix* is 1×10 ; *ṣue-ix* is $2 \times 10 (= 20)$; *seri-ix* is $3 \times 10 (= 30)$; and so on.

Many Oceanic languages have a classifier type that is both mensural and multiplicative. Hence in (6) *-yaf* specifies both that classified objects are round and that the bundle contains ten of them (Sohn & Tawerilmang, 1976:170). This is called an **enumerative** classifier here.

- 6) Woleaian (Mic)
- se-yaf* *ru*
 one-CLF:bundle.10.round coconut
 ‘a bundle of 10 (round) coconuts’ (Sohn 1975:170)

Modern Woleaian does not preserve many enumerative classifiers (Sohn 1976:284–285). Languages with more include closely related Chuukese (Benton 1968; Goodenough & Sugita 1980):

- 7) Chuukese (Mic)
wini-ttīt *māy*
 3-CLF:string.10.breadfruit breadfruit
 ‘3 strings of 10 breadfruit’ (Goodenough & Sugita 1980:354)

Woleaian also has **unit-of-time** classifiers, which form adverbial phrases, as in:

- 8) Woleaian (Mic)
se-zan *zan*
 one-CLF:day day
 ‘one day’ (Sohn 1975:61)

Finally, Woleaian has **unit-of-measurement** classifiers, discussed in §16.1.1.

If an Oceanic language uses numeral classifiers, it will have at least mensural classifiers. Enumerative classifiers are also widespread, sortal classifiers somewhat less so, facts discussed in §14.1.2.4. The number of multiplicative classifiers is constrained by the fact that semantically they are a component of the numeral system. Unit-of-time and unit-of-measurement classifiers are rarer because their meanings are more constrained.

Scattered Oceanic languages in Micronesia, the Admiralties and New Caledonia also have a frequentative classifier which forms an adverbial phrase with the same function as reflexes of the POc frequentative prefix **pa[ka]*- (§14.5.2).

- 9) Ponapean (Mic)
pān sili-pak
 time 3-CLF:TIME
 ‘three times’ (Rehg 1981:128)

The structure of POc phrases using numeral classifiers is taken up in §14.3, their forms in §14.6.

14.1.2 The decimal system, classifiers and cultural context

The reconstructable forms of the POc decimal system are shown in Table 14.1, with crossreferences to the sections that justify the reconstruction. Under A, 2 to 6 are simple (single-morpheme) numerals. Under B and C are the complex numerals for 10s and 100s. No power above a hundred, however, is reconstructable with certainty to POc (§14.4.6).

The decimal systems of some Micronesian and Polynesian languages famously have multiplicative classifiers for very high powers of ten (Harrison & Jackson 1984; Bender & Beller 2006a). Kiribati *te-ea*, Ponapean *rar*, Woleaian *se-piy*, Rennellese *nimo* and Nukuoro

Table 14.1 Reconstructable POC lexical numerals

A		B	C
* <i>sa-</i> , * <i>ta-sa</i> , 1 * <i>tai</i> , * <i>ta-kai</i> and * <i>sa-kai</i>	§14.4.1 and subsections	10 * <i>sa=[ŋa]</i> <i>puluq</i>	100 * <i>sa=[ŋa]</i> <i>Ratus</i>
2 * <i>rua</i>	§14.4.2.1	20 * <i>rua ŋa puluq</i>	200 * <i>rua ŋa Ratus</i>
3 * <i>tolu</i>	§14.4.2.2	30 * <i>tolu ŋa puluq</i>	300 * <i>tolu ŋa Ratus</i>
4 * <i>pat[i]</i>	§14.4.2.3	40 * <i>pati ŋa puluq</i>	400 * <i>pati ŋa Ratus</i>
5 * <i>lima</i>	§14.4.2.4	50 * <i>lima ŋa puluq</i>	500 * <i>lima ŋa Ratus</i>
6 * <i>onom</i>	§14.4.3.1	60 * <i>ono(m) ŋa puluq</i>	600 * <i>ono(m) ŋa Ratus</i>
7 * <i>pitu</i>	§14.4.3.2	70 * <i>pitu ŋa puluq</i>	700 * <i>pitu ŋa Ratus</i>
8 * <i>walu</i>	§14.4.3.3	80 * <i>walu ŋa puluq</i>	800 * <i>walu ŋa Ratus</i>
9 * <i>siwa</i>	§14.4.3.4	90 * <i>siwa ŋa puluq</i>	900 * <i>siwa ŋa Ratus</i>

se-lō all mean ‘a million’. The first morpheme of the Kiribati, Woleaian and Nukuoro terms is ‘one’, the second morpheme a multiplicative classifier (§14.1.1). Like several other Micronesian languages, Woleaian uses classifiers to count up to 100,000,000 (Harrison & Jackson 1984).

10) Woleaian (Mic)

sa-ŋezai *f^wuk*
 one-CLF:100,000,000 book
 ‘a hundred million books’ (lit. ‘one hundred.million of book’)

This raises a few questions. Were POC speakers able to count using powers of ten higher than a hundred, or did this ability develop later? And did they use multiplicative classifiers for this purpose? The answer to both questions is almost certainly, ‘Yes,’ causing one to ask in what circumstances these were used.

When a numeral system is eroded by contact, the highest simple numerals are usually replaced first. Outside Micronesia and Polynesia, we still find lexical items for 1,000 and higher powers of 10 in scattered languages whose number systems were recorded before their invasion by a Pacific pidgin or a colonial language. In Lou and Nyindrou (both Adm) the highest simple numeral is 10,000. Motu (PT) counts *daha* ‘1000’, *yerebu* ‘10,000’, *domaya* ‘100,000’. New Ireland and NW Solomonian languages typically have a term for ‘1000’, Roviana (MM) also for ‘10,000’. Bugotu (SES) boasts *toya* ‘1,000’, *mola* ‘10,000’, *feferi* ‘100,000’, *vudera* ‘1,000,000’ and *vaðeyila* ‘10,000,000’. Mellow (2014) and Healey (2013) respectively record Owa (SES) and Maskelynes (NCV) numerals up to a million. The presence of these numerals suggests rather strongly that early Oceanic speakers did count as far as perhaps ten million. Yet where simple numerals for powers of ten above 100 can be reconstructed, the reconstructions are almost all limited to a local group of languages (Eastern Admiralty, south New Ireland, Buka/N Bougainville, Choiseul, New Georgia, Santa Isabel, Northern Vanuatu).

The evidence is thus contradictory. POC forms for powers above 100 cannot be reconstructed, but the likelihood that such numerals were used seems considerable. How is this contradiction to be resolved? If, as suggested below, knowledge of these numerals was restricted to high-status older men and their use was limited to certain special occasions (§14.1.2.1), then there was a real possibility that they were forgotten across the generations and later recreated (§14.4.6). This would account for the seeming contradiction.

14.1.2.1 Ceremonial exchange and wealth redistribution

What then were these numerals used for? Apparently to count up the quantities of various gifts, mainly of food, at customary feasts. On ethnographic evidence feasts took two main forms: (i) wealth distribution for the purpose of maintaining or gaining status and (ii) ceremonial exchanges of various kinds. In wealth distributions the feast-giver might be a hereditary chief or, in communities without chieftainship, someone intent on becoming a ‘big man’. These exchanges have atrophied in many Oceanic societies since European contact, but not before they had been described by various linguists and ethnographers. Crowley (2006a:61) mentions the function of Avava (NCV) numerals.

Higher numerals were traditionally used for counting yams associated with the highly elaborate grade-taking ceremonies for which Malakula is well known in the ethnographic literature, and all of the neighbouring languages appear to have had similarly elaborate counting systems. Preparations for these ceremonies often took years, and it was necessary to keep track of who had provided large numbers of yams over this period.

Hogbin (1964a:65-66) describes how a Longgu (SES) man holds a status-gaining feast.

By about three o'clock all the food stood in front of Atana's house. He and his immediate kinsmen had contributed the 250 pounds of dried fish, the 3000 yam cakes, 11 bowls of yam pudding, and 8 pigs.

Soon the Longgu villagers, together with some of the residents of the surrounding settlements, began drifting into the hamlet. Nearly everybody brought along some dried fish and a few yam cakes, and several of the leaders sent a pig and a bowl of pudding as well. On the final count the various heaps contained 300 pounds of fish, nearly 5000 yam cakes, 19 bowls of pudding, and 13 pigs.

A parallel situation from northern Malaita is described by Hogbin (1939).

In northern Vanuatu, a man climbed the scale of ranks in a similar way. François (2013:235) writes:

The way for a man to climb the political scale of **sumb^ve* involved the public display of considerable wealth. This would take the form, typically, of a number of pigs Besides, the candidate had to bring offerings of kava, along with massive quantities of shellmoney This shellmoney consisted of small cone shells (*Conus* sp.) that had been patiently filed into circular discs, then pierced and threaded onto a very long string of beads . . . The quantity of such money required for some higher ranks could measure up to 10 fathoms in length, and involved considerable work on part of the candidate's female relatives.

An oft-quoted account of chiefly wealth distribution comes from Elbert's grammar of the Polynesian language Rennellese (1988:186):

Much of a chief's life before 1938 (aside from fighting) consisted of fishing and raising fine gardens, and presenting the fruit of the land and of the sea, carefully counted, first to the gods with impressive rituals, and then to relatives and allies. A chief's prestige was gauged by the size of the offerings he was able to amass; this was an indication of the resources he commanded, his industry, and his personality. The emphasis on carefully counted quantity extended to competitive giving. In [a later section] is a text of a discussion of such a competition in 1937 or 1938, in which 10,000 coconuts and 7,600 banana bunches were collected, offered to the gods, and distributed.

People with counting skills were required at such ceremonies in Polynesia, whether in Rennell, in Hawai'i or in Tonga (Bender & Beller 2007b:228). Counting similarly occurred at Tolai feasts in New Britain, and Paraide (2008) alludes to today's near-disappearance of traditional counting.

Carrier (1981:471–474) describes ceremonial exchange on Ponam Island (Admiralties). Every important social event included exchange, usually between in-laws. A man made a gift to an in-law, who later presented a return gift. Descendants of siblings of the donor's ancestors also contributed (and later the return gift would be distributed among them). The closer the relationship to the donor, the larger the contribution. At an appointed time the gifts amassed by each group of relatives were brought to the donor's house and laid out on the ground in a formal display that represented the closeness of each group's relationship to the donor. The donor or his representative then counted the gifts, announcing what was in each pile and in whose name it was given, then the goods were carried to the recipient's house and placed in a single pile. Formal speeches ensued, then the recipient arranged the gifts to reflect the groups of relatives to whom he would distribute the gifts. He then also counted the gifts, and the ceremony ended.

The ethnographic literature refers to the counting of feast gifts in other Oceanic communities. Panoff (1970:364), writing about the Mengen (NNG) of New Britain, mentions the counting of taro tubers ceremonially brought from the gardens for a feast and of fish formally cooked in earth ovens on festive occasions. Garde (2015:126) alludes to the counting of food items at feasts in Sa-speaking communities in Pentecost (NCV). Bender and Beller (2007a), summarising research into numeral use in Polynesian societies, comment that "A concern with collecting and redistributing resources was particularly strong in islands with powerful chiefs or kings, such as Tonga or Tahiti...". Alkire (1970) describes the counting of coconuts associated with a funerary exchange on Woleai Atoll.³

The distribution of these customs across Oceanic subgroups suggests that they date back to the Lapita culture and that POc speakers counted gifts (mostly food), an effect of which was to maintain the inherited decimal counting system up to high powers of ten.

Did the ability to count huge food gifts facilitate counting and calculation in other areas? The answers here are mixed. Only Carrier (1981) examines this in any detail, and

³ Other ethnographic accounts focus on exchange relations and do not mention counting, but at least where exchanges took place at feasts, counting was probably involved. Such accounts include Aswani & Sheppard (2003) on Roviana (MM), Goodenough (1951:142) on Chuuk (Mic), and Kaepler (1978) on the Fiji–Tonga–Samoa exchange network.

she finds that skills in mental arithmetic, associated, for example, with card games, are well developed among Ponam speakers. She notes that “Elderly unschooled people keep score mentally as accurately as young people do with pencil and paper” (1981:469). Smith (1986), on the other hand, provides an overview of counting practices in Papua New Guinea and concludes that the POC decimal counting system was not a necessary part of gift-giving and exchange. In societies that were most influenced by their Papuan speaking neighbours, number systems atrophied. The Adzera of the upper Markham Valley of mainland New Guinea (NNG) maintained traditional feasting practices, but formal presentations of gift objects and the comparison of one quantity with another were evidently what continued to matter. Smith writes, “Bunches of bananas in Adzera, for example, were not counted prior to distribution, but mounted on a structure reaching the top of a coconut tree.” His case is supported by the fact that the Adzera numeral system consists only of the numerals 1 and 2. Similarly, Duau (PT) speakers, with a base-5-20 system, reckon the amount to be repaid by pile size rather than by counting (Thune 1978:74).

14.1.2.2 Trade

It is sometimes assumed that trade must have fostered the use of a decimal numeral system, but the evidence for this is ambiguous. Smith (1986) points out that traditional trade among Oceanic speakers was an extension of ceremonial exchange. He writes,

...ever since Malinowski's pioneering work on the *kula* expeditions of Milne Bay it has been recognised that trade in Melanesia also involves some of these ceremonial features. A great deal of the energy expended in *kula* shell exchanges, for example, appears to outside observers to have little justification in terms of economic benefit. Thus it might be argued that such overseas expeditions should be regarded not so much as trading ventures as complex social rituals.

He notes, though, that applying this thinking to the trade network of the Vitiaz Strait is controversial. Harding (1970) thinks that the ceremonial aspects of trade have been over-emphasised, and that the traders of the Strait, at least, were primarily interested in commerce, acting as middlemen between the Bilbil network centred near present-day Madang and networks that ran along the north and south coasts of New Britain. The Siassi ‘engaged in social rituals of exchange as a means of acquiring valued need serving goods’ (1970:108). Smith writes,

They acted as middlemen, exchanging goods at favourable rates by manipulating exchange ratios in the different Vitiaz Strait ports. A pig, for example, could be exchanged on Umboi for 5-10 packets of sago, which in turn were exchanged at Sio or Gitua for 50-100 pots. These pots could then be transported to New Britain, where they yielded 5-10 pigs (Harding 1970: 139). Thus goods of little value in one community were transported to others where they were in short supply, or had high prestige, usually for ceremonial purposes, and thereby appeared to yield a considerable profit. ...

Even in the situation described by Harding (1967, 1970), the need for a counting system as sophisticated as the POC decimal system would have been minimal. Gift exchange always

entailed exchanging an amount of a particular commodity for an equivalent amount of the same commodity. The Siassi traders exchanged a set amount of a one commodity for an 'equivalent' amount of another. This did not entail sophisticated calculation skills. Indeed, numeral systems on either side of the Vitiaz Strait are base-5-20 or -5-10-20 systems that have more in common with digit tally systems than with the extensive POC system (§15.4).

14.1.2.3 Other uses of counting?

Another pointer to the restricted application of decimal counting is that various ethnographers have observed that Oceanic speakers do not count people or their ages or time in any form.

Carrier (1981:417) writes of Ponam speakers:

One of the most striking things about Ponams is that they do not count people. Despite obvious skill with numbers, no one has any idea how many people live on the island, how many households there are or how many children are attending the primary school. Even more surprising, many parents of large families do not know how many children they have without stopping to think about it. And almost no one knows that there are 14 clans on the island, although everyone knows their names and can calculate the number in a few moments. Ponams simply are not interested in counting people; apparently these quantifications tell them nothing interesting about social relations. But other sorts of quantifications do, most importantly those used in exchange.

Thune's (1978:74) account of numeration among the Duau (PT) of Normanby Island overlaps strikingly with Carrier's, except that the Duau appear not to use counting even in gift exchanges.

... mothers of children only a few years old do not know (nor do they care about) the ages of their children. It is not so much that one couldn't develop means for keeping track of age using the Loboda numerical terminology, or for that matter the introduced English terminology, as there is no interest in doing so. . . .

Loboda people of course are quite able to refer to the age of people: they have terms for infant (*memeyo*), child (*gwama*), adolescent boys and girls (*tubuhau*, *gomwagwehine*), and so forth. But in using these terms to speak of the age of people, they think of a stage or fraction of a person's life rather than of an abstract number of countable years.

Alkire (1970:37) comments on Woleaian (Mic) counting, which is decimal and employed in ceremonial exchanges,

An individual does not think of his age in terms of years (a unit of measurement of little traditional importance on Woleai) or of seasons (a unit which is important and discussed below), but only comparatively, as being younger or older than some other person of reference. The life span of a person, however, is divided into several "ages" which vary according to sex.

Elbert (1988:186) writes,

Not everything was counted in Rennellese culture. No one knew or was at all interested in his own age. One was content with the vague terms for the life span: infancy (*mi'ime'o'anga*), adolescence (*bagokaa'anga*), middle age (*mi'itauiku'anga*), old age (*tauiku*), and extreme old age or senility (*hu'oitouiku, neneba, tau mago ti'aki*). Years and generations were not counted at all. Time was told by looking at the sky.

Labrecque (2009) comments on Southeast Ambrym speakers:

If you were to ask someone how many children they have, they would have to name each one and count on their fingers as they think of their children by name, not number. Even in the same conversation, 2 minutes later, if asked to verify that they had 5 children, they would need to start counting all over again. This is the same for number of gardens, pigs, cattle, chickens.

There are overlaps between these mutually distant accounts. They agree that Duau, Woleaian and Renellese speakers do not count ages in years but assign people to age cohorts (vol.5:57–70). Neither Ponam nor Duau nor SE Ambrym speakers know straight off how many children they have. Rennellese speakers do not count years, and Chapter 11 confirms that this is true all over Oceania.

14.1.2.4 The origin of Oceanic enumerative classifiers

Formal counting at feasts was mostly performed with a decimal system, but this was accompanied by the use of enumerative classifiers. That is, each product was arranged or bundled in units that contained a certain number of each product, and it was these units that were counted, rather than the product itself.

Elbert (1988:187) describes a wealth distribution 20 years later than the one quoted in §14.1.2.1, by which time the young no longer fully understand the counting practices of their elders :

In 1958 on Rennell the traditional distributions were to some extent still practiced on great occasions, with the Christian god replacing those of Rennell. The main event of the greatest holiday, New Year's, was the food distribution. A few elderly men supervised what seemed to the young an impressive but overly fussy way of arranging the huge displays. Why should large fish, reptiles, and humans be counted differently than small fish? Why should yams and breadfruit be counted in pairs, banana bunches in fours, and bunches of taro stalks in fives?

The last two sentences refer to the use of enumerative classifiers in counting. The Rennellese elders counted with enumerative classifiers of different quantities, the quantity depending on the item counted.

Fox (1931) takes the connection between Arosi numerals and feasting for granted when he discusses the term for ten million coconuts: 'The people say they never needed in practice a larger numeral term, as they never prepared for a feast more than ten million nuts, and so they did not go any further.'

Enumerative classifiers have been recorded in many Oceanic languages (for specifics see §14.6.3). Ivens (1930) and Hogbin (1964a), both cited by Hill & Unger (2018), mention large numbers of foodstuffs at ceremonial exchanges. They write,

A reader of their ethnographic work may wonder how they knew there were 5,000 yam cakes or 20,000 yams, and why it was important to the communities to calculate exactly how many yam cakes or yams there were. There was no written numeration so, once counted, how did speakers remember these numbers?

Hill & Unger's answer is that SE Solomons languages use enumerative classifiers⁴ (§14.1.1) to count items in tens, thereby reducing counting and memorisation (also Bender & Beller 2007a,b). In (11) *paga* is an enumerative classifier meaning 'ten animals'. The structure is an analogue of English 'a school of fish', but *school* specifies no quantity, whereas Lengo *paga* is a group of ten animals.

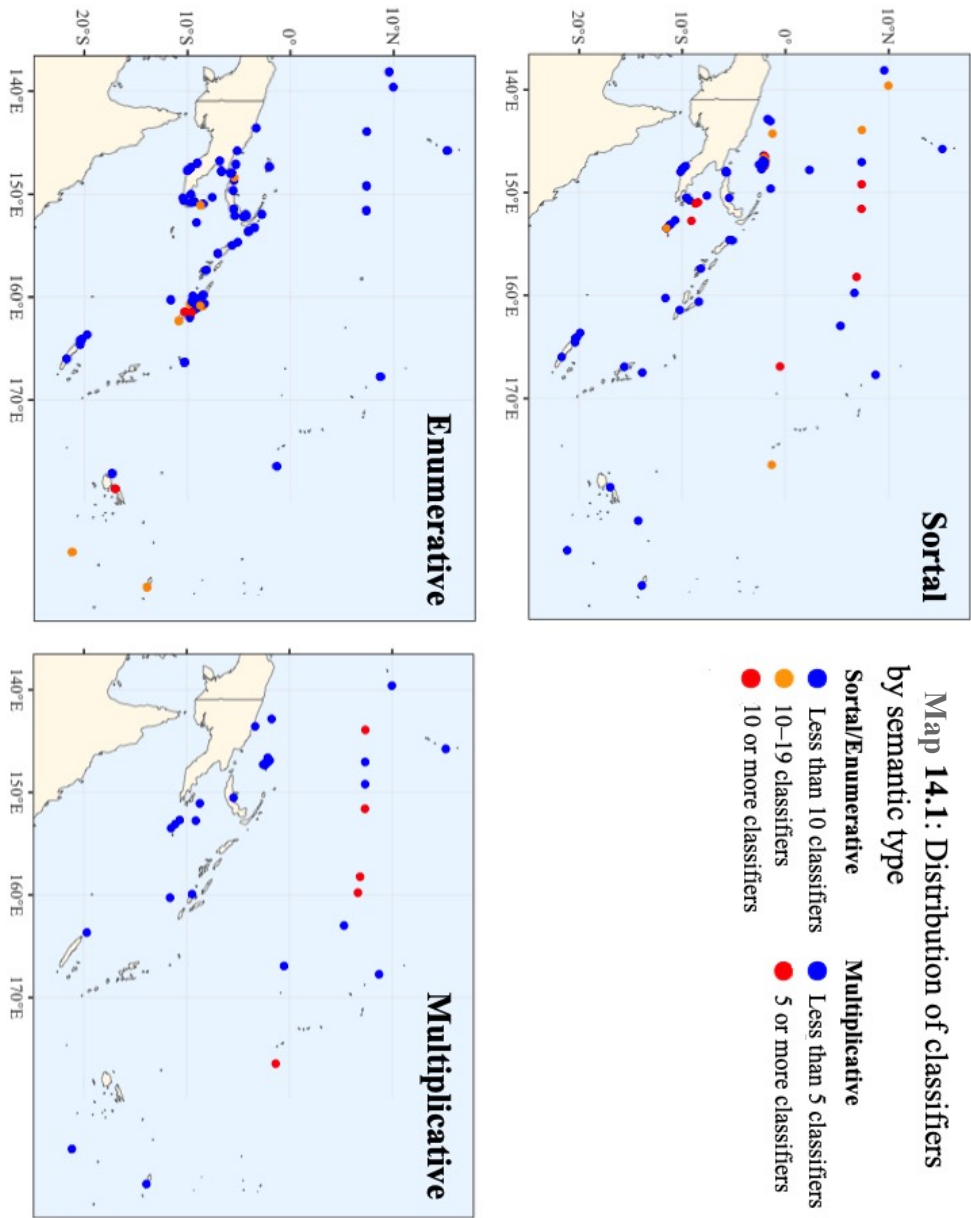
- 11) Lengo
sakai na paga ni iya
 one ART ten.animals ASSOCIATIVE fish
 'one "ten.animals" of fish'

But this cannot have been the whole answer to the 'how' question. There must have been at least two other ingredients to counting large quantities. First, some enumerative classifiers counted multiples of other enumerative classifiers (§§14.6.3–4). Second, people kept tallies by various ethnographically recorded means. These included plucking the leaflets from a fern (Fox 1931; Paraide 2008) or tying knots in a string (Codrington 1891:353). Codrington also describes more complex tallies.

At Saa when yams are counted two men count out each five, making ten, and as each ten is made they call out 'one', 'two', and so on. A man sits by, and when 'ten' is called making a hundred, he puts down a little yam for a tally.

Bender & Beller (2006a, 2007b) argue convincingly that enumerative classifiers count products that are both culturally salient and abundant (§14.6.3). Cultural salience here means that the counted products are considered worthy of ceremonial exchange or as representative of the donor's distributions. This suggests in turn that enumerative classifiers arose from nouns that designated the smallest collection units in which products were laid out at these ceremonies. However, no POc enumerative classifier can be securely reconstructed, and the evidence for this hypothesis consists of the circumstantial evidence offered in the subsections of §14.6.3. It includes the fact that the items counted with an enumerative classifier are the items that are presented in ceremonial exchanges and that the classifiers themselves participated in classifier hierarchies where each classifier denoted a multiple of a numeral associated with the counted product. The numeral was often two, i.e. a pair.

⁴ Hill & Unger use Lichtenberk's term 'numerically specific noun'. It is appropriate to To'aba'ita and Lengo, but not to languages where the 'numerically specific' (i.e. enumerative) item is not a noun.



This account of the emergence of enumerative classifiers receives support from their geographic distribution. Map 14.1 shows the distribution of the types of classifiers (§14.1.1) across Oceanic languages (whether they are bound or free forms is disregarded). Mensural classifiers are omitted because they occur in all languages. Much of Polynesia is omitted because of its huge extent. The maps are based on the numbers of classifiers recorded in what are probably fairly complete listings in the literature, but it is likely that some classifiers have disappeared in the recent past. What are of interest, then, are languages where larger number of classifiers appear than elsewhere. Sortal classifiers occur in larger numbers than elsewhere in Micronesian and in some Admiralties (Seimat, Ponam) and Papuan Tip (Kilivila, Muyuw and Sudest) languages. Multiplicative classifiers occur in relatively larger quantities in Micronesian languages (Harrison & Jackson 1984). Strikingly, however, enumerative classifiers occur more widely in Map 14.1 than either sortal or multiplicative classifiers. They occur in languages of New Ireland, Bougainville and the Solomon Islands, which largely lack grammaticalised sortal or multiplicative classifiers, and they are more common than sortal classifiers in Bauan Fijian, Tongan and Samoan—but less common in Micronesian and Admiralties languages.

This difference in distribution between sortal and enumerative classifiers reflects a difference in history. A core set of sortal classifiers is of POc—and earlier—antiquity (§14.6.1), but there is little evidence of POc enumerative classifiers. This does not mean that they did not occur, but that there has been a continual process of replacement by fresh invention as a result of the ceremonial processes described above. The map shows that they have also been innovated in places where sortal and multiplicative classifiers do not occur, and in Micronesian and Admiralties languages have not been innovated in languages where sortal classifiers are plentiful. The difference in distribution reflects a difference in the cultural contexts of sortal and enumerative classifiers. The former are in everyday use, the latter in ceremonial use.

14.2 Reconstruction: Proto Oceanic terms for ‘count’

The only term meaning ‘to count’ that has non-Oceanic cognates is POc **i(y)ap*, reflected only in a few North New Guinea and Papuan Tip languages. A possible reason for its disappearance is its form. PMP **ihap* became POc **iap*. In languages where final consonants were lost it became †**ia* or just †**ya*, defying the Oceanic preference for disyllabic roots and becoming ripe for replacement.

PMP **ihap* ‘count’ (ACD)

POc **iap* (VI), **iap-i-* (VT) ‘count’

NNG: Tami	<i>yau</i>	‘count’
NNG: Bing	<i>(su)yiy-ai</i>	‘count’
PT: Maisin	<i>(ko)yav-i</i>	‘count’
PT: Gumawana	<i>-(katu)yaiv-i(na)</i>	‘count’
PT: Dawawa	<i>-(s)iava</i>	‘count’ (initial <i>s-</i> unexpected)
PT: Ubir	<i>-iyab</i>	‘count; read’
PT: Wedau	<i>-yava</i>	‘count’
PT: Gapapaiwa	<i>-iava</i>	‘count; read’

The most widely attested POc verb meaning ‘count’ is POc **wase*, but this was just one of its meanings, which included at least ‘distribute (food at a feast), divide up, count out’, carrying an association with feasting and the distribution of ceremonial gifts as well as food, meshing with the context of decimal counting described in §14.1.2. The primary sense of **wase* was almost certainly ‘distribute’, and so the supporting cognate set and discussion of its senses is found in §13.5.1.

POc **topoŋ* (v) ‘measure’ is reconstructed in §16.3. It has fewer ‘count’ reflexes than the terms reconstructed here, and those reflexes may well be local extensions from the sense ‘measure.’

The cognate set reflecting POc **luku* ‘count’ has a rather unusual distribution. It is given here in the hope that further research will shed light on it. Reflexes have been found only in languages of New Britain’s Gazelle Peninsula and in the Torres and Banks Islands of north Vanuatu. The distribution may reflect later migration from New Britain to Vanuatu (§15.9.2).

POc **luku* ‘count’

MM: Minigir	<i>lu-luku</i>	‘count’
MM: Tolai	<i>lu-luk</i>	‘count’
MM: Ramoaina	<i>lu-luk</i>	‘count’
MM: Bilur	<i>lu-luk</i>	‘count’
NCV: Hiw	<i>yɬk^w</i>	‘count’
NCV: Koro	<i>luy</i>	‘count’
NCV: Lakona	<i>luy-luy</i>	‘count’
NCV: Toga	<i>luk</i>	‘count’
NCV: Vera’a	<i>luku-n</i>	‘count’

Three lower-order reconstructions are given below. The first two are PPn reconstructions with similar form and meaning. However, their initial consonants show that they are separate terms. The glosses suggest that **lau* was more specifically concerned with reciting a list, including a list of numbers.

Although the Santa Isabel terms listed under ‘cf also’ bear some formal similarity to reflexes of the verb given in POLLEX as PPn **tau* ‘count’, the sound correspondences between the two sets do not permit a reconstruction.⁵

PPn **tau* ‘count, tell’ (POLLEX)

Pn: Niuean	<i>totou</i>	‘read, count’
Pn: Samoan	<i>fai-tau</i>	‘count’
Pn: Tuvalu	<i>tau</i>	‘count, read’
Pn: Emae	<i>tāu-a</i>	‘count, read’
Pn: Nukuoro	<i>dau</i>	‘count, read’
Pn: Rennellese	<i>tau</i>	‘count, enumerate’
Pn: Takuu	<i>tau</i>	‘count, enumerate’
Pn: Tikopia	<i>tau</i>	‘count, reckon, measure’
Pn: W Futunan	<i>tau-a</i>	‘count, add, read’

⁵ Medial *-h-* of the Santa Isabel forms would reflect POc **-s-*. If the Niuean reflex were cognate with them, it too would retain *-h-*, but it doesn’t.

Pn:	W Uvean	<i>tau, tau-a</i>	‘count, number, read’
Pn:	Pukapukan	<i>ta-tau</i>	‘count’
Pn:	Tahitian	<i>tau</i>	‘count, number’
Pn:	Tongarevan	<i>ta-tau</i>	‘read, count’
Pn:	Tuamotuan	<i>ta-tau</i>	‘describe, relate, recount’
Pn:	Marquesan	<i>ta-tau</i>	‘count, recite’
Pn:	Maori	<i>ta-tau</i>	‘count’
cf. also:			
MM:	Zabana	<i>taho</i>	‘count’
MM:	Laghu	<i>taho</i>	‘count’
MM:	Kokota	<i>ta-taho</i>	‘count’
PPn <i>*lau</i> ‘recite, count, list’ (POLLEX)			
Pn:	Tongan	<i>lau</i>	‘mention; think of; consider; count, reckon, estimate, assess; read, recite’
Pn:	Niuafō’ou	<i>lau</i>	‘count’
Pn:	Samoan	<i>lau</i>	‘read; call out, give out song verse by verse’
Pn:	Anutan	<i>rau</i>	‘count’
Pn:	Tuvalu	<i>lau</i>	‘count, recite’
Pn:	E Futunan	<i>lau</i>	‘read, recite; count’
Pn:	E Uvean	<i>lau</i>	‘count, calculate’
Pn:	Tikopia	<i>rau</i>	‘enumerate, count, go through items on a list’
Pn:	Pukapukan	<i>waka-lau</i>	‘count’

14.3 The structure of POc phrases containing an attributive numeral

14.3.1 The **NUMERAL ηa* CLASSIFIER and **sa*-CLASSIFIER structures

Table 14.1 shows that POc numerals for tens and hundreds, e.g. **sa=[ηa] puluq* ‘10’, **rua ηa puluq* ‘20’, **tolu ηa puluq* ‘30’, had a structure in which the morphemes **puluq* ‘10’ and **Ratus* ‘100’ appear to be multiplicative classifiers (§14.1.1). The numeral is connected to the classifier by the ligature **ηa*.⁶ This **ηa* seems to have originally been absent after **sa-* ‘one’, a proclitic that was immediately attached to the classifier. The **NML ηa* CLF structure and its variant *sa*-CLF are of PMP antiquity, and are reflected as far down the Oceanic tree as Polynesian. This raises the question, Did the POc structure reflect a productive numeral classifier structure, or was it just a fossil?

Being productive would mean that the structure was also used with other classifiers—and it was, according to evidence from both higher and lower nodes of the Austronesian tree. Table 14.2 shows forms for 1–3, 10–30 and 100–300 in one western and three central Malayo-Polynesian languages (i.e. languages at higher nodes; see figure 1.2) and POc. Certain facts are obvious. Cognates of POc **sa=[ηa] puluq* ‘10’ and **sa=[ηa] Ratus* ‘100’ are preceded by a proclitic that is cognate with POc **sa=* ‘one’. In Javanese *sa* ‘1’ is not followed by a ligature cognate with **ηa*, but the ligature occurs after 2 and 3. In the other

⁶ The ACD glosses PMP **ηa* ‘linker for multiples of ten’, but its function was much wider: ‘ligature linking a numeral to a numeral classifier’.

Table 14.2 Non-Oceanic and POc 1–3, 10–30 and 100–300

	Javanese (wMP)	Hawu (cMP)	Kambera (cMP)	Kéo (cMP)	POc
1	<i>siji</i>	<i>əhi</i>	<i>dihā</i>	<i>hā</i>	*(i)sa ^a
2	<i>loro</i>	<i>dūe</i>	<i>dua</i>	<i>rua</i>	* <i>rua</i>
3	<i>təlu</i>	<i>təlu</i>	<i>tailu</i>	<i>tedu</i>	* <i>tolu</i>
10	<i>sa=puluh</i>	<i>he-ηuru</i>	<i>ha-ka-mbulu</i>	<i>hā mbudu</i>	* <i>sa=[ηa] puluq</i>
20	<i>ro=η puluh</i>	<i>dūe ηuru</i>	<i>dua ka-mbulu</i>	<i>mbudu rua</i>	* <i>rua ηa puluq</i>
30	<i>təlu=η puluh</i>	<i>təlu ηuru</i>	<i>tailu ka-mbulu</i>	<i>mbudu tedu</i>	* <i>tolu ηa puluq</i>
100	<i>s-atūs</i>	<i>he-ηahu</i>	<i>ha-ηahu</i>	<i>hā ηasu</i>	* <i>sa=[ηa] Ratus</i>
200	<i>ro=η atūs</i>	<i>dūe ηahu</i>	<i>dua ηahu</i>	<i>ηasu rua</i>	* <i>rua ηa Ratus</i>
300	<i>təlu=η atūs</i>	<i>təlu ηahu</i>	<i>tailu ηahu</i>	<i>ηasu tedu</i>	* <i>tolu ηa Ratus</i>

^a There were probably several POc forms meaning ‘1’ (§14.4.1).

three languages the ligature has been generalised to occur with ‘one’ as well. In Javanese **ηa* is reflected as *-η* on simple numerals from 2 upward. In Hawu **ηa-puluq* and **ηa-Ratus* have become *ηuru* and *ηahu*, in Kambera *-^mbulu⁷* and *ηahu*, and in Kéo *mbudu* and *ηasu*. In Kéo the morpheme order is reversed for numerals 2 and above.

The critical point here is that in each language other classifiers occur in the same slot as the multiplicative classifiers in Table 14.2. Javanese mensural classifiers occur in it: *sa=prapat* ‘a quarter’, *təlu=η prapat* ‘three-quarters’; *ro=η taun* ‘two years’; *pata=η jam* ‘4 hours’ (Robson 1992). Hawu sortal classifiers occur there: *he=ηi^{2u} wawi* ‘one pig’, *dūe ηi^{2u} wawi* ‘two pigs’, where *ηi^{2u}* is the classifier for animals (Walker 1982). Kambera has sortal classifiers based on shape. After *ha-* ‘one’, these do not reflect **ηa*, but after ‘2’ or greater, the initial consonant undergoes a change that does reflect **ηa*: *ha=punū pena* ‘one pen’ vs *dua mbunū pena* ‘two pens’; *ha=wala kapambal* ‘one plank’ vs *hā dua mbala kapambal* ‘two planks’ (Klamer 2010).⁸ In Kéo the reversal of constituents with 2 and above attested in Table 14.2 also occurs with sortal classifiers: *aki ha=²ga^{2e}* [man one-CLF] vs *aki ²ga^{2e} dima* [man CLF 5] (*²ga^{2e}* ‘human being’) (Baird 2002).

This evidence that **NML ηa* CLF occurred in languages at higher nodes than POc only says that POc *could* have retained the productive structure. The tens and hundreds in Table 14.1 could be fossils. However, evidence from Admiralties, Micronesian and Polynesian languages tells us that POc *did* retain **NML ηa* CLF as a productive numeral classifier structure. Admiralties and Micronesian languages have NML CLF order, reflecting POc **NML ηa* CLF, but less obviously than in Table 14.2.

Table 14.3 shows Ponam (Adm) tens, hundreds and a small sample of classifiers.⁹ There are indicators that the items in the table reflect POc **NML ηa* CLF. First, *-ηuf* ‘10’ and *-ηat* ‘100’ reflect POc **ηa puluq* and **ηa Ratus*, although **ηa* is not reflected in columns D–G. Ponam (Adm) numerals reflecting POc **ηa* and a sample of classifiers.

⁷ The origin of intrusive *ka-* is not known.

⁸ *=punū* ‘oblong object’; *-wala* ‘thin flat object’.

⁹ Other than tens and hundreds, classifiers in Ponam and other Admiralties languages are not used with numerals above 4.

Table 14.3 Ponam (Adm) numerals reflecting POc **ŋa* and a sample of classifiers

	A	B	C	D	E	F	G
	1–4	tens	hundreds	heaps of coconuts	bundles	branches	fish hooks
1	<i>si</i>	<i>sa-ŋuf</i>	<i>sa-ŋat</i>	<i>sa-hum</i>	<i>sa-bis</i>	<i>sa-kal</i>	<i>sa-kau</i>
2	<i>luo-f</i>	<i>lu-ŋuf</i>	<i>lo-ŋat</i>	<i>lo-hum</i>	<i>lo-bis</i>	<i>lo-kal</i>	<i>lo-kau</i>
3	<i>talo-f</i>	<i>tulu-ŋuf</i>	<i>tulu-ŋit</i>	<i>tulu-hum</i>	<i>tulu-bis</i>	<i>tulu-kel</i>	<i>tulu-kau</i>
4	<i>fa-f</i>	<i>fa-ŋuf</i>	<i>fa-ŋat</i>	<i>fa-hum</i>	<i>fa-bis</i>	<i>fa-kal</i>	<i>fa-kou</i>

Second, the structure of tens and hundreds in columns B and C is identical to that of classifiers in columns D–G. The Ponam situation is reflected across Admiralties subgroups.

Micronesian classifiers are exemplified in §14.1.1 and are well described in the various grammars of Micronesian languages. The situation resembles that of Admiralties languages. The ligature **ŋa* is preserved in PMic *-*ŋawulu* ‘unit of ten (in counting)’ and Proto Chuukic *-*ŋa-ratu* ‘thousand (numeral classifier)’ (Bender et al. 2003a; cf data in §14.4.5.1). It is not obviously inherited in Micronesian forms with other classifiers, but **ŋa* is sometimes reflected in a prenasalisation of the following classifier: see under POc *-*tau* ‘animate; person’ (§14.6.1) and POc *-*pui* ‘bunch, group’ (§14.6.2).

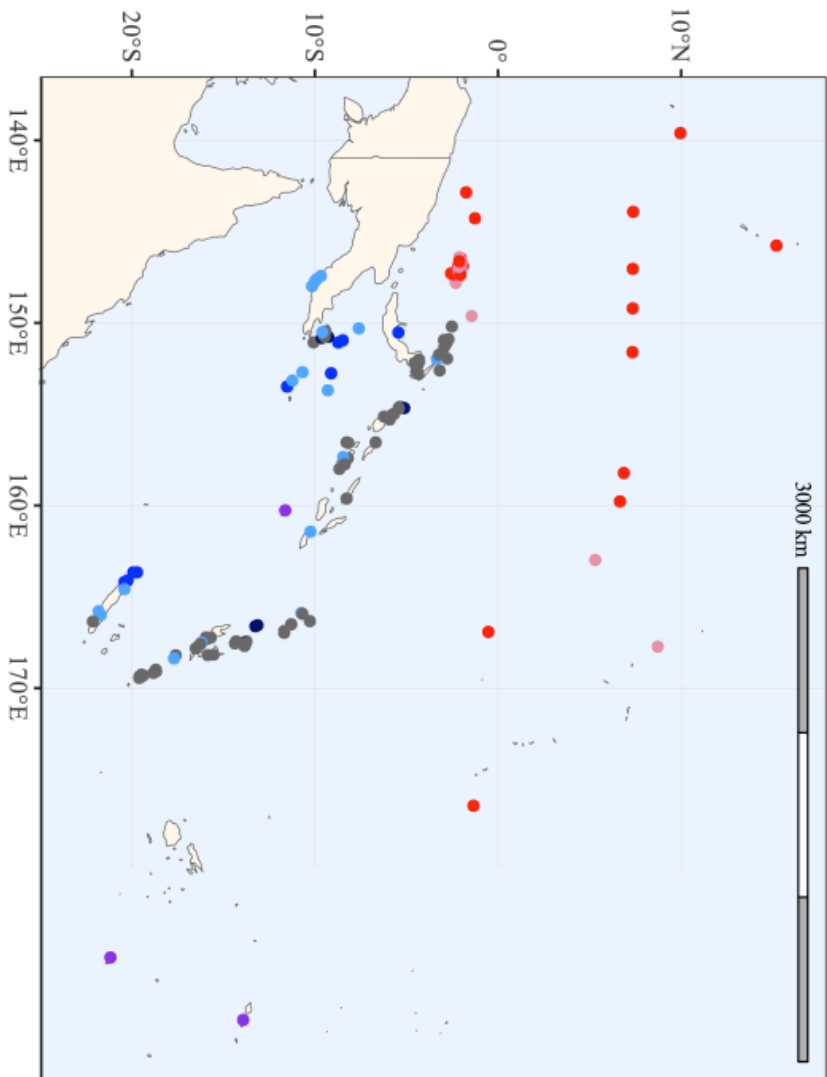
Finally, **ŋa* is alive and well in certain Polynesian languages. Table 14.4 shows classifiers used in the Tongan reflex of the POc *NML *ŋa* CLF structure. Column A shows the numerals 1–4. Columns B and C show that the structure of 10–40 and 100–400 is identical to that of the enumerative classifiers in columns D–G. Thus *-fulu* ‘unit of 10’ and *-au* ‘unit of 100’ are also multiplicative classifiers. One apparent anomaly is *ho-ŋo-fulu* ‘10’, which retains the structure of PPn **ha-ŋa-pulu* ‘10’ where the other classifiers in the row have replaced **ha-ŋa-* with the PPn non-specific article **te-*.

It would be possible to build a similar table for Samoan or for Rennellese, and each would show the same thing: that PPn **-fulu* ‘unit of 10’ (§14.4.5.1) and **-rau* ‘unit of 100’ (§14.6.4) were enumerative classifiers. Together, the Admiralties, Micronesian and Polynesian data show that the POc *NML *ŋa* CLF structure was productive and that **-puluq* and **-Ratus* were, and in some languages still are, multiplicative classifiers.

Table 14.4 Tongan (Pn) classifiers reflecting PPn **ŋa*

	A	B	C	D	E	F	G
	1–4	tens	hundreds	scores of coconuts	tens of scores of coconuts	tens of scores of yam pieces ^a	tens of fathoms high or deep
1	<i>taha</i>	<i>ho-ŋo-fulu</i>	<i>te-au</i>	<i>te-kau</i>	<i>te-fua</i>	<i>te-fuhi</i>	<i>te-kumi</i>
2	<i>ua</i>	<i>uo-fulu</i>	<i>ue-ŋe-au</i>	<i>ue-ŋa-kau</i>	<i>uo-fua</i>	<i>uo-ŋo-fuhi</i>	<i>uo-ŋo-kumi</i>
3	<i>tolu</i>	<i>tolu-ŋo-fulu</i>	<i>tolu-ŋe-au</i>	<i>tolu-ŋa-kau</i>	<i>tolu-fua</i>	<i>tolu-ŋo-fuhi</i>	<i>tolu-ŋo-kumi</i>
4	<i>fā</i>	<i>fā-ŋo-fulu</i>	<i>fā-ŋe-au</i>	<i>fā-ŋa-kau</i>	<i>fā-fua</i>	<i>fā-ŋo-fuhi</i>	<i>fā-ŋo-kumi</i>

^a For planting.



Map 14.2 Bound classifiers in the SW Pacific

- Bound classifiers**
- only fossil prefixes
 - fossil prefixes and prefix classifiers
 - less than 10 prefix classifiers
 - 10 or more prefix classifiers
 - both prefix and suffix classifiers
 - less than 10 suffix classifiers
 - 10 or more suffix classifiers

14.3.2 The CLASSIFIER + NUMERAL structure

This, however, is not the whole story. There is evidence that alongside the *NML *ŋa* CLF structure POc also had a *CLF NML structure. Evidence for this comes from SHWNG languages, Oceanic languages with this structure, and especially Polynesian.

The SHWNG languages Buli (Maan 1951:42), Taba (Bowden 2001:242–245), Ambel (Arnold 2018:159–161) and Magey Matbat (Remijnsen 2010:287–290), all have CLF NML order.¹⁰ None has a reflex of *NML *ŋa* CLF. Rongga (Arka 2008) and Waima'a (Himmelmann 2010:56), cMP languages of Wallacea and cousins to SHWNG also have a CLF NML structure. But as shown in §14.3.1 not all cMP languages have CLF NML. Some reflect *NML *ŋa* CLF. This implies that the CLF NML structure was innovated somewhere in the CEMP linkage and was inherited into POc. The origin of CLF NML seems straightforward. As most prefixed classifiers reflect earlier nouns (§14.6), CLF NML reflects the regular noun-phrase order noun NML.

For classifiers other than 'unit of 10' and 'unit of 100' non-Polynesian Oceanic languages retain either CLF NML or NML [**ŋa*] CLF, but not both. The classifier precedes the numeral in some Papuan Tip¹¹ a few Meso-Melanesian,¹² and all New Caledonian languages. This distribution is strikingly areal, as Map 14.2 shows. In the north a classifier follows the numeral. In the south it precedes it.

Blust (2013:284–285) briefly discusses 'onset runs' in numerals. These are runs of numerals that begin with the same segment or syllable. He includes Buma (TM) *tilu* '2', *tete* '3', *teva* '4', *tili* '5', *tuo* '6', *tibi* '7', *tua* '8', *tudi* '9' and Mwotlap (NCV) *voyo* '2', *vetel* '3', *vevet* '4'. He comments that they result from prefixation of unknown morphemes. In these two cases it seems likely that they reflect prefixation of a no longer productive classifier: **tau-* 'human being' in Buma, and the default classifier **pua-* in Mwotlap (§14.6.1). Fossilised prefixes on simple numerals are rife in the southern prefixing area, stretching from New Ireland in the north to the southernmost languages of Vanuatu (Map 14.2).

14.3.3 A conclusion

On this evidence it is difficult to avoid the untidy conclusion that POc retained both the *NML [*ŋa*] CLF structure and the *CLF NML structure, and that various languages either (i) generalised CLF NML, but usually retained NML *ŋa* CLF in counting tens and hundreds; or (ii) generalised NML *ŋa* CLF; or (iii) lost numeral classifiers altogether.

Some Polynesian languages are striking in that they retain both structures. In this respect they form a relic area which supports the claim that POc also had both structures. Clark (1999) reconstructs both structures for PPn, and an inspection of Tongan, Samoan and Rennellese data confirms this.¹³ It evidently continued the POc situation. Unlike Admiralties and Micronesian, where all counting is done with a classifier, PPn classifiers were only used to count certain nouns associated with what Elbert (1988:192) terms

¹⁰ Buli and Taba belong to the South Halmahera subgroup, Ambel and Magey Matbat to Raja Ampat. The SHWNG languages of Cenderawasih Bay have lost numeral classifiers.

¹¹ Sudest, Nimoa, Kilivila group, Central Papuan group.

¹² Nakanai, Buka/N Bougainville group.

¹³ Data sources are Churchward (1953:171–189) for Tongan, Mosel & Hovdhaugen (1992:246–250) for Samoan, and Elbert (1988:186–200) for Rennellese.

“planting, fishing, and ostentatious display”. If a classifier was used with a numeral to express a number less than 10, then CLF NML order was used. For example, PPn **toka-* ‘human’ (Clark 1999:198) was used to count people up to 9, e.g. **toka-rua* ‘two (people)’. For quantities of 10 and above, either structure might be used, depending on what one was counting. Exactly how this division of labour worked in PPn is unclear, as languages of the two first-order Polynesian groups, Tongic and Nuclear Polynesian, do not always agree. But one thing is clear: when PPn used the NML CLF structure, the classifier was always enumerative (§14.1.1), denoting a multiple of the thing counted.

14.4 Reconstructing cardinal numerals: serial, attributive, and predicative

Cardinal numerals (‘one’, ‘two’, ‘three’ etc) are reconstructed in §14.4.1–14.4.4. They are used in two ways. In **serial** counting, the speaker says the numbers one after the other in sequence. When a numeral is used for quantification it is either **attributive** or **predicative**. An attributive numeral forms part of a noun phrase (e.g. *two houses*, *twelve pigs*). A predicative numeral is a predicate, as in *We are two* in the sense ‘There are two of us’.

It seems probable that POc serial counting was done with plain root forms, as in Mussau and in Micronesian languages. In their quantifying function POc simple decimal numerals above ‘one’ seem to have functioned both attributively and predicatively. From the perspective of POc grammar, this is uncontroversial. POc had very few adjectives (Ross 1998a), and most properties were encoded as verbs, simply appearing unaffixed when attributive. However, it seems that POc attributive numerals either formed a class of their own or were a quantifier subclass, as they took the prefix **ka-* when they occurred attributively, as in (12), and perhaps occurred before the noun they quantified.

- 12) a. Mussau (Adm)
ko-tolu olimo namū
 ATTRIB-3 canoe big
 ‘three big canoes’ (Brownie & Brownie 2007:51)
- b. Ughele (MM, New Georgia group)
ka made vineki meke ka rua koreo
 ATTRIB 4 girls and ATTRIB 2 men
 ‘four girls and two men’ (Frostad 2012:59)
- c. Kwamera (SV, Tanna)
nim^va kəru
 house 2 ‘two houses’ (Lindstrom & Lynch 1994:16)

In the cognate set below, most reflexes of **ka-* are fossilised, i.e. they occur as part of the cardinal numeral regardless of its function. There are many languages where **ka-* is reflected as the first element only of ‘one’. These instances are excluded here, as they appear to reflect a distinct but homophonous morpheme participating in some of the many forms for ‘one’ either alone or as their first syllable (§14.4.1).

POc **ka-* ATTRIBUTIVE

Adm: Mussau *ya-, ka-, ko-* ATTRIB (*ya-*: 2, 4-9; *ka-* 1, 10; *ko-* 3) (Brownie & Brownie 2007:48–51)

MM:	Tangga	<i>ka-</i>	SERIAL (all) (Maurer 1966:74)
MM:	Vaghua	<i>ka-</i>	FOSSIL (1–9)
MM:	Varisi	<i>ka-</i>	FOSSIL (1–9)
MM:	Simbo	<i>ka-</i>	FOSSIL (1–3, 8)
MM:	Kubokota	<i>ka-</i>	ATTRIB (4–9) (Chambers 2009:84)
MM:	Roviana	<i>ka-</i>	FOSSIL (2)
MM:	Ughele	<i>ka-</i>	ATTRIB (all; also SERIAL with 1-2) (Frostad 2012:58)
MM:	Marovo	<i>ka-</i>	FOSSIL (2)
MM:	Vangunu	<i>ka-</i>	FOSSIL (2)
MM:	Mbareke	<i>ka-</i>	FOSSIL (2, 4–9)
NCV:	Tamambo	<i>a-</i>	FOSSIL (1–9; W dialect <i>ya-</i>)
SV:	Utaha	<i>ka-</i>	FOSSIL (2-3)
SV:	Lenakel	<i>ka-, ke-, kə-</i>	FOSSIL (2-9)
SV:	Kwamera	<i>ka-, ku-, kə-</i>	FOSSIL (2–5)

Blust's (2013:284–285) discussion of 'onset runs' was mentioned in §14.3.2. One of the runs Blust cites is Neve'ei (NCV) *iru* '2', *itl* '3', *ifah* '4', *ilim* '5'. The *i-* prefix is a realis 3SG subject marker. In neighbouring Neverver the paradigm is (Barbour 2012:157):

13)	REALIS	IRREALIS
2	<i>i-ru</i>	<i>ib-ru</i>
3	<i>i-tl</i>	<i>ibi-tl</i>
4	<i>i-vas</i>	<i>ib-was</i>
5	<i>i-lim</i>	<i>ib-lim</i>

The fact that there is a realis/irrealis contrast shows (a) that these numerals are (stative) verbs; and (b) that syntactically they are the predicates of relative clauses rather than attributives. The phrase in (14) is more literally translated as 'small bows of theirs that are two':

14)	<i>nivis-bratn lele titi-dr i-ru</i>
	bow-real small P:3-PL 3REALIS:SG-two
	'two small bows of theirs' (Barbour 2012:157)

In a number of Oceanic languages predicative numerals with realis prefixes have been reanalysed as attributives, with fossilised *i-*, *e-* or (in SW Santo) *mo-*.

14.4.1 One

Oceanic languages display a plethora of forms for 'one'. This is an exception to the claim that, across language families, numerals 1 to 5 are slow to change relative to both other numerals and to basic lexicon (Pagel, Atkinson & Meade 2007; Pagel & Meade 2018). Previous accounts have tended to gloss over this.

Where a term for 'one' is known to be serial or attributive in function, this is shown below. Where a form is glossed 'a' or 'some' or marked as an indefinite article, this tells us that it is used attributively, but does not necessarily mean that there is a distinct serial form.

14.4.1.1 **sa-*, **sa*, **tasa*, **tasi* and **ta*

Some nouns always took a numeral + classifier combination as an attribute, and others took a simple numeral (§14.3). In the former case, the attribute was **sa*-CLF. In the latter case, the attributive marker **ka-* (§14.4) was possibly used, but we cannot be sure that it occurred with ‘one’. POc **(i)sa* ‘one’ is also reflected as the PPn indefinite article **sa* (ACD), which, with an irregular vowel change, became Proto Nuclear Polynesian **se* (Clark 1976:50).¹⁴ Thus POc **(i)sa* was attributive, hovering between a numeral and an indefinite article.

PNCV **sa-wa* is included under **(i)sa* because it seems to be a local development in more northerly areas of Vanuatu. Added **-wa*, sense unknown (perhaps POc **pua*-DEFAULT CLASSIFIER), also occurs in **tai-wa*, in an overlapping area. N-C Vanuatu terms often reflect further additions.

PAn **isa*, **esa*, **asa* ‘one’ (ACD)

POc **(i)sa* ‘one’ (attributive); (?) INDEFINITE ARTICLE

NNG: Mangap	<i>sa</i>	‘some’
NNG: Barim	<i>sa</i>	‘some’
NNG: Amara	<i>so</i>	‘some’
NNG: Lamogai	<i>(i)sa</i>	‘one’; ‘some’
PT: Gapapaiwa	<i>sa(go)</i>	‘one’; ‘another’
PT: Boanaki	<i>sa(go)</i>	‘one’
MM: Nakanai	<i>(i)sa-sa</i>	‘one’
SES: Owa	<i>ta</i>	‘one’
NCV: Rano	<i>sa</i>	‘one’

PNCV **sa-wa* ‘one’

NCV: Sa	<i>su</i>	‘a’; ‘one’
NCV: N Ambrym	<i>hu</i>	‘one’
NCV: Orkon	<i>ho(l)</i>	‘one’
NCV: Daakaka	<i>swa</i>	‘one’
NCV: Lonwolwol	<i>hu</i>	‘one’
NCV: Lendamboi	<i>sua</i>	‘one’
NCV: Unua	<i>soya</i>	‘one’
NCV: Maskelynes	<i>sua</i>	‘one’; SPECIFIC ARTICLE

Proto N Malakula **sa-ya-l* ‘one’

NCV: Malua Bay	<i>sxa(l)</i>	‘one’
NCV: Tirax	<i>haxa(l)</i>	‘a’; ‘one’
NCV: Navwien	<i>(i)saya(l)</i>	‘one’

Proto CW Malakula **sava[y,m]* ‘one’

NCV: Neve’ei	<i>sava(y)</i>	‘one’
NCV: Neverver	<i>(i)sya(m)</i>	‘one’
NCV: Avava	<i>sap(m)</i>	‘a’; ‘one’
NCal: Tinrin	<i>sā</i>	‘one’

¹⁴ Pawley (1966:53) and Clark (1999:197) treat PNPn **se* ‘non-specific determiner’ as historically distinct from **sa* ‘one’. Out of convenience Clark’s earlier hypothesis is adopted here.

NCal:	Xârâcùù	<i>fā</i>	‘one’
Mic:	Kosraean	<i>so(ko)</i>	‘other’
Mic:	Pulo Annian	<i>de-</i>	‘one’
PPn * <i>sa</i> INDEFINITE ARTICLE (Clark 1976:50)			
Pn:	Tongan	<i>ha</i>	INDEFINITE ARTICLE
Pn:	Niue	<i>ha</i>	SINGULAR INDEFINITE ARTICLE
PNPn * <i>se</i> INDEFINITE ARTICLE (Clark 1976:50)			
Pn:	E Futunan	<i>se</i>	INDEFINITE ARTICLE
Pn:	Rennellese	<i>he</i>	SINGULAR, NON-SPECIFIC ARTICLE
Pn:	Pukapukan	<i>e</i>	INDEFINITE ARTICLE
Pn:	Hawaiian	<i>he</i>	INDEFINITE ARTICLE

It seems reasonable to associate a serial form **ta-sa* with the above.

POc **ta-sa* ‘one’ (serial) (PEOc: Pawley 1972:52; ACD)

Proto Kilivila **-ta-za* ‘one’

PT:	Kilivila	<i>-tala</i>	‘one’
PT:	Muyuw	<i>-(i)tan</i>	‘one’
PT:	Gawa	<i>-tara</i>	‘one’
PT:	Gumawana	<i>ta-ya[mo]</i>	‘one’ (- <i>mo</i> ‘only’)
MM:	Vitu	<i>taða</i>	‘some’
MM:	Meramera	<i>tasa</i>	‘one’
MM:	Roviana	<i>tasa</i>	‘one’ (serial)
MM:	Gao	<i>tasa</i>	‘one’
MM:	Kokota	<i>taho</i>	‘one’ (serial, archaic)

Proto Tongic **taha* ‘one; another’

Pn:	Tongan	<i>taha</i>	‘one; someone, anyone; person; other, another’
Pn:	Niue	<i>taha</i>	‘one, any, an; singly, by itself; another’
Pn:	Niuafu’ou	<i>taha</i>	‘one’

Clark (1999) takes PNPn **tasi* to be an idiosyncratic development from PPn **tasa*, and these forms are listed below with apparent cognates that may imply POc **ta-si*.

SJ:	Yamna	<i>tes</i>	‘one’
SJ:	Sobei	<i>tesesesi</i>	‘one’
NCV:	Uripiv (Atchin)	<i>(i)tes</i>	‘one’ (SERIAL)
NCV:	Namakir	<i>(i)teh</i>	‘one’
PNPn * <i>tasi</i> ‘one’			
Pn:	Samoan	<i>tasi</i>	‘one’
Pn:	Tuvalu	<i>tasi</i>	‘one’
Pn:	Rennellese	<i>tasi, tahi</i>	‘one’
Pn:	Ifira-Mele	<i>tasi</i>	‘one’
Pn:	E Futuna	<i>tasi</i>	‘one’
Pn:	Tikopia	<i>tasi</i>	‘one’
Pn:	Rapanui	<i>tahi</i>	‘one’

Pn:	Hawaiian	<i>kahi, (ʔe)kahi</i>	‘one’
Pn:	Mangareva	<i>(e)tai, taʔi</i>	‘one’
Pn:	Marquesan	<i>tahi</i>	‘one’
Pn:	Maori	<i>tahi</i>	‘one’

It is very probable that the **ta* of **ta-sa* reflected a PAN indefinite article, the origin of which is briefly discussed in Lynch, Ross & Crowley (2002:71). This raises the question of how **sa* and **ta* differed. The one clue is that **sa* was a numeral that in some languages was reinterpreted as an indefinite article, whereas the reinterpretation of **ta* seemingly moved in the opposite direction. Another possibility is that **sa* was a non-specific indefinite article, and **ta* specific indefinite (in keeping with its earlier case-marking function).

In many of the forms listed below, the reflex of **ta* is followed by one or more apparently monosyllabic morphemes. Some suffixed forms, reflecting PPT **-mo*, **-qa* and **-moqa*, evidently meant ‘only’. If **ta* was indeed the indefinite article, then these forms may have specified that its meaning in this context was ‘one’. With reasonable confidence, final *-n* or *-na* is a singular marker reflecting POc **-ña*, which, suffixed to an attributive adjective, marked a noun phrase as singular.

POc **ta* INDEFINITE ARTICLE; (?) ‘one’

NNG:	Bariai	<i>(e)ta</i>	‘some, any’
NNG:	Mbula	<i>ta</i>	‘one’
		<i>tata(ŋa)</i>	‘a few’
NNG:	Barim	<i>ta</i>	‘one’
NNG:	Sengseng	<i>ta</i>	‘one’
NNG:	Wogeo	<i>ta</i>	‘one’
NNG:	Yabem	<i>ta(geŋ)</i>	‘one’
		<i>ta-eŋ, teŋ</i>	‘a, some’

PPT **ta* ‘one’

Proto Sudest-Nimosa **-ta[ya]* ‘one’

PT:	Sudest	<i>ra, re(ya)</i>	‘one’
PT:	Nimosa	<i>-ta(ga)</i>	‘one’
PT:	Misima	<i>(e)te(ga)</i>	‘one’

Proto North Mainland/D’Entrecasteaux **ta-mo[qa]*- ‘one’

PT:	Gumawana	<i>ta-ya(mo)</i>	‘one’
PT:	Yamalele	<i>(ʔai)ta(moga-na)</i>	‘one’ (<i>ʔai</i> < POc <i>*kai</i> - CLF)
PT:	Ubir	<i>(kai)ta(mom)</i>	‘one’ (<i>kai</i> < POc <i>*kai</i> - CLF)
PT:	Doga	<i>ta(mo-na)</i>	‘one’
PT:	Minaveha	<i>(ai)ta(mo(ata))</i>	‘one’ (<i>ai</i> < POc <i>*kai</i> - CLF)
PT:	Wedau	<i>ta(gogi)</i>	‘one’
PT:	Suau (Bonalua)	<i>ta(ya)</i>	‘one’

Proto Central Papuan **ta* ‘one’

PT:	Sinaugoro (Taboro)	<i>ta</i>	‘one’
PT:	Motu	<i>ta, ta(mo-na)</i>	‘one’
PT:	Roro	<i>ha(momo)</i>	‘one’
MM:	Bola	<i>ta(ku)</i>	‘one’

MM: E Kara	<i>ta</i>	‘one’
NCV: Bierebo	<i>ta</i>	‘one’
NCV: Lewo	<i>ta(ŋa)</i>	‘one’
Proto New Caledonia <i>*tta</i> ‘one’		
NCal: Voh-Koné	<i>θā</i>	‘one’
NCal: Paicî	<i>cā-</i>	‘one’
NCal: Ajië	<i>ra</i>	‘one’

14.4.1.2 Constituent monosyllables

In §14.4.1.3 below are listed other widely attested forms for ‘one’. Taken together with the forms reconstructed above, it becomes obvious that across Oceanic ‘one’ is often either one of the monosyllables in (15) or a disyllable made up of two of them. The monosyllables form a pattern.

15)	<i>*sa</i>	<i>*si</i>	<i>*sai</i>
	<i>*ta</i>	<i>*ti</i>	<i>*tai</i>
	<i>*ka</i>	—	<i>*kai</i>

Of the monosyllables in (15) all but **si* occur alone as ‘one’. Initial **si-* and **ti-* tend to occur in the same combinations as **sa-* and **ta-*, suggesting that at various times and places **si-* and **sa-* have been in an allomorphic or allophonic relationship, and so have **ti-* and **ta-*. Final **-si* occurs only in **ta-si*, an apparent variant of **ta-sa*, discussed above. Final **-ka* only occurs in contexts in which **-kai* also occurs, so they too are treated as one morpheme. This leaves us with the monosyllables in the lefthand column of (16), which also shows the disyllables formed from them. Disyllables that occur only once in the data or only in a small closely knit subgroup are excluded. Bolded forms are those reconstructed in §14.4.1.1.

16)	<i>*sa</i>	...	...	<i>*sa-kai</i>
	<i>*sai</i>	<i>*sai-sa</i>	...	...
	<i>*ta</i>	<i>*ta-sa</i>	...	<i>*ta-kai</i>
	<i>*tai</i>	<i>*tai-sa</i>	...	...
	<i>*ka</i>	...	<i>*ka-ti</i>	...
	<i>*kai</i>	<i>*kai-sa</i>	...	<i>*kai-kai</i>

POc disyllables tend to have at most three moras, and out of the nine possible 4-mora forms to which **sai*, **tai* and **kai* could give rise, only the reduplicate **kai-kai* is putatively attested.

This still gives far more forms for ‘one’ than are expected in a single language. Can this be explained? Several factors may contribute to this situation. One is perhaps that an independent morpheme should have a minimum of two moras. One strategy for achieving this with single-mora reflexes of **sa*, **ta* or **ka* is to add a morpheme meaning ‘only’, as noted in §14.4.1.1. When two of the monosyllables in (15) join to form a term for ‘one’ in (16), the second was perhaps being used in the sense of ‘only’.

Some reflexes of POc **sa* and **ta* (§14.4.1.1) also function as indefinite articles. The semantic distinction between attributive ‘one’ and an indefinite specific article is small. In *My sister married a handsome man*, the phrase *a handsome man* refers to an individual

known to the speaker, just as *one person* does in *Only one person came to my party*. But it is only a short move from here to *My sister wants to marry a handsome man* or *I'll meet one boy tonight*, where *a* and *one* may refer to a specific individual or to an indefinite member of the class 'man'/'boy'. Possibly the semantic links from 'one' to a specific article and from there to an indefinite article are enough to bring about the coining of disyllabic forms as a means of disambiguation.

Another explanation lies in marking the serial/attributive distinction (§14.4). The POC proclitic **sa-* 'one' was clearly attributive, as it was used with classifiers (§14.4.1.1). The corresponding serial form was perhaps **ta-sa*. The serial/attributive distinction can be reconstructed with reasonable certainty for two Oceanic subgroups: PSES **kesa* 'one (serial)' (< **kai-sa*) vs PSES **sa-kai* 'one (attributive)', and PMic **tai-sa* 'one (serial)' vs PMic **te-* 'one (attributive)' (Bender et al. 2003a).

Reconstructing forms that are monosyllables or are constructed from them (see below) is tricky in any event, as there is an increased probability that homophonous forms have different origins. A case in point is initial **kai-*. It may be the **kai-* in (15); or it may reflect the classifier for long rigid objects **kai-* (§14.6.1).

14.4.1.3 Other widely attested forms for 'one'

This subsection contains forms that are widely enough attested to imply a reconstruction. 'Widely enough attested' means that they have reflexes on both sides of the Near/Remote Oceanic boundary (§1.4.4.2). The disyllables in (16) are certainly not all of POC antiquity, and it is likely that the same morpheme sequences have been innovated independently in various times and places. They are presented here because organising the data in this way indicates what is there, and suggests future research.

14.4.1.3.1 **tai* and **tai-*

Forms reflecting **tai* are so widespread that this appears to have been a standalone POC form for 'one'. It is perhaps an extended form of **ta* (§14.4.1.1), but the function of added **-i* is not known. As mentioned above, there are various local additional syllables.

POC **tai* 'one'

Proto Western Admiralty *tai-* 'one'

Adm: Kaniet	<i>tē-</i>	'one'
Adm: Seimat	<i>te-</i>	'one'
Adm: Wuvulu	<i>ai</i>	'one' (serial)
	<i>e-</i>	'one' (attributive)
SJ: Kayupulau	<i>tai</i>	'one'
SJ: Tobati	<i>tei</i>	'one'
NNG: Sio	<i>tai(tu)</i>	'one'
NNG: Kaulong	<i>te(hen)</i>	'one'
NNG: Gedaged	<i>tai</i>	'one'
NNG: Kairiru	<i>tai</i>	'one', 'some (uncountable)'
NNG: Numbami	<i>te</i>	'a'
NNG: Hote	<i>te</i>	'a'
PT: Miniafia	<i>tai(mon)</i>	'one'

PT:	Kakabai	<i>te(gana)</i>	‘one’
PT:	Sinaugoro (Balawaia)	<i>te(bona)</i>	‘one’
TM:	Engdewo	<i>ete</i>	‘one’ (attributive)
		<i>tete</i>	‘one’ (serial)
TM:	Natügu	<i>tesə</i>	‘one’ (serial) (< * <i>tai-sa</i>)
TM:	Nebao	<i>tua</i>	‘one’ (< * <i>tai-wa</i> ?)
NCV:	NE Ambae	<i>te(a)</i>	‘one’ (serial)
NCV:	Merei	<i>(e)se</i>	‘one’
NCV:	Araki	<i>(he)se</i>	‘one’
NCV:	Ma’vea	<i>te(a)</i>	‘one’
NCV:	Tamambo	<i>(a)te(a)</i>	‘one’
NCV:	SE Ambrym	<i>tei</i>	‘one’
NCV:	Paamese	<i>tāi</i>	‘one’
NCV:	Lewo	<i>tai</i>	‘a, some’ (INDEFINITE ARTICLE)
		<i>tā(ga)</i>	‘one’; ‘the same’ (attributive)
Proto North Vanuatu * <i>te-wa[le]</i> ‘one’			
NCV:	Toga	<i>tuwe</i>	‘one’
NCV:	Vurēs (Mosina)	<i>(ni)tiwia(l)</i>	‘one’
NCV:	Mwotlap	<i>(vi)tiwa(γ)</i>	‘one’
NCV:	Mota	<i>tuwa(le)</i>	‘one’
NCV:	Baetora	<i>tiv^wa(le)</i>	‘one’
NCV:	NE Ambae	<i>(ka)tewa(le)</i>	‘one’ (attributive)
NCV:	Raga	<i>(yai)tuv^wa</i>	‘one’
NCV:	Sowa	<i>tuwa(l)</i>	‘one’
NCV:	Valpei	<i>tew</i>	‘one’
NCV:	Nokuku	<i>tev</i>	‘one’
PMic * <i>te-</i> ‘one’ (attributive) (Harrison & Jackson 1984:66)			
Mic:	Kosraean	<i>se</i>	‘one’
Mic:	Kiribati	<i>tēra</i>	‘one’ (serial) (< * <i>tai-sa</i>)
		<i>te-</i>	‘one’ (attributive)
Mic:	Marshallese	<i>ci-</i>	‘one’
Mic:	Chuukese	<i>ēt</i>	‘one’ (serial) (< * <i>tai-sa</i>)
		<i>e-, i-</i>	‘one’ (attributive)
Mic:	Puluwat	<i>ye-</i>	‘one’ (attributive)
Mic:	Woleaian	<i>yet</i>	‘one’ (serial) (< * <i>tai-sa</i>)
		<i>se-</i>	‘one’ (attributive)
Mic:	Ponapean	<i>ēt</i>	‘one’ (serial) (< * <i>tai-sa</i>)
		<i>e-</i>	‘one’ (attributive)

14.4.1.3.2 **sakai* and **takai*

The morph **kai* ‘one’ is fairly widely recorded with and without extensions in Western Oceanic languages: e.g. NNG: Takia *kai-k*; Apalik *ke*; Poeng *ke-na*; PT: Tawala *e-mosi*; Duau *kai-geda*; MM: Tigak *kai*; Babatana *kə-ke*; Roviana *ke-ke* (attributive); Kokota *kaike* ‘one’ (attributive) (cf also **kai-sa*; §14.4.1.3.3).

The two sets immediately below, **sa-kai* and **ta-kai*, appear to be parallel extensions of **sa* and **ta* (§14.4.1.1). They are not assigned here to POc, as multiple independent origins are possible.

**sa-kai* ‘one’Proto Bwaidoga **sa-qe-ana* ‘one’

PT:	Iduna	<i>saʔey(ana), sey(ana)</i>	‘one’ (< Proto Bwaidoga <i>*sa-qe-ana</i>)
MM:	Tungak	<i>sikei</i>	‘one’ (SERIAL and ATTRIBUTIVE)
MM:	E Kara	<i>saya</i>	‘one’
TM:	Asuboa	<i>saka</i>	‘one’
NCal:	Xârâgurè	<i>faxā</i>	‘one’

PSES **sa-kai* ‘one’ (attributive)

SES:	Bugotu	<i>sikei</i>	‘one’; ‘any, other’ (ATTRIBUTIVE)
SES:	Lengo	<i>sakai</i>	‘one’
SES:	Tolo	<i>cika, cikai</i>	‘one’
SES:	Longgu	<i>teʔe</i>	‘one’ (ATTRIBUTIVE)
SES:	To’aba’ita	<i>teʔe</i>	‘one’ (ATTRIBUTIVE)
SES:	Kwaio	<i>teʔe</i>	‘one’ (ATTRIBUTIVE)
SES:	’Are’are	<i>taʔai</i>	‘one’
NCV:	Tape	<i>(i)sig</i>	‘one’
NCV:	Nahavaq	<i>(i)siʔ</i>	‘one’
NCV:	Namakir	<i>siki(tek)</i>	‘one’

Proto Efate **si-kai* ‘one’

NCV:	Nguna	<i>sikai</i>	‘one’
NCV:	Lelepa	<i>skei</i>	‘one’
NCV:	South Efate	<i>(i)skei</i>	‘one’
SV:	Utaha	<i>soyoi</i>	‘one’

**ta-kai* ‘one’; ‘other’

NNG:	Dami	<i>taka(le)</i>	‘one’
NNG:	Medebur	<i>taka-na</i>	‘one’
		<i>taka(raka)</i>	‘other’
NNG:	Kairiru	<i>taka(naŋ)</i>	‘other’
NNG:	Mumeng (Zenag)	<i>tika</i>	‘one’
NNG:	Piu	<i>tika</i>	‘one’
PT:	Nimoa (Rifao)	<i>-tia</i>	‘one’
MM:	Label	<i>takai</i>	‘one’
MM:	Tolai	<i>tikai</i>	‘one’
MM:	Tangga	<i>tika, tike</i>	‘one’ (SERIAL; Maurer 1966:74)
NCV:	Naha’ai	<i>(i)tex</i>	‘one’
NCV:	Avok	<i>-ciki(nene)</i>	‘one’
NCV:	Nasvang	<i>(i)cigai</i>	‘one’
NCal:	Ajië	<i>rāxā</i>	‘one’
NCal:	Ôrôe	<i>rakē</i>	‘one’

14.4.1.3.3 *kaisa

**kai* ‘one’ and its extensions are mentioned in §14.4.1.3.2. One of these forms, **kai-sa*, meets the ‘widely enough attested’ criterion (§14.4.1.3). Like **sakai* and **takai*, and for the same reason, it is not assigned to POc.

**kai-sa* ‘one’ (serial)

NNG: Aria	<i>kesa</i>	‘one, some’
PT: Are	<i>kesa(na)</i>	‘one’
MM: Tabar	<i>kes</i>	‘one’
MM: Madak	<i>kes</i>	‘one’
MM: Sursurunga	<i>kes</i>	‘one’
MM: Torau	<i>kāsa</i>	‘one’
MM: Gao	<i>kahe(ni)</i>	‘one’
MM: Maringe	<i>kaise(i)</i>	‘one’ (ATTRIBUTIVE)
	<i>keha</i>	‘one’ (SERIAL)

PSES **kesa* ‘one’ (serial)

SES: Bugotu	<i>keha</i>	‘one’ (SERIAL)
SES: Gela	<i>keza</i>	‘one’
SES: Ghari	<i>kesa</i>	‘one’
SES: Longgu	<i>eta</i>	‘one’ (SERIAL)
SES: To’aba’ita	<i>eta</i>	‘one’ (SERIAL)
SES: Arosi	<i>eta</i>	‘one’ (SERIAL)
SES: Owa	<i>eta(yai)</i>	‘one’
TM: Natügu	<i>esə</i>	‘one’

14.4.2 From two to five

The inherited decimal numerals from 2 to 5 are reflected in so many Oceanic languages that a cognate set of several pages could be mustered for each. Since reconstruction is straightforward, only a sample from each small language group is given in the interests of space.

14.4.2.1 Two

Below are reflexes of POc **rua* ‘2’.

PAn **duSa* ‘2’ (ACD)PMP **duha* ‘2’ (ACD)POc **rua* ‘2’ (ACD)

Yap: Yapese	<i>ruw</i>	‘2’
Adm: Mussau	<i>lua</i>	‘2’ (SERIAL)
Adm: Seimat	<i>hũō-hu</i>	‘2’
Adm: Aua	<i>(e)rua(i)</i>	‘2’
Adm: Lou	<i>rue(p)</i>	‘2’ (-p < POc * <i>pua</i> - DEFAULT CLASSIFIER)
Adm: Ponam	<i>luo(f)</i>	‘2’ (-f < POc * <i>pua</i> - DEFAULT CLASSIFIER)

SJ:	Kayupulau	<i>to(ti)</i>	‘2’
NNG:	Gitua	<i>rua</i>	‘2’
NNG:	Mbula	<i>ru</i>	‘2’
NNG:	Poeng	<i>lua</i>	‘2’
NNG:	Bilbil	<i>ru</i>	‘2’
NNG:	Manam	<i>(o)ru</i>	‘2’
NNG:	Bukawa	<i>lú</i>	‘2’
NNG:	Mapos Buang	<i>lu</i>	‘2’
NNG:	Numbami	<i>luwa</i>	‘2’
PT:	Sudest	<i>-iwɔ</i>	‘2’
PT:	Kilivila	<i>-yu</i>	‘2’
PT:	Dobu	<i>(ʔe)rua</i>	‘2’
PT:	Gapapaiwa	<i>rua</i>	‘2’
PT:	Motu	<i>rua</i>	‘2’
MM:	Vitu	<i>rua</i>	‘2’
MM:	Tabar	<i>lua</i>	‘2’
MM:	Sursurunga	<i>ru</i>	‘2’
MM:	Tangga	<i>u</i>	‘2’
MM:	Minigir	<i>(i)ruə</i>	‘2’
MM:	Petats	<i>(hua)lu</i>	‘2’ (<i>hua-</i> < POc <i>*pua-</i> DEFAULT CLASSIFIER)
MM:	Mono-Alu	<i>(e)lua</i>	‘2’
MM:	Vaghua	<i>(ka)rua</i>	‘2’ (<i>ka-</i> < POc <i>*ka-</i> ATTRIBUTIVE)
MM:	Roviana	<i>(ka)rua</i>	‘2’ (<i>ka-</i> < POc <i>*ka-</i> ATTRIBUTIVE)
SES:	Gela	<i>rua</i>	‘2; a partner’
SES:	To’aba’ita	<i>rua</i>	‘2’ (SERIAL)
TM:	Äiwoo	<i>(li)lu</i>	‘2’
TM:	Buma	<i>(ti)lu</i>	‘2’
NCV:	Toga	<i>(vi)ruə</i>	‘2’ (<i>vi-</i> < POc <i>*pua-</i> DEFAULT CLASSIFIER)
NCV:	NE Ambae	<i>rue</i>	‘2’
NCV:	Raga	<i>rua</i>	‘2’
NCV:	Araki	<i>(mo)rua</i>	‘2’ (<i>mo-</i> REALIS 3SG SUBJECT)
NCV:	Daakaka	<i>lo</i>	‘2’
NCV:	Paamese	<i>(e)lu</i>	‘2’
NCV:	Neverver	<i>(i)ru</i>	‘2’ (<i>i-</i> REALIS 3SG SUBJECT)
NCV:	Unua	<i>(ye)ru</i>	‘2’ (<i>ye-</i> < POc <i>*kai-</i> CLASSIFIER)
NCV:	Lewo	<i>lua</i>	‘2’
NCV:	Lelepa	<i>rua</i>	‘2’
SV:	Sye	<i>(dru)ru</i>	‘2’
SV:	Kwamera	<i>(kə)ru</i>	‘2’ (<i>kə-</i> < POc <i>*ka-</i> ATTRIBUTIVE)
SV:	Anejom	<i>(e)rou</i>	‘2’
NCal:	Drehu	<i>lue</i>	‘2’
NCal:	Nêlêmwa	<i>-ru</i>	‘2’ (with prefixed classifier)
Mic:	Nauruan	<i>(a)ro, (a)ru-</i>	‘2’
Mic:	Kosraean	<i>luo</i>	‘2’ (incorporating default classifier)
Mic:	Kiribati	<i>uā</i>	‘2’ (SERIAL)
		<i>ua-</i>	‘2’ (with suffixed classifier)

Mic:	Woleaian	<i>zɥw</i>	‘2’ (SERIAL)
		<i>zɥwa-</i> , <i>zɥwe-</i>	‘2’ (with suffixed classifier)
Fij:	Wayan	<i>rua</i>	‘2’
Pn:	Tongan	<i>ua</i>	‘2’
Pn:	Samoan	<i>lua</i>	‘2’
Pn:	Rennellese	<i>gua</i>	‘2; second; twice’
Pn:	Hawaiian	<i>lua</i>	‘2, second, secondary, twice; companion’
Pn:	Mangarevan	<i>lua</i>	‘2, second, secondary, twice; companion’

Formosan data in Li (2006) show that PAn formed numerals used with human beings by *Ca- reduplication. There are indications that this survived into POc.

PAn **da-duSa* ‘two, of people’ (ACD)

POc **ra-rua* ‘two, of people’ (ACD)

NNG:	Takia	<i>raru</i>	‘2’
PT:	Motu	<i>raru</i>	‘2, of persons’
SV:	SW Tanna	<i>(kəlikəlip kə)lalu</i>	‘7’ (i.e. 5 + 2)

14.4.2.2 Three

Below are reflexes of POc **tolu* ‘3’. Motu *ta-toi* ‘3 (of people)’ appears to reflect POc **ta-tolu* (< PAn **ta-telu*; ACD) ‘3 (of people)’, but there are no other known Oceanic reflexes.

PAn **telu* ‘3’ (ACD)

POc **tolu* ‘3’ (ACD)

Yap:	Yapese	<i>ðali-p</i>	‘3’
Adm:	Mussau	<i>tolu</i>	‘3’ (SERIAL)
Adm:	Seimat	<i>tolu</i>	‘3’
Adm:	Aua	<i>olu(ai)</i>	‘3’
Adm:	Lou	<i>tuli(p)</i>	‘3’ (- <i>p</i> < POc * <i>pua</i> - DEFAULT CLASSIFIER)
Adm:	Ponam	<i>talo(f)</i>	‘3’ (- <i>f</i> < POc * <i>pua</i> - DEFAULT CLASSIFIER)
SJ:	Kayupulau	<i>toru</i>	‘3’
NNG:	Gitua	<i>tolu</i>	‘3’
NNG:	Mbula	<i>tɛl</i>	‘3’
NNG:	Bilbil	<i>toli</i>	‘3’
NNG:	Manam	<i>toli</i>	‘3’
NNG:	Bukawa	<i>tó</i>	‘3’
NNG:	Mapos Buang	<i>l̄</i>	‘3’
NNG:	Numbami	<i>toli</i>	‘3’
PT:	Sudest	<i>-tə</i>	‘3’
PT:	Kilivila	<i>-tolu</i>	‘3’
PT:	Dobu	<i>(ʔe)toi</i>	‘3’
PT:	Are	<i>tonu</i>	‘3’
PT:	Motu	<i>toi</i>	‘3’
MM:	Vitu	<i>tolu</i>	‘3’
MM:	Tungak	<i>(a)tol</i>	‘3’

MM:	Tabar	<i>tour</i>	‘3’
MM:	Sursurunga	<i>tul</i>	‘3’
MM:	Tangga	<i>tul</i>	‘3’
MM:	Minigir	<i>(u)tulu</i>	‘3’
MM:	Papapana	<i>(tau)tonu</i>	‘3’ (<i>tau-</i> < POc <i>*tau-</i> HUMAN CLASSIFIER)
MM:	Sisiqa	<i>tulu</i>	‘3’
MM:	Maringe	<i>tilo</i>	‘3’
SES:	Bugotu	<i>tolu</i>	‘3’
SES:	Birao	<i>tolu</i>	‘3’
SES:	To’aba’ita	<i>ulu</i>	‘3’ (SERIAL)
TM:	Natügu	<i>tü</i>	‘3’
TM:	Buma	<i>(te)te</i>	‘3’
NCV:	Toga	<i>(və)təl</i>	‘3’ (<i>və-</i> < POc <i>*pua-</i> DEFAULT CLASSIFIER)
NCV:	NE Ambae	<i>tolu</i>	‘3’
NCV:	Raga	<i>tolu</i>	‘3’
NCV:	Araki	<i>(mo)rolu</i>	‘3’ (<i>mo-</i> REALIS 3SG SUBJECT)
NCV:	Daakaka	<i>sī</i>	‘3’
NCV:	Paamese	<i>(e)tel</i>	‘3’
NCV:	Neverver	<i>(i)tl</i>	‘3’ (<i>i-</i> REALIS 3SG SUBJECT)
NCV:	Unua	<i>(ye)ter</i>	‘3’ (<i>ye-</i> < POc <i>*kai-</i> CLASSIFIER)
NCV:	Lewo	<i>telu</i>	‘3’
NCV:	Lelepa	<i>tolu</i>	‘3’
SV:	Sye	<i>(dre)hel</i>	‘3’
SV:	Kwamera	<i>(ka)har</i>	‘3’ (<i>ka-</i> < POc <i>*ka-</i> ATTRIB)
SV:	Anejom	<i>(e)sey</i>	‘3’
NCal:	Nêlêmwa	<i>-xan</i>	‘3’ (with prefixed classifier)
NCal:	Drehu	<i>kōni</i>	‘3’
Mic:	Kosraean	<i>tol(u)</i>	‘3’ (with default classifier)
Mic:	Kiribati	<i>tēn</i>	‘3’ (SERIAL)
		<i>teni-</i>	‘3’ (with suffixed classifier)
Mic:	Pohnpeian	<i>(e)sil</i>	‘3’ (SERIAL)
		<i>sili-</i>	‘3’ (with suffixed classifier)
Mic:	Woleaian	<i>yēl</i>	‘3’ (SERIAL)
		<i>yēri-</i>	‘3’ (with suffixed classifier)
Fij:	Wayan	<i>tolu</i>	‘3’
Pn:	Tongan	<i>tolu</i>	‘3’
Pn:	Samoaan	<i>tolu</i>	‘3’
Pn:	Rennellese	<i>togu</i>	‘3’
Pn:	Hawaiian	<i>kolu</i>	‘3’
Pn:	Mangarevan	<i>toru</i>	‘3’

14.4.2.3 Four

The numeral for ‘4’, POc **pat*, reflects the loss of initial PMP **e-* [ə-], reducing it to a single syllable. There were very few monosyllabic roots in POc, and this probably explains the emergence of the disyllabic doublet PEMP/POc **pati*. John Lynch (pers.

comm., 8 October 2020) found languages of northwest Malakula where reflexes of both co-occur in revealing contexts. The numerals 2–4 and 7–9 in Tape are as follows:

<i>i-ru</i>	‘2’	<i>ci-ru</i>	‘7’
<i>i-təl</i>	‘3’	<i>ci-təl</i>	‘8’
<i>i-ves</i>	‘4’	<i>ce-vet</i>	‘9’

When the base-5 system emerged (see ch. 15), Lynch suggests, two forms coexisted: a reflex of **pati* and a reflex of **pat*, conjoined to the ancestor of *ce-* to form ‘9’, and thus avoiding monosyllabicity. Hence Tape *-ves* reflects **pati* and *-vet* reflects **pat*. When the base-5 system was created, *i-* had not yet been prefixed. It was presumably a 3sg pronominal, reflecting a stage when numerals were verbs (§14.4). Lynch also draws attention to Big Nambas *-ǫa* ‘4’ and *-sa-ǫet* ‘9’, with a history similar to that of Tape *-ves* and *-vet*.

Among the reflexes of **pat* below, Mussau, Numbami, Dobu, Vitu and Drehu each regularly add a vowel after a final POc consonant, rendering the reflex disyllabic. Ponam, Tungak, Tabar, Äiwoo, Buma, Sye, Lenakel, Kwamera and Nêlêmwa all add one or more syllables of varying origin. The history of the remaining reflexes of **pat* remains a matter of conjecture.

PAn **Sepat* ‘4’ (ACD)

PMP **epat* ‘4’ (ACD)

PEMP **pat* ‘4’ (ACD)

POc **pat* ‘4’ (Lynch 1977b)

Adm: Mussau	<i>ata</i>	‘4’ (serial)
Adm: Wuvulu	<i>fa</i>	‘4’
Adm: Ponam	<i>fa(f)</i>	‘4’ (-f < POc <i>*pua-</i> DEFAULT CLASSIFIER)
NNG: Bukawa	<i>há(lè)</i>	‘4’
NNG: Numbami	<i>wata</i>	‘4’
PT: Nimoa	<i>-pat</i>	‘4’
PT: Dobu	<i>ata</i>	‘4’
MM: Vitu	<i>vata</i>	‘4’
MM: Tungak	<i>(a)puat</i>	‘4’
MM: Tabar	<i>(vo)vet</i>	‘4’
MM: Sursurunga	<i>hat</i>	‘4’
TM: Äiwoo	<i>(u)væ</i>	‘4’
TM: Buma	<i>(te)va</i>	‘4’
SV: Sye	<i>(dr)vat</i>	‘4’
SV: Lenakel	<i>(ku)vər</i>	‘4’ (<i>ku-</i> < POc <i>*ka-</i> ATTRIBUTIVE)
SV: Kwamera	<i>(ke)fa</i>	‘4’ (<i>ke-</i> < POc <i>*ka--</i> ATTRIBUTIVE)
NCal: Nêlêmwa	<i>-vāk</i>	‘4’ (with prefixed classifier)
NCal: Drehu	<i>eke</i>	‘4’
Mic: Nauruan	<i>a-</i>	‘4’ (with suffixed classifier)
Mic: Pohnpeian	<i>pā-</i>	‘4’ (with suffixed classifier)
Fij: Wayan	<i>vā</i>	‘4’
Pn: Tongan	<i>fā</i>	‘4’
Pn: Samoan	<i>fā</i>	‘4’

Pn:	Rennellese	<i>hā</i>	‘4’
Pn:	Hawaiian	<i>hā</i>	‘4’
Pn:	Mangarevan	<i>ʔa</i>	‘4’

A number of the reflexes of **pati* below reflect the unsurprising fact that at various times and places reflexes of **pati* have displaced those of **pat*.

PCEMP **pati* ‘4’ (ACD)POc **pati* ‘4’ (ACD; PEOc: Pawley 1972)

NGG:	Bilbil	<i>pali</i>	‘4’
NGG:	Manam	<i>wati</i>	‘4’
PT:	Sudest	<i>-vari</i>	‘4’
PT:	Kilivila	<i>-vasi</i>	‘4’
PT:	Duau	<i>-hasi</i>	‘4’
PT:	Buhutu	<i>fati</i>	‘4’
PT:	Sinaugoro	<i>vasi-vasi</i>	‘4’
MM:	Tangga	<i>fet</i>	‘4’
MM:	Minigir	<i>(i)vati</i>	‘4’
MM:	Taiof	<i>fac</i>	‘4’
MM:	Banoni	<i>(to)vaci</i>	‘4’ (<i>to-</i> < POc <i>*tau-</i> HUMAN CLASSIFIER)
MM:	Mono-Alu	<i>(e)hati</i>	‘4’
MM:	Vaghua	<i>(ka)vac</i>	‘4’ (<i>ka-</i> < POc <i>*ka-</i> ATTRIBUTIVE)
MM:	Sisiqa	<i>vati</i>	‘4’
MM:	Maringe	<i>fati</i>	‘4’
SES:	Bugotu	<i>vati</i>	‘4’
SES:	Birao	<i>vati</i>	‘4’
SES:	To’aba’ita	<i>fai</i>	‘4’ (SERIAL)
NCV:	Toga	<i>(və)vət</i>	‘4’ (<i>və-</i> < POc <i>*pua-</i> DEFAULT CLASSIFIER)
NCV:	Mwotlap	<i>(vi)vət</i>	‘4’ (<i>vi-</i> < POc <i>*pua-</i> DEFAULT CLASSIFIER)
NCV:	NE Ambae	<i>vesi</i>	‘4’
NCV:	Raga	<i>vasi</i>	‘4’
NCV:	Merei	<i>vat, vati</i>	‘4’
NCV:	Daakaka	<i>vyer</i>	‘4’
NCV:	Paamese	<i>(e)hat</i>	‘4’
NCV:	Uripiv	<i>(i)vij</i>	‘4’
NCV:	Neverver	<i>(i)vas</i>	‘4’ (<i>i-</i> REALIS 3SG SUBJECT)
NCV:	Unua	<i>(ye)vec</i>	‘4’ (<i>ye-</i> < POc <i>*kai-</i> CLASSIFIER)
NCV:	Lewo	<i>vari</i>	‘4’
NCV:	Lelepa	<i>pati</i>	‘4’
SV:	SW Tanna	<i>(ku)as</i>	‘4’ (<i>ku-</i> < POc <i>*ka-</i> ATTRIBUTIVE)
Fij:	Wayan	<i>vati-</i>	PAUCAL PREFIX (e.g. <i>vati-keta</i> ‘a few of us’)

POc **paŋi* ‘4’ appears to be a variant of POc **pati* above, of unknown etiology. Motu has a reduplicated form *ha-hani* ‘4, of persons’, formed by analogy with *ra-rua* ‘2, of persons’ and *ta-tolu* ‘3, of persons’ above.

POc *paŋi ‘4’

NNG: Gitua	<i>paŋe</i>	‘4’
NNG: Mbula	<i>paŋ</i>	‘4’
NNG: Apalik	<i>peŋ</i>	‘4’
PT: Motu	<i>hani</i>	‘4’
PT: Gabadi	<i>vani</i>	‘4’
Mic: Kosraean	<i>æŋ</i>	‘4’ (SERIAL)
	<i>æ-</i>	‘4’ (with suffixed classifier)
Mic: Kiribati	<i>aŋ</i>	‘4’ (SERIAL)
	<i>a-</i>	‘4’ (with suffixed classifier)
Mic: Mokilese	<i>(ɔ)pɔŋ</i>	‘4’ (SERIAL)
Mic: Pohnpeian	<i>(ɛ)peŋ</i>	‘4’ (SERIAL)
Mic: Woleaian	<i>faŋi</i>	‘4’ (SERIAL)
	<i>fā-</i>	‘4’ (with suffixed classifier)

14.4.2.4 Five

Terms for ‘5’ in Oceanic languages are usually derived from terms for ‘hand, arm’. The most frequently reflected POc term is **lima*, which meant ‘5; hand, arm’ (vol.5:160–161). The colexification of the two concepts had survived from PAN and reflects much earlier digit-tallying (probably pre-PAN) than the early Oceanic practice described in §15.2. Reflexes of **lima* are listed below.

The reflexes listed under **lima* are all regular, including those that reflect **l-* as *n-* or zero. The notes in parentheses after the items below show that in some languages the two forms have diverged phonologically.¹⁵ But some instances of divergence are of another kind. POc also had a variant **nima* ‘5; hand, arm’ (vol.5:160) Its reflexes are listed separately below. It seems, though, that in scattered languages **lima* remained as ‘5’, whilst the **nima* variant became ‘hand, arm’. See Mussau, Sudest, Tangga and Äiwoo below. The intriguing feature of the divergences is that it is the term ‘hand, arm’ that has changed, not the term for ‘5’, presumably due to homophony avoidance.

PAN **lima* ‘five, hand’ (ACD)POc **lima* ‘five’ (ACD)

Adm: Mussau	<i>lima</i>	‘5’ (serial; cf <i>nima</i> ‘hand, arm’)
Adm: Ponam	<i>lime(f)</i>	‘5’ (- <i>f</i> < POc * <i>pua-</i> DEFAULT CLASSIFIER)
SJ: Sobei	<i>dim</i>	‘5’ (cf <i>ima</i> ‘hand, arm’)
NNG: Bariai	<i>lima</i>	‘5’
NNG: Mbula	<i>lama(ta)</i>	‘5’
NNG: Aria	<i>(e)lme</i>	‘5’ (cf <i>lim-la</i> [hand-3SG] ‘her/his hand’)
NNG: Poeng	<i>lima</i>	‘5’
NNG: Manam	<i>lima</i>	‘5’ (cf <i>luma-</i> ‘hand, arm’)
NNG: Bukawa	<i>lím(dàŋ)</i>	‘5’ (<i>dàŋ</i> ‘1’)
PT: Sudest	<i>-lima</i>	‘5’ (cf <i>nima-</i> ‘hand, arm’)

¹⁵ Where there is no note, this usually means that **lima* in the sense of ‘hand, arm’ has been replaced by some other term.

PT:	Kilivila	<i>-lima</i>	‘5’ (cf <i>yama-</i> ‘hand, arm’)
PT:	Dobu	<i>nima</i>	‘5’ (cf <i>nima-</i> ‘hand, arm’)
PT:	Are	<i>nima (masiana)</i>	‘5’ (cf <i>nima-</i> ‘hand, arm’)
PT:	Sinaugoro	<i>ima</i>	‘5’ (cf <i>yima-</i> ‘hand, arm’)
PT:	Motu	<i>ima</i>	‘5’ (cf <i>ima-</i> ‘hand, arm’)
MM:	Vitu	<i>lima</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
MM:	Tungak	<i>(palpa)lima</i>	‘5’
MM:	Tabar	<i>(napari)riem</i>	‘5’ (cf <i>rima-</i> ‘hand, arm’)
MM:	Sursurunga	<i>lim</i>	‘5’
MM:	Tangga	<i>lim</i>	‘5’ (cf <i>nima-</i> ‘hand, arm’)
MM:	Minigir	<i>(i)limə</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
MM:	Petats	<i>(to)lim</i>	‘5’ (<i>to-</i> < POc <i>*tau-</i> HUMAN CLASSIFIER; cf <i>walima-</i> ‘hand’)
MM:	Banoni	<i>(yi)nima</i>	‘5’ (<i>numa-</i> ‘hand, arm’)
MM:	Mono-Alu	<i>līma</i>	‘5’ (<i>ime-</i> ‘hand, arm’)
MM:	Sisiqa	<i>ləma</i>	‘5’
MM:	Roviana	<i>lima</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
MM:	Maringe	<i>(fa)lima</i>	‘5’ (serial; <i>fa-</i> < POc <i>*fa-</i> ORDINAL)
SES:	Bugotu	<i>lima</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
SES:	Birao	<i>lima</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
SES:	To’aba’ita	<i>lima</i>	‘5’ (serial)
TM:	Äiwoo	<i>(vi)li</i>	‘5’ (cf <i>ñimæ</i> ‘her/his hand’)
TM:	Buma	<i>(ti)li</i>	‘5’
NCV:	Toga	<i>(təvə)limə</i>	‘5’
NCV:	Mwotlap	<i>(trvɪ)lim</i>	‘5’
NCV:	NE Ambae	<i>lime</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
NCV:	Raga	<i>lima</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
NCV:	Merei	<i>lima</i>	‘5’
NCV:	Araki	<i>liŋa</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
NCV:	Daakaka	<i>lim</i>	‘5’
NCV:	Paamese	<i>(e)lim</i>	‘5’
NCV:	Uripiv	<i>(e)lim</i>	‘5’
NCV:	Neverver	<i>(i)lim</i>	‘5’ (<i>i-</i> REALIS 3SG SUBJECT)
NCV:	Unua	<i>(ye)rima</i>	‘5’ (<i>ye-</i> < POc <i>*kai-</i> CLASSIFIER)
NCV:	Lewo	<i>lima</i>	‘5’ (cf <i>lima-</i> ‘hand, arm’)
NCV:	Lelepa	<i>lima</i>	‘5’
SV:	Sye	<i>(suk)rim</i>	‘5’
SV:	Kwamera	<i>(kə)ri-rum</i>	‘5’ (<i>kə-</i> < POc <i>*ka-</i> ATTRIB; cf <i>riŋi-</i> ‘hand, arm’)
NCal:	Nêlêmwa	<i>-nem</i>	‘5’ (with prefixed classifier)
NCal:	Cèmuhî	<i>nīm</i>	‘5’
Mic:	Nauruan	<i>(ai)yime(o)</i>	‘5’
Mic:	Kiribati	<i>nīma</i>	‘5’ (SERIAL)
Mic:	Kosraean	<i>lɔm</i>	‘5’ (SERIAL)
Mic:	Pohnpeian	<i>lim</i>	‘5’ (SERIAL; cf <i>lime-</i> ‘hand, arm’)
		<i>lima-</i>	‘5’ (with suffixed classifier)

Mic:	Woleaian	<i>rim</i>	‘5’ (SERIAL; cf <i>rima-</i> ‘hand, arm’)
		<i>rima-</i>	‘5’ (with suffixed classifier)
Fij:	Bauan	<i>lima</i>	‘5’ (cf <i>liŋa-</i> ‘hand, arm’)
Fij:	Wayan	<i>lima</i>	‘5’ (SERIAL; cf <i>-lima</i> ‘hand, arm’)
Pn:	Samoan	<i>lima</i>	‘5; hand, arm’
Pn:	Rennellese	<i>gima</i>	‘5; hand, arm’
Pn:	Hawaiian	<i>lima</i>	‘5; hand, arm’
Pn:	Mangarevan	<i>rima</i>	‘5; hand, arm’

The reflexes of **nima* below all reflect both senses: ‘5’ and ‘hand, arm’. The North New Guinea items all reflect **nima* as ‘hand’ in the context of a digit-tally system (chapter 15), and thus reflect more recent adoptions of **nima* as ‘5’. For this reason, POc **nima* is not reconstructed with the sense ‘5’.

POc **nima-* ‘hand, arm’ (vol.5:160)

NNG:	Gitua	<i>nima(da sirip)</i>	‘5’ (<i>nima-</i> ‘hand’; <i>-da</i> ‘our’)
NNG:	Bilbil	<i>nima(-nta)</i>	‘5’ (<i>nima-</i> ‘hand’; <i>-nta</i> ‘our’)
NNG:	Mapos Buang	<i>nəma(d-vaki)</i>	‘5’ (<i>vaki</i> ‘a side’)
NNG:	Numbami	<i>nima (teula)</i>	‘5’ (<i>teula</i> ‘one side’)
SV:	Anejom	<i>nicma(n)</i>	‘5’ (cf <i>nicma-</i> ‘hand, arm’)
Pn:	Tongan	<i>nima</i>	‘5; hand’

Motu *la-ima* ‘5 (of people)’ reflects POc **la-lima* (< PAn **la-lima*) ‘5 (of people)’, but there are no other known Oceanic reflexes.

14.4.3 From six to nine

Since numerous languages in NW Melanesia and Vanuatu have systems that include base-5, i.e. they count ‘5 + 1’ for ‘6’ etc (§15.7), there are fewer reflexes of inherited decimal 6–9 than of 2–5.

Misima (PT) provides an unexplained phenomenon visible in the cognate sets below. It uses its reflexes of the POc forms **onom* ‘6’, **pitu* ‘7’ and **siwa* ‘9’ for the ‘wrong’ numbers: Misima *e-won* ‘7’, *e-pit* ‘8’, *e-siwa* ‘6’. The origin of *e-wata* ‘9’ is unclear: it may reflect ‘4’, from an old 5 + 4 term.

14.4.3.1 Six

PAn **enem* ‘6’ (ACD)

POc **onom* ‘6’ (ACD)

Adm:	Mussau	<i>[o]nomo</i>	‘6’ (serial)
Adm:	Baluan	<i>(ŋ)ono-</i>	‘6’ (with suffixed classifier)
Adm:	Ponam	<i>ono-f</i>	‘6’ (<i>-f</i> < POc <i>*pua-</i> DEFAULT CLASSIFIER)
PT:	Sudest	<i>-wɔna</i>	‘6’ (with prefixed classifier)
MM:	Nakanai	<i>(i)uolo</i>	‘6’
MM:	Notsi (archaic)	<i>wən</i>	‘6’
MM:	Sursurunga	<i>won</i>	‘6’

MM:	Tangga	<i>on</i>	‘6’
MM:	Label	<i>uono</i>	‘6’
MM:	Petats	<i>(to)nom</i>	‘6’ (<i>to-</i> < POc * <i>tau-</i> HUMAN CLASSIFIER)
MM:	Mono-Alu	<i>onomo</i>	‘6’
MM:	Sisiqa	<i>onomo</i>	‘6’
MM:	Roviana	<i>onomo</i>	‘6’
MM:	Maringe	<i>(fa)mno</i>	‘6’ (SERIAL)
SES:	Bugotu	<i>ono</i>	‘6’
SES:	Birao	<i>ono</i>	‘6’
SES:	To’aba’ita	<i>ono</i>	‘6’
SES:	Owa	<i>ono</i>	‘6’
TM:	Buma	<i>(tu)o</i>	‘6’
NCV:	Raga	<i>ono</i>	‘6’
NCV:	NE Ambae	<i>ono</i>	‘6’
NCV:	Nokuku	<i>on</i>	‘6’
NCV:	Nese	<i>(y)on</i>	‘6’
Mic:	Kosraean	<i>on</i>	‘6’ (SERIAL)
		<i>on-</i>	‘6’ (with suffixed classifier)
Mic:	Kiribati	<i>ono-</i>	‘6’ (with suffixed classifier)
Mic:	Pohnpeian	<i>(o)un</i>	‘6’ (SERIAL)
		<i>wene-</i>	‘6’ (with suffixed classifier)
Mic:	Woleaian	<i>wor</i>	‘6’
		<i>woro-, wore-</i>	‘6’ (with suffixed classifier)
Fij:	Wayan	<i>ono</i>	‘6’
Pn:	Tongan	<i>ono</i>	‘6’
Pn:	Samoaan	<i>ono</i>	‘6’
Pn:	Rennellese	<i>ono</i>	‘6’
Pn:	Mangarevan	<i>ono</i>	‘6’

14.4.3.2 Seven

One ‘irregularity’ occurs in the cognate set reflecting POc **pitu* ‘7’. Buma (TM) and a number of N Vanuatu languages reflect **bitu* rather than **pitu* (Clark 2009:59, 83).

PAn **pitu* ‘7’ (ACD)

POc **pitu* ‘7’ (ACD)

Adm:	Mussau	<i>itu</i>	‘7’ (SERIAL)
PT:	Sudest	<i>-piri</i>	‘7’ (with prefixed classifier)
PT:	Misima	<i>(e)pit</i>	‘8’ (<i>sic</i>)
PT:	Motu	<i>hitu</i>	‘7’
MM:	Nakanai	<i>-vitu</i>	‘7’
MM:	Notsi (archaic)	<i>it</i>	‘7’
MM:	Sursurunga	<i>hit</i>	‘7’
MM:	Tangga	<i>fis</i>	‘7’
MM:	Petats	<i>(to)hit</i>	‘7’ (<i>to-</i> < POc * <i>tau-</i> HUMAN CLASSIFIER)
MM:	Mono-Alu	<i>hitu</i>	‘7’

MM:	Sisiqa	<i>vettu</i>	‘7’
MM:	Nduke	<i>vitu</i>	‘7’
MM:	Maringe	<i>fitu</i>	‘7’ (SERIAL)
SES:	Bugotu	<i>vitu</i>	‘7’
SES:	Birao	<i>vitu</i>	‘7’
SES:	To’aba’ita	<i>fiu</i>	‘7’
SES:	Owa	<i>piu</i>	‘7’
TM:	Buma	<i>(ti)bi</i>	‘7’
NCV:	Raga	<i>^mbitu</i>	‘7’
NCV:	NE Ambae	<i>bitu</i>	‘7’
NCV:	Nokuku	<i>pit</i>	‘7’
NCV:	Nese	<i>(yo)dit</i>	‘7’
Mic:	Kosraean	<i>it</i>	‘7’ (SERIAL)
		<i>it-</i>	‘7’ (with suffixed classifier)
Mic:	Kiribati	<i>iti</i>	‘7’ (SERIAL)
		<i>itu-, iti-</i>	‘7’ (with suffixed classifier)
Mic:	Pohnpeian	<i>isi</i>	‘7’ (SERIAL)
		<i>isu-</i>	‘7’ (with suffixed classifier)
Mic:	Woleaian	<i>fis</i>	‘7’ (SERIAL)
		<i>fisu-</i>	‘7’ (with suffixed classifier)
Fij:	Wayan	<i>vitu</i>	‘7’
Pn:	Tongan	<i>fitu</i>	‘7’
Pn:	Samoaan	<i>fitu</i>	‘7’
Pn:	Rennellese	<i>hitu</i>	‘7’
Pn:	Mangarevan	<i>ʔitu</i>	‘7’

14.4.3.3 Eight

PAn **walu* ‘8’ (ACD)POc **walu* ‘8’

Adm:	Mussau	<i>ualu</i>	‘8’ (SERIAL)
PT:	Sudest	<i>-wa</i>	‘8’ (with prefixed classifier)
MM:	Nakanai	<i>(i)valu</i>	‘8’
MM:	Notsi (archaic)	<i>wan</i>	‘8’
MM:	Sursurunga	<i>wal</i>	‘8’
MM:	Tangga	<i>wal</i>	‘8’
MM:	Label	<i>wal</i>	‘8’
MM:	Petats	<i>(to)al</i>	‘8’ (<i>to-</i> < POc * <i>tau-</i> HUMAN CLASSIFIER)
MM:	Mono-Alu	<i>alu</i>	‘8’
MM:	Ririo	<i>zɔl</i>	‘8’ (<i>z-</i> is accreted before an initial vowel)
MM:	Ughele	<i>alu</i>	‘8’
SES:	Bugotu	<i>alu</i>	‘8’
SES:	Birao	<i>alu</i>	‘8’
SES:	To’aba’ita	<i>k^walu</i>	‘8’
SES:	Owa	<i>waru</i>	‘8’

TM:	Buma	<i>(tu)wa</i>	‘8’
NCV:	Raga	<i>v^welu</i>	‘8’
NCV:	NE Ambae	<i>welu</i>	‘8’
NCV:	Nokuku	<i>vlo</i>	‘8’
NCV:	Nese	<i>(y)oal</i>	‘8’
Mic:	Kosraean	<i>vl</i>	‘8’ (SERIAL)
		<i>vl-</i>	‘8’ (with suffixed classifier)
Mic:	Kiribati	<i>wani</i>	‘8’ (SERIAL)
		<i>wanu-</i>	‘8’ (with suffixed classifier)
Mic:	Pohnpeian	<i>(ε)wel</i>	‘8’ (SERIAL)
		<i>walu-</i>	‘8’ (with suffixed classifier)
Mic:	Woleaian	<i>war</i>	‘8’ (SERIAL)
		<i>wari-</i>	‘8’ (with suffixed classifier)
Fij:	Wayan	<i>walu</i>	‘8’
Pn:	Tongan	<i>valu</i>	‘8’
Pn:	Samoan	<i>valu</i>	‘8’
Pn:	Rennellese	<i>bagu</i>	‘8’
Pn:	Mangarevan	<i>waru</i>	‘8’

14.4.3.4 Nine

By regular sound change PAN **Siwa* would have become PMP **(h)iwa*, but, for reasons discussed by Blust (1995a, 2013:728), **Siwa* instead became PMP **siwa* the form that was inherited by POc.

PAN **Siwa* ‘9’ (ACD)

POc **siwa* ‘9’

Adm:	Mussau	<i>sio</i>	‘9’ (SERIAL)
PT:	Sudest	<i>-siwɔ</i>	‘9’ (with prefixed classifier)
MM:	Bulu	<i>rio</i>	‘9’
MM:	Notsi (archaic)	<i>ciu</i>	‘9’
MM:	Sursurunga	<i>siu</i>	‘9’
MM:	Tangga	<i>siw</i>	‘9’
MM:	Petats	<i>(to)sia</i>	‘9’ (<i>to-</i> < POc <i>*tau-</i> HUMAN CLASSIFIER)
MM:	Banoni	<i>visa</i>	‘9’ (metathesis)
MM:	Mono-Alu	<i>ulia</i>	‘9’
MM:	Sisiqa	<i>zia</i>	‘9’
MM:	Roviana	<i>sia</i>	‘9’
MM:	Maringe	<i>heva</i>	‘9’ (SERIAL)
SES:	Bugotu	<i>hia</i>	‘9’
SES:	Birao	<i>siu</i>	‘9’
SES:	To’aba’ita	<i>sik^wa</i>	‘9’
SES:	Owa	<i>siwa</i>	‘9’
TM:	Nebao	<i>(wa)hia</i>	‘9’
NCV:	Raga	<i>sivo</i>	‘9’
NCV:	NE Ambae	<i>siwo</i>	‘9’

NCV: Nokuku	<i>ciwa</i>	‘9’
NCV: Nese	<i>(yɛ)sve</i>	‘9’
Mic: Kosraean	<i>ya</i>	‘9’
Mic: Kiribati	<i>rua-, ruai-</i>	‘9’ (with suffixed classifier)
Mic: Pohnpeian	<i>(a)tu</i>	‘9’ (SERIAL)
	<i>tuwa-</i>	‘9’ (with suffixed classifier)
Mic: Woleaian	<i>tiw</i>	‘9’
	<i>tiwo-</i>	‘9’ (with suffixed classifier)
Fij: Wayan	<i>ðiwa</i>	‘9’
Pn: Tongan	<i>hiva</i>	‘9’
Pn: Samoan	<i>iva</i>	‘9’
Pn: Rennellese	<i>iba</i>	‘9’
Pn: Hawaiian	<i>iwa</i>	‘9’
Pn: Mangarevan	<i>iva</i>	‘9’

14.4.3.5 Subtractive numerals 6–9

A few languages with a decimal system form the numerals 7–9 subtractively, i.e. 10–3, 10–2, 10–1. These languages are Yapese, all Eastern Admiralties languages, and Engdewo (TM). A sample is shown in Table 14.5. Final *-p* in Lou, final *-f* in Ponam and final *-h/[u]* in Levei are the default classifier. Just one known language, Levei-Drehet, a pair of E Admiralties dialects, also has a subtractive numeral for 6.

Table 14.5 Languages in which 6–9 are formed subtractively

	Proto Oceanic	Yapese	Lou (Adm)	Ponam (Adm)	Levei (Adm)	Engdewo (TM)
1	(see §14.4.1)	<i>rēb</i>	<i>si-p</i>	<i>si</i>	<i>ōri</i>	<i>ete</i>
2	<i>*rua</i>	<i>[lʰaya]ruw</i>	<i>ruu-p</i>	<i>luo-f</i>	<i>luo</i>	<i>la-lī</i>
3	<i>*tolu</i>	<i>ḍalip</i>	<i>tili-p</i>	<i>talo-f</i>	<i>tolo-h</i>	<i>la-tū</i>
4	<i>*pat[i]</i>	<i>ʔaniḥəy</i>	<i>talot</i>	<i>fā-f</i>	<i>hā-hu</i>	<i>lv-p^w5</i>
5	<i>*lima</i>	<i>lāl</i>	<i>mutan</i>	<i>lime-f</i>	<i>līme</i>	<i>la-məp[u]</i>
6	<i>*onom</i>	<i>nəlʰ</i>	<i>ḥinio-p</i>	<i>wono-f</i>	<i>ja-hā-hu</i>	<i>la-mətimou</i>
7	(minus 3)	<i>mē-ḍalip</i>	<i>ḥane-seli-p</i>	<i>aha-talo-f</i>	<i>ja-dolo-h</i>	<i>tu-m(u)-tū</i>
8	(minus 2)	<i>mē-ruk</i>	<i>ḥane-rue-p</i>	<i>aha-luo-f</i>	<i>ja-lue</i>	<i>tu-m(u)-lī</i>
9	(minus 1)	<i>mē-rēb</i>	<i>ḥane-si-p</i>	<i>aha-se</i>	<i>ja-ʔeri</i>	<i>tu-m(u)-ete</i>
10	<i>*sa-ḥapuluq</i>	<i>rayāy</i>	<i>saḥaul</i>	<i>saḥu-f</i>	<i>rono</i>	<i>nəpmu</i>
Source:		Jensen 1977	Stutzman 1994	Carrier 1981	Smythe 1975	Vaa 2013

14.4.4 Teens

In Oceanic languages that have terms for the teens, i.e. ‘11’, ‘12’, ‘13’ and so on, these usually consist of the term for ‘10’, followed by the term for the digit, regardless of whether either or both are mono- or polymorphemic. In some languages an ‘and’ conjunction intervenes, in others not. No reconstruction of these forms is attempted.

14.4.5 Tens and hundreds

The structure of POc terms for tens and hundreds is discussed in §14.3.1 as part of an examination of the structures in which numeral classifiers were used. Whereas the POc numerals from 1 to 9 each consisted of a single morpheme, the tens and hundreds shown in Table 14.1 were each made up of three morphemes with the structures **X-[ŋa-]puluq* ‘X times 10’ and **X-[ŋa-]Ratus* ‘X times 100’. It emerges that POc *-puluq* ‘unit of 10’ and *-Ratus* ‘unit of 100’ were multiplicative classifiers within the **NML *ŋa* CLF structure inherited from PMP. The structure was clearly at least somewhat productive in POc as it continued on into PPn, where apparently new members had been added to the set of classifiers, e.g. PEOc **-rau* ‘unit of 100’ (§14.6.4).

14.4.5.1 Reconstructing forms for tens and hundreds

The data reveal that in POc **sa=* and **ŋa=* were separate morphemes, but were being merged with the following classifier in some dialects by the time POc broke up, so that **-puluq* was replaced as ‘unit of 10’ by a reflex of either **-ŋapuluq* or **saŋapuluq*, or occasionally **sapuluq*.

Evidence that POc **-ŋa-* was a separate morpheme is seen in §14.3.1, where its Tongan reflexes occur only sporadically with the numerals 2 and 3. Archaic Samoan (Mosel & Hovdhaugen 1992:117) provides similar evidence: *-ŋa-* is missing after *se-* ‘one’ and *lua-* ‘2’ but present from *tolu-* ‘3’ onward:

17)	‘one’	‘2’	‘3’
tens:	<i>se-fulu</i>	<i>lua-fulu</i>	<i>tolu-ŋa-fulu</i>
scores of coconuts:	<i>se-aea</i>	<i>lua-aea</i>	<i>tolu-ŋa-aea</i>

The vast majority of Oceanic decimal systems reflect **sa-ŋa-puluq* and **sa-ŋa-Ratus*, but a small scattering of Western Oceanic languages reflects POc **sa-puluq* ‘10’ and **sa-Ratus* ‘100’, witnessing to the POc separability of **ŋa* and to the possibility that the ancestral forms of ‘10’ and ‘100’ lacked **ŋa*. The two sets below include all known reflexes.

PAN **sa-puluq* ‘10’ (ACD)POc **sa-puluq* ‘unit of 10’

NNG:	Bukawa	<i>sàhú?</i>	‘10’
MM:	Bola	<i>ravulu</i>	‘10’
MM:	Nakanai	<i>savulu (sa)</i>	‘10’ (<i>sa</i> ‘one’)
MM:	Meramera	<i>savulu (tasa)</i>	‘10’ (<i>tasa</i> ‘one’)
MM:	Taiof	<i>(a) safunu</i>	‘10’ (<i>a</i> SINGULAR ARTICLE)
MM:	Torau	<i>saunu</i>	‘10’

cf. also:

MM:	Uruava	<i>avūru</i>	‘10’
MM:	Mono-Alu	<i>lahulu</i>	‘10’
MM:	Teop	<i>(peha) sāvun</i>	‘10’ (<i>peha</i> ‘one’)
Pn:	Samoan	<i>se-fulu</i>	‘10’
Pn:	Sikaiana	<i>se-hui</i>	‘10’

Examples listed under ‘cf. also’ above are ‘false positives’: numerals that look as if they might reflect **sa-puluq* but which on closer examination either probably or certainly don’t. Uruava *avūru* and Mono-Alu *lahulu* could reflect either **sapuluq* or **sanapuluq*.¹⁶ Teop *sāvun* seems to reflect **sapuluq* rather than **sanapuluq*, as Teop does not regularly lose **ŋ* (but this does not explain long *-ā-*)

PMP **sa-Ratus* ‘100’ (ACD)

POc **[sa]Ratus* ‘100’

MM: Nakanai *salatu (sasa)* ‘100’ (*sasa* ‘one’)

cf. also:

Proto NW Solomonic **ratus* ‘100’

MM: Solos *natus* ‘100’

MM: Taiof *natus* ‘100’

MM: Banoni *raus* ‘100’ (methathesis of †*rasu*)

MM: Mono-Alu *lātu* ‘100’

Except for Bukawa, which is vigesimal from 20 upward, the languages that reflect **sa-puluq* treat it as ‘unit of 10’, i.e. they have generalised it to all decades, as Table 14.6 shows.

Evidence that POc **sapuluq* ‘10’ occurred alongside **sanapuluq* also includes the fact that some wMP languages reflect a contrast between cognates of **sa-puluq* ‘10’ and **rua-ŋa-puluq* ‘20’: Javanese *sa=puluh* but *ro=ŋ puluh*; Manggarai *cə=pulu* but *sua m=pulu*. A tempting inference is that **sa-puluq* and **sa-Ratus* were the original POc forms and that **sa-ŋa-puluq* and **sa-ŋa-Ratus* reflect an extension of the pattern of higher decades and centades to ‘10’. This may be so, but we do not know when this extension occurred: before POc or in POc?

At any rate, a large majority of Oceanic reflexes reflect the longer forms. The sets below are each just a sample of their reflexes. Certain groupings—North New Guinea, Papuan Tip and Micronesian—are ill-represented, and an area from Epi Island (NCV) southward embracing Efate, S Vanuatu and New Caledonia is not represented at all, because these languages have adopted a tally system and replaced **sa[ŋa]pulu* by another lexical item (§15.8.2).

Table 14.6 Tens with the structures *sapuluq* + NUMERAL and NUMERAL + *sapuluq*

	‘10’	‘20’	‘30’	‘40’	‘50’
MM: Willaumez					
Bola	<i>ravulu</i>	<i>ravulu rua</i>	<i>ravulu tolu</i>	<i>ravulu va</i>	<i>ravulu lima</i>
Nakanai	<i>savulu sasa</i>	<i>savulu lua</i>	<i>savulu tolu</i>	<i>savulu vā</i>	<i>savulu lima</i>
Meramera	<i>savulu tasa</i>	<i>savulu lua</i>	<i>savulu tolu</i>	<i>savulu hiva</i>	<i>savulu lima</i>
MM: NWS					
Taiof	<i>a safunu</i>	<i>fuan safunu</i>	<i>fopis safunu</i>	<i>fac safunu</i>	<i>ŋim safunu</i>
Torau	<i>saunu</i>	<i>e-rua saunu</i>	<i>[e-pisa]-saunu</i>	<i>e-wati saunu</i>	<i>nima saunu</i>

¹⁶ Uruava has lost both **s* and **ŋ*, while Mono-Alu reflects **s* as *l* and has lost **ŋ*.

PMP **sa ŋa puluq* ‘10’ (ACD)POc **sa ŋa puluq* ‘10’PAdm **saŋafuV* ‘10’

Adm: Mussau	<i>saŋaulu</i>	‘10’
Adm: Nauna	<i>saŋahul</i>	‘10’
Adm: Lou	<i>saŋaul</i>	‘10’
Adm: Loni	<i>(ma)soŋon</i>	‘10’
Adm: Ponam	<i>saŋuf</i>	‘10’
NNG: Amara	<i>soŋoul</i>	‘10’
NNG: Kove	<i>saŋaulu</i>	‘10’
NNG: Maeng	<i>taŋauna (ta)</i>	‘10’ (<i>ta</i> ‘one’)
SJ: Sobei	<i>snafut</i>	‘10’
PT: Tubetube	<i>sanaulu</i>	‘10’
PT: Motu	<i>ahui</i>	‘10’ (combination form)
MM: Bali	<i>zaŋavuluku</i>	‘10’
MM: Tigak	<i>saŋaulu(ŋ)</i>	‘10’
MM: Notsi	<i>səŋəul</i>	‘10’
MM: Barok	<i>saŋaun</i>	‘10’
MM: Label	<i>saŋahulu</i>	‘10’
MM: Nehan	<i>haŋaulu</i>	‘10’
SES: Gela	<i>haŋavulu</i>	‘10’
SES: Lengo	<i>ðəŋavulu</i>	‘10’
SES: Longgu	<i>taŋavulu</i>	‘10’
SES: Lau	<i>taŋafulu</i>	‘10’
SES: Sa’a	<i>taŋahulu</i>	‘10’
SES: Arosi	<i>taŋahuru</i>	‘10’
TM: Buma	<i>saŋaulu</i>	‘10’
NCV: Mota	<i>saŋavul</i>	‘10’
NCV: NE Ambae	<i>haŋavulu</i>	‘10’
NCV: Raga	<i>haŋvulu</i>	‘10’
NCV: Abma	<i>(te)saŋ^wul</i>	‘10’
NCV: Merei	<i>saŋavul</i>	‘10’
NCV: Daakaka	<i>səŋavi</i>	‘10’
NCV: Malua Bay	<i>səŋavəl</i>	‘10’
NCV: Unua	<i>saŋavör</i>	‘10’
Mic: Kosraean	<i>soŋuhul</i>	‘10’
Fij: Wayan	<i>saŋavulu</i>	‘10’
Pn: Tongan	<i>hoŋofulu</i>	‘10’
Pn: Rennellese	<i>aŋahugu</i>	‘10’
Pn: Rapanui	<i>aŋahuru</i>	‘10’

PMP **sa ŋa Ratus* ‘100’ (ACD)POc **sa ŋa Ratus* ‘100’PAdm **saŋatV* ‘100’

Adm: Lou	<i>soŋot</i>	‘100’
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Adm:	Baluan	<i>soŋot</i>	‘100’
Adm:	Ponam	<i>sa-ŋat</i>	‘100’
Adm:	Sori	<i>saŋaʔ</i>	‘100’
Adm:	Bipi	<i>saŋakx</i>	‘100’
PT:	Nimoa (Sabari)	<i>-saŋat</i>	‘100’
PT:	Kilivila	<i>lakatu(tala)</i>	‘100’ (for † <i>lagayatu</i> ; <i>tala</i> ‘one’)
PT:	Muyuw	<i>lakatu(tan)</i>	‘100’ (for † <i>lagayatu</i> ; <i>tan</i> ‘one’)
SES:	Gela	<i>haŋalatu</i>	‘100’
SES:	Lengo	<i>ðeŋetu</i>	‘100’ (for † <i>ðaŋalatu</i>)
SES:	Longgu	<i>taŋalau</i>	‘100’ ¹⁷
SES:	Sa’a	<i>taŋalau</i>	‘100’ ¹⁷
SES:	Owa	<i>taŋarau</i>	‘100’ ¹⁷

PChk **te-ŋa-ratu* ‘1000’ (Bender et al. 2003a)

Mic:	Satawalese	<i>saŋaras</i>	‘1000’
Mic:	Saipan Carolinian	<i>saŋaras</i>	‘1000’
Mic:	Woleaian	<i>seŋezas</i>	‘1000’
Mic:	Sonsorol	<i>ðaŋa|aði</i>	‘1000’
Mic:	Ulithian	<i>seŋarase</i>	‘1000’

The Chuukic (Mic) reflexes of **sa-ŋa-Ratus* above are perhaps borrowed from an unknown source, as they mean ‘1000’ rather than ‘100’, and **R* is more frequently lost than reflected as PMic **r*. However, the change in power may be a result of the practice of counting tens of certain objects, e.g. piles of ten coconuts (see discussion under §14.6.3 below).

14.4.5.2 Early Oceanic developments affecting tens and hundreds

Table 14.6 shows that languages that reflect **sa-puluq* treat it as ‘unit of 10’, i.e. **sa-* has lost its identity as a morpheme and has combined with **-puluq*, generalising it to all decades. The crucial evidence for this comes from languages that have applied the CLF NML construction to tens and hundreds, giving numerals like Nakanai *savulu lua*.

A similar process affecting **ŋa puluq* and other instances of **ŋa* CLF is illustrated for Ponam in Table 14.3 and represents the situation throughout E Admiralty and Micronesian. Here fusion occurred first, so that the reflexes of **-ŋapuluq* and **-ŋaRatus* were treated as unitary classifiers, and the structure NML **ŋa* CLF was thus reinterpreted as NML CLF. It was into this structure that other classifiers were then recruited. This process seems to have occurred in a good many early Oceanic dialects, with critical evidence from languages that then reversed NML CLF to CLF NML. Most such languages are N-C Vanuatu languages of the islands Ambae, south Pentecost, Santo, Ambrym and Malakula. Thus in Araki (south Santo) we find *saŋavulu* ‘10’ but *ŋavul rua* ‘20’, *ŋavul rolu* ‘30’ and so on.

¹⁷ Owens & Lean (2018:157) quote Codrington’s (1885:249–250) assumption that *-lau/-rau* in the Malaita-Makira languages (here Longgu, Sa’a and Owa) is cognate with Fijian and Polynesian reflexes of PCP **rau* ‘100’, and cite Harrison & Jackson (1984:69) in support of it. The sound correspondences among these languages (not accessible to Codrington) show this to be wrong, as Harrison & Jackson recognise. The Malaita-Makira forms are regular reflexes of POc **Ratus* ‘100’. POc **R* is reflected as Longgu/Sa’a *l*. If the Longgu/Sa’a form were cognate with PCP **rau*, the final syllable would be †*-rau*, not attested *-lau*.

Some early dialects took this process a step further and treated their reflex of **sanjapuluq* as the ‘unit of ten’ morpheme. Examples are given in Table 14.7. Those in the upper part of the table, which have the structure NML + *sanjapuluq*, are found in scattered locations. Those in the lower part have the structure *sanjapuluq* + NML. They are also scattered, but particularly well represented in N-C Vanuatu, found in the Torres and Banks Islands, Maewo, north Pentecost and further south in southeast Malakula and Ambrym.¹⁸

Although the evidence above indicates that **sapuluq*, **ŋapuluq* and **sanjapuluq* were each reinterpreted in various languages as a morpheme for ‘unit of 10’, there is nonetheless evidence that the PPn reflex **-fulu* retained its function and that in this respect Polynesian is again a relic area. The Polynesian data are shown in Table 14.8.¹⁹ Ten itself and tens from 30 upward have the *rua ŋapuluq* template, but the term for 20 was PPn **rua-fulu*, with the *rua puluq* template. Why the term for 20 is the odd one out is not clear, but Clark (1999) comments that PPn **rua-fulu* ‘20’ and Samoan *se-fulu* ‘10’ indicate that PPn **fulu* was analysable as ‘unit of 10’, again pointing to POc **puluq* ‘unit of 10’.

Table 14.7 Tens with the structure numeral + *sanjapuluq* or *sanjapuluq* + numeral

		‘10’	‘20’	‘30’	‘40’	‘50’
PT	Dobu	<i>sanau</i>	<i>rua sanau</i>	<i>ʔeto sanau</i>	<i>ata sanau</i>	...
MM	Tiang	<i>səŋiulu</i>	<i>i-wal ə səŋiulu</i>	<i>u-til ə səŋiulu</i>	<i>tal-at ə səŋiulu</i>	<i>pət-limə ə səŋiulu</i>
SES	Lengo	<i>ɔaŋavulu ruka</i>	<i>ɔaŋavulu</i>	<i>tolu ɔaŋavulu</i>	<i>vati ɔaŋavulu</i>	<i>lima ɔaŋavulu</i>
SES	Arosi	<i>taŋahuru rua</i>	<i>taŋahuru</i>	<i>oru taŋahuru</i>	<i>hai taŋahuru</i>	<i>rima taŋahuru</i>
Fij	Bauan	[<i>tini</i>]	<i>rua sanjavulu</i>	<i>tolu sanjavulu</i>	<i>vā sanjavulu</i>	<i>lima sanjavulu</i>
NNG	Lusi	<i>sanjaulu</i>	<i>sanjaulu rua</i>	<i>sanjaulu tolu</i>	<i>sanjaulu paŋe</i>	<i>sanjaulu lima</i>
MM	Vitu	<i>ɔaŋavulu</i>	<i>ɔaŋavuluka rua</i>	<i>ɔaŋavuluka tolu</i>	<i>ɔaŋavuluka</i>	<i>ɔaŋavuluka lima</i>
MM	Notsi	<i>səŋəul</i>	<i>səŋəul a-lue</i>	<i>səŋəul a-tul</i>	<i>səŋəul a-īt</i>	<i>səŋəul a-lima</i>
SES	Kahua	<i>taŋafuru</i>	<i>taŋafuru ne-rua</i>	<i>taŋafuru ne-oru</i>	<i>taŋafuru ne-fei</i>	<i>taŋafuru ne-rima</i>
NCV	Hiw	<i>taŋ^wuy</i>	<i>taŋ^wuy Lə</i>	<i>taŋ^wuy təü</i>	<i>taŋ^wuy vət</i>	<i>taŋ^wuy tənə-üimə</i>
NCV	Mota	<i>sanjavul</i>	<i>sanjavul rua</i>	<i>sanjavul tol</i>	<i>sanjavul vat</i>	<i>sanjavul tove-lima</i>
NCV	Baetora	<i>sanjavulu</i>	<i>sanjavulu rua</i>	<i>sanjavulu tolu</i>	<i>sanjavulu vati</i>	<i>sanjavulu teve-lima</i>
NCV	Raga	<i>haŋvulu</i>	<i>haŋvulu ʔai-rua</i>	<i>haŋvulu ʔai-tolu</i>	<i>haŋvulu ʔai-vasi</i>	<i>haŋvulu ʔai-lima</i>
NCV	Port Vato	<i>səŋavi</i>	<i>səŋavi va luə</i>	<i>səŋavi va sie</i>	<i>səŋavi va vier</i>	<i>səŋavi va lim</i>
NCV	Maskelynes	<i>səŋaviür</i>	<i>səŋaviür vaxa-ru</i>	<i>səŋaviür vaxa-to</i>	<i>səŋaviür vaxa-vat</i>	<i>səŋaviür vaxa-rim</i>

Table 14.8 10–30 in PPn and some Polynesian languages

	10	20	30
PPn (Clark 1999)	<i>*ha-ŋa-fulu</i>	<i>*rua-fulu</i>	<i>*tolu-ŋafulu</i>
Tongan	<i>ho-ŋofulu</i>	<i>uo-fulu</i>	<i>tolu-ŋofulu</i>
Niuean	<i>ho-ŋofulu</i>	<i>ua-fulu</i>	<i>tolu-ŋofulu</i>
Samoan	<i>se-fulu</i>	<i>lua-fulu</i>	<i>tolu-ŋafulu</i>
Niuafu’ou	<i>ho-ŋofulu</i>	<i>lua-fulu, lua-ŋofulu</i>	<i>tolu-ŋofulu</i>

¹⁸ There are a number of languages with this template in SW Malakula where **sanjapulu* is reflected with initial *l-*. This is an irregular reflex of currently unknown origin, and these languages are disregarded here.

¹⁹ But Niuafu’ou numerals are likely to have been influenced by Tongan.

The evidence above thus indicates that reflexes of **puluq*, **sapuluq*, **ɲapuluq* and **saɲapuluq* all served as early Oceanic morphemes meaning ‘unit of 10’. The fact that there are far more reflexes of **ɲapuluq* than of **puluq* or **sapuluq* can be attributed to the fact that **ɲapuluq* played a much larger role in the number system, in 20 to 90, and that it was probably segmented out from the numerals for 30 to 90 at different times and places.

By the time of its break-up, i.e. the point at which innovations no longer affected all its dialects, POc was spoken over an area that included at least the Bismarck Archipelago and probably Buka, Bougainville and islands further to the southeast. Inevitably, there were dialect differences—differences that led to its split into Oceanic subgroups—and each of the four morphemes occurred in a different dialect range without impairing mutual intelligibility. There is one intriguing feature in the distribution of reflexes of these morphemes. N-C Vanuatu languages reflecting **saɲapuluq* ‘unit of ten’ almost correspond areally with those reflecting **ɲapuluq*, i.e. N-C Vanuatu numeral systems in this respect form a patchwork.

14.4.6 Thousands and above

The reconstructed PMP term for a thousand is **Ribu* (ACD). On this basis a POc term †**Ri(p,b)u* might be expected, but the only candidate reflexes are Tolai (MM) *arip* (also borrowed into various New Ireland languages) and Kiribati (Mic) *te-rebu* (where *te-* is an article). But the regular Tolai reflex of POc †**Ri(p,b)u* would be †*ribu* or †*rivu*, and the regular Kiribati reflex †*ibu* or †*iu*. Thus neither is a directly inherited reflex of PMP **Ribu*.

Nonetheless languages in many different parts of Oceania have lexical items meaning ‘thousand’ and higher powers of ten (see §14.1.2). Most of these are local innovations with only a limited geographic distribution. Some, at least, were originally terms for ‘some’, ‘many’ or ‘all’ that have been co-opted into the numeral system, illustrated by the examples below.

POc **udolu* ‘all, whole’ (PEOc: Pawley 1972)

NNG: Bariai	<i>do-dol</i>	‘whole’
NNG: Poeng	<i>(ka)rolu</i>	‘all’
NNG: Wogeo	<i>udol</i>	‘1000’ (Ross, fieldnotes), ‘200’ (Exter 2010)
NNG: Kairiru	<i>wurol</i>	‘100’
SES: Bugotu	<i>udolu</i>	‘all, whole, complete’
SES: Gela	<i>udolu</i>	‘all, whole, complete’
NCV: Mwerlap	<i>(mel)dol</i>	‘100’
NCV: Mota	<i>nol</i>	‘100’
NCV: Maewo	<i>odolu</i>	‘100’
NCV: Raga	<i>vudolu(a)</i>	‘100’
NCV: C Maewo	<i>(me)dolu</i>	‘100’
NCV: Apma	<i>wudelu</i>	‘100’
NCV: NE Ambae	<i>vudohue</i>	‘100’
Fij: Wayan	<i>udolu</i>	‘1000’
Fij: Bauan	<i>udolu</i>	‘1000’
Pn: Tongan	<i>(kita)utolu</i>	‘we INCLUSIVE’ (<i>-utolu</i> pronominal plural suffix)

POc **tari* ‘some’, ‘many, all’ (Proto Northern New Hebrides/Banks: Pawley 1972)

NNG: Ali	<i>tar-tar</i>	‘all’
NNG: Sissano	<i>tar-tar</i>	‘many’
PT: Sinaugoro	<i>tari</i>	‘some’
MM: Patpatar	<i>tari</i>	‘some’
SES: Arosi	<i>(niu) tari</i>	‘a million coconuts’ (cf Table 14.9)
NCV: Toga	<i>tɛr</i>	‘1000’
NCV: Vurës	<i>tar</i>	‘1000’
NCV: Mwotlap	<i>tɛy</i>	‘1000’
NCV: Mota	<i>tar</i>	‘1000’
NCV: Mwerlap	<i>tar</i>	‘1000’
NCV: Suñwadaga	<i>tari</i>	‘1000’
NCV: NE Ambae	<i>teri</i>	‘1000’
NCV: Raga	<i>tari</i>	‘1000’
NCV: C Maewo	<i>tari</i>	‘1000’
NCV: Ske	<i>(a)tar</i>	‘1000’
NCV: Sa	<i>tar</i>	‘1000’
NCV: Piamatsina	<i>tar</i>	‘1000’
NCV: Tangoa	<i>taɾi</i>	‘1000’
NCV: Mañea	<i>tar[a]</i>	‘1000’
NCV: Avava	<i>(a)tar</i>	‘1000’

PMP **balu* ‘some, some more’ (ACD)

POc **palu* ‘some, a few’ (PEOc: Pawley 1972)

NNG: Poeng	<i>palu</i>	‘some’
NNG: Uvol	<i>hɛl</i>	‘some’
NNG: Manam	<i>alu</i>	‘some; others’
SES: Gela	<i>balu</i>	‘some, other’ (for † <i>valu</i>)
SES: ’Are’are	<i>haru</i>	‘a few, some, several’
SES: Sa’s	<i>halu</i>	‘some’
SES: Arosi	<i>haru</i>	‘some, certain’
NCV: Mota	<i>valu</i>	‘every, each’ (Pawley 1972)
NCV: Maewo	<i>valu</i>	‘1000’
Pn: Niuean	<i>falu</i>	‘some’ (Pawley 1972)

14.4.7 The interrogative numeral

The interrogative numeral **pica* ‘how many?’ is widely reflected in Oceanic. Typically its reflex in a given language occurs in any slot where a numeral may occur in that language. This means, among other things, that in a language with numeral classifiers the reflex of **pica* may also cooccur with a classifier.

PAn **pijax* ‘how many? how much?’ (ACD)

POc **pica* ‘how many? how much?’

Adm: Mussau	<i>(ya)isa</i>	‘how many?’
Adm: Seimat	<i>hil</i>	‘how many?’

Adm:	Wuvulu	<i>fixa</i>	‘how many?’
SJ:	Bongo	<i>fis-fis</i>	‘how many?’
NNG:	Mangap	<i>pīzi</i>	‘how many?’
NNG:	Maleu	<i>pia</i>	‘how many?’
NNG:	Poeng	<i>pia</i>	‘how many?’
NNG:	Gedaged	<i>pi</i>	‘how many?’
NNG:	Manam	<i>ira</i>	‘how many?, how much?’
NNG:	Numbami	<i>wisa</i>	‘how many?’
PT:	Sudest	<i>-vie</i>	‘how many?’
PT:	Kilivila	<i>-vila</i>	‘how many?’
PT:	Are	<i>biya(mo)</i>	‘how many?’
PT:	Saliba	<i>hisa</i>	‘how many?’
PT:	Magori	<i>vika</i>	‘how many?’
PT:	Sinaugoro	<i>vira</i>	‘how many?’
PT:	Motu	<i>hida</i>	‘how many?’
PT:	E Mekeo	<i>pika</i>	‘how many?’
MM:	Vitu	<i>ōiva</i>	‘how many?’ (metathesis)
MM:	Nakanai	<i>-riva</i>	‘how many?, how much?’ (metathesis)
MM:	Tigak	<i>(po)isa-n</i>	‘how many?’
MM:	Tabar	<i>visa</i>	‘how many?’
MM:	Sursurunga	<i>is</i>	‘how many?’
MM:	Tolai	<i>(ai)via</i>	‘how many?, how much?’
MM:	Nehan	<i>(to)wiha</i>	‘how many?’
MM:	Halia	<i>(so)his</i>	‘how many?’
MM:	Babatana	<i>(ava)via</i>	‘how many?’
MM:	Roviana	<i>(ka)visa</i>	‘how many?’
MM:	Blablanga	<i>(n)iha</i>	‘how many?’
SES:	Birao	<i>visa</i>	‘how many?’
SES:	To’aba’ita	<i>fita</i>	‘how many?, how much?’
SES:	Arosi	<i>siha</i>	‘how many?’ (metathesis)
NCV:	Mota	<i>visa</i>	‘how many?’
NCV:	Araki	<i>(mo)visa</i>	‘how many?’
NCV:	C Maewo	<i>visa</i>	‘how many?’
NCV:	Raga	<i>(xai)fiha</i>	‘how many?’
NCV:	Axamb	<i>(ŋa)vis</i>	‘how many?’
NCV:	Paamese	<i>e-his</i>	‘how many?’
SV:	Anejom	<i>(e)heθ</i>	‘how many?’
Mic:	Kiribati	<i>ira-</i>	‘how many?’
Mic:	Chuukese	<i>fita-</i>	‘how many?’ (used with suffixed counting classifiers)
Mic:	Woleaian	<i>fita-</i>	‘how many? a few, some’
Fij:	Wayan	<i>viða</i>	‘how many?, how much?’
Pn:	Tongan	<i>fiha</i>	‘how many?, how much?’
Pn:	Samoan	<i>fia</i>	‘be how many?; be how much?’
Pn:	Tuvaluan	<i>fia</i>	‘how many?’
		<i>(toko)fia</i>	‘how many? (of humans)’

Pn:	Rennellese	<i>hia</i>	‘how many?, how much?’
Pn:	Hawaiian	<i>-hia</i>	‘how many?, how much?’
Pn:	Maori	<i>hia ~ fia</i>	‘how many?’

14.5 Reconstructing non-cardinal numerals

As well as the cardinal functions described in §14.4, numerals perform a number of other functions:

- *ordinals* specify membership in a sequence, e.g. ‘the third coconut’;
- *frequentative adverbs* specify how many times some event occurs, e.g. ‘twice’, ‘three times’;
- *distributive adverbials* to specify the size of groups, e.g. ‘three at a time’, ‘three by three’.

14.5.1 Ordinals

Typically Oceanic languages have a dedicated term for ‘first’ that means something like ‘at the front’. No term is reconstructable.

Descriptions of various Oceanic languages tell us that they do not have dedicated ordinal numerals, but they do have a strategy for expressing position in a sequence. The most common strategy is to express ‘the third house’ as something like ‘the (number) three of the houses’. ‘Houses’ is thus the possessor of the numeral. In consequence many Oceanic languages form an ordinal by attaching a possessor suffix to the numeral, usually a suffix reflecting POc *-*ñā* ‘P:3SG’. POc NML-**ñā* is thus the schematic reconstruction for an ordinal. That is, POc ordinals were **rua-ñā* ‘2nd’, **tolu-ñā* ‘3rd’ and so on. Typically, if a cardinal numeral occurs with a classifier or a fossil classifier, this is retained in the ordinal form, as the listing below shows.

POc NUMERAL-**ñā* ‘ordinal numeral form’

Adm:	Mussau	<i>[k,y]a-NML-na</i>
PT:	Kilivila	CLF-NML- <i>la</i>
PT:	Muyuw	<i>k^wa-NML-n</i>
PT:	Gumawana	<i>ai-NML-[i]na</i>
PT:	Dobu	<i>ʔe-NML-na</i>
PT:	Bunama	<i>ʔe-NML-na</i>
MM:	Nakanai	<i>i-NML-la</i>
MM:	Siar	NML- <i>n</i>
SES:	Bugotu	NML- <i>ñā</i>
SES:	Gela	NML- <i>na</i>
SES:	Talise	NML- <i>na</i>
SES:	Lengo	NML- <i>e</i>
SES:	Longgu	NML- <i>na</i>
SES:	To’aba’ita	NML- <i>na</i>
SES:	Kwaio	NML- <i>na</i>
SES:	Arosi	NML- <i>na</i>

SES: Sa'a	NML- <i>na</i>	
NCV: Raga	<i>yai</i> -NML- <i>na</i>	
NCV: Daakaka	NML- <i>an</i>	
NCV: Merei	NML- <i>i-na</i>	
NCV: Tamambo	NML- <i>na</i>	
NCV: Ma'eva	<i>a</i> -NML- <i>na</i>	(applies to 2-5)
	NML- <i>na</i>	(applies to 3 upward)
NCV: Neve'ei	NML- <i>n</i>	(applies to 2-5)

In some languages of Malakula the alienable possession structure is used instead. The numeral is followed by a reflex of **na-ña*, which Pearce (2015) translates as 'of it' (**na*-possessive classifier; *-*ña* p:3sg).

NCV: Tirax	NML <i>na-n</i>	
NCV: Avava	<i>itV</i> -NML <i>nan</i>	applies to 2-5 (etymology of <i>itV</i> - is not known)
	NML <i>nan</i>	applies to 6 upward
NCV: Neve'ei	NML- <i>nen</i> (NP)	applies to 6 upward
NCV: Unua	NML <i>nen</i>	

The corresponding structure occurs in Kove (NNG):

- 18) Kove
vojivoŋi tolu ai-a
 morning three P:3SG-PCL
 'the third morning' (Sato 2012:197)

The possessive noun phrase strategy for expressing ordinals continues into Fijian and Polynesian languages, in spite of the fact that Polynesian possessive morphosyntax is different from most non-Polynesian Oceanic languages. The Bauan in (19a), for example, means more literally 'the (number) 3 of the children'.

- 19) a. Bauan Fijian
na ke-na ika-tolu ni ŋone
 ART PCL-3SG ORDINAL-3 PREP child
 'the third child' (Wilson 1982:103)
- b. Tongan (Pn)
h-o-no tolu ʔo e himi
 ART-PCL- 3SG three PCL ART hymn
 'the third hymn' (Wilson 1982:103)
- b. Samoan (Pn)
le potu-moe l-o-na lua
 ART room-sleep ART-PCL-3SG two
 'the second bedroom' (Mosel & Hovdhaugen 1992:118)
- c. Takuu (Pn)
te toru nā aso
 ART:SG three ART:PL day
 'the third day' (Moyle 2011:35)

Alternatively, in languages across much of Oceania an ordinal numeral is formed by attaching the POc causative prefix **pa[ka]-* to the numeral, sometimes with the 3SG possessor suffix, sometimes not. What function the causative prefix plays here is unclear. Often there is also a 3SG possessor suffix as in the cognate set above. Where there is none, presumably an alienable possession structure is used.

POc **pa[ka]-*NUMERAL-**ña* ‘ordinal numeral form’

PT:	Molima	<i>ve-NML-na</i>	
PT:	Gapapaiwa	<i>vi-NML-[i]na</i>	
PT:	Tawala	<i>wi-NML-na</i>	
PT:	Saliba	<i>he-NML-3SG/PL</i>	
PT:	Hula	<i>va-NML-na</i>	
PT:	Sinaugoro	<i>vaya-NML-na</i>	
MM:	Bulu	<i>vaya-NML</i>	
MM:	Nakanai	<i>vaka-NML</i>	
MM:	Tungak	<i>va-NML (i N)</i>	
MM:	Kara	<i>fa-NML-āna</i>	
MM:	Notsi	<i>(N nan) a-NML</i>	(<i>nan</i> ART; <i>a-</i> CAUSATIVE)
MM:	Patpatar	<i>ha-NML</i>	
MM:	Tolai	<i>va-NML-na</i>	
MM:	Nehan	<i>ua-NML</i>	
MM:	Teop	<i>vā-NML</i>	
MM:	Papapana	<i>va-NML</i>	
MM:	Banoni	<i>va-NML</i>	
MM:	Babatana	<i>va-NML-a</i>	
MM:	Kokota	<i>fa-NML</i>	
MM:	Maringe	<i>fa-NML</i>	
NCV:	Mwotlap	<i>ve-NML</i>	
NCV:	Araki	<i>ha-NML</i>	
NCV:	C Maewo	<i>vaya-NML-i</i>	
NCal:	Cèmuhi	<i>fa-NML</i>	
NCal:	Tinrin	<i>fa-NML</i>	

Because the ordinal is treated as possessum, it is a nominal. In the cognate sets above this is visible in the addition of the 3SG possessor suffix, but a number of languages treat an ordinal as a verb (see (13) and (14) in §14.4) and add nominalising morphology. The W Central Papuan languages Motu, Lala, Roro and Mekeo and the New Georgia languages Kubokota, Roviana, Ughele, Hoava and Vangunu all add a nominaliser to a form with a causative prefix (see above). The former add the instrumental nominalising prefix *i-* (< POc **i-*), the latter the general nominalising infix *<in>* (< POc **<in>*). N-C Vanuatu languages had a variety of nominalising morphemes.

PT:	Lala	<i>i-va-NML-na</i>	<i>i-</i> INSTRUMENTAL NOM; <i>va-</i> CAUS; <i>-na</i> P:3S
MM:	Kubokota	<i>v<in>a-NML</i>	<i><in></i> NOM; <i>va-</i> CAUS
NCV:	NE Ambae	<i>kai-NML-ki</i>	<i>kai-</i> CLF (fossil); <i>-ki</i> NOM
NCV:	Apma	<i>NML-an</i>	<i>-an</i> NOM
NCV:	Uripiv	<i>NML-Vn</i>	<i>-Vn</i> NOM

NCV: Nahavaq *naʔay-NML-yen naʔay- CLF (fossil); -yen NOM*

A further POc ordinal form, **i-ka*,²⁰ is reconstructable on the basis of both external reflexes and the Fijian reflexes below. PMP and POc **i-* were clearly nominalising affixes (vol 1:28–29), and the Bauan example cited in (19a) indicates that it still is a nominalisation occupying the possessum slot in the possessive structure. This reconstruction raises questions. Why are the Oceanic reflexes confined to Remote Oceanic? Perhaps because other forms of nominalisation, exemplified above, replaced them. The Micronesian forms have prefixes that in the modern languages are causative. Do they reflect a reduced form of POc **paka-* and thus belong in the cognate set above? One cannot tell.

PAn **Si-ka*-NUMERAL ‘prefix for ordinal numerals’ (ACD)

PMP **i-ka*-NUMERAL ‘prefix for ordinal numerals’ (ACD)

POc **i-ka*-NUMERAL ‘prefix for ordinal numerals’

NCV: Namakir	<i>ke</i> -NML
NCV: Nguna	<i>ke</i> -NML
NCV: Lelepa	<i>ke</i> -NML
Mic: Kiribati	<i>ka</i> -NML (<i>ni</i> N) (<i>ni</i> ‘of’)
Mic: Mokilese	<i>ka</i> -NML-CLF
Mic: Woleaian	<i>xa/xe</i> -NML-CLF- <i>r</i> (<i>-r</i> P:3SG)
Mic: Sonsorol	<i>xa</i> -NML- <i>ar</i> (<i>-ar</i> P:3SG)
Fij: Nadrogā	<i>ka</i> -NML
Fij: Wayan	<i>ikā</i> -NML
Fij: Bauan	<i>ika</i> -NML
Fij: Boumā	<i>iʔa</i> -NML
Pn: Rarotongan	<i>kā</i> -NML

A disturbing aspect of these reconstructions is that it is difficult to imagine that POc had three structures for forming ordinals, namely **NML-ñā*, **pa[ka]-NML-ñā* and **i-ka*-NML. There are formal overlaps among them, but they cannot be reduced to just one or two reconstructions without a good deal of speculative reasoning.

14.5.2 Frequentative adverbs

The reconstruction of the POc frequentative adverb form **pa[ka]-NML* is straightforward, as it has cognates in South Halmahera languages (Buli *vai*-NML; Taba *ha*-NML), strongly implying that the form is reconstructable to PEMP. Blust (ACD) reconstructs PAn **maka-lima* ‘5 times’ etc. This appears to have been an actor voice verb ‘do 5 times’, the stem form of which would have been PAn **paka-lima*. The morphological structure thus has a long history.

The cognate set is patchy. There are areas, especially in Western Oceanic, where the structure is not reported at all. In languages with numeral classifiers a classifier meaning ‘times’ has displaced the POc structure (§14.1.1). In many other languages it has been replaced by a periphrastic structure like English *three times*, and ‘times’ has sometimes

²⁰ The ACD reconstructs POc **ka-* as an ordinal prefix, citing the Kiribati, Woleaian and Bauan reflexes above, with initial *i-* omitted from the Bauan reflex.

become a classifier (§14.1.1). The choice of term for ‘time, occasion’ in these languages varies from language to language, and is evidently the outcome of local innovation. In N-C Vanuatu languages, on the other hand, retention of the POc structure is the general rule.

PMP **paka-X* (*X* = NUMERAL) ‘*X* times’

POc **pa[ka]-X* (*X* = NUMERAL) ‘*X* times’ (frequentative adverb; e.g. **pa[ka]-lima* ‘5 times’)

NNG: Bariai	<i>pa</i> -NML	
NNG: Mbula	<i>pa</i> NML	
NNG: Maeng	<i>pa</i> NML	
PT: Kilivila	<i>siva</i> -NML	
PT: Sinaugoro	<i>vaya</i> -NML	
MM: Bulu	<i>vaya</i> -NML	
MM: Kara	<i>fā</i> -NML	
MM: Patpatar	<i>ha</i> -NML	
MM: Tangga	<i>[fa]fa</i> -NML	
MM: Nehan	<i>ua</i> -NML	
SES: Oroha	<i>haʔa</i> -NML	
SES: Arosi	<i>haʔa</i> -NML	
SES: Owa	<i>faya-e</i> -NML	
TM: Buma	<i>wa</i> -NML	
NCV: Toga	<i>vaya</i> -NML	
NCV: Mwotlap	<i>vay</i> -NML	
NCV: C Maewo	<i>vaya</i> -NML	
NCV: NE Ambae	<i>vaka</i> -NML	
NCV: Apma	<i>va</i> -NML	
NCV: Araki	<i>ʔaya</i> -NML	
NCV: Tamambo	<i>vaya</i> -NML	
NCV: Daakaka	<i>vya</i> NML	
NCV: Paamese	<i>hā</i> -NML	
NCV: Nese	<i>vaya</i> -NML	
NCV: Uripiv	<i>va</i> -NML	
NCV: Maskelynes	<i>vaha</i> -NML	
NCV: Aulua	<i>baka</i> -NML	
NCV: Baki	<i>va</i> -NML	
NCV: Namakir	<i>baka</i> -NML	
Mic: Mokilese	<i>pak</i> NML-w	
Mic: Sonsorol	<i>fā</i> -NML	
Mic: Ulithian	<i>xa</i> -NML	
Fij: Wayan	<i>vaka</i> -NML	
Fij: Nadrogā	<i>vā</i> -NML	
Fij: Bauan	<i>vaka</i> -NML	
Pn: Samoan	<i>faʔa</i> -NML	
Pn: Rennellese	<i>haka</i> -NML	‘do <i>X</i> times’

14.5.3 Distributive numerals

POc distributive numerals ('two by two; two at a time; two each' etc) were formed by full reduplication. Typically, where a prefix has become part of the corresponding cardinal numeral, the prefix does not form part of the reduplicand (Nakanai, Bugotu, Vurës, Tamambo, NE Ambae, Raga) but there are exceptions to this (Tungak, Uripiv). In a few languages reduplication is now incomplete or irregular: e.g. Nakanai CV-CV..., but *i-lima-lima* '5 by 5'.

PAn **X-X* (*X* = NUMERAL) '*X* by *X*; *X* at a time; *X* each' (e.g. **duSa-duSa* '2 by 2' etc)

POc **X-X* (*X* = NUMERAL) '*X* by *X*; *X* at a time; *X* each' (e.g. **lima-lima* '5 by 5' etc)

NNG: Manam	<i>rua-rua</i>	'two at a time'
	<i>wati-wati</i>	'four each, four at a time'
NNG: Kairiru	<i>tai tai</i>	'one at a time'
	<i>tuol tuol</i>	'in threes; three at a time'
NNG: Mangap	<i>lu-a-lu</i>	'two by two'
	<i>tol-a-tol</i>	'three by three'
NNG: Maleu	<i>lua-lua</i>	'two by two'
NNG: Yabem	<i>teleà?-teleà?</i>	'three by three'
NNG: Numbami	<i>lua-lua</i>	'two at a time'
MM: Nakanai	<i>ila-lua</i>	'two by two' (<i>ilua</i> '2')
	<i>iva-vā</i>	'four by four' (<i>ivā</i> '4')
MM: Tungak	<i>poŋ-poŋua</i>	'two by two' (<i>po-ŋua</i> '2')
MM: Patpatar	<i>lim-liman na mār</i>	'500 each' (<i>na</i> LIGATURE; <i>mār</i> '100')
MM: Teop	<i>bu-buaku</i>	'two each' (<i>buaku</i> '2')
SES: Bugotu	<i>erua-rua</i>	'two at a time, two apiece'
SES: Gela	<i>vati-vati</i>	'four each'
SES: Arosi	<i>rua-rua</i>	'two at a time, two by two'
NCV: Mota	<i>rua-rua</i>	'two and two, by twos; double'
NCV: Tamambo	<i>atolu-tolu-yi</i>	'three at a time, three each'
NCV: NE Ambae	<i>kai-tolu-tolu</i>	'three at a time' (<i>kai-tolu</i> '3')
NCV: C Maewo	<i>tewa-tewa</i>	'one by one, one apiece'
	<i>rua-rua</i>	'two at a time, two apiece, by twos, double'
NCV: Raga	<i>yai-ru-rua-i</i>	'by twos'
NCV: Daakaka	<i>lo-lo</i>	'in pairs'
NCV: Paamese	<i>he-lua-lu</i>	'in pairs, two by two (<i>he-</i> s:3s)'
NCV: Uripiv	<i>er-eru-i</i>	'two each'
NCV: Maskelynes	<i>lo-rim-rim</i>	'five each'
Fij: Wayan	<i>tolu-tolu</i>	'in threes, as a threesome, group of threes, all three'

PPn had a dedicated distributive morpheme, **taki-*, prefixed to the numeral. Cognate with this is Wayan Fijian *teki-*, also prefixed to numerals and quantity words but meaning 'divided into X parts'. This perhaps reflects the function of PCP **taki-*, but there is insufficient evidence to confirm this.

PPn **taki-* distributive prefix (Pawley 1970; POLLEX)

Pn:	Tongan	<i>taki-</i>	distributive prefix
Pn:	Niuean	<i>taki-</i>	distributive prefix
Pn:	Samoaan	<i>taʔi-</i>	distributive prefix
Pn:	E Futunan	<i>taki-</i>	distributive prefix
Pn:	Kʻmarangi	<i>dagi-</i>	‘each, each of’
Pn:	Rennellese	<i>taki</i>	‘be different, have or be separate, each to have or be’
Pn:	Takuu	<i>tiki-</i>	‘each’ (distributive prefix)
Pn:	Tikopia	<i>taki-</i>	distributive particle
Pn:	Pukapukan	<i>taki</i>	distributive particle with numerals
Pn:	Rarotongan	<i>taki-</i>	distributive prefix
Pn:	Tuamotuan	<i>taki-</i>	distributive prefix
Pn:	Hawaiian	<i>kaʔi-</i>	distributive prefix
Pn:	Tahitian	<i>taʔi-</i>	distributive prefix
Pn:	Maori	<i>taki-</i>	distributive prefix

14.6 Reconstructing POc numeral classifiers

Numeral classifiers and their semantic classes are described in §14.1.1. If it is assumed that all languages have mensural classifiers, a language’s classifier structure is the one in which a mensural classifier occurs. This definition serves well, except in certain Polynesian languages, where there is more than one classifier structure. These languages retain the pre-POc NML **ŋa* CLF structure (§14.3ff) in limited contexts alongside the more recent CLF-NML structure, implying that POc also did so. In the reconstructions below, a hyphen in front of the classifier indicates that it occurred in the POc NML[*-ŋa]-CLF structure; a hyphen after the classifier indicates that it occurred in the POc CLF NML structure. Some classifiers evidently occurred in both constructions.

The question to be answered in reconstructing a POc classifier is, Is there evidence of shared inheritance or are we looking at parallel innovation, i.e. the independent but parallel recruitment of cognate nouns into the classifier category? Two characteristics of a cognate set can hint that it is inherited from POc.

The stronger hint is semantic **bleaching**. A classifier is an outcome of grammaticalisation, usually of a noun. Two things happen during grammaticalisation: the morpheme increases in bondedness (e.g. becomes an affix) and it undergoes semantic bleaching, i.e. its sense becomes increasingly general. If the same semantic bleaching occurs in two Oceanic subgroups or in one Oceanic and one non-Oceanic subgroup, then this is evidence that the bleaching was already present in POc. The POc classifier **-pua/ *pua-* ‘default inanimate; round object’, derived from **puaq* ‘fruit’, represents extreme bleaching (§14.6.1).

The second characteristic is that if some members of the cognate set occur as functionless **fossilised** prefixes to lower simple numerals (Map 14.2), then that cognate set is likely to be old, and probably of POc antiquity. Reflexes of **pua-* now form inseparable prefixes in a number of languages.

Reconstructions sometimes require data from a non-Oceanic language, and the latter are included in some of the cognate sets below.²¹ A datum from one of these languages is only cited if it is glossed as a classifier in the source.

The vast majority of classifier cognate sets in Oceanic languages display neither of the two characteristics and are very probably more recently grammaticalised recruits. This raises a further question. Why have numeral classifier classes blossomed in a few Oceanic subgroups and (almost) vanished from others? Part of the answer may be contact, as bilingualism can transfer semantic patterns from language to language, but there is very little substantive Oceanic evidence about this, positive or negative.

14.6.1 Sortal classifiers

Sortal classifiers are not evenly distributed across Oceanic. Quite elaborate systems are found in Admiralties, Kilivila and Sudest (PT), New Caledonia, Micronesian, Tongic (Pn) and NPn languages. The odd sortal classifier survives in other Papuan Tip languages, in Solos and Banoni (MM, Bougainville) and in a few Malaita-Makira (SES) languages. Fossils are found in numerous Meso-Melanesian and N-C Vanuatu languages, indicating that at least certain basic classifiers occurred there once upon a time. No sign of sortal classifiers is found in North New Guinea languages.

The cognate set supporting POc **pua* ‘round object; default inanimate’ shows both bleaching and fossilisation. The default classifier is used where no classifier with a more specific meaning applies. This is the ultimate case of semantic bleaching in a classifier. POc **pua* was derived from the term for ‘fruit’, then bleached to denote any roundish object, and finally bleached further to become the default inanimate classifier. Its Hawu and Buli cognates are glossed as the classifier for a disparate collection of inanimate objects; it is thus the default classifier in these languages. It also satisfies the fossil criterion: almost all its reflexes in Meso-Melanesian languages and all its N-C Vanuatu reflexes are fossils that are today part of the numeral.

The term ‘default’ is used below for a classifier that is used where no other classifier is appropriate or the speaker does not recall the appropriate classifier. Some sources call this the ‘general’ classifier .

cMP:	Hawu	<i>wuə</i> SG, <i>buə</i> PL	‘round objects, buildings, their beams, furniture, boats, baskets, pots, locations, weeks, years’
cMP:	Kambera	<i>wua</i> , <i>mbua</i>	‘spherical objects’
cMP:	Tetun Fehan	<i>fuan</i>	‘fruit, heart, whole roundish objects’
SH:	Buli	<i>pu</i> SG, <i>pi</i> - PL	‘objects, 24-hour days, villages, weights, measures’
CB:	Ambai	<i>bo-</i>	‘inanimate’
POc <i>*pua</i> ‘default inanimate; round object’ (POc <i>*pua-</i> ‘fruit’; vol.3:115–116) (PEOc <i>*pua-qi</i> , <i>*po-qi</i> ‘spherical classifier’; Pawley 1972:59)			
Adm:	Mussau	<i>-va</i>	default (<i>-va</i> with 1; zero with other numerals)

²¹ Data sources are: for Hawu, Walker (1982); for Kambera, Klamer (2010); for Lamaholot, Nishiyama & Kelen (2007); for Rongga, Arka (2008); for Buru, Grimes (1991); for Fehan Tetun, van Klinken (1999); for Nauete, Schapper & Hammarström (2013); for Buli, Maan (1951); for Taba, Bowden (2001); for Ambai, Silzer (1983).

PAdm *-(ə)fu default

Adm: Wuvulu	<i>-ua</i>	default (with tens, hundreds, thousands)
Adm: Lou	<i>-əp</i>	default
Adm: Penchal	<i>-p</i>	default
Adm: Sivisa Titan	<i>-o, -∅</i>	default
Adm: Ponam	<i>-f</i>	default (fossilised)
Adm: Kele	<i>-[o]h</i>	'round objects'; default
Adm: Kurti	<i>-eh</i>	default
Adm: Lele	<i>-o</i>	default
Adm: Loniū	<i>-h</i>	default
Adm: Levei-Tulu	<i>-ʔep</i>	'tree, canoe, vehicle, stick; sprout; clump'
Adm: Sori	<i>-p</i>	default
Adm: Bipi	<i>-h</i>	default
MM: Tungak	<i>po-</i>	FOSSIL
MM: Tiang	<i>u-</i>	FOSSIL
MM: E Kara	<i>pa-</i>	FOSSIL
MM: Nalik	<i>u-, o-</i>	FOSSIL
MM: Tabar	<i>vo-</i>	FOSSIL
MM: Lamusong	<i>o-</i>	FOSSIL
MM: Kandas	<i>u-</i>	FOSSIL
MM: Petats	<i>ho-, hue-</i>	FOSSIL
MM: Halia	<i>huo-</i>	FOSSIL
MM: Taiof	<i>fo-</i>	FOSSIL
MM: Banoni	<i>va-</i>	'round objects'
MM: Maringe	<i>fa-</i>	FOSSIL
SES: To'aba'ita	<i>fV-</i>	'small round plant products (fruit, nuts, tubers, corms, bulbs and more)'
SES: Arosi	<i>hua</i>	'round objects'
TM: Äiwoo	<i>u-, vi-</i>	FOSSIL
TM: Tanibili	<i>bu-, bo-</i>	FOSSIL
NCV: Toga	<i>va-</i>	FOSSIL
NCV: Hiw	<i>vi-</i>	FOSSIL
NCV: Vera'a	<i>fɔ-</i>	FOSSIL
NCV: Lemerig	<i>vɔ-</i>	FOSSIL
NCV: Mwotlap	<i>vV-</i>	FOSSIL

Proto Far North New Caledonia *p^wa- 'round object; time'

NCal: Nyelâyu	<i>p^wa-</i>	'inanimate; time'
NCal: Nêlêmwa	<i>p^wa-</i>	'round object'
NCal: Kumak	<i>p^wa-</i>	'round object; day'

PMic *-ua default numeral classifier (Jackson 1986:209)

Mic: Kosraean	<i>-u</i>	DEFAULT
Mic: Kiribati	<i>-ua</i>	'fruit'; DEFAULT
Mic: Marshallese	<i>-u</i>	DEFAULT (fossil in <i>cilu</i> '3'; Harrison & Jackson 1984)
Mic: Mokilese	<i>-w</i>	DEFAULT INANIMATE

Mic:	Chuukese	-ew	DEFAULT
Mic:	Carolinian	-uw	DEFAULT INANIMATE
Mic:	Woleaian	-uw	DEFAULT
Mic:	Ulithian	-wo	DEFAULT

PPn *-fua ‘10 tens or scores of certain food items’ (?) (see §14.6.9)

The cognate set supporting POc *kai also displays bleaching and fossilisation. All reflexes are consistent with the reconstruction *kai except those in the Central Papuan languages Aroma, Hula, Balawaia and Motu, which support †*kau-. The POc noun corresponding to this classifier was *kayu ‘tree’, with reflexes in -ai and -au. The Central Papuan languages also have noun forms in -au. An economic explanation of the classifier forms is that they have been reshaped to line up with the noun forms. Another set of exceptions is provided by the Micronesian reflexes, which require the reconstruction of two PMic forms: *-ai ‘long slender object’ and *-kai ‘plant, tree, stick’. I take *-ai to reflect the POc classifier and *kai to be a more recent formation based on PMic *kayu ‘wood, pole’.

POc *kai- is widely reflected as a fossilised numeral prefix, suggesting that it became the default inanimate classifier in place of *pua- in parts of Oceanic. Attributive numeral forms in some languages take a prefix reflecting POc *ka-, but this almost certainly does not reflect the POc classifier *kai-. There is just one instance where the attributive prefix clearly reflects *kai-, namely NE Ambae kai-.²² All other attributives reflect *ka- (§14.4) and this is reason enough to reconstruct attributive *ka -and classifier *kai- separately, and to assume that the two became conflated in NE Ambae.

cMP:	Nauete	kai-	FOSSIL (on 2–9)
SH:	Buli	ai-	‘long object, tree, wood, house’
POc *kai ‘long, rigid object; wooden object; tree’(POc *kayu ‘tree, wood’; vol.3:71–72)			
Yap:	Yapese	kē	‘tree, stemmed object, crabs, lobsters, grass-skirts, clans’ (incorporates ligature ē)
Adm:	Mussau	-ae	‘long, tall; collective’
PAdm *-kai ‘long rigid object; tree’			
Adm:	Seimat	-a	‘tree’
Adm:	Lenkau	-ei	‘long object’
Adm:	Lou	-e	‘long object; tree’
Adm:	Ponam	-wi	‘long, thin: canoe, tree trunk, stick’
Adm:	Sivisa Titan	-ei	‘tree, canoe, village’
Adm:	Kele	-ei	‘long object’
Adm:	Kurti	-ʔei	‘long object’
Adm:	Ere	-ʔei	‘long object’
Adm:	Papitalai	-ei	‘tree’
Adm:	Loniu	-ey	‘tree, canoe, banana bunch’
Adm:	Bohuai	-ʔiai	‘long object’
Adm:	Mondropolon	-ei	‘long object’
Adm:	Nyindrou	-ei	‘tree’

²² NE Ambae serial numerals are unprefixes.

PPT **kai[u]-* ‘default inanimate classifier (?); long rigid object; wooden thing’

PT:	Kilivila	<i>ke-, kai-</i>	‘long rigid object; wooden thing’
PT:	Muyuw	<i>kay-</i>	‘wooden thing’
PT:	Misima	<i>e-</i>	FOSSIL
PT:	Gumawana	<i>ai-</i>	FOSSIL
PT:	Bunama	<i>ʔe-</i>	FOSSIL
PT:	Dobu	<i>ʔe-</i>	FOSSIL
PT:	Kalokalo	<i>kai-</i>	FOSSIL
PT:	Aroma	<i>yau-</i>	INANIMATE (see text above)
PT:	Hula	<i>au-</i>	‘trees, long wooden objects’ (see text above)
PT:	Balawaia	<i>yau-</i>	‘banana’ (see text above)
PT:	Motu	<i>au-</i>	‘long things (spears, poles)’ (Lean 1991; vol.7:48) (see text above)
MM:	Mono-Alu	<i>e-</i>	FOSSIL
MM:	Torau	<i>e-</i>	FOSSIL
NCV:	NE Ambae	<i>kai-</i>	ATTRIBUTIVE
NCV:	Raga	<i>yai-</i>	FOSSIL
NCV:	Apma	<i>ka-</i>	FOSSIL
NCV:	Paamese	<i>e-</i>	FOSSIL
NCV:	Nese	<i>yo-</i>	FOSSIL
NCV:	Vao	<i>ye-</i>	FOSSIL
NCV:	Unua	<i>ye-</i>	FOSSIL
NCV:	Sesake	<i>ke-</i>	FOSSIL

PMic **-ai* ‘long slender object’

PMic **-kai* ‘plant, tree, stick’ (PMic **kayu* ‘wood, pole’; Bender et al. 2003a)

Mic:	Kiribati	<i>-ai</i>	‘long objects; hardware, furniture, chests, barrels, timber, coconut leaf stems, fingers, teeth, large fish, sharks’
		<i>-kai</i>	‘plant, tree, stick’ (see text above)
Mic:	Sonsorol	<i>-aw</i>	‘long round object like pencil’
		<i>-xae</i>	‘plant’ (see text above)
Mic:	Ulithian	<i>-yaye</i>	‘long slender object’
		<i>-xaye</i>	‘tree- or book-like object’ (see text above)

POc **tau-* below does not satisfy the semantic bleaching criterion. The initial consonant of the Micronesian forms reflects prenasalisation, i.e. **-ŋa-tau* > **-ŋ-tau* > **-PMic *-dau*).

cMP: Kambera *tau* ‘person’

POc **tau* ‘animate; person’ (POc **tau* ‘person’; vol.5:40)

PT:	Kilivila	<i>tau-, to-, te-</i>	‘human; male human’
PT:	Muyuw	<i>te-</i>	‘man’
MM:	Nakanai	<i>tau-, taho-</i>	‘person’
MM:	Nehan	<i>to-</i>	FOSSIL
MM:	Petats	<i>to-</i>	FOSSIL
MM:	Halia	<i>to-</i>	DEFAULT

MM:	Teop	<i>tao-</i>	FOSSIL
MM:	Papapana	<i>tau-</i>	FOSSIL
MM:	Banoni	<i>to-</i>	FOSSIL
PMic <i>*-dau</i> ‘animate; person’ (< <i>*-ŋa-tau</i>)			
Mic:	Puluwatese	<i>-ɽay</i>	‘human and other animate’ (< <i>*-n-tau</i>)
Mic:	Satawalese	<i>-ɽai</i>	‘animate’ (< <i>*-n-tau</i>)
Mic:	Carolinian	<i>-ɣay</i>	‘animate’ (only with 1–3)

The reconstruction below satisfies only the distribution criterion, and it seems unlikely that it was present in POc, the more so as it would have been in semantic competition with **tau-* above. More probably it was innovated independently in certain cMP and New Caledonian languages from the noun PCEMP/POc **qata*.

cMP:	Lamaholot	<i>ata</i>	‘person’
cMP:	Rongga	<i>-ata</i>	‘person’ (only in <i>sa-ŋ-ata</i> ‘one person’)
POc (?) <i>*qata</i> ‘person’ (POc <i>*qata</i> ‘person’; vol.5:45–46)			
NCal:	Belep	<i>ãde-</i>	‘person’
NCal:	Nêlêmwa	<i>ã-</i>	‘animate’
NCal:	Kumak	<i>ã-</i>	‘person’
NCal:	Caac	<i>yara-</i>	‘person’

POc **manu-* satisfies the semantic bleaching and distribution criteria. Investigating the POc sense of the noun **manuk*, Pawley (vol.4:449–450) concludes that it denoted birds and other flying creatures, but not land animals. The fact that ‘animate’ can be reconstructed as the POc sense of the classifier **manu-* thus points to bleaching. However, as no non-Oceanic classifier cognate has been found, it is less certain than for **pua-* and **kai-* that this bleaching had occurred in POc. Awa *mano-* refers only to birds, and may be a recently innovated classifier.

That **manu-* does not satisfy the fossil criterion is not surprising. Classifiers that have frequent use because they refer to human beings or because their referents form a large category (like **pua-* and **kai-* above) are more likely candidates for fossilisation.

CB:	Ambai	<i>man-</i>	‘animate’
POc <i>*manu</i> ‘animate’; ‘flying creatures and land animals’ (POc <i>*manuk</i> ‘birds, flying creatures’; vol.3:271–273)			
Adm:	Wuvulu	<i>-manu</i>	fossil in <i>?olu-manu</i> ‘3 non-humans’
Adm:	Awa	<i>-mano</i>	‘bird’
Adm:	Penchal	<i>-[mə]n</i>	‘animate’
Adm:	Ponam	<i>-man</i>	‘person, spirit’
PPT <i>*manu-</i> ‘animal’			
PT:	Sudest	<i>man-</i>	‘birds, small creatures’
PT:	Muyuw	<i>m^wana-</i>	‘animal or bird’
Mic:	Nauruan	<i>-men</i>	‘animate’
PMic <i>*-manu</i> ‘animate’			
Mic:	Kiribati	<i>-man</i>	
Mic:	Marshallese	<i>-man</i>	‘animate’ (fossil in <i>e-man</i> ‘4’)

Mic:	Mokilese	<i>-men</i>	‘animate’
Mic:	Ponapean	<i>-men</i>	‘animate’
Mic:	Puluwatese	<i>-man</i>	‘animate’ (with 6–9)
Mic:	Chuukese	<i>-mən</i>	‘animate’
Mic:	Carolinian	<i>-mal</i>	‘human or higher animal’
Mic:	Woleaian	<i>-mar</i>	‘animate’
Mic:	Sonsorol	<i>-maru</i>	‘person, small animal, fish’
Mic:	Ulithian	<i>-male</i>	‘animate’

POc **qapa-* ‘flat object; sheet of s.t.; leaf’ meets the bleaching and distribution criteria. Semantic bleaching is inferred from the glosses of its reflexes, as there is no noun known from which it is derived.

POc **qapa* ‘flat object; sheet of s.t.; leaf’

PAdm **-kaba* ‘flat object; leaf’

Adm:	Baluan	<i>-kam</i>	‘leaf’
Adm:	Titan	<i>-kap</i>	‘plant’
Adm:	Kele	<i>-kap</i>	‘flat natural object’
Adm:	Loniū	<i>-kap</i>	‘leaf’
NCal:	Nyelâyū	<i>hava-</i>	‘flat pliable object: leaf, paper, fabric’
NCal:	Nêlêmwa	<i>hava-</i>	‘large flat object’
NCal:	Kumak	<i>hava-</i>	‘flat object’

POc **pata* ‘long cylindrical object; tree trunk’ meets both criteria.

cMP:	Buru	<i>fatan</i>	‘long, large and round object; tree trunk, wave’
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POc **pata* ‘long cylindrical object; tree trunk’ (POc **pata(ŋ)* ‘tree trunk’; vol.3:87)

PMic **-fata* ‘long cylindrical object; tree trunk’ (Harrison & Jackson 1984; a. 2003)

Mic:	Mokilese	<i>-pas</i>	‘long object’
Mic:	Ponapean	<i>-pʷɔç</i>	‘long objects inc. trees, vehicles, songs’
Mic:	Puluwatese	<i>-fɔr</i>	‘long object’
Mic:	Chuukese	<i>-fɔç</i>	‘long cylindrical object’
Mic:	Satawalese	<i>-fɔɾ</i>	‘long object’
Mic:	Carolinian	<i>-fɔʂ</i>	‘long object, as trees, canoes, pens’
Mic:	Woleaian	<i>-faʂ</i>	‘long object’

Certain other cognate sets have been rejected as they are apparently not of POc antiquity. For example, hypothetical †**rau-* ‘flat object; leaf’ (cf POc **raun* ‘leaf’; vol.3:103–104) is found only in Micronesian languages. Clark (1999) includes it among his PPN reconstructions, but the reflexes in POLLEX online are unconvincing for this sense, making even a PROc reconstruction insecure. A better attested classifier reconstruction for ‘flat object; leaf’ is POc **qapa-* above.

14.6.2 Mensural classifiers

Of the characteristics that hint at POc antiquity, only the criterion of distribution consistently applies to mensural classifiers. There is typically little or no semantic bleaching, as the noun from which a mensural classifier is derived has a mensural sense already. There is no fossilisation, as fossilisation happens to sortal classifiers that refer to individuals, not collections.

The best supported mensural classifier is POc **buŋ(V)-* ‘bunch (of fruit). From the glosses of its reflexes it seems that its primary use may have been for bunches of betelnuts.

POc **buŋV* ‘bunch (of fruit, esp. betelnut?)’ (ACD: POc **buŋ(u)* ‘bunch, cluster, of grain, fruit, areca nuts, etc.’)

PAdm **-buŋu* ‘cluster, bundle (usually of fruit)’

Adm: Lou	<i>-pu</i>	‘clump’
Adm: Baluan	<i>-pu</i>	‘heap, bundle, group of (e.g. fruit or people)’
Adm: Ponam	<i>-buŋ</i>	‘cluster of fruit’
Adm: Sivisa Titan	<i>-buŋ</i>	‘one cluster (as of betelnuts)’
Adm: Kele	<i>-buŋ</i>	‘small group of natural objects’
Adm: Loni	<i>-puŋ</i>	‘fruit on a single branch: betelnuts, coconuts, Malay apples’
NNG: Mumeng (Patep)	<i>bun</i>	‘tied bundle of timbers, greens, etc.’
PT: Kilivila	<i>buko-</i>	‘fruit cluster’
MM: Lihir	<i>bun</i>	‘bunch (of betelnuts)’
MM: Madak	<i>-buŋ-</i>	‘group’
MM: Barok	<i>buŋ</i>	‘group’
MM: Halia (Hanahan)	<i>buŋ</i>	‘bunch; cluster, e.g. of nuts or coconuts’
Mic: Kiribati	<i>-uŋ</i>	‘bunch of pandanus fruit’

POc **qiti-* and **qi-* ‘hand of bananas’ are a pair of reconstructions with the same meaning, the latter presumably an abbreviation of the former. They both meet only the distribution criterion.

cMP: Kéo	<i>xi</i>	‘clump of fruit on tree’
SH: Buli	<i>esiŋ</i>	‘hand of bananas’
SH: Taba	<i>isiŋ</i>	‘hand of bananas’

POc **qiti, *qi* ‘hand of bananas’ (POc **qitiŋ* ‘hand or bunch of bananas’; vol.3:117)

Adm: Ponam	<i>-it</i>	‘ring of bananas on stalk’
Mic: Satawalese	<i>-is</i>	‘banana hand’
Mic: Woleaian	<i>-is</i>	‘banana hand’
NNG: Mapos Buang	<i>yi</i>	‘hand of bananas’
PT: Hula	<i>yi-</i>	‘10 bananas’

The reconstruction below is attributed to POc because it meets the distribution criterion. The initial consonant of the Micronesian forms reflects prenasalisation, i.e. **-ŋa-pui* > **-ŋ-pui* > PMic **-bui*.

POc **pui*, **pui* ‘bunch, group’ (POc **pui* ‘bunch, cluster, as of fruit’; ACD)²³

Adm:	Lou	<i>-wi</i>	‘bunch’
PT:	Sudest ²⁴	<i>ui-</i>	‘bunch of bananas or betelnuts’

PMic **-bui* ‘group, herd’

Mic:	Chuukese	<i>-p^wi</i>	‘school, herd, group’
Mic:	Mokilese	<i>-p^wi</i>	‘some, several’
Mic:	Puluwatese	<i>-p^wi</i>	‘group’

PPn **se[ŋa]-fui* ‘set of 5 pairs (of coconuts etc)’

Pn:	Takuu	<i>(se)fui</i>	‘score (of coconuts)’
Pn:	Sikaiana	<i>(se)hui</i>	‘10 (for birds, coconuts, copra, taro, fruits)’
Pn:	Nukuoro	<i>(de)hui, (ŋa)hui</i>	‘a 10 of coconuts’

14.6.3 Enumerative classifiers (ECs)²⁵

Enumerative classifiers have somewhat different geographic distribution from sortal and mensural classifiers. In subgroups that have an elaborate paradigm of grammaticalised sortal and mensural classifiers, i.e. Kilivila (PT), New Caledonian, Micronesian, Tongic (Pn) and Nuclear Polynesian languages, ECs also typically occur, but they appear to be absent from Admiralties and N-C Vanuatu. They are also found in SE Solomonic languages, which otherwise lack classifiers, as well as a few in North New Guinea languages around the Vitiaz Strait and in Fijian dialects.

With one possible exception no POc EC is reconstructable. The exception is **waRo-* ‘a string of a specified number of a product’, which reflects POc **waRoc* ‘vine or creeper’ (vol.3:74–75), a term whose reflexes often also denote string or rope. However, the probability that reflexes of **waRoc* have become ECs independently in different languages at different times and places is strong, so it is uncertain whether it already functioned as an EC in POc.

POc (?) **waRo* ‘a string of a specified number of a product’ (POc **waRoc* ‘generic term for vines and creepers’; vol.3:74–75)

NNG:	Gedaged	<i>wal</i>	‘4 coconuts tied together’
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Proto Papuan Tip **waRo-* ‘a bundle of coconuts’

PT:	Muyuw	<i>wa-</i>	‘2 pair of coconuts’
PT:	Hula	<i>walo-</i>	‘10 coconuts’ (Lean 1991)
PT:	Balawaia	<i>walo-</i>	‘10 coconuts or betelnuts’
PT:	Motu	<i>varo-</i>	‘10 coconuts’ (Lean 1991)
SES:	Longgu	<i>alo</i>	‘10 fish’
SES:	Arosi	<i>waro</i>	‘5 eels’
SES:	Sa’a	<i>walo</i>	‘10 strings of shell money; 10 coconuts made into copra and strung together in halves’

²³ POLLEX reconstructs the PPn noun as **fui*, reflecting putative POc †**pusi*, but this is not warranted by reflexes of the noun that are listed in the ACD (e.g. Lau *fui* ‘cluster, clump’).

²⁴ Griffin Point dialect, Ray (1938).

²⁵ The term ‘enumerative classifier’ occurs of necessity very frequently in this section, so the abbreviation EC is used in this section only.

SES:	Owa	<i>waro (iya)</i>	‘10 fish on string’ (<i>iya</i> ‘fish’)
NCal:	Nêlêmwa	<i>wã-</i>	‘2 pair of dead flying foxes’

Most ECs are reconstructable only for a protolanguage ancestral to one of the subgroups mentioned above. Does this mean that ECs did not occur in POc? Their complete absence is improbable, given what can be inferred about their cultural context (§14.1.2.4). Further, there are ECs in some cMP and SHWNG languages, e.g. Rongga *livu* ‘4 coconuts’; *ulu* ‘10 *livu*’, i.e. ‘40 coconuts’; Ambai *boa-* ‘4 large fish’.

PCP **mata-* ‘10 fish; 10 taro’ (POLLEX: ‘10 fish’)

Fij:	Fijian	<i>mata</i>	‘10 fish’
Pn:	Samoan	<i>mata-</i>	‘numeral prefix used in relation to taro’
Pn:	Anutan	<i>mata-</i>	‘10 fish’
Pn:	E Futunan	<i>mata-</i>	‘10 fish’
Pn:	Tokelauan	<i>mata-</i>	‘indicates a unity of one hundred fish’
Pn:	Nukuoro	<i>mada-</i>	‘numeral prefix denoting ten’
Pn:	Rennellese	<i>matā-</i>	‘10 small fish’
Pn:	Takuu	<i>mata-</i>	‘10 fish’; ‘unit of 10 (from 20 upward)’
Pn:	Sikaiana	<i>mata-</i>	‘10 fish’
Pn:	Takuu	<i>mata-</i>	‘numeral prefix denoting ten’
Pn:	Pukapukan	<i>mata-</i>	‘numeral prefix for taro and swamp taro tubers’

Because of the absence of reconstructable ECs this section describes the distribution of ECs by various parameters, arguing that these distributions were largely true of POc, even if the forms cannot be reconstructed.

Of the 383 Oceanic languages from which data were collected, ECs were recorded for 69. The total number of ECs recorded from these 69 languages was 394. This is simply a product of what linguists and ethnographers have recorded. It is not a sample in a statistical sense. What follow are thus only rough generalisations.

The absence of ECs from Admiralties languages is odd. For Ponam (Adm), where customary public counting certainly did occur (§14.1.2.1), Carrier (1981) records classifiers with meanings such as ‘a bundle of X’ or ‘a string of X’, but none containing a multiplicand, e.g. 3 in ‘a bundle of 3 coconuts’ or 10 in ‘a string of 10 fish’.

What do ECs usually count? In Micronesian languages, where a classifier accompanies every counted item, coconuts, fish and breadfruit stand out as the items that are often accompanied by an EC. In SE Solomonian and Polynesian languages, on the other hand, only certain items require a classifier (Lichtenberk 2008b:264–265). Bender & Beller (2007b:226–228) ask why certain objects were counted specifically, while others were not. After dismissing various answers that are not supported by reality, they conclude:

Abundance cannot have been the criteria either, as many objects that are plentiful in the islands – such as taro, sweet potatoes, breadfruit, or mangoes – were not counted specifically. **However, if we combine importance, or rather cultural significance with abundance, we obtain an intersection that precisely maps onto the group of specifically counted objects.** While things like kava, lobster, or pigs are culturally salient, they are not plentiful; and breadfruit, taro, or mangoes, on the other hand, are abundant, but not appreciated as much as comparable products. Only coconuts, yam,

fish, and the material for thatching houses and weaving mats are both important and abundant. (Bolding mine)

The observation in bold type holds for Oceanic languages generally. Coconuts and fish are almost universally counted with ECs in Oceanic languages that have them. There are also ECs for bananas across most of Oceania. Taro and yams are also frequently counted with ECs, but not in Micronesia, where they are less valued or less abundant than breadfruit.²⁶ Betelnut, chewed as a stimulant across Near Oceania, is counted with ECs in Papuan Tip and in NW and SE Solomonic (it is not chewed in Remote Oceania).

Except for betelnut, all the items named in the previous paragraph are foods and, as one might expect, at scattered Oceanic locations other foods are counted with ECs: sago in the Huon Gulf (NNG) and Papuan Tip, canarium nuts in North New Guinea and SE Solomonic, crabs in SE Solomonic, Fijian and Polynesian, flying foxes in Malaita (SES) and northern New Caledonia.²⁷

There are ECs for pigs in Papuan Tip, SE Solomonic, Fijian and Polynesian. Given the ubiquity of pigs as wealth items in Oceania, one might expect to find ECs with them almost everywhere. Where they are not found, perhaps pigs are counted individually, not in groups.

Bender & Beller (2006a) also mention thatching material. ECs are used for sago thatching in North New Guinea languages around the Vitiaz Strait and in the Schouten Islands and for unspecified thatching in Malaita and Tonga.

Another item that turns up in the data is traditional money, centred on but not exclusive to the SE Solomons. There are ECs for several kinds of shell money and for the teeth of dogs, bats, dolphins, and certain fish, and in Fiji for whale teeth. The relationship of traditional money to ceremonial exchanges and distributions is self-evident.

Bender & Beller's characterisation of items that cooccur with ECs as 'culturally salient and abundant' can thus be extended to all parts of Oceania where ECs are used, and it can be inferred that ECs occurred with such items in POC speech.

The number of items that an EC refers to—its multiplicand—is determined by the nature of the item and by local conventions of public display.

- 20) a. Belep (NCal)
go-nem ūjep (go- 'cord of 10 pieces of sugarcane')
 CLF-5 sugarcane
 '5 cords of sugarcane' (McCracken 2012:297–298)
- b. Samoan (Pn)
ono-ŋa-oa popo (oa- 'pair of coconuts or young pigs')
 6-LIG-CLF coconuts
 '12 coconuts' (Mosel & Hovdhaugen 1992:248)
- c. Tuam (NNG)
īy parapināŋ ēz (parapināŋ 'pair of fish')
 fish CLF one
 'two fish' (Bugenhagen & Bugenhagen 2007b)

²⁶ ECs counting taro are missing from the data for Fiji. ECs counting yams are missing from the data for the Bismarcks and NW Solomons. These may be accidental omissions from the data.

²⁷ Gaps in these distributions may reflect gaps in the data.

Thus Belep speakers evidently tie pieces of sugarcane in tens, Samoans tie coconuts in pairs and Tuam speakers do the same with fish.

Hill & Unger (2018:125) find that ECs with multiplicands of ten occur only in languages that have retained a decimal system, like Lengo.

21) Lengo (SES)

e ɲiða na yaivolo ni pana? (yaivolo ‘10 garden rows’)
 3SG how.many ART CLF ASSOC lesser.yam
 ‘How many garden.rows of short yams [are in your garden]?’ (Hill & Unger
 2018:130)

Their generalisation is confirmed by the data collected for this chapter. In (21) *yaivolo* means ‘ten garden rows’, and a coherent answer is, for example, *e ono na yaivolo* [3SG 6 ART CLF] ‘sixty garden rows’.

There is no other correlation between numeral system and multiplicands. The converse generalisation does not apply: languages with decimal systems often have ECs with a multiplicand other than ten or a power of ten.

22) Sa’a (SES)

kʷaʔu-i ʔusu (*kʷaʔu* ‘4 dog’s teeth’)
 CLF-ASSOC dog
 ‘four dogs’ teeth’ (Ivens 1918)

Indeed, ECs with a multiplicand below 10—they include 2, 3, 4, 5 and 6—occur in languages with base-10, base-5-10, base-5-10-20 and base-5-20 systems.

The correlation between the multiplicand and the product counted is also minimal. In different places coconuts are counted in groups of 2, 3, 4 or 6. The coconuts will be ripe and have been husked, and the fibres on the surface after husking readily allow 2 or 3 coconuts to be tied together. These bundles may in turn be set out in twos to give units of 4 and 6 (no unit of 5 coconuts is found). Fish usually fall into two conventional categories: a fish large enough to form a cooking parcel by itself, and smaller fish that are strung. A string may consist of 2, 3, 4, 5 or 6 fish in Tuam, Nêlêmwa, Bariai, Chuukese and Halia respectively. These differences are presumably based on fish-size plus convention. A number of languages with decimal counting, however, allow strings of 10 fish. Larger, manufactured items are typically counted in pairs. They include pandanus-leaf mats, sleeping mattresses, and lengths of sago thatching attached to some kind of pole, sometimes split bamboos, although the latter are sometimes counted in 3s or 4s.

Probably the most detailed record of ECs in an Oceanic language is Fox’s (1931) description of the hierarchies of ECs in Arosi (SES), on which Table 14.9 is based. The second row shows the units that are counted. There are both similarities and differences between the hierarchies used with different objects. A search through Fox (1978) reveals very few alternative meanings for the terms in Table 14.9, and the original meanings of Arosi ECs have apparently been lost.²⁸

Arosi has a base-10 system, but speakers often counted in pairs. East Arosi counts yams in pairs, whereas West Arosi counts single yams. This is why *waioa* ‘a pair’ occurs on

²⁸ Fox (1978) implies that *dumai* ‘multiplicand 5’ may reflect *ruma* ‘hand’ + *i* ASSOC. *Ahusia* ‘multiplicand 100,000’ means ‘piled up’ (from verb *ahu* ‘pile up’). In terms with the multiplicand 50, *aba* may be the term for ‘half’, i.e. ‘half a hundred’.

Table 14.9 Enumerative classifiers in Arosi (SES)²⁹

	Arosi	W Arosi	E Arosi	Arosi	W Arosi	E Arosi
	1 coconut	1 yam etc	2 yams etc	4 fathoms of shell money	2 large or 4 small teeth	4 dolphins' teeth
1	—	—	<i>waioa</i>	<i>tahaŋa</i>	<i>abe</i>	<i>abe</i>
2	<i>waioa</i>	<i>waioa</i>	—	—	—	—
5	—	<i>dumai</i>	<i>dumai</i>	—	—	—
10	<i>aŋuru</i>	(<i>erua dumai</i>)	(<i>erua dumai</i>)	<i>ita</i>	<i>māru</i>	<i>ŋaharara</i>
20 or 25?	—	<i>gagau</i>	<i>gagau</i>	<i>gagau</i>	—	—
50	—	<i>susu-aba</i>	<i>aba-aba</i>	<i>susu-aba</i>	—	—
100	<i>taŋarau</i>	<i>ŋaraŋi</i>	<i>ŋaraŋi</i>	<i>ŋaraŋi</i>	<i>ŋaraŋi</i>	<i>toŋa ni iŋa</i>
1,000	<i>b^wera</i>	<i>wawaibeŋo</i>	<i>sosooba</i>	<i>wawaibeŋo</i>	<i>dohu</i>	<i>dohu</i>
10,000	<i>rau ki haru</i>	<i>husia/mora</i>	<i>wawaibeŋo</i>	...	<i>ŋuma</i>	<i>ŋuma</i>
25,000	—	—	—	—	—	<i>iŋa-hunu</i>
100,000	<i>rawa i niu</i>	<i>sinora</i>	<i>ahusia</i>	...	...	...
1,000,000	<i>niu tari</i>	<i>rau</i>	<i>rau</i>	...	...	...

different lines under W and E Arosi: in W Arosi it denotes ‘2’, in E Arosi ‘1 pair’. It also means that *dumai* denotes 5 yams in W Arosi, but 10 yams (5 pairs) in E Arosi—and this relationship between the two dialects is maintained through to *rau*, a million yams in W Arosi but 2 million in E Arosi. It does not account, though, for the fact that *wawaibeŋo* means 1,000 yams in W Arosi but 20,000 in E Arosi: this is a case of the rather frequent phenomenon whereby words for higher numerals shift places, due presumably to infrequent usage.

E Arosi thus retains what is apparently an old Oceanic mode of counting by pairs. Some scholars assert that this is the relic of a binary-cum-vigesimal system, but Bender & Beller (2007a) show that this is not true. In the cases of yams and shell money, the decimal system is modified, skipping 10 with yams (*erua dumai* means 2 fives) and accommodating multiples of 5. The counting of coconuts and teeth on the other hand, is straightforwardly decimal except for *iŋa-hunu* (literally ‘fish finished’), but with units of 2 or 4.

Somewhat striking is the counting of breadfruit. Again, W Arosi counts single fruits but E Arosi counts pairs. The plain numerals *eta* ‘1’ and *erua* ‘2’ are used, and E Arosi speakers know that if breadfruit are counted, the numerals refer to pairs.

Scattered relics suggest that hierarchies of ECs like those in Arosi were more widespread before the adoption of French or English numerals. There is evidence in other SE Solomonic languages. From Sa’a Ivens (1918) gives for yams *nao* ‘100’, *sinola* ‘1,000’, and *mola* ‘10,000’; and for coconuts *p^wela* ‘1000’, *rau* ‘10,000’, and *udi* ‘100,000’.

²⁹ In the first column, ‘20 or 25’ indicates a discrepancy in the sources. Fox (1931) gives *gagau* as 25, whilst Fox (1970, 1978) gives it as 20. The unit ‘2 yams etc’ in column 4 abbreviates ‘yams, taro, bananas, mangoes, stone’ [sic]. However, in E Arosi mangoes are not counted in pairs but single as in W Arosi. In the unit in column 5 ‘large teeth’ are large dogs’ teeth; ‘small teeth’ are small dogs’ teeth, bats’ teeth or dolphins’ teeth, all used as traditional money.

Table 14.10 Halia (Hanahan) enumerative classifier hierarchies

coconuts	4 <i>piloto</i>	—
	12 <i>horowele</i>	= 3 <i>piloto</i>
taro, sweet potato or betelnut	6 <i>pilic</i>	—
	60 <i>teil</i>	= 10 <i>pilic</i>
	600 <i>kosono</i>	= 10 <i>teil</i>
flying fish	6 <i>einase</i>	—
	120 <i>tanoge</i>	= 20 <i>einase</i>
	180 <i>tolahun</i>	= 30 <i>einase</i>

From Owa Mellow (2014) lists for yams *apapana* ‘50 pairs of yams’ and *aufi* ‘100 pairs of yams’; and for coconuts *barobaro* ‘2’, *ausukau* ‘10’, *yairirasi* ‘100’.

Further west, for taro tubers in Roviana (MM) Waterhouse (1949) lists *hioko* ‘10 pairs’, *pijuto* ‘100 pairs’ and *hiako* ‘1000 pairs’.

From Halia (MM) Tsurumits et al. (2005) give the hierarchies in Table 14.10. Coconuts are counted in fours, each four tied together. Taro, sweet potato, betelnut and flying fish are counted in sixes, but the two hierarchies appear to multiply differently, perhaps because the data are fragmentary. Tsurumits et al. note that an *einase* may also consist of a single tuna, which is larger than six flying fish. Presumably, an *einase* was a package of fish for cooking. The term *tolahun* (‘30 *einase*’) reflects POc **tolu-ŋapuluq* ‘30’, but *tolahun* functions only as an EC, as both 3 and 10 have undergone lexical replacement. Halia for ‘30’ is *topisa maloto* ‘3 [×] 10’.

The Tolai (MM) counted wildfowl eggs in fours, taro in sixes, bananas in bundles of 4 hands, and fish in strings of no particular number. Coconuts were counted in pairs, with special terms for 1, 2, 3, 6 and 60 pairs (Paraide 2008).³⁰The Tolai (MM) counted wildfowl eggs in fours, taro in sixes, bananas in bundles of 4 hands, and fish in strings of no particular number. Coconuts were counted in pairs, with special terms for 1, 2, 3, 6 and 60 pairs (Paraide 2008).³¹

A theme that crops up several times above is that scattered Oceanic languages counted certain objects in pairs. Pair-counting in Tongan has been thoroughly investigated by Bender & Beller (2007b), who write (p219),

Among these objects were pieces of sugar cane thatch (*au*), coconuts (*niu*), pieces of yam for planting (*konga* ‘*ufi*’ or *pulopula*), whole yam (‘*ufi*’), and fish (*ika*). In addition to these objects listed in the Churchward Grammar (1953), several informants suggested that one type of pandanus leaves (*kie*) was counted in the same way as yam for planting. ... The counting of these objects follows specific patterns that all have one feature in common: Counting proceeds in pairs and scores.... For all objects, the smallest unit is the pair: *nga’ahoa* for sugar cane thatch, yam and fish, and *taua’i* for coconuts. ... While the counting of sugar cane thatch then proceeds in tens of pairs (*tetula*), hundreds and thousands of pairs

³⁰ The terms are *a evutu* ‘a pair’, *a varivi* ‘2 pairs’, *a kurene* ‘3 pairs’, then *a tajuani* ‘2 *kurene*’, i.e. 12 coconuts, *a pakaruati* ‘10 *tajuani*’, i.e. 120 coconuts.

³¹ The terms are *a evutu* ‘a pair’, *a varivi* ‘2 pairs’, *a kurene* ‘3 pairs’, then *a tajuani* ‘2 *kurene*’, i.e. 12 coconuts, *a pakaruati* ‘10 *tajuani*’, i.e. 120 coconuts.

(using the regular numerals for 100 and 1000, yet omitting the lexeme for “pair”), coconuts, yam and fish are, from 20 onwards, counted in scores. The term for “one score” is glossed differently depending on the counted object: *tekau* for coconuts and occasionally yam, and *kau* for yam and fish. For the counting of coconuts and yam, a further term refers to “10-scores” (*tefua* for coconuts and *tefuhi* for yam). The scores (*kau*) of fish, however, are regularly counted in number words from one to hundreds; the same can alternatively be done for yam.

This is reminiscent of Arosi above, even down to the detail that the Tongan listener knows without being told that sugarcane thatch is counted in pairs, just as the Arosi listener knows that this is true for breadfruit.

Bender & Beller (2006b:384–385) analyse similar pairwise systems in the EPn languages Tahitian, Mangarevan and traditional Maori. Elbert’s (1988:187) Rennellese audience of 1958 wondered why yams and breadfruit should be counted in pairs, and, as he writes later, without an EC (§14.1.2.4). Owens & Lean (2018:143), citing Beaglehole & Beaglehole (1938), note that coconuts are counted in pairs and that the terms used are in some cases identical to the ordinary numerals, i.e. listeners know that coconuts are counted this way.

Other fragments of evidence, namely unexpected numerals within decimal systems, point to pairwise counting. Wuvulu (Adm) and some Central Papuan (PT) languages have a decimal system with unusual numerals for 6 and 8 (Table 14.11), e.g. Motu *taura-toi* ‘6’ and *taura-hani* ‘8’. Since *toi* and *hani* are 3 and 4 respectively, *taura-* seems to mean ‘double’ (it is not listed separately in Lister-Turner & Clark 1954a), and it is a reasonable inference that it reflects an earlier enumerative classifier meaning ‘pair’.³²

Table 14.11 Numerals 1–9 in Wuvulu and certain Central Papuan languages

POc	Wuvulu	Keapara (Kalo)	Motu	Lala	Gabadi	
1	* <i>ta</i>	<i>e-palo</i>	<i>k^wapuna</i>	<i>ta[mona]</i>	<i>ka</i>	<i>ka[pea]</i>
2	* <i>rua</i>	<i>rua</i>	<i>ruala</i>	<i>rua</i>	<i>lua</i>	<i>rua</i>
3	* <i>tolu</i>	<i>ʔolu</i>	<i>toi-toi</i>	<i>toi</i>	<i>koi</i>	<i>koi</i>
4	* <i>vati</i>	<i>fa</i>	<i>vati-vati</i>	<i>hani</i>	<i>vani</i>	<i>vani</i>
5	* <i>lima</i>	<i>aipani</i>	<i>ima-ima</i>	<i>ima</i>	<i>ima</i>	<i>ima</i>
6	* <i>onom</i>	<i>ʔolu-roa</i>	<i>taula-toi-toi</i>	<i>taura-toi</i>	<i>kala-koi</i>	<i>kara-koi</i>
7	* <i>pitu</i>	<i>ʔolo-ro-m-palo</i>	<i>taula-toi-k^wapuna</i>	<i>hitu</i>	<i>kala-koi ka</i>	<i>kara-koi kapea</i>
8	* <i>walu</i>	<i>fai-na-roa</i>	<i>taula-vati-vati</i>	<i>taura-hani</i>	<i>kala-vani</i>	<i>kara-vani</i>
9	* <i>siwa</i>	<i>fai-m-palo</i>	<i>taula-vati k^wapuna</i>	<i>taura-hani ta</i>	<i>kala-vani ka</i>	<i>kara-vani kapea</i>

³² Bender & Beller (2012) have an alternative hypothesis. Writing about digit-tallying, they say, ‘Some systems don’t rely on 5 as a base when they have counted one hand, but instead switch between the two hands showing two threes for 6, two hands showing a three and a four for 7, two fours for 8. Systems like these are to be found in east Africa, with verbal counting using distinct lexemes for 1 to 5 but often composing higher numbers as $6 = 3 + 3$ or $8 = 4 + 4$ This is perhaps the basis of Oceanic 3+3 and 4+4.’

Owens & Lean (2018:141) note that “Roviana has a distinct word for 20 while most other decades are multiples of ten”. They entertain the possibility that this reflects a digit-tallying system, but think it more likely that Roviana *hioko-na* ‘20’ reflects a pair-counting system. This is clearly correct, since *hioko* is listed as ‘10 pairs of taro tubers’ by Waterhouse (1949). Other NW Solomonic languages of Choiseul, the New Georgia group and Santa Isabel also have a distinct word for 20. In languages where 20 is a simple numeral derived via a tally system, 20 is almost always derived from a noun meaning ‘man’ or ‘person’ (§15.6), but there is no sign of this in these NW Solomonic languages, leaving us with the possibility that, like Roviana *hioko*, these words mean ‘10 pairs (of something)’, i.e. a score. The terms form four cognate sets, but no origin for the three has been found.

- 23) a. **sioko-na* (> Roviana *hioko-na*, Ughele *sioko-na*, Maringe *hiokonā putā*).
 b. *[*ka*]rabete > Vaghua, Varisi, Babatana *karabete*, Ririo *karbet*; Lungga and Ghanongga *rabete puta*, Simbo *rabate puta*, Nduke *rabete*
 c. **kaunje* > Hoava, Kusaghe *kaunje*
 d. **varedaki* > Zabana, Blablanga *varadaki*, Kokota *varedaki*.

The word *puta/putā* in these examples means ‘sleep’, and is used in the sense of ‘finished’, ‘complete’.

Although the evidence in this subsection is fragmentary, it is well enough distributed to suggest that root crops (yams and taro tubers) were already counted in pairs in POC, and this was probably true of other products too.

There is also a tendency to count certain objects in fours. Rongga (cMP) *liwu* ‘4 coconuts’, Gedaged (NNG) *wal* ‘4 coconuts tied together’, Halia (MM) *piloto* ‘4 coconuts’ (Table 14.10) and various Arosi ECs (Table 14.9) crop up in the discussion above. This has resulted in counting systems in which a base of 4 plays an important role.

Some speakers of Wuvulu (Adm; Hafford 2011) recall a quite complex system which counted coconuts in pairs, fours and sixteens. One to five pairs, i.e. 2 to 10 coconuts, are counted with the unaffixed numeral roots 1–5 *roa*, *rua*, *ʔolu*, *fa* and *rea*, another instance of everyone knowing that certain items were counted in twos. However, 4–12 coconuts could also be counted in fours: *ʔobao* ‘one bundle of 4’, *rua-ʔo* ‘2 bundles of 4’, *ʔolu-ʔo* ‘3 bundles of 4’, where *-ʔo* was a bundle of 4. At this point the base-4 system dictates a new power of 4, and counting proceeds with the classifier *-moro* ‘unit of 16’, as far as *fai-ma-moro* [9×16] ‘144’.

The Wogeo (and Bam) numeral system, as reported by Exter (2010) and shown in Table 14.12, has a base of 4. The complex numerals from *kʷik* ‘4’ upwards are easily parsed:³³ *kʷik bʷa-kobʷá* [4+1] ‘5’, *kʷik bʷa-ragó* [4+2] ‘6’, *kʷik bʷe-tol* [4+3] ‘7’, *kiki-rua* [4×2] ‘8’, *kiki-rua bʷa-kobʷá* [(4×2)+1] ‘9’ and so on. If this were a pure base-4 system, the numerals would continue thus to 15 [(4×3)+3], followed by a new simple term for 16 [4²]. But instead 16 is *kiki-vat* [4×4] and complex numerals continue to 19 [(4×4)+3], as the new simple numeral is *usú* ‘20’. Here there is a hiccup, as counting based on *usú* continues only to 39 [20+(4×4)+3], as there is no †*usu-rua* but the new simple numeral *kulemʷa* ‘40’. At this point the system settles down, and *kulemʷa*, like *kʷik*, is used as far as *kulemʷa-vat* ‘160’ [(40×4)], with complex numerals as far as 199 [(40×4)+20+(4×4)+3], and a new simple numeral

³³ *kʷik* may be omitted from 5, 6 and 7.

Table 14.12 The Wogeo (NNG) numeral system

	simple numerals	fours	twenties	forties	200's	thousands
1	<i>ta</i>	<i>k^wik</i>	<i>usú</i>	<i>kulem^wa</i>	<i>udol</i>	<i>lima</i>
2	<i>rua</i>	<i>kiki-rua</i>	—	<i>kulem^wa-rua</i>	<i>udol-rua</i>	<i>lima-rua</i>
3	<i>tol</i>	<i>kiki-tol</i>	—	<i>kulem^wa-tol</i>	<i>udol-tol</i>	<i>lima-tol</i>
4	—	<i>kiki-vat</i>	—	<i>kulem^wa-vat</i>	<i>udol-vat</i>	<i>lima-vat</i>

udol ‘200’,³⁴ used as far as *udol-vat* ‘800’ with complex numerals as far as 1,999. This is followed by *lima* ‘1,000’, which continues as the base until *valu* ‘5000’, which in turn gives way to *ka* ‘25,000’. The system thus has bases 4, 20, 40, 200, 1000, 5000, 25000.

This extent of this system suggests that it has evolved almost entirely out of enumerative classifiers used in ceremonial contexts. Hogbin does not discuss counting in his 1970 ethnography, but often describes feasts, some of them large. The reliance on groups of four in a system that interacts with a base of 20 suggests a complex history whereby Wogeo once had a system like that of closely related Manam, with bases of 5, 10 and 20 (§15.4.3), but in which the practice of using basic numerals to count bundles of aspecific quantity has replaced much of the system. Thus *kulem^wa* in Manam (and its Kairiru cognate *qolem*) mean ‘10’, but in Wogeo *kulem^wa* means ‘40’, implying that it was once used to count ten bundles of 4. The use of *lima* (‘5’ in many Oceanic languages) for 1,000 implies a use counting 5 groups of 200.

Owens & Lean (2018:118) seem to attribute the Wogeo base of 4 to counting on one’s fingers. Alone this leaves too many features of the system unaccounted for, but it is likely that *k^wik* ‘4’ and its allomorph *kiki-* reflect a term meaning something like ‘the four fingers of one hand’ (§15.6).

The Sarmi-Jayapura languages Ormu and Yotafa evidently also have a base-4 system, but the data appear confused and analysis uncertain.

14.6.4 Multiplicative classifiers (MCs)

A multiplicative classifier (MC) is one which refers to a certain number of something, regardless of what the something is. The POc morphemes **[ŋa]puluq* ‘100’ and **[ŋa]Ratus* ‘1000’ were descended from members of an older classifier class (§14.3). They must still have belonged to the classifier class in POc, as their modern descendants are MCs in languages that have numeral classifiers. In some cases, an enumerative classifier denoting a power of 10 has replaced *-puluq* or **-Ratus* or has become the term for a higher power.

The set below appears to date back to a POc enumerative classifier. Its form suggests that it is derived from POc **ikan* ‘fish’, but there is nothing in the glosses of its reflexes that supports this, and why it might have been in competition with POc **puluq* is a mystery.

POc **-ika*, **ika-* ‘unit of 10’ (POc **ikan* ‘fish’; vol.4:28–29)

PT: Kiriwina: *ika-* ‘10 of s.t.’

³⁴ See §14.4.6 for the etymology of *udol*.

PT:	Nimoa (Sabari)	<i>ie-</i>	‘10’
PT:	Sudest	<i>ya-, ye-, yo-</i>	‘10’
PMic *-ik[a,e] ‘10 of ??’			
Mic:	Woleaian	<i>-ix</i>	‘10 of anything except shells, coconuts and groups’ (Harrison and Jackson 1984:70)
Mic:	Mortlockese	<i>-ek</i>	‘10 animate beings’
Mic:	Chuukese	<i>-ik</i>	‘10’
Mic:	Mortlockese	<i>-eik</i>	‘10’
Mic:	Ponapean	<i>-ek</i>	‘10’
Mic:	Pulo Annian	<i>-ixi</i>	‘10’
Mic:	Carolinian	<i>-ix</i>	‘10’
Mic:	Sonsorol	<i>-ix</i>	‘10’
Mic:	Ulithian	<i>-ix</i>	‘10’

PCP *[-]rau has replaced POc *-Ratus ‘100’ in, e.g., Samoan *se-lau* ‘100’ and *lua-lau* ‘200’. The cognate set is given below. The extended meanings noted for Tongan, Mangarevan and Old Tahitian are derived from counting in pairs (§14.6.3).

The term *[-]rau reflects POc *raun ‘leaf’ and its genesis is discussed briefly below the set.

PCP *rau ‘100’ (POc *raun ‘leaf’, vol.3:103–104)

Fij:	Bauan	<i>drau</i>	‘100’
PPn *[te]rau ‘100’			
Pn:	Tongan	<i>-[ŋe]au</i>	‘100 pairs of sugarcane thatch’
		<i>-au</i>	‘100 scores of coconuts or yams’
Pn:	Niue	<i>te au</i>	‘100’
Pn:	Samoan	<i>se-lau</i>	‘100’
Pn:	Niufo’ou	<i>te-au</i>	‘100’ (Tongan loan)
Pn:	E Uvea	<i>te-au</i>	‘100’ (Tongan loan)
Pn:	Tuvalu	<i>rau</i>	‘100’
Pn:	Nukuoro	<i>lau</i>	‘100’
Pn:	Takuu	<i>se-lau</i>	‘100’
Pn:	Rennellese	<i>gau</i>	‘100’
Pn:	Anuta	<i>rau</i>	‘100’
Pn:	E Futuna	<i>lau</i>	‘100’
Pn:	Tikopia	<i>rau</i>	‘100’
Pn:	Pukapuka	<i>lau</i>	‘100’
Pn:	Hawaiian	<i>lau</i>	‘100’
Pn:	Rapanui	<i>rau</i>	‘100’
Pn:	Rapa	<i>rau</i>	‘100’
Pn:	Tuamotu	<i>rau</i>	‘100’
Pn:	Marquesan	<i>ʔau</i>	‘100’
Pn:	Mangareva	<i>rau</i>	‘100 pairs of breadfruit, pandanus, sugarcane, tools’ (Bender & Beller 2006a)
Pn:	Maori	<i>rau</i>	‘100, a large number’

Pn:	Old Tahitian	<i>rau</i>	‘100 pairs of bonito, breadfruit, coconuts, thatching’ (Lemaître 1985)
Pn:	Penrhyn	<i>rau</i>	‘100’

Owens & Lean (2018:161) wonder whether **Ratus* (their **Ratu*) and **rau* (their **dau*) were in competition in POc. This misconstrues the data (see footnote 17). **Ratus* and **raun* were the POc terms for ‘100’ and ‘leaf’ respectively. Reflexes of **raun* replaced **Ratus* in certain Oceanic languages. The anecdotal reason for this is given by Codrington (1885:249), who applies it to both **rau* and Proto N Vanuatu **udolu*.

To count the days after a death a [cycad] frond was taken, and beginning on one side of it a leaflet was counted for each day, one being pinched down as a tally for every tenth. The frond when treated in this way on both sides furnished tallies for a hundred, and the final death-feast was commonly held on the hundredth day.

Fox (1931), talking about Arosi, says,

When *husia* is reached they nip off the leaves (*rawa, rau*) of a fern *tahutahu*, and when they are all nipped off this number was *rau* [a million, see Table 14.9], said to be 100 *husia* [10,000], but probably varying in number.

Paraide (2008) reports a similar practice for Tolai.

SE Solomonic, Micronesian and Polynesian in particular have innovated numerals for powers of ten (Harrison & Jackson 1984; Bender & Beller 2006a) and many, if not all, of these seem to have their origin in enumerative classifiers dedicated to counting certain classes of referent that have been generalised to ever larger classes, as Harrison & Jackson recognised when they etymologised certain higher numerals in Micronesian languages. The evidence lies in cognate sets that include both enumerative and multiplicative classifiers. Two such are Proto Malaita-Makira **sinola* and **p^wela*, which are usually enumerative classifiers in Malaita languages but have apparently been generalised to multiplicative classifiers in Makira. The cognate set reflecting **sinola* displays the lability which is typical of decimal systems of enumerative classifiers like that in Table 14.9 above.

Proto Malaita-Makira **sinola* ‘10 large fish, 10 collections of ten yams, or ten branches of s.t.’

SES:	To’aba’ita	<i>sinolo</i>	‘10 biggish fish’
SES:	Lau	<i>sinolo</i>	‘10 packets of fish; 10 large garfish; 10 bunches of betelnut’
SES:	’Are’are	<i>sinora ni</i>	‘1,000, counting food’
SES:	Sa’a	<i>sinola</i>	‘1,000 yams’
SES:	Ulawa	<i>sinola</i>	‘1,000 yams or taro’
SES:	Arosi	<i>sinora</i>	‘10,000 yams or 10 sago branches’
SES:	W Arosi	<i>sinora</i>	‘100,000 yams’ (cf Table 14.9)
SES:	Bauro	<i>smola</i>	‘1,000’
SES:	Oroha	<i>sinora</i>	‘1,000’

Proto Malaita-Makira **p^wela* ‘1000 coconuts’

SES: 'Are'are	<i>pera (ni niu)</i>	‘1,000 coconuts’ (<i>ni</i> ASSOC; <i>niu</i> ‘coconut’)
SES: Sa'a	<i>p^wela</i>	‘1,000 coconuts’
SES: Arosi	<i>b^wera</i>	‘1,000 coconuts; 1,000’
SES: Kahua	<i>g^wera</i>	‘1,000’
SES: Owa	<i>b^wera</i>	‘1,000’
SES: Santa Ana	<i>p^wera</i>	‘1,000’

14.6.5 Reconstructing classifiers in lower-order subgroups

The reconstructions below are restricted to certain subgroups, and reflect the fact that early in the history of each subgroup Admiralty, Kilivila-Muyuw and Micronesian languages expanded the repertoire of classifiers beyond those reconstructed for POc above.

14.6.6 Admiralties

Proto Admiralty (PAdm) has NML-CLF structure along with at least the following classifiers reconstructed above:

- 24) PAdm *-(*ə*)*fu* default inanimate classifier (< POc **-pua*; §14.6.1)
 PAdm **-kai* ‘long rigid object; tree’ (< POc **-kai*; §14.6.1)
 PAdm **-manu* ‘animate’ (< POc **-manu*; §14.6.1)
 PAdm **-kaba* ‘flat object; leaf’ (< POc **-qapa*; §14.6.1)
 PAdm **-buŋu* ‘cluster, bundle (usually of fruit)’ (< POc **-buŋV*; §14.6.2)
 PAdm **-iti* ‘hand of bananas’ (< POc **-qiti*; §14.6.2)

The NML CLF structure was a variant of the POc *NML *ŋa* CLF structure, but by the breakup of PAdm, POc **ŋa* had been lost, except as a fossil in PAdm **-ŋafulu* ‘unit of 10’, **-ŋatu* ‘unit of 100’ (below) and **-ŋafV* ‘fathom’ (§16.2.1).

POc **-ŋapulūq* ‘unit of 10’ (cf §14.4.5.2)

Adm: Mussau	<i>-ŋaulu</i>	‘10’ ³⁵
PAdm * <i>-ŋafulu</i> ‘unit of 10’		
Adm: Lou	<i>-ŋoul</i>	‘10’
Adm: Baluan	<i>-ŋal</i>	‘10’
Adm: Ponam	<i>-ŋuf</i>	‘10’ (abbreviated reflex)
Adm: Titan	<i>-ŋol</i>	‘10’
Adm: Kele	<i>-ŋ^wah</i>	‘10’ (abbreviated reflex)
Adm: Nyindrou	<i>-noh</i>	‘10’

Proto Eastern Admiralty **-ŋatu* ‘unit of 100’

Adm: Lou	<i>-ŋot</i>	‘100’
Adm: Baluan	<i>-ŋot</i>	‘100’
Adm: Ponam	<i>-ŋat</i>	‘100’
Adm: Titan	<i>-ŋat</i>	‘100’

³⁵ Mussau is placed above PAdm as we assume it is perhaps coordinate with PAdm (Figure 1.2).

Adm: Kele	<i>-ɲat</i>	‘100’
Adm: Loni	<i>-ɲat</i>	‘100’
Adm: Loni	<i>-ɲon</i>	‘100’
Adm: Nyindrou	<i>-nek</i>	‘100’

The first three cognate sets below are attributed to PAdm because they have reflexes from both Western (Wuvulu, Seimat) and Eastern Admiralty languages (the rest).

PAdm **-Ruma* ‘house’ (< POC **Rumaq* ‘house’; vol.1:48–49)

Adm: Seimat	<i>-hu</i>	‘house’
Adm: Sivisa Titan	<i>-em</i>	‘house’
Adm: Kele	<i>-im</i>	‘building’
Adm: Ere	<i>-ʔim</i>	‘house’
Adm: Nali	<i>-um</i>	‘house’
Adm: Loni	<i>-[w]em</i>	‘house’
Adm: Levei	<i>-ʔiŋ</i>	‘house’
Adm: Bohuai	<i>-ʔem</i>	‘house’
Adm: Mondropolon	<i>-em</i>	‘house’
Adm: Nyindrou	<i>-em</i>	‘house’

PAdm **-m^waw* ‘animate; person (?)’

Adm: Wuvulu	<i>-mea</i>	‘animate’
Adm: Lenkau	<i>-mow</i>	‘animate’
Adm: Lou	<i>-mo, -om</i>	‘animate’
Adm: Baluan	<i>-m</i>	‘animate being’
Adm: Sivisa Titan	<i>-mo</i>	‘animate’ (Bower 2011); ‘human’
Adm: Kele	<i>-mow</i>	‘animate’
Adm: Kurti	<i>-mow</i>	‘animate’
Adm: Koro	<i>-mow</i>	‘person’
Adm: Lele	<i>-mow</i>	‘animate’
Adm: Nali	<i>-mow</i>	‘animate’
Adm: Loni	<i>-mɔw</i>	‘person; loose dog’s tooth; feather; fish’
Adm: Levei	<i>-mop</i>	‘animate’
Adm: Bohuai	<i>-m^waw</i>	‘animate’
Adm: Mondropolon	<i>-mow</i>	‘animate’

PAdm **-potV* ‘fire, firewood’

Adm: Seimat	<i>-hot</i>	‘fire’
Adm: Lou	<i>-pot</i>	‘fire’
Adm: Loni	<i>-pot</i>	‘pile of firewood’

For the four cognate sets below there is no Western Admiralty reflex. Three of them have a POC origin, but there is no way of knowing whether or not they became classifiers at a stage earlier than PAd.

Proto Eastern Admiralty **-fatV* ‘container, bag, basket’

Adm: Ponam	<i>-fat</i>	‘bag’
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Adm: Kele	<i>-hat</i>	‘container’
Adm: Kurti	<i>-hat</i>	‘basket’
Adm: Koro	<i>-hat</i>	‘basket’
Adm: Loni	<i>-hat</i>	‘mat; basket; carrying bag’
Adm: Levei	<i>-hak</i>	‘bag’
Adm: Nyindrou	<i>-hak</i>	‘sago containers’

Proto Eastern Admiralty **-polV* ‘(longitudinal?) half’ (< POc **p^wali-* ‘one half or side of something symmetrical’)

Adm: Lou	<i>-pol</i>	‘half: side of village’
Adm: Baluan	<i>-p^wol</i>	‘half of round object’
Adm: Ponam	<i>-bul</i>	‘half of something broken lengthwise; one of pair’ (cog?)
Adm: Kele	<i>-bul</i>	‘longitudinal halves’

Proto Eastern Admiralty **-cala* ‘path’ (< POc **jalan* ‘path’, vol.1:61–62)

Adm: Kele	<i>-sal</i>	‘paths’
Adm: Loni	<i>-can</i>	‘road, path, boundary’
Adm: Levei	<i>-saŋ</i>	‘path’
Adm: Nyindrou	<i>-san</i>	‘roads; organised groups; intervals or sequences of time’

Proto Eastern Admiralty **-koro* ‘village’ (POc **koro* ‘fenced-in area’; ‘? settlement fortified by barrier’; §5.4)

Adm: Kele	<i>-kor</i>	‘village’
Adm: Levei	<i>-koŋ</i>	‘place/village/town/area’
Adm: Nyindrou	<i>-kon</i>	‘villages or places’

14.6.7 Papuan Tip

Proto Papuan Tip (PPT) had CLF-NML structure, along with at least the following classifiers reconstructed above:

- 25) PPT **kai[u]-* ‘default inanimate classifier (?); long rigid object; wooden thing’ (< POc **kai*; §14.6.1)
 PPT **tau-* ‘human; male human (?)’ (< POc **tau-*; §14.6.1)
 PPT **manu-* ‘animal’ (< POc **manu-*; §14.6.1)
 PPT **waRo-* ‘a bundle of coconuts’ (< POc (?) **waRo-*; §14.6.3)
 PPT **ika-* ‘10 of s.t.’ (< POc **ika-*; §14.6.4)

The retention of a reflex of PPT **kai[u]-* as either a fossil prefix or as one of very few classifiers in Central Papuan languages suggests that it may have been the default inanimate classifier in the shared ancestor of these languages, namely PPT. It was the odd one out among Oceanic subgroups in that it replaced the POc default inanimate classifier **pua-* (§14.6.1). The only groups of languages within Papuan Tip to retain more than a very few classifiers as part of a productive system are Kilivila–Muyuw (Malinowski 1920; Lawton, 1993; Senft 1995) and Sudest–Nimoa (Anderson & Ross 2002).

14.6.8 Micronesian

Like Proto Admiralty, Proto Micronesian had NML-CLF structure. It retained from POc at least the following classifiers reconstructed above:

- 26) PMic **-ua* default numeral classifier (< POc **-pua*; §14.6.1)
 PMic **-kai* ‘plant, tree, stick’ (< POc **-kai*; §14.6.1)
 PMic **-dau* ‘animate; person’ (< POc **-tau*; §14.6.1)
 PMic **-manu* ‘animate’ (< POc **-manu*; §14.6.1)
 PMic **-bui* ‘group, herd’ (< POc **-pui*; §14.6.2)
 PMic **-iti* ‘hand of bananas’ (< POc **-qiti*; §14.6.2)
 PMic **-ik[a,e]* ‘10 of s.t.’ (< POc **-ika*; §14.6.4)
 PMic **-ɲawulu* ‘unit of ten’ (see below)

PMic **-ɲawulu* ‘unit of 10’ (< POc **ɲapuluq*; cf §14.4.5.1)

Mic:	Kosraean	<i>-ɲul</i>	‘unit of 10’
Mic:	Kiribati	<i>-ɲaun</i>	‘unit of 10’ (except things counted with <i>-ua</i>)
Mic:	Marshallese	<i>-ɲoul</i>	‘unit of 10’
Mic:	Ponapean	<i>-ɲowl</i>	‘unit of 10’
Mic:	Puluwatese	<i>-ɲōl</i>	‘unit of 10’
Mic:	Mortlockese	<i>-ɲōl</i>	‘unit of 10’ (counting inanimates)
Mic:	Chuukese	<i>-ɲōn</i>	‘unit of 10’ (used only for ‘10’; not used for 20–90)
Mic:	Woleaian	<i>-ɲaul</i>	‘unit of 10’ (counting groups; Sohn & Tawerilmang 1976:107)
Mic:	Ulithian	<i>-ɲolo</i>	‘bundle of 10 coconuts’ (Sohn & Bender 1983)

Micronesian also has a number of unit-of-measurement classifiers with reconstructions in Chapter 16:

- 27) PMic **ɲafa* ‘fathom’ PChk **yaŋa* ‘finger span’
 PCMic **-m^wanū* ‘length from elbow to finger tips’
 PChk **dila-wup^wa* ‘distance from outstretched finger-tip to mid-chest (lit. ‘breast split’)
 PMic **-m^wanū* ‘length from elbow to finger tips’
 PChk **makoto-ciki* ‘length of one finger segments’
 PChk **makoto-lapa* ‘length of two finger segments’
 Proto Chuukese **-tudu* ‘finger-length’

The NML CLF structure was a variant of the POc NML **ɲa* CLF structure, but by the breakup of PMic, POc **ɲa* had been lost, except as a fossil in PMic **-ɲawulu* ‘unit of 10’ (above) and **-ɲafa* ‘fathom’ (§16.2.1), and as a prenasalisation in PMic **-dau* ‘animate; person’ and **-bui* ‘group, herd’.

Although Nauruan is excluded from Bender et al. (2003a)—presumably because its historical phonology remains almost unknown (Nathan 1973; Johnson 1999)—it is generally assumed that PMic and Nauruan form the primary branches of a ‘Greater Micronesian’ subgroup. If a classifier has a Nauruan reflex as well as reflexes from other Micronesian languages, that classifier can be attributed to Proto Greater Micronesian

(PGMic).³⁶ However, Nauruan historical phonology is so poorly understood that no attempt is made at PGMic reconstruction.

According to Bender et al. (2003a:3), the internal classification of Micronesian languages other than Nauruan is as follows:

- 28) *Micronesian*
 Kosraean
Central Micronesian
 Kiribati
Western Micronesian
 Marshallese
Ponapeic-Chuukic
Ponapeic: Ponapean, Pingelapese, Mokilese
Chuukic: Chuukese, Puluwat, Mortlockese, Satawalese, Carolinian,
 Woleaian, Pulo Annian, Ulithian

Kosraean and Marshallese have all but lost their numeral classifiers. Their loss in Kosraean means that PMic classifiers cannot be reconstructed on the basis of internal evidence alone. If there is a Kiribati reflex, then a Proto Central Micronesian (PCMic) reconstruction can be made. Failing that—given the virtual absence of Marshallese classifiers—only a Proto Ponapeic-Chuukic (PPC) reconstruction can be made. If, on the other hand, there is a reflex of the classifier outside Micronesian, then a PMic reconstruction is possible.

Six classifiers with a Nauruan cognate can be reconstructed for PMic.

PGMic < POC *[pa]paq[a]- ‘coconut frond’ (vol 3:380–381)

Mic: Nauruan -*bε* ‘coconut frond’

PMic **paa* ‘leaf and stalk, frond’ (Bender et al. 2003a)

Mic: Ponapean -*pa* ‘frond’

Mic: Puluwatese -*pa* ‘garland, bead belt, lei’

Mic: Chuukese -*pa* ‘palm frond, garland, stalk with leaves’

Mic: Satawalese -*pæ* ‘coconut leaves or taro leaves’

Mic: Carolinian -*pa* ‘flower leis and compound leaves’

Mic: Woleaian -*pā* ‘palm frond, lei, shell bead belt’

Mic: Sonsorol -*pa* ‘coconut leaf, pandanus leaf’

PGMic

Mic: Nauruan -*dume* ‘packet’

PMic **-sukumV* ‘package, packet’

Mic: Puluwatese -*tikim* ‘package’

Mic: Chuukese -*tukum* ‘package, packet’

³⁶ Blumenfeld (2022) came to hand as final preparations for publication of the present volume were underway. He shows that there is no need to posit PGMic, as Nauruan is not a first-order subgroup of Micronesian.

PGMic < POc **boŋi* ‘night, 24-hour day’ (vol 2:295–297)

Mic:	Nauruan	- <i>bumi</i>	‘night’
PMic *- <i>p^woŋi</i> ‘night’			
Mic:	Kiribati	- <i>poŋ</i>	‘day’
Mic:	Mokilese	- <i>p^woŋ</i>	‘days hence’
Mic:	Ponapean	- <i>p^woŋ</i>	‘night’
Mic:	Puluwatese	- <i>p^woŋ</i>	‘night’
Mic:	Carolinian	- <i>b^woŋ</i>	‘night (esp the taboo nights of a funeral wake)’
Mic:	Sonsorol	- <i>bɔŋi</i>	‘night, timespan’
Mic:	Ulithian	- <i>boŋo</i>	‘night’

PGMic < POc **raun* ‘leaf’ (vol.3:103–104)

Mic:	Nauruan	- <i>ra-</i>	‘flat object’
PMic *- <i>cau</i> ‘thin (flat object), leaf’			
Mic:	Ponapean	- <i>ce</i>	‘leaf, sheet’
Mic:	Puluwatese	- <i>ɾā</i>	‘flat object’
Mic:	Chuukese	- <i>çə</i>	‘leaflike, sheet’
Mic:	Satawalese	- <i>ɾə</i>	‘flat object, e.g. leaf’
Mic:	Carolinian	- <i>ʂə</i>	‘page, flat leaves, pieces of paper’
Mic:	Woleaian	- <i>ʂə</i>	‘flat object’
Mic:	Sonsorol	- <i>saw</i>	‘flat, thin object’
Mic:	Ulithian	- <i>cayə</i>	‘leaflike object’

PGMic < PMic **p^wuku* ‘node, joint, knot, knee’ < POc **buku-* ‘mound, knob, joint; (?) elbow, knee’ (vol.5:175)

Mic:	Nauruan	- <i>bu</i>	‘100’
PMic *- <i>p^wukua</i> ‘100’			
Mic:	Kosraean	- <i>fok</i>	‘100’
Mic:	Kiribati	- <i>p^wup^wua</i>	‘100’ (of anything except coconuts)
Mic:	Marshallese	- <i>b^wik^wiy</i>	‘100’
Mic:	Mokilese	- <i>p^wiki</i>	‘100’
Mic:	Ponapean	- <i>p^wiki</i>	‘100; or 1,000 coconuts’
Mic:	Puluwatese	- <i>p^wukuw</i>	‘100’
Mic:	Mortlockese	- <i>p^wuku</i>	‘100’
Mic:	Chuukese	- <i>p^wuku</i>	‘100’
Mic:	Satawalese	- <i>p^wukuw</i>	‘100’
Mic:	Carolinian	- <i>b^wixiw</i>	‘100’
Mic:	Woleaian	- <i>p^wuxuwe</i>	‘100’
Mic:	Ulithian	- <i>buxuy</i>	‘100’

PGMic < PMic **kisi* ‘small, little’ (Bender et al 2003a)

Mic:	Nauruan	- <i>ke</i>	‘small parts of s.t.’
PMic *- <i>kisi</i> ‘small parts of s.t.’			
Mic:	Mokilese	- <i>kic</i>	‘bit’

Mic:	Ponapean	<i>-kis</i>	‘small piece of fragment’
Mic:	Chuukese	<i>-kis</i>	‘portion’
Mic:	Woleaian	<i>-xiti</i>	‘small piece’

Below is one PCMic reconstruction. It is possible that this dates to POc, as Wuvulu (Adm) *-papa* also is used of flat objects.

Proto Central Micronesian **-papa* ‘flat object’ (< POc **baban* ‘board, plank, leaf’; vol.1:58)

Mic:	Kiribati	<i>-pā</i>	‘sheet or flat object; leaf’
Mic:	Satawalese	<i>-pə</i>	‘flat object’
Mic:	Woleaian	<i>-pə</i>	‘flat object’

Numerous Proto Ponapeic-Chuukic and Proto Chuukic classifiers could be added. They are omitted for reasons of space.

14.6.9 Polynesian

PPn retained both POc classifier structures, NML **ŋa* CLF and CLF NML, but the classifier after **ŋa* was always enumerative and denoted a multiple of the thing counted (§14.3). Clark (1999) observes that the latter structure is rare in Tongic and East Polynesian languages. Unlike Admiralties and Micronesian languages, Polynesian languages use a classifier only with a restricted class of abundant and culturally significant items (§14.6.3).

Certain Tongan classifiers imply that Tongan retained a third POc classifier structure for which only sporadic evidence remains: NML + CLF-**qi/*ni*, followed by the counted/classified noun. This was an application of the POc specific possession structure (Ross 1998b:249). The classifiers concerned are *-fo-ʔi* ‘coconut’ and *-taua-ʔi* ‘pair of coconuts’. The structure appears to be cognate with one found in SE Solomonian languages:

- 29) a. Tongan (Pn)
ha-taua-ʔi *niu*
 one-CLF-ASSOCIATIVE coconut
 ‘one pair of coconuts’
- b. To’aba’ita (SES)
teʔe kibi-ʔi *tāfuliʔae* (*kibi-ʔi* ‘a ten of’)
 one CLF-ASSOCIATIVE set.of.shell.money
 ‘10 sets of shell money’ (Lichtenberk 2008b:300)
- c. Lengo (SES)
sakai na paga ni *iya* (*paga* ‘ten animals’)
 one ART CLF ASSOCIATIVE fish
 ‘one “ten-animals” of fish’ (Hill & Unger 2018:131)

PPn retained the POc NML **ŋa* CLF structure along with at least the following classifiers reconstructed elsewhere:

- 30) PPn **-fui* ‘set of 5 pairs (of coconuts etc)’ (§14.6.2)
 PPn **-fulu* ‘unit of 10’ (< POc **-puluq*)
 PPn **-rau* ‘unit of 100’ (§14.6.4)
 PPn **-kumi* ‘ten fathoms high or deep’ (§16.2.5)

Table 14.13 Decades in Proto Polynesian and Polynesian languages

PPn	* <i>sa</i> =[<i>ŋa</i>] <i>fulu</i>	* <i>rua</i> [<i>ŋa</i>] <i>fulu</i>	* <i>tolu ŋa fulu</i>	* <i>fā ŋa fulu</i>	* <i>nima ŋa fulu</i>
Tongan	<i>ho-ŋo-fulu</i>	<i>uo-fulu</i>	<i>tolu-ŋo-fulu</i>	<i>fā-ŋo-fulu</i>	<i>nima-ŋo-fulu</i>
Niuean	<i>ho-ŋo-fulu</i>	<i>ua-fulu</i>	<i>tolu-ŋo-fulu</i>	<i>fā-ŋo-fulu</i>	<i>nima-ŋo-fulu</i>
Niuafu'ou	<i>ho-ŋo-fulu</i> <i>se-fulu</i>	<i>lua-fulu</i> <i>lua-fulu</i>	<i>tolu-ŋo-fulu</i> <i>tolu-ŋa-fulu</i>	<i>fā-ŋo-fulu</i> <i>fā-ŋa-fulu</i>	<i>nima-ŋo-fulu</i> <i>lima-ŋa-fulu</i>
Takuu	<i>si-na-huru</i>	—	—	—	—
Rennellese	<i>a-ŋa-hugu</i>	—	—	—	—
Ifira-Mele	<i>ŋa-furu</i>	—	—	—	—
Luangiua	<i>ŋa-furu</i>	<i>lua-hui</i>	<i>ton-nu-hui</i>	<i>han-na-hui</i>	<i>lima-na-hui</i>
W Futuna	<i>ta-ŋo-furu</i>	<i>roŋofuru</i>	—	—	—
Pukapukan	<i>a-ŋa-ulu</i> (archaic)	—	—	—	—
Rapanui	<i>ʔa-ŋa-huru</i>	—	—	—	—
Tahitian	<i>ʔa-huru</i>	—	—	—	—
Marquesan	<i>ʔo-no-huʔu</i>	—	—	—	—
Tahitian	<i>ʔa-huru</i>	—	—	—	—
Rurutuan	<i>ʔa-ʔuru</i>	—	—	—	—
Rarotongan	<i>ŋa-huru</i>	<i>rua-ŋa-huru</i>	<i>toru-ŋa-huru</i>	<i>ʔā-ŋa-huru</i>	<i>rīma-ŋa-huru</i>
Tuamotuan	<i>a-ŋa-huru</i>	—	—	—	—

Supporting data for PPn **-fulu* are shown in Table 14.13. Horizontal lines separate the Tongic languages from Samoic and Samoic from EPn. Hyphens indicate historic morpheme divisions, and not necessarily present ones. A dash indicates that the numeral does not reflect the PPn form. Luangiua *-hui* reflects PPn **-fui* (§14.6.2), not **-fulu*, but the forms are included in the table because they illustrate the fact that **ŋa* is sometimes absent after PPn **rua* ‘2’ before classifiers other than **-fulu*.

Other reconstructable classifiers that occur in the same slot include PPn **-fua* ‘10 of s.t.’. In Polynesian languages other than Tongan, it is *fua-*, rather than *-fua*, that marks a multiple of 10, but it is included here because it appears to be cognate with Wuvulu *-fua* ‘10’, which reflects the NML **ŋa* CLF structure. It apparently reflects POc **-pua* ‘default inanimate; round object’ but here has an enumerative or multiplicative function.

POc **-pua* ‘10 roundish objects’ (?)

Adm: Wuvulu (*se*)*fua* ‘10’ (1×10)
 (*ʔolu*)*fua* ‘30’ (3×10)

PPn **-fua* ‘10 tens or scores of certain food items’ (?)

Pn: Tongan *-fua* ‘ten scores of coconuts’
 Pn: Samoan *-fua* ‘fowls, breadfruit, and some shell-fish’ (Pratt 1862)
 fua- ‘10 coconuts’ (Pratt 1862: ‘10 fowls, breadfruit or shellfish’)
 Pn: Tuvalu (*te*)*fua* ‘100 coconuts’

One other classifier that followed the numeral was PPn **-kau*. One of its meanings was ‘a score, 10 pairs’. It is not obvious how this relates to the Samoan and Rennellese glosses.

PPn **-kau* ‘a score, 10 pairs’

Pn:	Tongan	<i>-kau</i>	‘score of coconuts or yams’
Pn:	Samoan	<i>-ʔau</i>	‘bunch of bananas’
Pn:	Rennellese	<i>-kau</i>	‘pair of yams or breadfruit’
Pn:	Marquesan	<i>(te)kau</i>	‘20’
Pn:	Rurutuan	<i>(ta)ʔau</i>	‘20’

A number of other such classifiers are found in Tongan, Samoan and Rennellese, but they do not form cognate sets.

PPn retained the POc CLF NML structure along with at least PPn **mata-* ‘10 fish; 10 taro’ (§14.6.2). One other preposed PPn classifier can be reconstructed. It appears only to have been used with the numerals 1–9.

PPn **toka-* ‘person’ (Clark 1999)

Pn:	Tongan	<i>toko-</i>	‘people’
Pn:	Samoan	<i>toʔa-</i>	‘people’
Pn:	Rennellese	<i>toka-</i>	‘animates’
Pn:	Takuu	<i>taka-</i>	‘humans’
Pn:	Langiua	<i>toka-</i>	‘humans’
Pn:	Rarotongan	<i>toko-</i>	‘humans’
Pn:	Maori	<i>toko-</i>	‘humans’

This is the only preposed classifier that survives in EPn languages. As a result, the classifiers below, which have neither a Tongan nor an EPn reflex, must be attributed to Proto Samoic.

These preposed classifiers, all of which originally counted tens of something, inherited from Proto Samoic the odd feature noted by Clark (1999) that, when they count ‘one ten’, ‘one’ is expressed by a reflex of Proto Samoic **-a-ŋa-fulu*, which includes the postposed classifier for ‘ten’. When they count from 2 upward, normal numerals are used. Hence, for example, Rennellese *тино aŋahugu* ‘10 people’ but *тино gima* ‘50 people’ (*gima* ‘5’); Samoan *ʔau ŋa-ulu ufu* ‘10 yams’ (*ʔau-* ‘10 yams’; *ufu* ‘yam’) but *ʔau-lua ufu* ‘20 yams’ (*lua* ‘2’).

Proto Samoic **tino-* ‘animate being’

Pn:	Samoan	<i>tino-</i>	‘people’
Pn:	Tuvalu	<i>tino-</i>	‘people’
Pn:	Rennellese	<i>tino-</i>	‘10 animates’
Pn:	Takuu	<i>tino-</i>	‘10 humans’
Pn:	Tokelauan	<i>tino-</i>	‘people, birds, octopus, skipjack’
Pn:	Pukapukan	<i>tino-</i>	‘10 humans, 10 skipjack’

Proto Samoic **fua-* ‘unit of ten’ (POLLEX)

Pn:	Samoa	<i>fua-</i>	‘10 coconuts’ (Pratt 1862: ‘10 fowls, breadfruit or shellfish’)
Pn:	Tuvalu	<i>fua-</i>	prefix indicating ‘ten times’
Pn:	E Futunan	<i>fua-</i>	‘unit of ten’
Pn:	Nukuoro	<i>hua</i>	numeral classifier, by tens, for fruit
Pn:	Tikopia	<i>fua-</i>	numeral prefix: ‘ten times’

Proto Samoic **lau-* ‘unit of ten’

Pn:	Samoa	<i>lau-</i>	‘10 big fish’
Pn:	Rennellese	<i>gau-</i>	‘10 flat objects’
Pn:	Pukapukan	<i>lau-</i>	‘10’

PNPn **kau-* ‘10 roundish objects’

Pn:	Samoa	<i>ʔau-</i>	‘10 yams’
Pn:	Luangiua	<i>kau-</i>	‘10 puddings, 10 mats, 10 years’
Pn:	Pukapukan	<i>kau-</i>	‘10 fruit, round objects, oven stones, pandanus leaves, plaited wall mats’

14.7 Conclusions

The main conclusion to be drawn from this chapter is that the inherited POc decimal system was fairly restricted in its use. Using simple numerals up to 100, one can construct complex numerals up to 999, and early Oceanic speakers skilled in counting could probably count far beyond this. Numbers up to 20 doubtless had limited everyday uses, but the system was mainly used by senior men to count produce of various kinds in wealth redistribution and exchange (§14.1.2.1). It is reasonably certain that only a small number of men in any community knew the community’s numeral system in detail, and the passing of such a large and complex system by a few men from generation to generation meant that it was prone to change, especially in the least used, i.e. the highest echelons, of the system (§14.4.6).

With one exception, reconstruction of POc decimal numerals is straightforward, and the reconstructions need not be repeated here. They are set out in Table 14.1 on §14.1.2 and justified in sections 14.4.2 and 14.4.3 and their subsections. The exception is the numeral form for ‘one’. When it was attached to a classifier, its form was **sa-*. Unattached forms apparently included *(*i*)*sa*, **ta-sa*, **tai*, **ta-kai* and **sa-kai* (§14.4.1 and subsections). Why there are so many reconstructable forms is not known. Did they have different functions? Or were they the result of an emphatic forms meaning ‘one only’ becoming non-emphatic? What role, if any, did the POc dislike of single-syllable lexical morphemes play in their formation?

Inherited numerals containing the sequences *-[*ŋa*]puluq LIGATURE + ‘unit of ten’ and *-[*ŋa*]Ratus LIGATURE + ‘unit of hundred’ underwent various reanalyses in early Oceanic and point to the existence of dialects by the time POc broke up (§14.4.5.2).

The inherited POc system also entailed the use of numeral classifiers in two constructions: NUMERAL [**ŋa*] CLASSIFIER and CLASSIFIER NUMERAL (§14.3). The only subgroup of Oceanic languages to retain both constructions with any degree of

productivity is Polynesian (§14.6.9), and it is likely that, as with the few surviving Polynesian systems, the use of enumerative classifiers in POc was limited to nouns denoting culturally salient and abundant objects, rather than being used with all counted nouns as in Admiralties, Kilivila and Micronesian languages. Supporting evidence for this inference lies in the limited number of POc classifiers reconstructable (see below) and in the ease with which classifiers have been lost in many Oceanic languages. The Admiralties, Kilivila and Micronesian languages, on the other hand, represent an elaboration of the classifier system to cover all nouns. Senft's (1995) work on Kilivila, where elaboration appears to be ongoing, implies that one reason for the elaboration is an appreciation of rhetoric in Kilivila society: subtle use of classifiers is one feature of a good public speech.

A complication here is that PPn classifiers with the structure NML **ŋa*-CLF always counted multiples of items, i.e. were always numeral classifiers. Was this true of their POc forebears? Quite possibly, but non-Polynesian data that would clinch this do not exist.

A question touched on only briefly in this chapter is whether digit tallying, i.e. counting on fingers and sometimes toes, already influenced numeral systems in early Oceanic times. This is the topic of the following chapter.

Appendix to chapter 14

This list contains references to sources of grammatical data, numerals and classifiers used in the present chapter and chapters 15 and 16 and not listed under sources of lexical data in Appendix A

Not listed below are the following. Many of the numeral forms from NCV languages of Malakula, Vanuatu, were collected by Aviva Shimelman in 2015–2016 under the aegis of the *Vanuatu Languages and Lifeways* project of the Max Planck Institute for the Science of Human History, Jena. Many numeral forms and occasional information about classifier forms are found on the Institute's website *Numeral Systems of the World's Languages* (<https://lingweb.eva.mpg.de/channumerals/Austronesian-Eastern.htm>) collated by Eugene Chan. Much of the data on numerals and classifiers in languages of Papua New Guinea is from Malcolm Ross' fieldnotes, collected during the years 1978–1982.

Amara	Thurston 1996a	Balawaia	Kolia 1975
Ambai	Silzer 1983	Baluan	Schokkin 2020
Ambel	Arnold 2018	Banoni	Lincoln 1976b
Anejoñ	Lynch 2000c	Barim	Raymond 2005
Apma	Schneider 2010	Barok	Du 2010
Araki	François 2002	Bauan Fijian	Churchward 1941
Are	Paisawa, Pagotto & Kale 1975	Belep	McCracken 2012
Aria	Thurston 1996b	Big Nambas	Fox 1979
Arop-Lokep	D'Jernes 1990, 2002; Raymond 2005	Bing	Bennett & Bennett 1998
Arosi	Fox 1931; Capell 1971	Boumā Fijian	Dixon 1988
Atchin	Capell & Layard 1980	Bugotu	Ivens 1933
Avava	Crowley 2006a	Bukawa	Eckermann 2007
Baetora	Ivens 1940b	Buli	Maan 1951
		Buma	Tryon 2002

Buru	Grimes 1991	Lelepa	Lacrampe 2014
Caac	Cauchard 2014	Lengo	Hill & Unger 2018
Carolinian	Fritz 1911; Harrison & Jackson 1984	Lengo	Unger 2008
Chuukese	Benton 1968; Harrison & Jackson 1984; Bender & Beller 2006b	Lewo	Early 1994
Daakaka	von Prince 2012	Longgu	Hill 1992
Dami	Elliott 1979	Loniu	Hamel 1994
Dawawa	Knauber & Knauber 1990	Lonwolwol	Paton 1971
Dobu	Arnold 1931	Lou	Stutzman 1994
Duau	Thune 1978	Maeng	Müller 1907
E Kara	Dryer 2012	Magey Matbat	Remijsen 2010
Engdewo	Vaa 2013	Maleu	Haywood 1996
Fehan Tetun	van Klinken 1999	Manam	Lichtenberk 1983
Gabadi	Strong 1912	Mangap	Bugenhagen 1995
Gapapaiwa	McGuckin 2002	Mangarevan	Lemaître 1985; Bender & Beller 2006b
Gedaged	Dempwolff nd	Māori	Bender & Beller 2006a, 2006b
Halia	Allen 1987	Maringe	Boswell 2018
Hawaiian	Elbert & Pukui 1979; Bender & Beller 2006a, 2006b	Marquesan	Lemaître 1985; Bender & Beller 2006a, 2006b
Hawu	Walker 1982	Marshallese	Harrison & Jackson 1984
Hoava	Davis 2003	Maskelynes	Healey 2013
Hula	Lean 1991	Matukar	Anderson et al. 2010; Barth 2012
Hula	Short 1935	Ma'vea	Guérin 2011
Javanese	Robson 1992	Merei	Chung 1998
Kairiru	Wivell 1981a	Minaveha	Lovell 1994
Kaiwa	Bradshaw 2001	Miniafia	Wakefield 1975
Kalo	King et al 2014	Minigir	van der Mark 2007
Kamera	Klamer 2010	Mokilese	Harrison 1976; Harrison & Jackson 1984
Keapara	King et al 2014	Molima	Engkvist & Engkvist 1997
Kele	Ross 2002a	Mortlockese	Harrison & Jackson 1984
Kéo	Baird 2002	Motu	Lister-Turner & Clark 1954b; Lean 1991
Kilivila	Malinowski 1920; Lawton 1993; Senft 1995	Mouk	Thurston 1996b
Kiribati	Harrison & Jackson 1984; Groves, Groves & Jacobs 1985; Bender & Beller 2006b, 2007a	Mussau	Brownie & Brownie 2007
Kokota	Palmer 2009	Muyuw	Lithgow & Lithgow nd
Koro	Cleary-Kemp 2015	Mwotlap	François 2003
Kosraean	Lee 1975; Harrison & Jackson 1984	Nadrogā	Geraghty 2002
Kove	Sato 2012	Nahavaq	Dimock 2009
Kubokota	Chambers 2009.	Nakanai	Johnston 1980
Kwaio	Keesing 1985	Nalik	Volker 1998
Kwamera	Lindstrom & Lynch 1994	Namagir	Sperlich 1991
Label	Peekel 1930	Naman	Crowley 2006c
Lala	Symonds 1989	Nauruan	Kayser 1993 [1936]
Lamaholot	Nishiyama & Kelen 2007	NE Ambae	Hyslop 2001
Lamogai	Thurston 1996b	Nehan	Glennon 2014
Lau	Ivens 1929b	Nêlêmwa	Bril 2014
		Nese	Crowley 2006d
		Neve'ei	Musgrave 2007
		Neverver	Barbour 2012

Nguna	Schütz 1969	Takuu	Moyle 2011
Niuafu'ou	Tsukamoto 1988	Tamambo	Jauncey 2011
Notsi	Erickson & Erickson 1992	Tami	Bamler 1900
Nukuoro	Carroll 1965; Bender & Beller 2006a, 2006b	Tangga	Maurer 1966
Nyelâyu	Ozanne-Rivierre 1998	Tape	Crowley 2006b
Paamese	Crowley 1982	Tawala	Ezard 1997
Papapana	Smith-Dennis 2020	Teop	Mosel & Thiesen 2007
Patpatar	Condra 1989	Tinrin	Osumi 1995
Poeng	Panoff 1970; Rath 1996	Tirax	Brotchie 2009
Ponam	Carrier 1981	Titan	Bowern 2011
Ponapean	Rehg 1981; Harrison & Jackson 1984; Bender & Beller 2006b	To'aba'ita	Lichtenberk 2008b
Pukapukan	Beaglehole & Beaglehole 1938; Salisbury 2002	Tolai	Mosel 1984
Puluwatese	Elbert 1974; Harrison & Jackson 1984	Tolai	Paraide 2008
Ramoaaaina	Davies & Fritzell 1992	Tongan	Churchward 1953; Bender & Beller 2006a, 2006b, 2007a, 2007b
Rapanui	Bender & Beller 2006a	Tungak	Fast 1990
Rennellese	Elbert 1988; Bender & Beller 2006a	Tuvalu	Besnier 2000
Roinji	Lincoln 1978	Ughele	Frostad 2012
Rongga	Arka 2008	Ulawa	Ivens 1918
Roviana	Corston 1996	Ulithian	Sohn & Bender 1983; Harrison & Jackson 1984; ; Bender & Beller 2006b
Sa	Garde 2015	Unua	Pearce 2015
Sa'a	Ivens 1918	Ura	Lynch 1983c; Crowley 1999
Sakao	Guy 1974; Touati 2014	Uripiv	McKerras 1988
Saliba	Mosel 1994	Utaha	Lynch 1983d
Samoaan	Mosel & Hovdhaugen 1992; Bender & Beller 2006a, 2006b	Varisi	Scheffler 1958–1961
SE Ambrym	Labrecque 2009	Vera'a	Schnell 2011
Seimat	Wozna & Wilson 2005	Vitu	van den Berg & Bachet 2006
Siar	Rowe 2005; Frowein 2011	Vurës	Malau 2016
Sikaiana	Capell 1935–1937	Waima'a	Himmelman 2010
Sinaugoro	Tauberschmidt 1999	Wogeo	Exter 2010
Sio	Clark & Clark 1987	Woleaian	Alkire 1970; Sohn 1975; Harrison & Jackson 1984; Bender & Beller 2006b, 2007a
Sisiqa	Ross 2002b	Wuvulu	Hafford 2014
Sobei	Sterner & Ross 2002	Xârâcùù	Moyse-Faurie 1995
Sonsorol	Capell 1969	Yabem	Dempwolff 1939; Bradshaw & Czobor 2005
South Efate	Thieberger 2006a	Yapese	Jensen 1977
Sudest	Anderson & Ross 2002	Zabana	Fitzsimons 1989
Sursurunga	Hutchisson 1975		
Sye	Crowley 1998		
Tabar	Hong & Hong 2003		
Tahitian	Bender & Beller 2006a, 2006b		

15 *Digit tallying*

MALCOLM ROSS

15.1 Two early Oceanic counting systems

Alongside their inherited decimal system (§14.1.2: Table 14.1) early Oceanic speakers in mainland New Guinea, New Britain, New Ireland, Bougainville, Vanuatu and New Caledonia apparently used a digit tally system, a formalised method of counting on one's fingers, and in some communities on one's toes too. The area for which numerals provide evidence of digit tallying is geographically discontinuous (Map 15.1). Linguistically it consists of WOc minus the western Solomons (Choiseul, New Georgia, Santa Isabel) along with SOc. For the sake of brevity, these areas are called the "digit tally areas" here. Just two languages, Seimat (Adm) and Gela (SES), that have evidence of digit tallying lie outside these areas.

The tasks of this chapter are, first, to examine the evidence for digit tallying and, second, to ask why its presence has brought about changes in numeral systems in the digit tally areas, but not in Oceanic languages elsewhere. An important question is why the digit tally area is geographically discontinuous. Why, for example, did digit tallying affect numeral systems in the digit tally areas, but in almost no Admiralty or SE Solomonian languages?

The presence of tallying alongside the inherited decimal system in the digit tally areas is unproblematic. Section 14.2.2 proposes that the decimal system was used to its fullest extent for ceremonial purposes. It also implies that counting was not used in everyday life to the degree that it is used in modern Western societies. People, for example, were less frequently counted than in Europe (§14.2.1.3). Measuring evidently used numbers much less than a westerner might expect (Chapter 16). When counting was used in everyday life, the fingers were used along with—in many communities—a small subset of inherited numerals.

Evidence for digit tallying today, or recently, is given in §15.2. Evidence for digit tallying in the past is found in many numeral systems in the digit tally areas and some outside them. Numeral systems with four quite widespread structures are examined in this chapter, and to this end a more formal terminology than the one used in chapter 14 is needed. This is the topic of §15.3, and §15.4 employs it to describe the four system structures. The forms of various numeral words reflect a digit-tallying past (§15.5). Section 15.6 shows the rather skewed distribution of the four system structures across Oceanic, and §15.7 investigates the origins of the three system structures that have a 5-base. Using evidence from the foregoing sections, §15.8 suggests answers to the questions above, and §15.9 summarises the chapter's main arguments.

15.2 Digit-tallying practices

Digit tallying takes a number of forms around the world, and is more deeply embedded in some cultures than in others (Bender & Beller 2012). Observations of children show that finger-counting is not a necessary part of learning to count, and is thus not essential to developing a numeral system (Crollen, Seron & Noël 2011). It is not embedded in Ponam (Adm) culture, for example, where Carrier (1981:468) notes that people generally do not count on their fingers, except when, for example, an adult is counting something they see or visualise in memory.

The general Oceanic pattern of tallying by counting off the fingers of one hand, then the other, and then perhaps the toes of each foot, to arrive at ‘one person’, i.e. 20, has also been documented from the Arctic to Mesoamerica (Closs 1986), in west Africa, and in Khoekhoe languages of southern Africa (Bender & Beller 2012).

Accounts of tallying among groups of Oceanic speakers indicate that each speech community had its own procedure, but almost all entailed holding hands open toward the speaker’s face, then progressively folding the fingers down until one had two fists, i.e. 10. Some communities also employed the toes, and some repeated the process with the fingers as a proxy for toes until they reached ‘one person’. Both possibilities existed for Kairiru speakers (NNG; Wivell 1981). Fingers and toes were used by Mengen (NNG; Panoff 1970) and by Drehu speakers (NCal; Ray 1926:134). Groups who used fingers only include the Lihir and Sursurunga of New Ireland (MM; Neuhaus 2015 [1954]:131; Hutchisson 1977) and the Banks and Ambae islanders of northern Vanuatu (Codrington 1891:353). In other accounts this information is omitted, perhaps because people only used their hands.

Some accounts specify whether tallying began with the left hand or the right. Wivell tells us that the Kairiru started with the left hand, then moved to the right, then to the right foot before the left. Speakers of Mengen, Tangga of New Ireland (MM; Maurer 1966:75) and Gela (SES; Codrington 1891:353) started with the right hand, the Banoni of Bougainville (MM; Lincoln 2010:230) with the left.

Speakers of Nalik (MM; Volker 1998:118), Tangga, Banoni and Gela started tallying from the little finger of each hand, speakers of Lihir, Sursurunga and Banks languages from the thumb. Speakers of Drehu began each hand with the thumb, and each foot with the big toe.

Codrington reports that Ambae islanders use only one hand to count. They start with the thumb, and when they have reached 5 and all fingers are down, they straighten all fingers again, this time counting from the forefinger to the little finger and reserving the thumb for 10.

If Maurer’s (1966:74) account is correct, Tangga speakers counted both hands and said, “*tika*” (‘1’), then counted them again and said, “*tike sanful*” (‘one ten’), but meaning that they had counted 20. They then repeated the whole process and ended with “*iu e sanful*” (‘2 tens’), meaning 40. Maurer offers no explanation for this, but I infer that this was public counting and involved counting in pairs (cf §14.6.3). Maurer (1966:75) goes on to say that “if the objects were not present”, i.e. if one was counting something privately in one’s head, then one started with the little finger of the open hand and counted both hands serially to ten, then repeated the process, if necessary plucking leaflets from a fern frond to keep count of the tens.

Panoff (1970:363–364) also describes two modes of tallying among the Mengen. For numbers below 20, they tallied in pairs:

When single units are involved, the Maenge begin counting on the right hand, which is held up open. First, the index finger [forefinger] of the right hand touches the thumb of the

same hand while one says *lua* ('two'). The middle and fourth [ring] fingers of the same hand are then clustered together and bent downward while one again says *lua*. Finally, the little finger of the same hand is bent while one says *ne lima* (the ordinal for 'five'). Once this has been done, one passes on to the left hand, using its fingers as tallies in the same way as those of the right hand and again calling the numerals *lua*, *lua*, *ne lima*. At this point one closes the fists, both hands being held up together, and says *tangulelu* ('10'). If the number of objects to be counted exceeds ten, one proceeds to the toes of the right foot, which are touched with the right forefinger in the same two-two-one succession, the same numerals as before being uttered afresh. To reach twenty, one resumes the operation on the left foot with the left forefinger used as a pointer. The numeral *giaukaena* ('20') ['a person's feet'—MR] is then called, and one stoops and places both closed fists on the toes to show the completion of the vigesimal series.

The second method, apparently used when a large number of objects was counted in twenties, was straightforward tallying.

It is clear, then, that Oceanic speakers in the digit tally areas do or did use tallying as a means of counting. Whether speakers outside these areas also did so is largely a matter of conjecture. Carrier (1981) writes that it was not common practice among Ponam (Adm) speakers. As the examples in this section were noted in the course of reading others' research, and no comparative research on digit tallying in the Pacific has been done, it may be sheer chance that, with the exceptions of Seimat and Gela, examples outside the digit tally areas have not been found.

Evidence of earlier digit tallying comes from numeral systems themselves, both from number words derived from 'hand', 'foot', 'thumb' or person, and from systems that diverge significantly in structure from the decimal systems described in Chapter 14.

Note, though, that among the languages mentioned in this section, Sursurunga, Tangga, Gela and NE Ambae have decimal systems. Thus it need not be supposed that communities with decimal counting do not also use tallying.

15.3 Terminology

Numerals are unlike many lexical items¹ in that in most languages their meanings form a highly ordered semantic domain. The forms that express those meanings are composed of a limited number of single-morpheme words—**simple numerals**—which also serve, sometimes with modification, as components for the specialised part of the grammar that constructs numerals with more than one morpheme. These are **complex numerals**. For example, *two hundred and one* is a complex numeral made up of the simple numerals *one*, *two* and *hundred* and the morpheme *and* in accordance with the grammar (Booij 2010:195–204). The grammar allows speakers to generate large numbers of numerals, with the need only to store simple numerals in memory, probably along with some frequently used complex numerals (Greenberg 2000:74–75; Moravcsik 2013:47).

The way a numeral system's semantic domain is structured varies from language to language. In a majority of languages worldwide the structure is base-10 (decimal), but

¹ Whether one calls complex (phrasal) numerals like English *one hundred and seventy three* lexical items depends on one's theory of grammar, a matter that is beyond the scope of this discussion.

Table 15.1 Cyclicity in Mussau numerals (Brownie & Brownie 2007)

tens: 0	10	20	30	40	
0	—	<i>sa-ŋaulu</i>	<i>lue-ŋaulu</i>	<i>tolu-ŋaulu</i>	<i>ati-ŋaulu</i>
1	<i>sesa</i>	<i>sa-ŋaulu sesa</i>	<i>lue-ŋaulu sesa</i>	<i>tolu-ŋaulu sesa</i>	<i>ati-ŋaulu sesa</i>
2	<i>lua</i>	<i>sa-ŋaulu lua</i>	<i>lue-ŋaulu lua</i>	<i>tolu-ŋaulu lua</i>	<i>ati-ŋaulu lua</i>
3	<i>tolu</i>	<i>sa-ŋaulu tolu</i>	<i>lue-ŋaulu tolu</i>	<i>tolu-ŋaulu tolu</i>	<i>ati-ŋaulu tolu</i>
4	<i>ata</i>	<i>sa-ŋaulu ata</i>	<i>lue-ŋaulu ata</i>	<i>tolu-ŋaulu ata</i>	<i>ati-ŋaulu ata</i>
5	<i>lima</i>	<i>sa-ŋaulu lima</i>	<i>lue-ŋaulu lima</i>	<i>tolu-ŋaulu lima</i>	<i>ati-ŋaulu lima</i>
6	<i>nomo</i>	<i>sa-ŋaulu nomo</i>	<i>lue-ŋaulu nomo</i>	<i>tolu-ŋaulu nomo</i>	<i>ati-ŋaulu nomo</i>
7	<i>itu</i>	<i>sa-ŋaulu itu</i>	<i>lue-ŋaulu itu</i>	<i>tolu-ŋaulu itu</i>	<i>ati-ŋaulu itu</i>
8	<i>oalu</i>	<i>sa-ŋaulu oalu</i>	<i>lue-ŋaulu oalu</i>	<i>tolu-ŋaulu oalu</i>	<i>ati-ŋaulu oalu</i>
9	<i>sio</i>	<i>sa-ŋaulu sio</i>	<i>lue-ŋaulu sio</i>	<i>tolu-ŋaulu sio</i>	<i>ati-ŋaulu sio</i>

structures with base-5 and base-20, replicating the hands and feet used in digit-tallying, are fairly common (§15.6).

Most numeral systems have a cyclic structure (Salzmann 1950:81). The cyclicity of Mussau's decimal numeral system in Table 15.1 is self-evident. The **lowest numerals** in the system (in column 0) are simple ones counting from 1 to 9 and form the first cycle. In columns 10 to 40 the element in row 0—call it *n*—e.g. *lue-ŋaulu* '20', introduces a **round** of this cycle. The cells below it contain a complex numeral, e.g. *lue-ŋaulu tolu* '23', consisting of *n* preceded by an element that replicates 1–9 from the first cycle, each column forming a fresh round (10–19, 20–29 etc). The first morpheme of each *n*, namely *sa-*, *lue-*, *tolu-*, *ati-*, is a version of one of 1 to 4 and together they form a superordinate cycle. If this cycle were shown in full, its rightmost column would be headed by *sio-ŋaulu* '90', and the table would end with 99, after which a second round of the superordinate cycle would begin with *ai* '100'.

Thus each column is a round of a 10-cycle, and the superordinate cycle represented by the first row (*sa-ŋaulu* etc) is a 100-cycle. A cycle defines a **base**. The base of the first cycle, 10 (*-ŋaulu*), initiates the second and further rounds of the 10-cycle (the columns of Table 15.1). Similarly the base of the next cycle, 100 (*ai*), initiates the second and further rounds of the 100-cycle (*rua ai* '200' etc). Mussau is thus a base-10 (or decimal) system, or, more exactly, a base-10-100 system.

Commonly, complex numerals in non-initial rounds of a cycle are formed by adding lowest numerals to the base numeral (e.g. *sa-ŋaulu sesa* '11', *sa-ŋaulu lua* '12', etc) or by multiplying the base numeral by a numeral smaller than the base (e.g. *sa-ŋaulu* '10', *lue-ŋaulu* '20', etc). Thus Mussau has a **canonic** system, canonic in that it follows regularly a small set of rules for generating complex numerals (cf Hammarström 2008:290).

15.4 Cyclicity in numeral systems of the digit tally areas

Decimal systems also occur within the digit tally areas, but three other types of system structure are common: base-5-10, base-5-20 and base-5-10-20. I will refer to them collectively as 'base-5+' systems. The following subsections describe an example of each of these systems.

Table 15.2 Cyclicity in Daakaka numerals (von Prince 2012:224–225)

		base-5	
fives:	0		5
0	—	—	<i>lim</i> ‘5’
1	<i>s^wa</i>	‘1’	<i>milip-s^ves</i> ‘6’
2	<i>lo</i>	‘2’	<i>miliv-yo</i> ‘7’
3	<i>sī</i>	‘3’	<i>milip-sī</i> ‘8’
4	<i>v^ver</i>	‘4’	<i>me-per</i> ‘9’

		base-10			
tens:	10		20		30
0	<i>suŋavi</i>	‘10’	<i>uŋ lo</i>	‘20’	<i>uŋ sī</i> ‘30’
1	<i>suŋavi a s^wa</i>	‘11’	<i>uŋ lo a s^wa</i>	‘21’	<i>uŋ sī a s^wa</i> ‘31’
2	<i>suŋavi a lo</i>	‘12’	<i>uŋ lo a lo</i>	‘22’	<i>uŋ sī a lo</i> ‘32’
3	<i>suŋavi a sī</i>	‘13’	<i>uŋ lo a sī</i>	‘23’	<i>uŋ sī a sī</i> ‘33’
4	<i>suŋavi a v^ver</i>	‘14’	<i>uŋ lo a v^ver</i>	‘24’	<i>uŋ sī a v^ver</i> ‘34’
5	<i>suŋavi a lim</i>	‘15’	<i>uŋ lo a lim</i>	‘25’	<i>uŋ sī a lim</i> ‘35’
6	<i>suŋavi a milip-s^ves</i>	‘16’	<i>uŋ lo a milip-s^ves</i>	‘26’	<i>uŋ sī a milip-s^ves</i> ‘36’
7	<i>suŋavi a miliv-yo</i>	‘17’	<i>uŋ lo a miliv-yo</i>	‘27’	<i>uŋ sī a miliv-yo</i> ‘37’
8	<i>suŋavi a milip-sī</i>	‘18’	<i>uŋ lo a milip-sī</i>	‘28’	<i>uŋ sī a milip-sī</i> ‘38’
9	<i>suŋavi a me-per</i>	‘19’	<i>uŋ lo a me-per</i>	‘29’	<i>uŋ sī a me-per</i> ‘39’

15.4.1 Base-5-10

The corresponding table for the NCV language Daakaka of Ambrym, [Table 15.2](#), falls into two parts because its numeral system has two bases, the second interrupting the cyclicity of the first.

Daakaka starts with a 5 base, i.e. the lowest numerals stop at 5, as shown in the first part of [Table 15.2](#). As the base-5 matrix in [Table 15.2](#) shows, this part of the system lasts just two rounds. In Mussau the next higher base is 100, i.e. base×base (10×10). One might expect the next higher base in Daakaka to be base×base (5×5=25), but it isn’t. The base *suŋavi* ‘10’ intervenes, and from here on the system is decimal, with decades from 20 upward employing the much abbreviated *uŋ* in place of *suŋavi*, as shown in the base-10 matrix of [Table 15.2](#).

Unlike Mussau, Daakaka has no further bases. 100 is simply *uŋ suŋavi* (10×10). Within each base-10 round are two subordinate base-5 rounds.

The numerals in the second base-5 round, 6 to 9, are formed additively, albeit with some morphophonemic changes. Such numerals began life as 5+1, 5+2 etc, with a ligature morpheme that functions like a plus sign. In many NCV languages the ligature reflects the

POc neutral caused-motion verb **lapi* ‘take, get, give’ (vol.5:426).² The second syllable of the Daakaka ligature *milip-* reflects **lapi*, while various origins of initial *mi-* can be posited (Lynch 2009:402).³ It is common for the ligature alone to function as the expression of 5+ in this context. Daakaka thus has a base-5-10 system, common throughout the digit tally areas (see Map 15.1). Where they reflect POc numerals such systems are treated as decimal in Chapter 14, as they differ from a base-10 system only in their treatment of 6–9.

Lynch’s (2009) “imperfect decimal” category of Oceanic numeral systems lumps together the additive 6–9 sequences in Daakaka, Mangap and Tuam with subtractive sequences like 7-9 in Ponam *aha-talo-f* [minus-3-CLF] ‘7’, *aha-luo-f* [minus-2-CLF] ‘8’, *aha-se* [minus-1-CLF] ‘9’ (§14.4.3.5).⁴ However, the subtractive sequence is not cyclic, so in this respect Ponam 10 does not define a base. The numeral ‘10’ is a base in Ponam, but because there is a base-10 cycle, not because it is a minuend.⁵

15.4.2 Base-5-20

The Mangap (NNG) system, shown in Table 15.3, is similar to Daakaka insofar as it has two bases, but differs from it in several ways, the most salient of which is that the second base is 20, not 10, i.e. it is a base-5-20 system. Hence there are four base-5 rounds before *tomō-ta* [20×1] ‘twenty’ interrupts base-5 cyclicity. After this interruption, numeration continues quite consistently, with base-5 rounds occurring within each superordinate base-20 round.

There is an oddity in the base-5 matrix. Instead of counting across row 0 *lama-ta* ‘one five’, *lāmu-ru* ‘two fives’, †*lāmu-tel* ‘three fives’, the expected *-tel* ‘3’ is replaced by *-ro-ma-ta* ‘2 plus 1’. Probably *lamo-ro-ma-ta* [hand-2-and 1] ‘15’ abbreviates a phrase meaning ‘two hands and one foot’, harking back to digit-tallying. Viewed from the perspective of numeral system structure, however, *lamo-ro-ma-ta* breaks a rule that would generate †*lāmu-tel*.

Base-5-20 systems are found scattered across parts of the digit tally areas (see Map 15.1). The Mangap system is not quite transparent because the language has undergone various vowel changes, mainly vowel harmonisations. The lowest base, *lama-* ‘5’, reflects POc **lima* ‘five’. The second base, *tomō-ta* ‘one twenty’, is apparently a haplologic⁶ reduction of *tomōto-ta* and means ‘one man’, again suggesting a digit-tally system that counts two hands, one foot and four toes (*lamo-ro ma-ta mi paŋ*) for 19, then counts ‘one person’ or ‘one man’ for ‘20’.

It is a little difficult to believe that numerals the length of those in the bottom four lines of the base-20 matrix were used with any regularity in traditional societies, but grammar after grammar describes such systems, and they are not the inventions of the grammar writers. If one thinks of them as describing a tally, then, for example, *tomtō-ru lamo-ro-ma-ta mi ru* does not say, ‘57’, but ‘2 people (plus) 2 hands and (a foot) plus 2 (toes)’.

² With minor differences, this is the position taken by Lynch (2009:401–403), who did not have access to cognates outside Vanuatu.

³ The form for 9, *meper* is rather opaque, but von Prince (2012:401) cites nearby Dalkalaen *melafer* and Daakie *melapet*, which still reflect the ligature without the abbreviation that occurs in Daakaka.

⁴ Codrington (1885:223–228) coined the term “imperfect decimal” for base-5-10. Lynch extends it to include subtractive numerals between 6 and 9 (Garde 2015:124). Blust’s (2013:280) “structurally modified decimal” adds to this by including any arithmetical operation used to generate a numeral between 6 and 9.

⁵ A minuend is the number from which another number is subtracted.

⁶ Haplology is the loss of one of two successive (near-)identical syllables.

Table 15.3 Cyclicity in Mangap numerals (Bugenhagen 1995:147–148)

base-5				
fives:	0	5	10	15
0	—	<i>lama-ta</i> ‘5’	<i>lāmu-ru</i> ‘10’	<i>lamo-ro-ma-ta</i> ‘15’
1	<i>ta</i>	<i>lama-ta mi ta</i> ‘6’	<i>lāmu-ru mi ta</i> ‘11’	<i>lamo-ro-ma-ta mi ta</i> ‘16’
2	<i>ru</i>	<i>lama-ta mi ru</i> ‘7’	<i>lāmu-ru mi ru</i> ‘12’	<i>lamo-ro-ma-ta mi ru</i> ‘17’
3	<i>tel</i>	<i>lama-ta mi tel</i> ‘8’	<i>lāmu-ru mi tel</i> ‘13’	<i>lamo-ro-ma-ta mi tel</i> ‘18’
4	<i>paŋ</i>	<i>lama-ta mi paŋ</i> ‘9’	<i>lāmu-ru mi paŋ</i> ‘14’	<i>lamo-ro ma-ta mi paŋ</i> ‘19’

base-20				
20s:	20		40	
0	<i>tomō-ta</i>	‘20’	<i>tomtō-ru</i>	‘40’
1	<i>tomō-ta mi ta</i>	‘21’	<i>tomtō-ru mi ta</i>	‘41’
2	<i>tomō-ta mi ru</i>	‘22’	<i>tomtō-ru mi ru</i>	‘42’
3	<i>tomō-ta mi tel</i>	‘23’	<i>tomtō-ru mi tel</i>	‘43’
4	<i>tomō-ta mi paŋ</i>	‘24’	<i>tomtō-ru mi paŋ</i>	‘44’
0	<i>tomō-ta lama-ta</i>	‘25’	<i>tomtō-ru lama-ta</i>	‘45’
1	<i>tomō-ta lama-ta mi ta</i>	‘26’	<i>tomtō-ru lama-ta mi ta</i>	‘46’
2	<i>tomō-ta lama-ta mi ru</i>	‘27’	<i>tomtō-ru lama-ta mi ru</i>	‘47’
3	<i>tomō-ta lama-ta mi tel</i>	‘28’	<i>tomtō-ru lama-ta mi tel</i>	‘48’
4	<i>tomō-ta lama-ta mi paŋ</i>	‘29’	<i>tomtō-ru lama-ta mi paŋ</i>	‘49’
0	<i>tomō-ta lāmu-ru</i>	‘30’	<i>tomtō-ru lāmu-ru</i>	‘50’
1	<i>tomō-ta lāmu-ru mi ta</i>	‘31’	<i>tomtō-ru lāmu-ru mi ta</i>	‘51’
2	<i>tomō-ta lāmu-ru mi ru</i>	‘32’	<i>tomtō-ru lāmu-ru mi ru</i>	‘52’
3	<i>tomō-ta lāmu-ru mi tel</i>	‘33’	<i>tomtō-ru lāmu-ru mi tel</i>	‘53’
4	<i>tomō-ta lāmu-ru mi paŋ</i>	‘34’	<i>tomtō-ru lāmu-ru mi paŋ</i>	‘54’
0	<i>tomō-ta lamo-ro-ma-ta</i>	‘35’	<i>tomtō-ru lamo-ro-ma-ta</i>	‘55’
1	<i>tomō-ta lamo-ro-ma-ta mi ta</i>	‘36’	<i>tomtō-ru lamo-ro-ma-ta mi ta</i>	‘56’
2	<i>tomō-ta lamo-ro-ma-ta mi ru</i>	‘37’	<i>tomtō-ru lamo-ro-ma-ta mi ru</i>	‘57’
3	<i>tomō-ta lamo-ro-ma-ta mi tel</i>	‘38’	<i>tomtō-ru lamo-ro-ma-ta mi tel</i>	‘58’
4	<i>tomō-ta lamo-ro ma-ta mi paŋ</i>	‘39’	<i>tomtō-ru lamo-ro ma-ta mi paŋ</i>	‘59’

15.4.3 Base-5-10-20

Another NNG language, Tuam, has a base-5-10-20 system, as Table 15.4 shows. Whereas the base-5 matrix in Mangap (Table 15.3) breaks off at 19, the base-5 matrix in Tuam (Table 15.4) breaks off at 9, as the next base, 10, intervenes, as in Daakaka. Notice that the form for ‘10’, *saṇavul*, reflects POC **saṇapuluq* (§14.4.5.1). However, the 20 base, Tuam *tamōt-*, resembles Mangap *tomō-*, both in meaning ‘person’ and in hinting at an earlier digit tally system.

Table 15.4 Cyclicity in Tuam numerals (Bugenhagen 2011)

				base-10	
				tens:	10
				0	<i>saṇavul</i> ‘10’
				1	<i>saṇavul ve ēz</i> ‘11’
				2	<i>saṇavul ve ru</i> ‘12’
				3	<i>saṇavul ve tol</i> ‘13’
				4	<i>saṇavul ve pāṇ</i> ‘14’
				0	<i>saṇavul ve līm</i> ‘15’
				1	<i>saṇavul līm ve ēz</i> ‘16’
				2	<i>saṇavul līm ve ru</i> ‘17’
				3	<i>saṇavul līm ve tol</i> ‘18’
				4	<i>saṇavul līm ve pāṇ</i> ‘19’
base-20					
20s:	20			40	
0	<i>tamōt-ē</i>		‘20’	<i>tamōt ru</i>	‘40’
1	<i>tamōt-ē ve ēz</i>		‘21’	<i>tamōt ru ve ēz</i>	‘41’
2	<i>tamōt-ē ve ru</i>		‘22’	<i>tamōt ru ve ru</i>	‘42’
3	<i>tamōt-ē ve tol</i>		‘23’	<i>tamōt ru ve tol</i>	‘43’
4	<i>tamōt-ē ve pāṇ</i>		‘24’	<i>tamōt ru ve pāṇ</i>	‘44’
0	<i>tamōt-ē ve līm</i>		‘25’	<i>tamōt ru ve līm</i>	‘45’
1	<i>tamōt-ē līm ve ēz</i>		‘26’	<i>tamōt ru līm ve ēz</i>	‘46’
2	<i>tamōt-ē līm ve ru</i>		‘27’	<i>tamōt ru līm ve ru</i>	‘47’
3	<i>tamōt-ē līm ve tol</i>		‘28’	<i>tamōt ru līm ve tol</i>	‘48’
4	<i>tamōt-ē līm ve pāṇ</i>		‘29’	<i>tamōt ru līm ve pāṇ</i>	‘49’
0	<i>tamōt-ē ve saṇavul</i>		‘30’	<i>tamōt ru ve saṇavul</i>	‘50’
1	<i>tamōt-ē ve saṇavul ve ēz</i>		‘31’	<i>tamōt ru ve saṇavul ve ēz</i>	‘51’
2	<i>tamōt-ē ve saṇavul ve ru</i>		‘32’	<i>tamōt ru ve saṇavul ve ru</i>	‘52’
3	<i>tamōt-ē ve saṇavul ve tol</i>		‘33’	<i>tamōt ru ve saṇavul ve tol</i>	‘53’
4	<i>tamōt-ē ve saṇavul ve pāṇ</i>		‘34’	<i>tamōt ru ve saṇavul ve pāṇ</i>	‘54’
0	<i>tamōt-ē ve saṇavul ve līm</i>		‘35’	<i>tamōt ru ve saṇavul ve līm</i>	‘55’
1	<i>tamōt-ē ve saṇavul līm ve ēz</i>		‘36’	<i>tamōt ru ve saṇavul līm ve ēz</i>	‘56’
2	<i>tamōt-ē ve saṇavul līm ve ru</i>		‘37’	<i>tamōt ru ve saṇavul līm ve ru</i>	‘57’
3	<i>tamōt-ē ve saṇavul līm ve tol</i>		‘38’	<i>tamōt ru ve saṇavul līm ve tol</i>	‘58’
4	<i>tamōt-ē ve saṇavul līm ve pāṇ</i>		‘39’	<i>tamōt ru ve saṇavul līm ve pāṇ</i>	‘59’

15.4.4 Verbalisations of tallying

The four systems described above—base-10 and the three base-5+ types—almost exhaust the system types in the digit tally areas. They correspond to the terms used by Lynch (2009, 2016b), respectively decimal, imperfect decimal (with the proviso above), quinary and mixed. Two languages have a base-4-20-40 system, but this is attributed to infiltration by enumerative classifiers, not to digit tallying (§14.6.3).

There are also a number of languages with nascent numeral systems. A numeral system is a conventionalised set of labels with which one counts. A number of languages within the WOC digit tally area appear not to have a numeral system in this sense, but rather a collection of verbalisations used while tallying. Their characteristics (and not all have all characteristics) are:

- 1) a. there are terms only up to 20;
- b. beyond the lowest numerals, usually 1–4 but sometimes 1–2, numerals tend to be phrases that indicate which fingers and toes have been tallied; they are thus sometimes quite long, or are obvious abbreviations of longer phrases;
- c. the term for 20 is also phrasal, and typically declares that all fingers and all toes have been tallied;
- d. because the terms are not fully conventionalised, there is sometimes more than one phrasal expression in use for certain numbers;
- e. tallying has not yet accommodated to numeral system conventions (see below).

Table 15.5 shows the set of Yalu (NNG) terms, collected by Holzkecht in the late 1970s. They are typical of sets of terms in Markham Valley languages. All terms except 1 and 2 are phrasal, including 20, which tells the listener that the digits of both hands and both feet have been counted. There are two terms for 20: the phrasal expression and a word meaning ‘whole man’. This seems to be the subject of ongoing conventionalisation, in that *arcamo* is a single word, and could be used to form higher terms like 30, 40 and so on.

The only numeral words are *uruc* ‘1’ and *siru?* ‘2’, which have cognates throughout the Markham family (Holzknecht 1989:128). From these are created 3, *siru? aruc*, and 4, *siru? siru?*. Holzkecht (1989:127) writes:

All the languages of the Markham family except Labu have binary number systems, having two numerals only—‘one’ and ‘two’. Numbers above two are made up of compounds of ‘two plus ...’; five is, in most languages, a phrase with the word for ‘hand’, ten is ‘two hands’, and twenty is either ‘two hands and two feet’ or a phrase that means ‘a whole man’.

However, it is not strictly correct to call this system “binary”, as a binary system requires that a new base intervenes at 4.⁷ The concept of a “base” requires that the next higher base (or the highest conventional numeral) be a multiple of the lower base, and 5, the next higher base, is not a multiple of 2 (but 4 would be). Thus 2 is not a base, but simply an element from which 3 and 4 are built in each quinary round (Hammarström 2008:291–292). Tallying seems to have been done in pairs (cf Poeng; §15.2), and the set of terms is still in the process of

⁷ Just as in a decimal system the next base is $10 \times 10 = 100$, so in a binary system the next base is also $\text{BASE} \times \text{BASE}$, i.e. $2 \times 2 = 4$.

Table 15.5 Cyclicity in Yalu numerals (Holzknecht 1998)

		base-5		
fives:		5	10	15
0	—	<i>pagi-g lefe-n^a</i> hand-my half-its ‘5’	<i>pagi-g siru?</i> hand-my two ‘10’	<i>pagi-g siru? ofoj menen</i> ‘15’ hand-my two, foot one
1	<i>uruc</i>	<i>pagi-g lefe-n nicin uruc</i> hand-my half-its and one ‘6’	<i>pagi-g siru? nicin uruc</i> hand-my two and one ‘11’	<i>pagi-g siru? ofoj menen</i> ‘16’ <i>nicin uruc</i>
2	<i>siru?</i>	<i>pagi-g lefe-n nicin siru?</i> ‘7’	<i>pagi-g siru? nicin siru?</i> ‘12’	<i>pagi-g siru? ofoj menen</i> ‘17’ <i>nicin siru?</i>
3	<i>siru? aruc</i>	<i>pagi-g lefe-n nicin siru? aruc</i> ‘8’	<i>pagi-g siru? nicin siru? aruc</i> ‘13’	<i>pagi-g siru? ofoj menen</i> ‘18’ <i>nicin siru? aruc</i>
4	<i>siru? siru?</i>	<i>pagi-g lefe-n nicin siru? siru?</i> ‘9’	<i>pagi-g siru? nicin siru? siru?</i> ‘14’	<i>pagi-g siru? ofoj menen</i> ‘19’ <i>nicin siru? siru?</i>
^a The word <i>lefe-n</i> is glossed ‘half’, but in this context it probably means ‘one of a pair’.				<i>pagi-g siru? ofoj siru?</i> hand-my two, foot two, ‘20’ or <i>arcamo</i> ‘whole man’

becoming a conventionalised numeral system. For convenience’s sake such a set of numeral terms is labelled base-5-(20), the parentheses indicating that 20 is the highest numeral in the system and not itself a base.

The use of 1 and 2 to create other lower numerals is taken furthest in Roinji (NNG) (Stober 2011, including data from Lincoln 1978). Data are incomplete, but the language counts from 1 to 9 with additive combinations of *tenina* ‘1’, *takesi* ‘add 1 (?)’ and *lua[zua]* ‘2’, such that 9 is *luazua luazua luazua luazua takesi*. 10 is *nima-ra lua* [hand-P:1INC.PL] ‘our (INC) 2 hands’, and 20 *limu tenina dima-na kee-na* [man one hand-P:3SG foot-P:3SG] ‘one man’s hands and feet’. No numerals from 11-19 have been recorded. To the extent that this is a system, it is base-10-(20).

Besides the Markham languages and Roinji there are several other languages with base-5-(20) numerals, all of them within NNG or PT. They are recorded for Matukar, Bing (both NNG) and Bwaidoka (PT). The set of terms in Matukar is interesting for the fact that some numbers can be described in more than one way, i.e. they have yet to be conventionalised. Terms for 20 include (Anderson et al. 2010; Barth 2012):

- 2) a. *numa-u gudu-n yawa-yawa*
hand-my nape-its 4
‘4 wrists’, i.e. 20
- b. *ne-u da numa-u da*
foot-my with hand-my with
‘my feet and my hands’, i.e. 20 digits
- c. *ne-u aru*
foot-my two
‘my two feet’ (abbreviated from ‘my two feet and my two hands’?)

Barth states that this terminology does not extend beyond 20.

Closely related to Matukar is Takia. Its terminology is clearly based in finger tallying because, unlike other NNG languages, it uses the names of fingers for 5–10. The term for 5, *kafe-n*, means ‘its thumb’ (‘its’ because the full form was *bani-g kafe-n* [hand-my thumb-its] ‘my hand’s thumb’), and alludes to Takia speakers counting four fingers, then their thumb (cf §15.2), i.e. the thumb is the fifth digit counted. Terms for 6–9 are the five fingers of the other hand from the little finger to the thumb. However, the terminology has a second set of terms for 6–9, using *kafe-n* ‘thumb’ as a base and counting ‘thumb plus one’, ‘thumb plus two’ and so on to 10, ‘2 thumbs’. The alternative terminology suggests that the system is (or was) being conventionalised, such that *kafe-n* is treated as the numeral 5 and the added numerals are a second round of 1–4. The word *bani-g* ‘my hand’ then stands in for ‘ten’ throughout the teens. The term for 20, on the other hand, is still phrasal. Thus Takia appears to have (had) a nascent base 5-10-(20) system.

Table 15.6 Takia numeral terms (Waters 1996)⁸

numeral term	morpheme-by-morpheme gloss
<i>kisaek, kaek</i>	‘1’ one
<i>uraru</i>	‘2’ two
<i>utol</i>	‘3’ three
<i>iwo-iwo</i>	‘4’ pair-pair
<i>kafe-n(=da)</i>	‘5’ thumb-its(=with)
<i>suku-n(=da)</i>	‘6’ little.finger-its(=with)
<i>balab</i>	‘7’ ring.finger
<i>ari abe-n</i>	‘8’ wristband place-its
<i>bemfufu</i>	‘9’ index.finger
<i>kafe-n=dad kaek</i>	‘6’ thumb-its(=with.them) one
<i>kafe-n=dad uraru</i>	‘7’ thumb-its(=with.them) two
<i>kafe-n=dad utol</i>	‘8’ thumb-its(=with.them) three
<i>kafe-n=dad iwoiwo</i>	‘9’ thumb-its(=with.them) four
<i>bani-g ananaem</i>	‘10’ hand-my both.sides
<i>kafe-n uraru</i>	‘10’ thumb-its two
<i>bani-g ananaem kisaek</i>	‘11’ hand-my both.sides one
<i>bani-g ananaem uraru</i>	‘12’
<i>bani-g ananaem utol</i>	‘13’
<i>bani-g ananaem iwoiwo</i>	‘14’
<i>bani-g ananaem kafen</i>	‘15’
<i>bani-g ananaem sukun da</i>	‘16’
<i>bani-g ananaem balab</i>	‘17’
<i>bani-g ananaem ali aben</i>	‘18’
<i>bani-g ananaem bem fufu</i>	‘19’
<i>bani nje=da tumani</i>	‘20’ hand.your foot.your=with join

⁸ The terms in this table are drawn from Waters (1996), but corrected from Waters (1998). The morpheme-by-morpheme glosses are mine, based on Waters’ notes.

15.5 Lexical reflexes of digit tallying

Of base-5+ systems, it is base-5-20 systems that are structurally least like decimal systems and that most obviously reflect digit-tallying. Base-5-20 systems use 5 as a base, reflecting the number of fingers on a hand. These systems often use a term for ‘person’ or ‘man’ for 20, or use a complex expression meaning ‘both hands and both feet’. Not only the structure of the system, then, but also the sources of the numerals for 5 and 20, reflect a digit-tallying origin in quite an obvious way.

Where 5 is a reflex of POC **lima*, it is difficult to assess whether this reflects very ancient, pre-Oceanic finger tallying or the Oceanic fact that reflexes of **lima* also mean ‘hand’. But where 5 reflects some other term for ‘hand’, i.e. a post-POC innovation, the probability that it arose as part of a tally system is high. There are four sets of cases where this applies.

The first case consists of Seimat *te-pani-m* and Wuvulu *ai-pani*, both reflecting Proto W Admiralty **tai pani* ‘one hand’ (< POC **tai* ‘one’, §14.4.1.3.1; **banic* ‘wing, fin (probably pectoral); (?) arm, hand’, vol.5:162). Seimat has a base-5-20 system, Wuvulu an unusual base-10 system (§14.6.3: Table 14.10).

The second case reflects PWOC **bage-* ‘wing’, which at least in the Huon Gulf languages (marked NNG below) had come to mean ‘hand’. These languages employ a reflex of **bage-* for 5. In each instance an added morpheme indicates that only one hand is involved. The first four languages belong to the Markham group of no-base or base-5-20 languages, their analysis depending on data not currently available (§15.4.4). Kaiwa and Hote are base-5-20 languages.

PWOC **bage* ‘wing, (?) hand’

NNG: Wampur	<i>baʔi-an</i>	‘hand’
	<i>baʔi-nasih</i>	‘5’
NNG: Silisili	<i>baʔgi</i>	‘hand’
	<i>baʔgi-face</i>	‘5’
NNG: Yalu	<i>pagi-n</i>	‘hand’
	<i>pagi-g-refen</i>	‘5’
NNG: Wampar	<i>baŋi-n</i>	‘hand’
	<i>baŋi-d oŋan</i>	‘5’ (= ‘my one hand’)
NNG: Kaiwa	<i>bage</i>	‘hand’
	<i>bage-ta-vlu</i>	‘5’
NNG: Hote	<i>bahe-ŋ</i>	‘hand’
	<i>bahe-ŋ-pi</i>	‘5’
NNG: Mumeng (Patep)	<i>vge</i>	‘hand’
	<i>vge-vlu</i>	‘5’ (= ‘hand-part’)
MM: Papapana	<i>bae</i>	‘(bird) wing; shoulder’
MM: Banoni	<i>ba</i>	‘(bird) wing’
MM: Torau	<i>bae</i>	‘arm’
MM: Lungga	<i>(ba)ba</i>	‘wing’
MM: Kokota	<i>bayi</i>	‘wing; feather’

The third case is different in that it has to do with fingers rather than a hand. Suaucic (PT) languages have a set of lower numerals that draw from a pool that includes reflexes of POC

numerals as well as forms from an unknown source. Thus for 5 Proto Suaucic had **nima* (< POC **lima*) and **valigigi* (reflected as Bohutu *faligigi*, Suau *haligigi* and Tubetube *valigigi*). Proto Suaucic **valigigi* has a partial etymology, in that reflexes of **gigi* mean ‘digits: fingers and toes’ (Russ Cooper, pers. comm., 11 March 2018). The term **vali-gigi* perhaps meant ‘five fingers’ or ‘all the fingers’. Suaucic languages have base-5-20 or base-5-10-20 systems.

Possible cognates are Wogeo *k^wik*, *kiki-* ‘four’ (§14.6.3: Table 14:11) and Proto Kimbe **gigi* ‘count, tally’, which perhaps originally meant ‘to count on one’s fingers’.

Proto Kimbe **gigi* ‘count, tally’

MM: Bola	<i>gi</i>	‘count’
MM: Bulu	<i>gi</i>	‘count’
MM: Nakanai	<i>gigi</i>	‘count, read’
MM: Meramera	<i>gi</i>	‘count’

The fourth case is Takia (NNG) *kafe-n* [thumb-P:3SG], also used for ‘five’, and consistent with a tally that first counts four fingers.

Below are listed a sample of terms for 20 that literally mean ‘(2) hands and (2) feet’, along with morpheme-by-morpheme glosses. In the two PT phrases, *fafa-* ‘side’ is used for ‘one of a pair’, which is followed by ‘2’, giving ‘both of a pair’.

NNG: Malalamai	<i>nima-nda ai-nda</i>	[hand-our foot-our]
NNG: Roinji	<i>limu tenina dima-na kee-na</i>	[man one hand-his foot-his]
NNG: Dami	<i>ima uru ye uru</i>	[hand 2 foot 2]
NNG: Takia	<i>bani ŋie=da tumani</i>	[hand.your foot.your=with it.joins]
NNG: Bing	<i>dima-d ruw yē-d ruw</i>	[hand-our 2 foot-our 2]
NNG: Mindiri	<i>ma-da-ru kie-da-ru</i>	[hand-our 2 foot-our 2]
NNG: Yalu	<i>bagi-ag siruk oho-ŋg siruk</i>	[hand-my 2 foot-my 2]
NNG: Musom	<i>ho-ŋ siruk bai-ŋ siruk</i>	[foot-my 2 hand-my 2]
PT: Bwaidoga	<i>age-fafa-liga</i>	[foot-side-two]
PT: Kaninuwa	<i>nima fafa-na nua keta kae nua</i>	[hand side-its 2 and foot 2]
NCal: Xârâcùù	<i>xē fā kamūrū</i>	[hand.foot 1 person]

Of these languages all have a base-5-20 system except Roinji (base-2-20), Bwaidoga and Xârâcùù (both base-5-10-20).

Two of the languages above, Roinji and Xârâcùù, specify ‘hands and feet of **one man/person**’. A far larger number of languages with a 20 base abbreviate this to ‘one man’ or ‘one person’. Examples are Mangap *tomō-ta* and Tuam *tamōt-ē*, both [person-one] (Tables 15.3 and 15.4) and the following terms for 20:

Adm: Seimat	<i>seilon tel</i>	[person one]
NNG: Sio	<i>tamota taitu</i>	[person-one]
NNG: Kilenge	<i>tamta tei</i>	[person one]
NNG: Malasanga	<i>korap ta</i>	[person-one]
NNG: Gedaged	<i>fun daŋa-n</i>	[owner whole-3SG]
NNG: Yabem	<i>ŋaʔ-sàmuʔ</i>	[person-whole]
NNG: Numbami	<i>tamota te</i>	[person one]
PT: Dobu	<i>to-ʔeb^weu</i>	[person-one]

PT:	Ubir	<i>orot kaita</i>	[person one]
PT:	Gapapaiwa	<i>tomow-ina</i>	[man-SG]
MM:	Lihir	<i>a ziktun</i>	[ART person]
MM:	Patpatar	<i>tunan</i>	[man] (used with food or shell money)
NCV:	SE Ambrym	<i>hanutap tei</i>	[person one]
NCV:	Paamese	<i>hanu mau</i>	[person whole]
NCV:	Nasvang	<i>na-məxar</i>	[ART-person]
SV:	Lenakel	<i>ieramim karena rəka</i>	[person one 3SG-not]
NCal:	Nêlêmwa	<i>āxi-ak</i>	[one-person]
NCal:	Yuanga	<i>axɛ ɛʷgu</i>	[one person]
NCal:	Nemi	<i>hēc khāk</i>	[one person]
NCal:	Pije	<i>hē kahyuk</i>	[one person]
NCal:	Ajië	<i>kanī kāmō</i>	[one person]
NCal:	Iaai	<i>xaca at</i>	[one person]
NCal:	Drehu	<i>ca-aʔ</i>	[one-person]

Apart from Seimat (Adm) and Lihir (MM), all the terms above are from languages that belong to the digit-tallying areas. Patpatar (MM) has a decimal system but uses *tunan* when certain objects are counted. It seems likely that ‘one man/person’ was used for 20 in digit-tallying in early Oceanic, but only the meaning, not the form, can be reconstructed with any certainty.

In many PT languages 20 is a phrase that most literally means ‘one man has died’ or something similar, expressing the idea ‘one man is complete’:

PT:	Gumawana	<i>koroto tayamo i-kavava</i>	[one man 3SG-finish]
PT:	Bunama	<i>lohea i-moasa</i>	[man 3SG-die]
PT:	Tawala	<i>lawa emosi i-hilaga</i>	[man one 3SG-die]
PT:	Bwanabwana	<i>tau kaigeda si-mate</i>	[man one 3PL-kill]
PT:	Saliba	<i>tau kesega ye mate</i>	[man one 3SG die]

Digit-tallying has effects on specific numerals in specific 3SG that go beyond those noted above. They affect the numerals shown in [Table 15.7](#).

The numeral *kavitmit* ‘5’ in Nalik of New Ireland is analysed as *ka-vit-mit* [3-NEG-hand] ‘no hand’, reflecting the practice of putting the fingers down as one counts: reaching 5, there are no fingers showing, hence ‘no hand’. In the numerals 6–9, *ka-vizik* [3-go.down] means ‘it goes down’, and refers to the fingers of the hand being lowered (Volker 1998:118).

Lincoln (2010:230) discusses the numerals in Banoni and Piva (MM), a closely related pair of Bougainville languages. The hyphenations in [Table 15.7](#) are his, and in 2, 4 and 5 it is the morpheme after the hyphen that reflects the POC etymon. The numeral 3 has undergone lexical replacement. The numeral 6, *bena*, at first sight seems to be a lexical replacement for **onom* ‘6’. But it can’t be, as 7 is *bena to-m* (‘*bena* 2’) and 8 is *bena ka-isa* (‘*bena* 3’). In other contexts *bena* means ‘cross over (to the other side)’, and is here a reference to changing hands during counting: 6 is implicitly †*bena kadaken* ‘cross over (and) one’. The system then falls into place.

Table 15.7 Numerals that reflect digit tallying

POc	Nalik (MM) (base-5-10)	Banoni (MM) (base-10)	Piva (MM) (base-10)	Kwamera (SV) (base-5-20)	
1	* <i>sa-kai</i>	<i>a-zayei</i>	<i>kadaken</i>	<i>kadaken</i>	<i>k^watia</i>
2	* <i>rua</i>	<i>u-ru[a]</i>	<i>tō-m</i>	<i>to-nua</i>	<i>kə-ru</i>
3	* <i>tolu</i>	<i>o-rol</i>	<i>da-pisa</i>	<i>to-pisa</i>	<i>ka-har</i>
4	* <i>pat[i]</i>	<i>o-rol-a-vāt</i>	<i>to-vaci</i>	<i>e-vaci</i>	<i>ke-fa</i>
5	* <i>lima</i>	<i>ka-vit-mit</i>	<i>yi-nima</i>	<i>nīma</i>	<i>kə-rirum</i>
6	* <i>onom</i>	<i>ka-vizik-sayei</i>	<i>bena</i>	<i>e-bena</i>	<i>kə-rirum-k^watia</i>
7	* <i>pitu</i>	<i>ka-vizik-uru[a]</i>	<i>bena to-m</i>	<i>bena to-nua</i>	<i>kə-rirum-kəru</i>
8	* <i>walu</i>	<i>ka-vizik-tal</i>	<i>bena ka-pisa</i>	<i>bena to-pisa</i>	<i>kə-rirum-kahar</i>
9	* <i>siwa</i>	<i>ka-vizik-fāt</i>	<i>visa</i>	<i>sia</i>	<i>kə-rirum-kefa</i>
10	* <i>sa-ŋapuluq</i>	<i>sanaflu</i>	<i>manoya</i>	<i>manoya</i>	<i>kə-rirum-kərirum</i>
20	* <i>rua-ŋapuluq</i>	<i>sanaflu vara urua</i>	<i>manoya tō-m</i>	<i>manoya to-nua</i>	<i>iuan u m-iuan u</i>
		Volker 1998	Lincoln 2010	Lincoln 2010	Lindstrom & Lynch 1994

In Kwamera, the numeral of interest is 20, which is a puzzle until *iuan u m-iuan u* is glossed [not.exist this and-not.exist this]. The description resembles Nalik 5 above, but this time it is all fingers and all toes that no longer ‘exist’ because they (or at least the fingers) are folded down.

The languages of the Epi-Efate group (NCV) all have a base-5-10 system, but their terms for 10 all reflect Proto Epi-Efate **lua-lima* [2×5], implying an earlier system in which 10 was not a base. But the order of its components is unexpected. If it originally meant ‘two fives’, then ‘five’ was the noun head and ‘two’ the attribute. Since the regular order in early Oceanic was N NML (and still is in Epi-Efate languages), one would expect †**lima-lua* rather than **lua-lima*.

We can infer from this material that early Oceanic speakers used digit-tallying. No POC etyma involved in a tally system can be reconstructed, but this is not surprising, as a tally system is a strategy rather than a specialised set of lexical items. It is suggested in §15.7 that tally systems resulted from early contact, so their use in early Oceanic speaking communities may have been patchy. This takes us to the question, were a decimal system and a tally system in use side by side in some early Oceanic communities? The functions of the two systems in these communities, as set out here and in the subsections of §14.1.2, were different enough that their simultaneous use in a community is quite plausible. The decimal system was largely reserved for ceremonial occasions, and only a few senior men or perhaps aspirants to seniority, had the fullest knowledge of it and its accompanying formalities, including the proper use of enumerative classifiers. The digit tally system was in informal use and was known to the whole community. Its uses were restricted in comparison with modern western enumeration (§14.1.2.3–4). However, one system sometimes spilt over into the domain of the other, and over time hybrid systems came into being.

15.6 The distribution of Oceanic numeral cycles

Map 15.1 shows the distribution of numeral cycles in Oceanic languages of the western Pacific. Oceanic languages east of longitude 180° are not included: all are Polynesian. Map 15.2 shows NW Melanesia,⁹ and Map 15.3 Vanuatu, both on a larger scale. The three maps are derived from a database of 383 Oceanic languages compiled as part of the research for this chapter. Numerals for many more languages are available, but insufficient data are provided to determine the cyclicity of their numeral systems.

Among these languages numeral cycles are distributed as in (3). Percentages are rounded to the nearest whole number.

3) Cycle	Number of languages	
base-10	148	39%
base-5-10	130	34%
base-5-10-20	43	11%
base-5-20	43	11%
base-2-20	1	0%
base-4-20-40	2	0%
base-8-12-24	1	0%
base-5	5	1%
No base	10	4%
<i>Total</i>	<i>383</i>	<i>100%</i>

These figures gainsay a comment by Bender & Beller (2006:380):

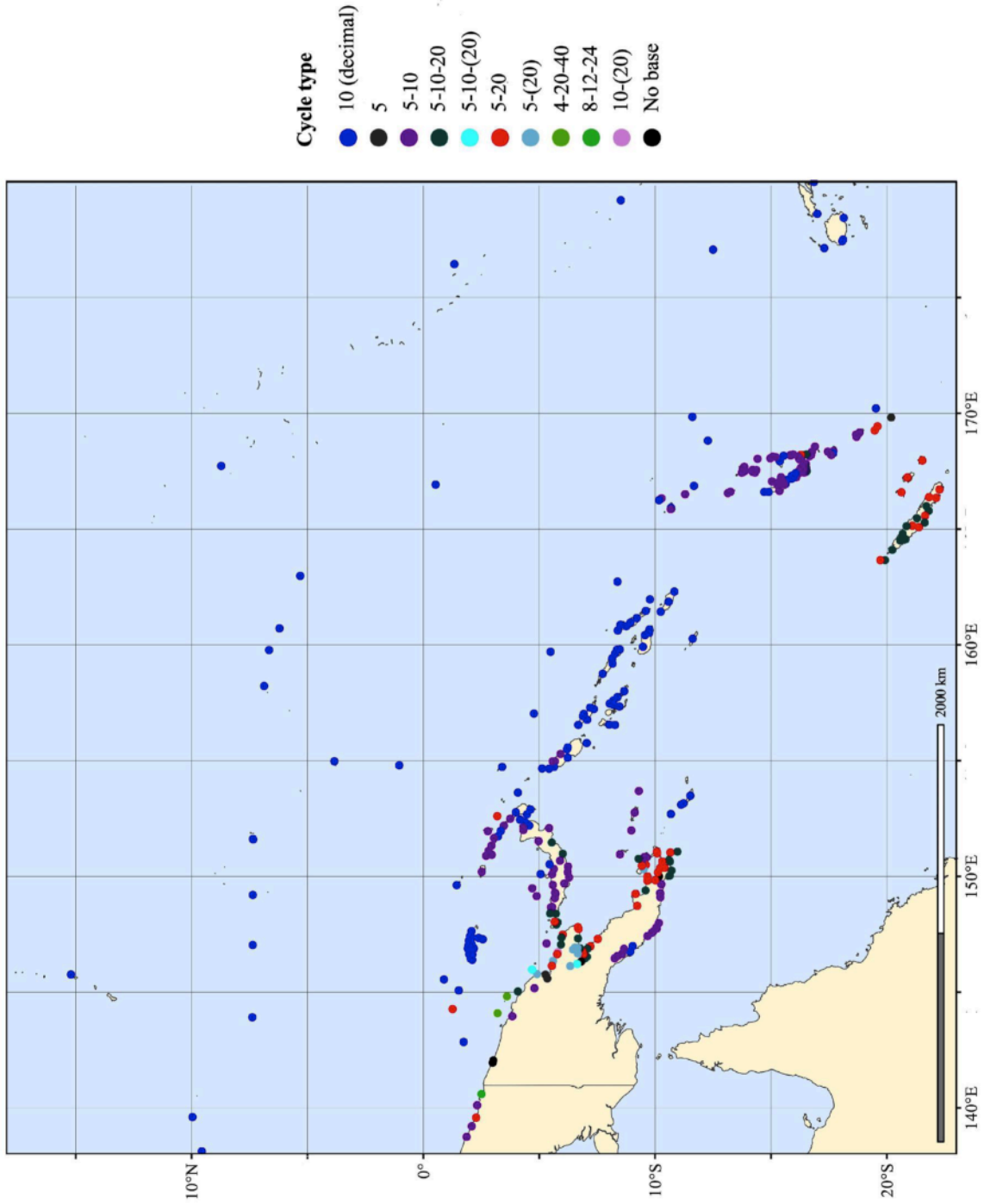
These decimal [base-10—MDR] systems still prevail in most languages originating from Proto-Oceanic, the eastern-most branch of Austronesian. With *only a small number of exceptions* that are not relevant here, their words for the numbers 1 through 9 widely reflect the numerals reconstructed for Proto-Austronesian and Proto-Oceanic, and reflexes of the Proto-Oceanic (POC) term for 10. (Italics mine)

The largest category in (3) does indeed comprise base-10 languages like Mussau (Table 15.1) but they are closely followed by base-5-10 languages like Daakaka (Table 15.2). Together these two decimal categories comprise 278 languages. 89 languages (23 per cent) include 20 among their bases.

The geographic distributions of these categories as revealed in the three maps are striking. Almost all languages of the Admiralties and all languages of Micronesia, the Solomons, Fiji and Polynesia have a base-10 system. A base-10 system also occurs in about half the MM languages of New Britain, New Ireland and Bougainville, with a scattering in north Vanuatu from the north of Espiritu Santo southward to the northern cape of Malakula. Base-10 systems are found almost nowhere in mainland New Guinea, and nowhere in New Caledonia. The vast majority of base-10 languages reflect the POC terms for 1 to 10 (Table 14.1), and most base-5-10 languages reflect POC terms for 1 to 5.

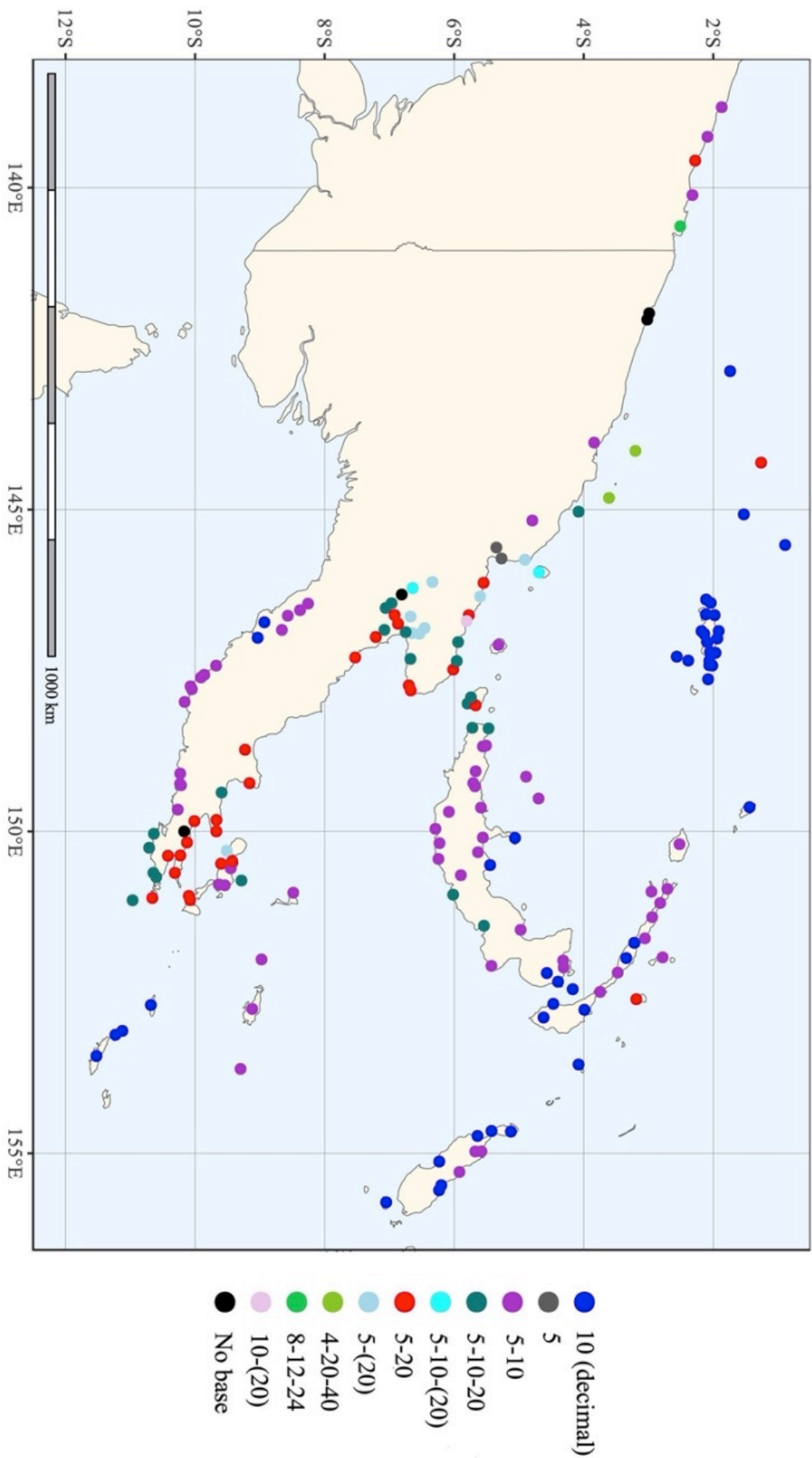
The remaining MM languages of New Britain, New Ireland and Bougainville have a base-5-10 system, and base-5-10 systems are in the majority in Vanuatu (Map 15.3).

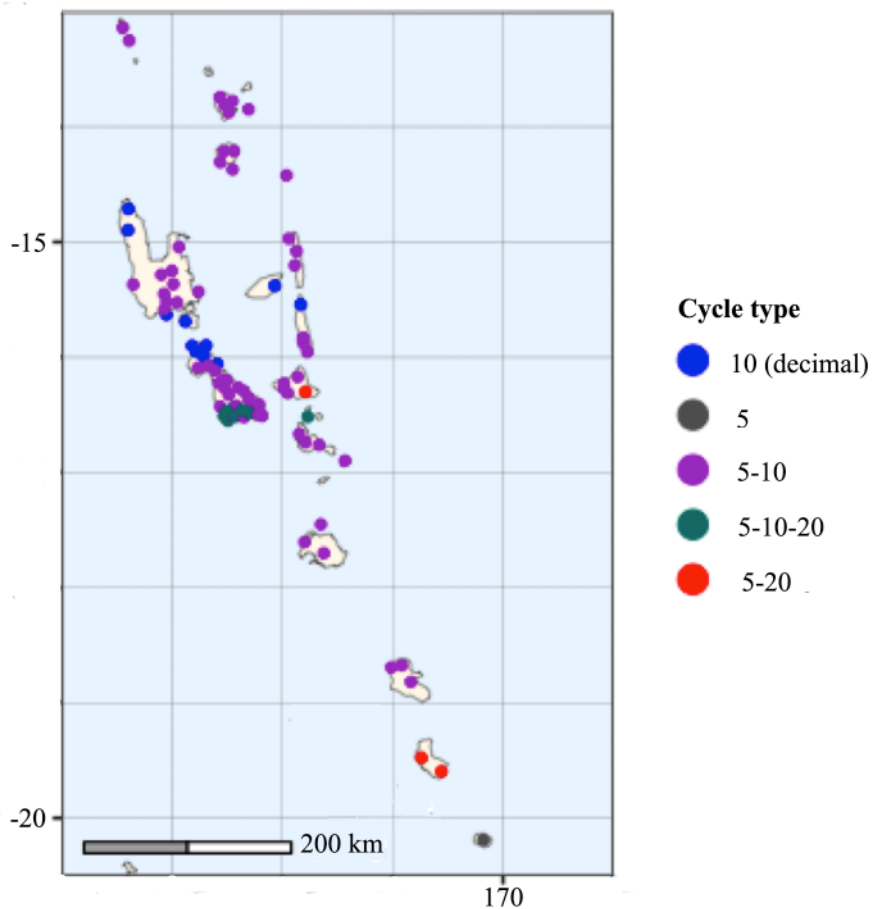
⁹ 'NW Melanesia' is a convenient abbreviation for 'New Guinea and the Bismarck Archipelago plus Bougainville'.



Map 15.1. Distribution of numeral cycles in the SW Pacific

Map 15.2 Distribution of numeral cycles in NW Melanesia





Map 15.3. Distribution of numeral cycles in Vanuatu

Languages with a base-5-20 system are found scattered among NNG and PT languages of mainland New Guinea, in a clump in southern New Caledonia and the Loyalties, and in various isolated spots: one language each on Ninigo Atoll (Seimat, Adm), Lihir (MM, east of New Ireland) and on Ambrym (NCV), and in the languages of Tanna (SV).

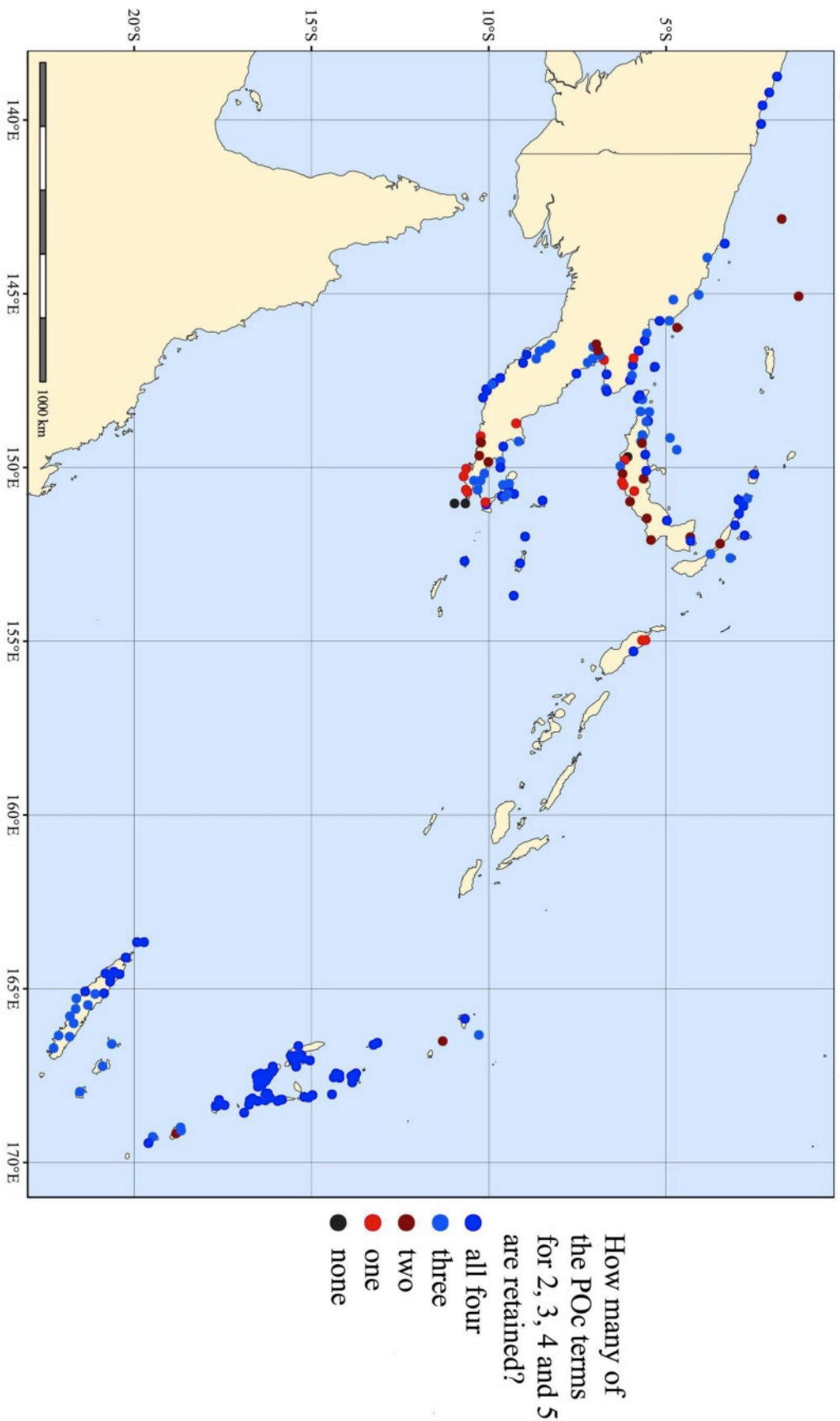
15.7 The origins of base-5+ systems

It is obvious that most base-5+ systems are hybrids, in the sense that a 5- and a 20-base reflect digit-tallying, while the numeral morphemes of which they are composed reflect those of the POC decimal system.

The POC simple numerals that might survive into a base-5-20 system are, of course, 1–5. Except for 20, other base-5-20 numerals are complex and usually contain one or more simple numerals (e.g. Mangap *lama-ta mi ru* [5-1 and 2] ‘7’). The term for 20 is usually ‘a person’, and this is often of POC ancestry.

How might this blending have occurred? The answer must in some cases refer to language contact. Map 15.4 shows the retention of POC numerals from 2 to 5 in base-5+ systems. The map does not distinguish between the four numerals. It simply shows how many of the four are retained in each language, from a maximum of 4 to a minimum of zero. It is striking that Vanuatu

Map 15.4 Retention of POC forms for 2, 3, 4 and 5 in base-5-5-20, base-5-10-20 and base-20 systems



and New Caledonia are more conservative in this regard than New Guinea and New Britain and scattered languages elsewhere in NW Melanesia. Only in NW Melanesia does one find languages that retain fewer than three of the four. Since these islands were occupied by Papuan speakers when speakers of pre-Oceanic arrived in the Bismarcks,¹⁰ whereas Vanuatu and New Caledonia were not, this attrition of POC numerals can be attributed to contact.

One might expect that base-5-20 systems, being closer to tallying, would have significantly fewer POC numerals than are in base-10 and other base-5+ systems, but the only remotely salient difference in Table 15.8 between retentions in base-5-20 languages and those in other base-5+ languages is that only 29.5 per cent of base-5-20 languages retain all four POC numerals, as against 65.7 per cent in other base-5+ languages. But this difference is compensated for by the fact that 54.5 per cent of base-5-20 languages retain three POC numerals, as against 17.4 per cent in other base-5+ languages. This does not seem to tell us anything significant about base-5-20 retentions in comparison with other base-5+ languages.

Table 15.8 Retentions of POC numerals from 2 to 5 in each base-5+ system, where *n* is the number of languages

	base-5-20		base-5-10-20		base-5-10		Totals	
	<i>n</i>	per cent	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
0 retentions	1	2.3	1	2.2	1	0.7	3	1.4
one retention	3	6.8	5	11.1	7	5.2	15	6.8
two retentions	3	6.9	4	8.9	12	9.0	19	8.6
three retentions	24	54.5	10	22.2	21	15.8	55	24.8
four retentions	13	29.5	25	55.6	92	69.2	130	58.6
Totals	44	100.0	45	100.0	133	99.9	222	100.2

The reason for this is probably that base-5-10-20 and base-5-10 languages have each arisen by more than one route. In Vanuatu and New Caledonia these are partly homegrown, away from contact with Papuan languages. We turn now to the genesis of the three base-5+ systems.

15.7.1 Are base-5-20 systems hybrids?

In base-5-20 systems the term for 5 is (or is derived from) a term for ‘hand, arm’ (vol.5:160–162), the term for 10 is often ‘two hands’, the term for 15 sometimes includes the term for ‘foot, leg’ (vol.5:167–168), and the term for 20 is typically ‘man’ or ‘person’ in the sense that one had exhausted one person’s digits (§15.5). It is self-evident that these systems, like Mangap (§15.4.2), are derived from a digit-tally system like those described in §15.2.

Language contact studies suggest strongly that where a language draws at least its basic lexicon from one source and its grammatical structures (at least in part) from another, this is the result of bilingualism—of children growing up with two languages and adapting the structures of their heritage language to those of their ‘other’ language. In a pre-modern context the heritage language is the language of group identity, and that identity is represented by the heritage lexicon (Ross 2013 and references therein). The ‘other’ language may be the language of in-marrying parents or a major language of communication with neighbouring groups.

¹⁰ “Pre-Oceanic” because the innovations that characterised POC had not yet occurred (Pawley 2008a:52).

Base-5-20 numeral systems appear to reflect this pattern fairly directly. In many of them three or all of 2 to 5 reflect the POC forms reconstructed in Table 14.1, and many of them also appear to reflect a POC term for ‘one’.¹¹ That is, the lexicon is drawn from speakers’ heritage language. Their 5- and 20-base structure, on the other hand, reflects their ‘other’ language, being a digit-tally system like those found in Papuan languages in various areas of New Guinea (Owens & Lean 2018:76–77). In this sense, then, base-5-20 systems are hybrids.

Owens & Lean (2018:79) provide a map of base-5+ systems in Papuan languages: base-5-20 systems are common, but base-5-10+ systems (i.e. base-5-10-20 and base-5-10) are very rare. Base-5-10+ Oceanic systems are likely, then, to be at least partly “homegrown”, as the next section shows.

15.7.2 The genesis of base-5-10-20 and base-5-10 systems

Map 15.5 shows the sources of terms for 10 in base-5-10+ languages. The numbers underlying the map are shown in Table 15.9.¹² Terms for 10 that reflect POC **sapuluq* or **sanapuluq* ‘10’ (§14.4.5.1) are abbreviated here as **puluq*. Terms that reflect **rua-lima* [two hand] ‘10’ are shown separately as they tell another story (see below). Other terms that mean ‘two hands’ are also shown, as are terms for 10 with an unknown origin, which make up 35 per cent of the relevant data.

Terms for 10 are singled out here as they provide clues to the history of base-5-10+ systems. Terms for 20 are less informative, as in 31 out of 43 base-5-10-20 languages (72 per cent) the term means ‘person’, and in a further three it means ‘hands and feet’, clearly witnessing to the digit-tally origin of these systems (§15.4.3).

However, there is more than one way in which the role of digit tallying might have been played out.

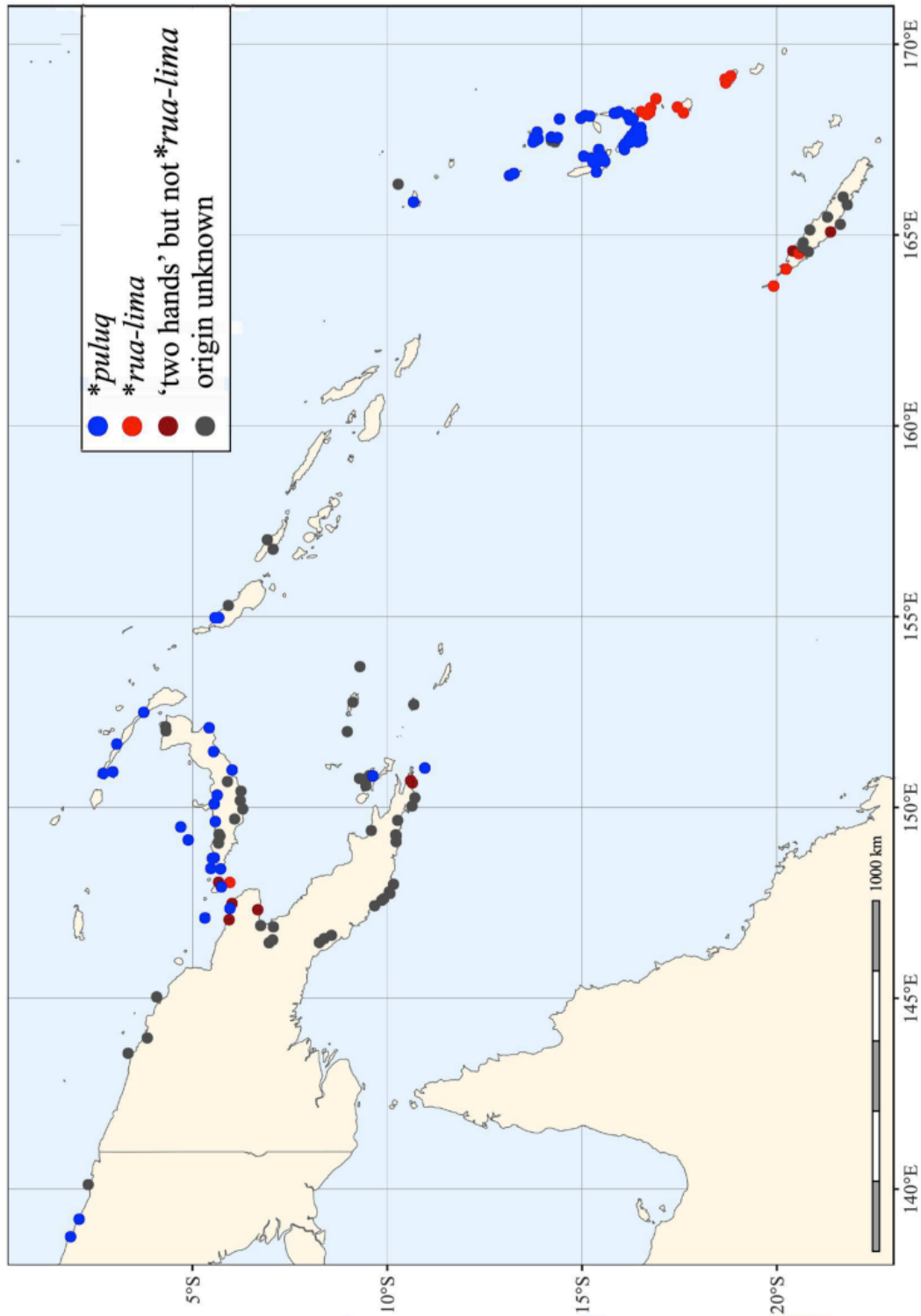
Table 15.9 Sources of terms for 10 in base-5-10-20 and base-5-10 languages

	base		base 5-10		Totals	
	5-10-20	%		%	base-5-10+	%
<i>*puluq</i>	15	31.3	67	59.3	82	50.9
<i>*rua-lima</i>	5	10.4	9	8.0	14	8.7
‘two hands’ ^a	8	16.7	0	0.0	8	5.0
origin unknown	20	41.7	37	32.7	57	35.4
all	48	100.1	113	100.0	161	100.00

^a but not **rua-lima*.

¹¹ Terms for ‘one’ are omitted from Table 15.8 because of the difficulties associated with their reconstruction (§14.4.1ff).

¹² In principle sources of terms for 10 in base-5-10-20 and base-5-10 could be mapped separately, but the distributional differences between them are slight, apart from the fact that there are no base-5-10 systems in New Caledonia (Map 15.1).



Map 15.5. Origins of terms for 10 in base-5-10 and base-5-10-20 systems

- 4) Possible origins of a base-5-10-20 system
- In the production of a hybrid with POc simple numerals and a digit-tallying model, there was a compromise such that the POc numeral for 10 and the 10-cycle from 10 to 19 was never lost.
 - Under the influence of a decimal system, a numeral for 10 was introduced into an existing base-5-20 system.
 - Under the influence of a decimal system, the numeral for $3 \times 5 = 15$ was lost from an existing base-5-20 system, so that counting from 10 to 19 formed a 10-cycle and the existing numeral for 2×5 was reinterpreted as a 10-base.

There is no obvious way of distinguishing between (4a) and (4b), as outcomes of either process are likely to have a term reflecting **puluq*. What can be said is that instances of **puluq* did not arise via a (4c) process, to which we now turn.

Items reflecting **rua-lima* ‘two hands = 5’ are shown separately in Map 15.5 and Table 15.10. The presence of a single reflex in Tuam, far away from the geographic area formed by all other reflexes in central and south Vanuatu and New Caledonia, is almost certainly the result of independent innovation.

The **rua-lima* area embraces Paama, Epi, Efate and Erromango in Vanuatu and the north of New Caledonia. The northernmost **rua-lima* language is thus Paamese (Table 15.10). Immediately to the north of Paama is SE Ambrym (Parker 1970:ix), the only base-5-20 NCV language in the database. None of the **rua-lima* languages has a base-5-20 system, but there is good evidence that they are descended from a system like that in SE Ambrym. Three closely related languages in the far north of New Caledonia—Belep, Nyelâyu and Nêlêmwa—illustrate the first step in their development. The Nêlêmwa system is shown in Table 15.10. Belep and Nyelâyu have similar systems, but Belep differs from other other two in one significant feature.

The relevant data are in (5).

5)	Belep	Nyelâyu	Nêlêmwa	Proto Far N NCal	Earlier Oceanic
‘10’	<i>tûnik</i>	<i>-rulĩk</i>	<i>tujic</i>	<i>*rũnik</i>	<i>*rua-lima</i>
‘2’	<i>tu</i>	<i>-ru</i>	<i>-ru</i>	<i>*-ru</i>	<i>*rua</i>
‘15’	<i>cĩnik</i>	—	—	<i>*tĩnik</i>	<i>*tolu-lima</i>
‘3’	<i>cen</i>	—	—	<i>*ten</i>	<i>*tolu</i>
‘5’	<i>-nem</i>	<i>-nem</i>	<i>-nem</i>	<i>*nem</i>	<i>*lima</i>

Belep arguably has a base-5-20 system (McCracken 2012), Nyelâyu and Nêlêmwa base-5-10-20 (Ozanne-Rivierre 1998; Bril 2014). The shared ancestor of the three languages, Proto Far North New Caledonia, had terms for 10 and 15: **rũnik* and **tĩnik* respectively. Tentatively, these reflect earlier **rua-lima* (2×5) and **tolu-lima* (3×5), as the forms for 2 and 3 show that the initial consonants do reflect POc **r-* and **t-*. The morph *-ni* in **rũnik* ‘and **tĩnik* reflects **lima* ‘5’: cf nearby Yuanga *pɔ-ni* [CLF-5] ‘5’ (Bril 2014), Pije/Jawe/Nemi *nim* ‘5’ (Haudricourt & Ozanne-Rivierre 1982). The origin of final *-k* of **rũnik* ‘and **tĩnik* is unknown.

Belep is conservative and continues to reflect **tĩnik* ‘15’, which Nyelâyu and Nêlêmwa have lost. All three languages count 10+1, 10+2, 10+3, 10+4. Belep then counts 15, 15+1, 15+2, 15+3, 15+4 for 15 to 19, whereas Nyelâyu and Nêlêmwa count 10+5 to 10+9 for

Table 15.10 Nêlêmwa, Paamese, Lewo and SE Ambrym numerals

	Nêlêmwa (NCaI) ^a base-5-10-20	Paamese (NCV) ^b base-5-10-20	Lewo (Epi, NCV) ^c base-5-10	SE Ambrym (NCV) base-5-20
1	<i>p^wa-gĩk</i>	<i>tāi</i>	<i>tāya</i>	<i>tei</i> 1
2	<i>p^wa-du</i>	<i>elu</i>	<i>lua</i>	<i>lu</i> 2
3	<i>p^wa-gan</i>	<i>etel</i>	<i>telu</i>	<i>tol</i> 3
4	<i>p^wa-bāk</i>	<i>ehat</i>	<i>vāri</i>	<i>hat</i> 4
5	<i>p^wa-nem</i>	<i>elim</i>	<i>lima</i>	<i>lim</i> 5
6	<i>p^wa-nem-gĩk</i>	<i>lahi-tāi</i>	<i>o-rai</i>	<i>tei he sqa</i> 1 and other
7	<i>p^wa-nem-du</i>	<i>lau-lu</i>	<i>o-lua</i>	...
8	<i>p^wa-nem-gan</i>	<i>lau-tel</i>	<i>o-relu</i>	...
9	<i>p^wa-nem-bāk</i>	<i>lau-hat</i>	<i>o-vāri</i>	...
10	<i>tujic</i>	<i>hāhualim</i>	<i>luahina</i>	<i>he xa-lu</i> hand × 2
11	<i>tujic ya b^wāt p^wa-gĩk</i>	<i>tāi dan tāi</i>	<i>luahina tāya pa tāya</i>	<i>tei e le</i> one on leg
12	<i>tujic ya b^wāt p^wa-du</i>	<i>tāi dan elu</i>	<i>luahina tāya pa lua</i>	...
15	<i>tujic ya b^wāt p^wa-nem</i>	<i>tāi dan elim</i>	<i>luahina tāya pa lima</i>	<i>le tei bus</i> leg one finish
16	<i>tujic ya b^wāt p^wa-nem-gĩk</i>	<i>tāi dan lahi-tāi</i>	<i>luahina tāya pa orai</i>	<i>tei mun e le tei</i> one again on leg one
17	<i>tujic ya b^wāt p^wa-nem-du</i>	<i>tāi dan lau-lu</i>	<i>luahina tāya pa olua</i>	...
20	<i>ā-yi ak</i>	<i>hamu mau</i>	<i>luahina yam lua</i>	<i>hamu tap</i> person whole
30	<i>ā-yi ak ya b^wāt-tujic</i>	<i>hamu sav hāhualim</i>	<i>luahina yam telu</i>	...
40	<i>ā-ru ak</i>	<i>hamu mau elu</i>	<i>luahina yam vari</i>	...
	Bril 2014	Crowley 1982	Early 1994	Parker 1970

^a Nêlêmwa numerals have prefixed classifiers, here *p^wa-* ‘inanimate’ and *ā-* ‘animate’. Components of complex numerals include *ya* ‘and’ and *b^wāt* ‘(on) top’.^b Paamese complex numerals contain *dan* ‘below’, *mau* ‘whole’ and *sav* ‘the other’.^c Lewo complex numerals contain *pa* ‘and’ and *yam* ‘times’.

15 to 19.¹³ In other words, Belep counts three rounds of a 5-cycle from 5 to 19, but Nyelâyu and Nêlêmwa count one round of a 5-cycle from 5 to 9, and one round of a 10-cycle from 10 to 19. Nêlêmwa numerals from 1 to 40 are included in [Table 15.10](#). Thus the loss of **tînik* ‘15’ and the consequent change in the numerals 15–19 turn the Nyelâyu and Nêlêmwa systems into a base-5-10-20 system.

Returning to the base-5-10 **rua-lima* systems on Epi, Efate and Erromango (see Lewo of Epi in [Table 15.10](#)), an obvious inference is that they reflect the same history as the base-5-10-20 systems of New Caledonia (§15.7.1) but have gone a step further. They first underwent the same step as Nyelâyu and Nêlêmwa, replacing a reflex of **tolu-lima* [3×5] ‘15’ with an additive 10+5 numeral to give a base-5-10-20 system. Then the **rua-lima* systems on Epi, Efate and Erromango also replaced the ‘person’ term for 20 with a 10×2 term, so that the 20-cycle disappeared and the 10-cycle took over (bolded in [Table 15.10](#)). Reflexes of **rua-lima* were treated as a 10-base: ‘20’ in Epi, for example, is *lualima yam lua* [10×2]. Reflexes of **rua-lima* are evidently a single morpheme in speakers’ lexicon, and the result is a base-5-10 system.

The sequence of changes reconstructed here is thus

- 6) base-5-20 > replacement of 3×5 by 10+5 >
 base-5-10-20 > replacement of ‘person’ by 10×2 > base-5-10

In this way the **rua-lima* systems have acquired a term for 10 without borrowing from a decimal system.

The **rua-lima* story has taken us beyond base-5-10-20 systems to base 5-10, but there are also base-5-10 systems in NW Melanesia and north and central Vanuatu that do not share this history. Logically, base-5-10 systems could have originated in two diametrically opposite ways.

7) Possible origins of a base-5-10 system:

- a. from a base-5-10-20 system: the term for 20 (often ‘person’) is lost, giving a base-5-10 system (i.e. as in Epi, Efate and Erromango).
- b. from a decimal system: under the influence of digit tallying simple numerals for 6–9 are replaced with additive numerals 5+1 to 5+4.

If base-5-10 systems were generally descended from base-5-10-20 systems, i.e. via (7a), one would expect the origins of their terms for 10 to pattern similarly to those in base-5-10-20 systems, but [Table 15.9](#) shows that they don’t. A base-5-10 system is twice as likely to display a reflex of **puluq* as is a base-5-10-20 system (59.3% vs 31.3%). A smallish proportion of base-5-10-20 systems reflects a term for 10 meaning ‘two hands’: 17 per cent when **rua-lima* reflexes are excluded—but no base-5-10 system has such a reflex.

In light of this it is possible that many base-5-10 systems reflect (7b), simple replacement of 6 to 9 by additive numerals. There is support for this in situations where a decimal and a base-5-10 system coexist. An example is Notsi (New Ireland, MM; [Table 15.11](#)), where the base-10 set is “used at mortuary feasts to count the pigs displayed on the special platform by the feast organizer.” (Erickson & Erickson 1992) and the base-5-10 system is used otherwise. Garde (2015:125–126) reports a similar situation in Sa (south

¹³ Thus Nyelâyu *p^a-rulîk b^wâr p^w-ar-nem* [CLF-10 top CLF-5] ‘15’.

Table 15.11 Sa and Notsi base-5-10 and base-10 numeral systems

	POc	Sa: base-5-10	Sa: base-10	Notsi: base-5-10	Notsi: base-10
1	(various)	<i>su</i>	<i>wantua</i>	<i>a-kuk</i>	<i>koso</i>
2	* <i>rua</i>	<i>ru</i>	<i>urua</i>	<i>a-lua</i>	<i>lua</i>
3	* <i>tolu</i>	<i>tu</i>	<i>teul</i>	<i>a-tūl</i>	<i>tūl</i>
4	* <i>pat[i]</i>	<i>it</i>	<i>fa</i>	<i>a-et</i>	<i>et</i>
5	* <i>lima</i>	<i>lim</i>	<i>[l,n]ima</i>	<i>a-lima</i>	<i>lima</i>
6	* <i>onom</i>	<i>le-su ~ li-jia</i>	<i>ondo</i>	<i>a-pas-kuk</i>	<i>wan</i>
7	* <i>pitu</i>	<i>le-ɔru</i>	<i>fiti ~ piji</i>	<i>a-pas-a-lua</i>	<i>it</i>
8	* <i>walu</i>	<i>li-tul</i>	<i>walo</i>	<i>a-pas-a-tūl</i>	<i>wān</i>
9	* <i>siwa</i>	<i>li-apat</i>	<i>suan</i>	<i>a-pas-a-et</i>	<i>ciu</i>
10	* <i>sa-ŋapuluq</i>	<i>suŋul</i>	<i>tendu</i>	<i>saŋaul</i>	<i>saŋaul</i>

Pentecost, NCV, Table 15.12), well away from Papuan influence. The base-5-10 system is in regular use, but an earlier base-10 system is remembered and is now used in restricted contexts as follows:

- (1) to count people present,
- (2) to count parcels of food or meals to be distributed,
- (3) for heritage purposes, for their inherent historical value as part of the *kastom* ideology.

The difference between the forms for 2 to 5 in the two Sa systems leaves open the possibility that one system has been borrowed, but the two Notsi systems may indeed reflect the modification of the more formal base-10 system by everyday tally-based forms for 6–9.

There is, however, a piece of counter-evidence to this hypothesis. Oceanic languages that retain the POc decimal system intact reflect the POc decades **sa[ŋa]puluq* ‘1×10’, **rua-ŋapuluq* ‘2×10’, **tolu-ŋapuluq* ‘3×10’, and so on. But many Oceanic languages retain a reflex of either **saŋapuluq* or **ŋapuluq* ‘10’ in the sense ‘unit of ten’ (§14.4.5.2), so that multiples of 10 are formed as complex numerals reflecting, e.g. **ŋapuluq rua* ‘10×2’, **rua saŋapuluq* or **saŋapuluq rua* (Table 14.6). If a base-5-10 system were formed from a decimal system just by replacement of 6 to 9, one would expect the POc decade forms to be retained, but this happens only in three closely related languages: Motu, Gabadi and Lala of the Central Papuan subgroup of PT. All other base-5-10 systems, if they retain a reflex of **saŋapuluq* or **ŋapuluq* ‘10’, treat it as a ‘unit of ten’ morpheme. The inference to be made here is that among base-5-10 systems only those of the three Central Papuan languages can be said with any certainty to be direct descendants of the decimal systems.¹⁴ All others have undergone

¹⁴ The numeral systems of these three languages are unlike other base-5-10 systems in other respects. The numerals 6-9 are not formed by simple addition. Motu counts *taura-toi* 2×3 = 6, *hitu* 7 (< POc **pitu* ‘7’), *taura-hani* 2×4 = 8, *taura-hani ta* (2×4)+1 = 9. The presence of *hitu* ‘7’ implies local modification of a decimal system.

Table 15.12 Two MM and two NCV languages reflecting the ligature **lapi-*

	Early Oceanic	Tungak (MM) N New Ireland	Vinitiri (MM) E New Britain	Maskelynes (NCV) SE Malakula	Lelepa (NCV) Efate
1	<i>*sikai, *tikai</i>	<i>sikei</i>	<i>tikai</i>	<i>sua</i>	<i>skei</i>
2	<i>*-rua</i>	<i>po-ɲuə</i>	<i>u-ruə</i>	<i>ɛ-ru</i>	<i>rua</i>
3	<i>*-tolu</i>	<i>po-tol</i>	<i>u-tulu</i>	<i>i-tör</i>	<i>tolu</i>
4	<i>*-pat[i]</i>	<i>pu-at</i>	<i>i-vati</i>	<i>i-vat</i>	<i>pati</i>
5	<i>*-lima</i>	<i>palpallima</i>	<i>i-limə</i>	<i>ɛ-rim</i>	<i>lima</i>
6	<i>*lap-t...</i>	<i>[lima]le-sikei</i>	<i>ləp-tikai</i>	<i>mə-lɛf-tes</i>	<i>la-tsa</i>
7	<i>*lavi-rua</i>	<i>[lima]le-ɲuə</i>	<i>ləva-uruə</i>	<i>mə-lɛv-rō</i>	<i>la-rua</i>
8	<i>*lavi-tolu</i>	<i>[lima]le-tul</i>	<i>ləvu-tulu</i>	<i>mə-lɛv-tör</i>	<i>la-tolu</i>
9	<i>*lavi-pat[i]</i>	<i>[lima]le-at</i>	<i>ləvu-vati</i>	<i>mə-la-pat</i>	<i>l-for</i>
		Fast 1990	van der Mark 2007	Healey 2013	Lacrampe 2014

other modifications in the process of becoming base-5-10 systems, with ramifications too complex to unravel. The genesis of base-5-10 systems is therefore clouded with some uncertainty.

15.7.3 Numerals 6–9 and numeral ligatures in base-5-10 languages

In base 5-10 languages each of the numerals 6–9 typically consists of the numeral for 5 followed by one of the numerals 1–4 or variants thereof. In some languages the numerals 1-4 directly follow the 5 numeral, in others a conjunction or a ligature intervenes. A ligature is a morpheme, often derived from a verb, that has no other function in the language; in particular, it is not a conjunction. In constructions with a conjunction or a ligature, 5 may be omitted, leaving the conjunction/ligature plus a numeral between 1–4. This happens in all the languages in Table 15.12. For example, in Tungak, 7 is either *lima-le-ɲuə* [5-LIG-2] or the abbreviated form *le-ɲuə*.

A language in which 5 and 1–4 are directly concatenated is Dobu (PT), counting *ʔeb^weu* ‘1’, *ʔerua* ‘2’, *ʔeto* ‘3’, *ata* ‘4’, *nima* ‘5’, *nima ʔeb^weu* ‘6’, *nima ʔerua* ‘7’, *nima ʔeto* ‘8’, *nima ata* ‘9’, *sanau* ‘10’.

A language that makes transparent use of a conjunction is Tuam (NNG), counting *es* ‘1’, *ru* ‘2’, *tol* ‘3’, *paŋe* ‘4’, *lim* ‘5’, *lim be es* ‘6’, *lim be ru* ‘7’, *lim be tol* ‘8’, *lim be paŋ* ‘9’, *saŋul* ‘10’.

For NCV languages Lynch (2009) reconstructs three ligatures: PNCV **lave-a*, S Santo/N Malakula **/la]kau-*, C and S Malakula **zau-*. PNCV **lave-a* has widespread reflexes in Vanuatu: in the languages of the Torres and Banks Islands, Maewo, Pentecost (except Raga), the Shepherds and Efate, and in some Ambrym languages, in all base-5-10 Santo languages and some base-5-10 Malakula languages, and in Paamese (base-5-10-20). PNCV **lave-a* also has cognates in three MM languages, as Lynch recognises: Tungak, Vinitiri and Tolai (the Tolai reflexes closely resemble those in Vinitiri). It evidently reflects POC **lapi* ‘take, get, give’ (vol.5:426).

Table 15.13 New Britain languages and Äiwoo of the Reefs reflecting the ligature **polo-*

	Early Oceanic	Vitu (MM) French Islands	Bola (MM) New Britain	Avau (NNG) New Britain	Äiwoo (TM) Reef Islands
1	<i>*sikai, *tikai</i>	<i>katiu</i>	<i>taku</i>	<i>ke</i>	<i>ñi-gi</i>
2	<i>*-rua</i>	<i>rua</i>	<i>rua</i>	<i>su</i>	<i>li-lu</i>
3	<i>*-tolu</i>	<i>tolu</i>	<i>tolu</i>	<i>moyok</i>	<i>eve</i>
4	<i>*-pat</i>	<i>vata</i>	<i>va</i>	<i>pənel</i>	<i>u-væ</i>
5	<i>*-lima</i>	<i>lima</i>	<i>lima</i>	<i>limi</i>	<i>vi-li</i>
6	<i>*lap-tikai</i>	<i>polo</i> <i>katiu</i>	<i>polotara</i>	<i>ke polo</i>	<i>pole-gi</i>
7	<i>*lavi-rua</i>	<i>polo</i> <i>rua</i>	<i>polorua</i>	<i>su polo</i>	<i>pole-lu</i>
8	<i>*lavi-tolu</i>	<i>polo</i> <i>tolu</i>	<i>polotolu</i>	<i>moyok polo</i>	<i>pole-e</i>
9	<i>*lavi-pat</i>	<i>polo</i> <i>vata</i>	<i>polova</i>	<i>pənel polo</i>	<i>polo-uvæ</i>
		van den Berg & Bachet 2006	van den Berg & Wiebe 2019	author's fieldnotes	Næss 2016

One other ligature appears to transcend local boundaries. This is *polo-*, glossed as Vitu ‘go aboard’ (van den Berg & Bachet 2006) and Bola ‘go across’ (Wiebe n.d.). It appears to occur in Bali, Vitu, Bola, Avau and Äiwoo—“appears” because one cannot be certain whether the ligatures in these languages are cognate or merely homophonous. The data are in Table 15.13.

15.8 Pulling the threads together

15.8.1 Did POc speakers have a base-5-20 system?

The hybridisation referred to in §15.7 implies that both decimal and tally-based systems were in simultaneous use in some locations. Was this already the case in POc?

It is incontestable that POc inherited the PMP decimal system (Chapter 14). The question is whether POc speakers also used a tally system like that outlined in §15.6. It is hard to be certain. As there are no cognate sets peculiar to Oceanic base-5-20 systems, a POc tally system cannot be reconstructed. Instead, the occurrence of a word for ‘person’ as the term for 20 represents a common counting strategy. A conservative inference is that tally systems were in use across much of New Guinea when Austronesian speakers arrived (see, e.g., Owens & Lean 2018:46), and that the latter adopted them from speakers of Papuan languages.

This inference is partially supported by the distribution of base-5-20 systems in Map 15.1, as they are found dotted across New Guinea with a couple of examples in the Bismarcks.

Further evidence comes from non-Oceanic Austronesian languages immediately to the west. Austronesian languages around Cenderawasih Bay (just east of the Bird’s Head of New Guinea) are members of the South Halmahera/West New Guinea (SHWNG) subgroup. They also use ‘person’ for 20 (Schapper & Hammarström 2013:432–433) within a base-5-10-20 system (Ongkodharma n.d.; Dalrymple & Mofu 2012). Thus speakers of SHWNG and Oceanic languages that neighbour Papuan-speaking groups have in a number of cases acquired a tally system. On the other hand, numeral systems of SHWNG and Oceanic

languages that do not immediately neighbour Papuan-speaking groups show no evidence of a tally system. The SHWNG languages of Halmahera and Ambel in the Rajah Ampat islands have a straightforward decimal system inherited from PMP (Maan 1951; Bowden 2001; Arnold 2018), and Map 15.1 shows that Oceanic languages distant from New Guinea have decimal systems. The likelihood that tally systems in Austronesian languages arose through copying rather than inheritance is also evidenced by the fact that their distribution within Papuan-speaking areas is rather random. Dusner of Cenderawasih Bay has a base-5-10-20 system with ‘person’ for 20 (Dalrymple & Mofu 2012), whilst its close relatives Biak and Wooi reflect a decimal system inherited from PMP (Van den Heuvel 2006; Sawaki 2016).

The *mechanism* of copying, namely childhood bilingualism, was briefly described in §15.7.1, but the question of the *languages* in which children grew up bilingually was left open. Were they bilingual because their parents spoke different languages or because everyone in the community spoke a lingua franca alongside their heritage language?

There is no linguistic evidence to support an answer, but the simplest account is that after speakers of pre-Oceanic arrived in the Bismarcks, there were soon marriages with Papuan speakers. If Hage & Marck (2003) are right that POc society was matrilocal, then adult males joined POc-speaking hamlets,¹⁵ and, as adult language learners are wont to do, imposed their own ways of speaking on the language of their new community. Their children either inherited these ways of speaking or, more probably, grew up bilingually, restructuring their Austronesian language on the model of the Papuan language(s) of their fathers (§15.7.1). One of these ways of speaking was a digit-tallying strategy. The inference that the decimal system and digit-tallying were used side by side is unproblematic and so is the inference that this resulted in hybrid systems (§15.7.1).

The discussion above answers some of the questions asked in the introduction to this chapter. Base-5+ systems are found in much of NW Melanesia because of contact with Papuan speakers who used such systems. They are absent from much of Oceanic because Oceanic speakers were the earliest inhabitants of Remote Oceania.

15.8.2 The Southern Oceanic question

The paragraph above leaves an important fact unaccounted for, namely the Southern Oceanic digit-tally area covering much of Vanuatu and all of the Loyalty Islands and New Caledonia. In this area there is no evidence of human habitation before Oceanic speakers arrived. How did base-5+ systems come to be here? This is the Southern Oceanic question. Any answer to it must also account for the fact that the distribution of system types differs between Vanuatu and New Caledonia (Map 15.1).

Blust (2005:552–553) asks a variant of the Southern Oceanic question. He queries the historical reasons for the distribution of “quinary” systems, in which he includes any base-5+ system. He links the distribution of quinary systems to the distributions of other features, one linguistic, one biological, and two cultural. The last are not relevant here. The linguistic feature is the distribution of serial verb constructions. The biological feature is the unexpected phenotype of Oceanic speakers across Melanesia, whose people (Blust 2005:554)

¹⁵ Posth et al’s (2018) literature summary gives some support to this scenario. Polynesian populations have maternal ancestry of almost entirely Austronesian origin but paternal ancestry which is more than 60 per cent ‘Papuan’. They cite Kayser et al. (2006), Wollstein et al. (2010), and Skoglund et al. (2016).

are almost invariably characterized by darker skins and frizzier hair than other An [Austronesian] speakers, and in this respect are largely indistinguishable from most Papuan speakers. In some parts of Melanesia beyond the reach of Papuan languages, as in the islands of Espiritu Santo and Malakula in Vanuatu, the prominent noses and full beards of many men are strikingly similar to features common among New Guinea highlanders.

This is problematic because Blust (2005:555) assumes “on distributional grounds that POc speakers were southern Mongoloids” and

if (all) An speakers had acquired Papuan physical, cultural, and linguistic traits through contact in western Melanesia, these would have been part of the linguistic communities ancestral to those of Vanuatu, southern Melanesia, Micronesia, and Polynesia. But this is not true, because Papuan phenotypic, cultural, and linguistic traits are essentially absent in Micronesia and Polynesia.

On the basis of these observations Blust argues that speakers of Papuan languages must have already been present in Vanuatu long before the arrival of Oceanic speakers. He recognises that there is no archaeological evidence for this, but finds the linguistic evidence compelling.¹⁶ He rightly comments (2005:553) that the presence of ‘one man’ for 20 in Paamese (NCV) and in NCal languages invites a Papuan-based explanation.

Pawley (2006:243–248) offers a response to Blust. He proposes that Oceanic speaking migrants from the Bismarcks were not necessarily all of one phenotype. Some might have been “southern Mongoloid”, others “Papuan”. The people who “reached Tonga, presumably via Vanuatu and Fiji” were of the former phenotype (2006:248). The linguistic evidence, Pawley suggests, is in any case not compelling. Serial verb constructions are reconstructable to POc (one kind is reconstructed in vol.2:256–282), and not an outcome of Papuan contact. He surmises that “quinary” numeral systems may have existed in early Oceanic alongside decimal systems (cf §15.2) or that they may have spread into Southern Oceanic languages after initial Lapita settlement.

Blust (2005) and Pawley (2006) were followed by Donohue & Denham (2008), who added several phonological features to Blust’s list. Blust wrote an “addendum” to their paper in which he seemingly modified his conclusion of three years earlier and wrote (2008:455):

Putting aside the current lack of archaeological support, the idea that large numbers of Papuan speakers who had adopted key elements of Proto-Oceanic culture arrived in Vanuatu shortly after the first wave of SM [southern Melanesian] Austronesians is not inherently implausible.

The issue was reopened recently by two groups of archaeogeneticists. Skoglund et al. (2016) found that the genomes of three individuals from the Lapita cemetery at Teouma on Efate (central Vanuatu) matched those of Tongans (Blust’s ‘southern Mongoloids’), not those of modern niVanuatu. They hypothesised that the ‘Papuan’ who have made a large contribution to niVanuatu genomes arrived somewhat later. Posth et al. (2018) conducted a

¹⁶ Blust alludes to the fact that Papuan speakers had allegedly found their way as far as Santa Cruz, located in isolation between the Solomons and Vanuatu island chains. However, Ross & Næss (2007) have shown that the languages of the Reefs Islands and Santa Cruz are Oceanic Austronesian, not, as earlier claimed, Papuan. The easternmost Papuan languages are Savosavo and Lavukaleve in the central Solomons.

wider survey, and found that people with Papuan genomes had first arrived roughly around 500 BC, not in a sudden “invasion” but over several centuries. This meant that they started to arrive 500 years or perhaps less after the first Lapita settlement in Vanuatu. A second paper from the first group (Lipson et al. 2018) reaches a similar conclusion.

Posth et al. (2018) comment that

The almost complete replacement of a population’s genetic ancestry that leaves the original languages in situ is extremely rare—possibly without precedent—in human history and requires explanation.

As far as one can tell, the misalignment they see between genetic replacement and linguistic continuity has its linguistic roots in Blust’s (2005, 2008) and Donohue & Denham’s (2008) papers. But there is an alternative explanation which avoids the misalignment and was hinted at by both Pawley (2006) and Blust (2008). There was apparently quite intense contact between Papuan speakers and pre-Oceanic speakers soon after the latter’s arrival in the Bismarcks, with Papuan speakers marrying into pre-Oceanic speaking villages and influencing the way people counted (and perhaps modifying the linguistic inventory in other ways) (§15.8.1). If this is true, it is a reasonable inference that the base-20 and base-5-20 systems found in Vanuatu have their ancestry in the Bismarcks. In other words, the ‘Papuan’ who arrived in southern Oceania perhaps 300 years after the first Lapita arrivals spoke one or more Oceanic languages. Murray Cox, in his contribution to Bedford et al. (2018) (a set of commentaries on Skoglund et al. 2016, Posth et al. 2018 and Lipson et al. 2018), arrives independently at a similar conclusion, echoing Pawley (2006), and suggests that Papuan speaking communities in the Bismarcks may also have shifted to Oceanic languages as part of their absorption into Lapita culture. Sometime after their transition to Lapita and Oceanic, some of their number migrated to (perhaps various islands in) Vanuatu.¹⁷

One small piece of linguistic evidence also implies a New Britain–Vanuatu connection, namely the use of POc **lapi* ‘take, get, give’ (vol.5:401–403) as a ligature in the numerals 6–9 in three MM languages (two in eastern New Britain, one in northern New Ireland) and widely in base-5-10 systems in Vanuatu (§15.7.3). It is of course possible that the verb **lapi* has been adopted as a ligature independently in two or more locations, but it is tempting to infer that it reflects a shared innovation, transported to Vanuatu by ‘Papuan’ migrants.

By implication the account above touches on two Oceanic-speaking groups outside Vanuatu. One is the Reefs and Santa Cruz Islands, where modern but not ancient genetic material is available. Åshild Næss, in her contribution to Bedford et al. (2018), suggests that a hypothesis of two migrations to the Reefs and Santa Cruz is linguistically plausible, as the Äiwoo language of the Reefs, at least, appears structurally conservative and the archaeological evidence indicates that Lapita settlement occurred early, yet the genetic evidence points strongly to ‘Papuan’ immigration. The presence of base-5-10 numeral systems in Äiwoo and in Natügu of Santa Cruz places them typologically with Vanuatu, not the Solomons.

The second group comprises speakers of the languages of the Loyalties and New Caledonia, which form a single subgroup within SOc. Because ancient and modern genetic material has been available from Vanuatu but not from New Caledonia, the hypothesis that ‘Papuan’ migrants southward were Oceanic speaking has focussed on Vanuatu. Might it also apply to New Caledonia? Early in this section a typological difference in numeral systems

¹⁷ Lipson et al (2020) summarise and validate the findings mentioned here, but prefer a single large-scale Papuan intrusion rather than repeated intrusions over centuries.

between Vanuatu and New Caledonia was noted. In Vanuatu we find a few decimal systems, numerous base-5-10 systems, a cluster of base-5-10-20 systems and very few base-5-20 systems (Map 15.1). In New Caledonia, on the other hand, there are no decimal or base-5-10 systems, but base-5-20 systems in the Loyalties, in the northernmost NCal languages and in the southern half of the mainland, and base-5-10-20 systems in the rest of the mainland.

The **rua-lima* story (§15.7.2) fairly strongly supports a connection between central and southern Vanuatu and New Caledonia. The conclusion to be drawn from the story is that there was at least one base-5-20 language, an ancestor of SE Ambrym or a relative thereof, and that its descendants spread southward to Paama, Epi, Efate and Erromango, and thence to the Loyalties and New Caledonia. Languages around the periphery of this area, on Ambrym, Erromango, the southern part of New Caledonia and on the Belep Islands off its northern tip retained the base-5-20 pattern. Others, on Paama and in northern mainland New Caledonia, lost the dedicated ‘foot’-based term for 15 and thereby acquired a base-5-10-20 pattern, while the languages of Epi and Efate also replaced the ‘person’ term for 20 with a 2×10 term, giving a base-5-10 pattern.

Base-5-10 systems elsewhere in Vanuatu do not reflect this history, nor do the base-5-10-20 systems clustered in south Malakula. That the latter arose in situ through the modification of base-10 systems cannot be excluded, but the possibility that the base-5-10-20 arose through in-situ hybridisation *can* be excluded, as it requires the immediate presence of Papuan speakers. A plausible alternative explanation is that the clusters of base-10 and base-5-10-20 systems are the results of bottlenecks during the later immigration, i.e. one group brought a base-10 system with them and settled in north Malakula, another group a base-5-10-20 system and occupied a location in southwest Malakula. This is a matter for more research.

15.9 Conclusion

This chapter complements Chapter 14. The latter reconstructs, along with numeral classifiers, the POc decimal numeral system. The present chapter tracks the history of base-5-20, base-5-10-20 and base-5-10 systems. These three numeral systems all reflect in some measure the influence of digit tallying which was evidently present in many early Oceanic communities in NW Melanesia, presumably as the result of bilingualism in a Papuan language. Two digit tally areas are found, one in NW Melanesia, the other in Vanuatu and New Caledonia. There is no evidence that POc speakers used a tally-based base-5-20 system, and it is very probable that such systems developed early alongside the inherited decimal system, and that the two systems coexisted in some communities because they had different functions.

Recent genetic research indicates that relatively large numbers of Papuan speakers arrived in Vanuatu, and probably in the Loyalties and New Caledonia, over a period that began only a few centuries after the original Oceanic settlers of the Lapita culture, and that these Papuan speakers are responsible for the base-5+ numeral systems found in SOc languages. This chapter puts forward the hypothesis that these “Papuan” had already shifted to Oceanic languages before they moved from NW Melanesia to the SOc area and simply brought NW Melanesian base-5+ counting with them. This does not preclude further developments in these systems after their speakers’ arrival, and one such set of developments, in languages that reflect **rua-lima* for ‘10’, is sketched in §15.7.2.

Finally, the previous section suggests that their numeral systems are at least consistent with hypotheses that the Reefs Islands, Santa Cruz, the Loyalty Islands and New Caledonia were also recipients of “Papuan” immigration after the original arrival of speakers of an Oceanic lect or lects. The linguistic evidence from numeral systems suggests that immigration into the Loyalty Islands and New Caledonia was via central Vanuatu.

16 *Linear measurement*

MALCOLM ROSS

Introduction

The most widespread form of measurement in traditional Oceanic societies was linear, used in house and canoe construction and for measuring lengths of strung shell used as currency. Alkire (1970) provides perhaps the best account of measurement in an Oceanic society, namely Woleai in Micronesia. His description is detailed, discussing what measurement is used for and how it is applied

In the formal distribution of wealth and in trade, foodstuffs and other valued items were measured by counting. Counting included the use of conventionally accepted measures such as baskets or bunches. Matters relating to counting and its linguistic consequences are treated in some detail in chapter 14.

POc speakers almost certainly had a verb for measuring the depth of seawater, and at least one for measuring the volume, particularly of food, but no reconstructions can be made. There was no regular means of measuring weights.

16.1 Units of linear measurement

The units of linear measurement that Alkire lists for Woleaian (Mic) are listed in (1). The items in Alkire's list have been checked against Sohn & Tawerilmang (1976) and the list of measurement classifiers in Sohn (1975:61), and Alkire's forms have been replaced by Sohn's and re-spelled in accordance with the orthographic convention used in these volumes (§1.4.2).

- 1) a. *maxō-šix* length of one finger joint (*maxō* 'finger-joint length'; *šix* 'small')
- b. *maxō-rap* length of two finger joints (*maxō* 'finger-joint length'; *rap* 'big')
- c. *-xatt* length of a finger
- d. *-peša-nim* width of the palm (lit. 'handle of hand')
- e. (maiarulpu) fist width plus thumb length (Alkire's spelling: not recorded by Sohn)

- | | |
|-------------------------------|---|
| f. (ngalit) | with hand extended, length from end of thumb to end of first finger (Alkire's spelling: not recorded by Sohn) |
| g. <i>-yaŋ</i> | with hand extended, length from end of thumb to end of middle finger (hand span). |
| h. <i>xum^wüš</i> | from wrist to end of fingers (<i>xum^wüš</i> 'wrist') |
| i. <i>-m^warü</i> | length of forearm, from elbow to end of fingers (a cubit). |
| j. <i>-paiü</i> | length of whole arm (only with <i>se-</i> 'one'; <i>paiü</i> 'arm, hand') |
| k. <i>-terouf^v</i> | with arm extended, length from sternum to end of fingers |
| l. <i>-yefaž</i> | with arm extended, length from end of fingers to shoulder of opposite arm |
| m. <i>wōpaiü</i> | with arms extended, length from end of fingers to elbow of opposite arm |
| n. <i>-ŋaf</i> | with arms extended, length from finger tips to finger tips (a fathom) |

This list perhaps gives some idea of traditional units of linear measurement in Oceanic societies, which in many places have vanished for ever. However, before we turn to issues associated with reconstructing lexical items, it is necessary to look briefly at the morphosyntax of such items, as it bears on their reconstruction.

16.2 The morphosyntax of units of linear measurement

Some of the terms listed in (1) are preceded by a hyphen, others not. Those with no hyphen are nouns. Those with a hyphen are numeral classifiers, described at some length in §14.7. For convenience's sake a short summary is given here.

A numeral classifier is a word that occurs with a numeral but has some semantic relationship to the entity that is being counted. Six types of numeral classifier are distinguished in §14.1.1, but only three types, multiplicative, mensural and unit-of-measurement concern us here. Mensural classifiers—or something performing the same semantic functions—occur in all languages., as in English *ten **grains** of sand*, *two **pinches** of salt*, *a **bottle** of beer* and so on. The classifier (in bold) provides a unit that is or can be counted with a numeral. This unit is one that is conventionally associated with what is counted: sand comes in grains, salt is quantified (in more traditional western recipes) in pinches, and so on.

In Oceanic languages that have numeral classifiers the numeral and the classifier are usually combined to form a word. The PMP order within these words was *numeral-/[ŋa-]/classifier. POc retained this order with some classifiers, for example the multiplicative classifiers *-*Ratus* 'unit of a hundred' and *-*puluq* 'unit of ten' in POc **sa-ŋa-Ratus* 'one hundred' or **tolu-ŋa-puluq* 'thirty (= three tens)'. But POc also used the *classifier numeral order with other classifiers. Each language that retains classifiers uses one or the other ordering, except for some Polynesian languages, which have both structures. Micronesian

languages reflect the *numeral-[*ŋa*-]classifier, usually without *-*ŋa*- and exemplified by (2), with the mensural classifier -*xum* ‘mouthful’.

2) Woleaian (Mic) (Sohn 1975:202)

<i>wari-xum</i> ^w	<i>ʃal</i>	
eight-CLF:mouthful	water	‘eight mouthfuls of water’

The multiplicative classifier -*ix* ‘ten’ behaves in the same way as POc *-*Ratus* and *-*puluq* above.

3) Woleaian (Mic) (Sohn 1975:204)

<i>seri-ix</i>	<i>f^wuk</i>	
three-CLF:ten	book	‘thirty books’

Finally, a unit-of-measurement classifier specifies a measurement, and together with the numeral gives the size of the following item.

4) Woleaian (Mic) (Sohn 1975:61)

<i>se-xatt</i>	<i>f^wurax</i>	
one-CLF:finger	swamp.taro	‘a swamp taro of one finger-length’

This, then, is the structural context of the items in (1) that begin with a hyphen.

16.3 Melanesian shell money

Many of the measurement terms discussed in this chapter have their origin in the measurement of Melanesian shell money. These ‘currencies’ are found in a more or less continuous region that stretches from the Admiralties via New Britain, New Ireland, Bougainville and the NW and SE Solomons to the Banks and Torres Islands of Vanuatu.¹ In smaller units they appear to have been used for everyday transactions at some locations, e.g. among the Tolai of NE New Britain. Perhaps wherever they were used, large quantities were accrued by individuals and were used in a variety of ceremonies, including bride wealth payments, land rights payments, mortuary exchanges, initiation presentations (Hogbin 1964a; Epstein 1969:ch.7; Counts & Counts 1970; Simet 1991; see §13.5). The literature on the cultural roles of shell money is substantial and often engages in controversy, and we lack the relevant expertise to discuss it here.²

In parts of the NW Solomons, shell money consists of rings or drums made from the shell of the giant clam (genus *Tridacna*; vol.4:189–190). Elsewhere in the region it consists of disks manufactured from various shell species, each disk about a centimetre in diameter with a hole in the centre. The disks are threaded onto strong, fine string, packed together so that,

¹ Sources are, for Baluan (Adm), Schokkin (2015); for NW New Britain, Counts & Counts (1970); for NE New Britain, Salisbury (1966), Epstein (1969:ch.7), Strathern (1978) and Simet (1991); for Bougainville, Connell (1977); for the NW Solomon Is, Miller (1978) and Aswani & Sheppard (2003); for the SE Solomon Is, Hogbin (1964a) and Connell (1977); and for the Banks and Torres Islands, François (2013:235).

² See Salisbury (1966), Epstein (1979), Clark (1995) and Martin (2018).

where disks made of shells of different colours alternate, they form a colourful pattern. A number of different shellfish species supply the shells. A major shell-money production centre in Malaita is at Langalanga Lagoon, where inhabitants of the artificial islets built from coral make their living by manufacturing shell money. Four shell species are used: *omu* ‘red-lipped oyster, *Chana pacifica*’; *kakadu* ‘ridged white cockleshell, *Anadara granosa*’; *kurila* ‘black mussel, *Atrina vexillum*’; and *ke’e* ‘half-round cardita, *Begonia semiorbiculata*’ (Goto 1996). In other locations *nassa* shells (dog whelks), cowries, cone shells or *Spondylus* shells are used.

The strings of shell money circulate in varying lengths, and the main use of a number of the unit-of-measurement terms discussed below is to denote these lengths, ranging from a length of two finger segments up to many fathoms. A fathom is the measurement from the fingertips of one hand to the fingertips of the other when both arms are stretched out sideways. Counts & Counts (1970:100) list the terms traditionally used by the Lusi (NNG) speakers of NW New Britain for various lengths of *vula* ‘shell money’, along with their 1970 Australian dollar valuations, which serve to indicate relative values.

5)	Term	Length	Valuation in 1970 AUD
	<i>korui</i>	fingertips to mid-forearm (half-cubit)	0.10
	<i>mase</i>	fingertips to elbow (cubit)	0.20
	<i>pupuye</i>	fingertips to mid upper arm	0.30
	<i>igiligita</i>	fingertips to shoulder joint (arm’s length)	0.40
	<i>vataŋa</i>	fingertips to centre chest (half-fathom)	0.50
	<i>pram</i>	double arm span (fathom)	1.00

Rickard’s (1893:48–49)³ and Salisbury’s (1966:115–116) Tolai lists include terms for longer strings and a ‘coil’.

6)	Rickard (1893)	Salisbury (1966)	
	<i>a tip</i>	...	1/32 fathom (10 shells)
	<i>a tip na arip</i>	...	1/16 fathom (20 shells)
	...	<i>pidik</i>	one-tenth of a fathom
	<i>a wartuk</i>	...	1/8 fathom (40 shells)
	<i>a bal</i>	...	1/4 fathom (80 shells)
	<i>a papara</i>	<i>peapar</i>	1/2 fathom
	<i>a pokono</i>	<i>pokono</i>	one fathom
	<i>a wuna em tabu</i>	...	two fathoms
	<i>a gaina</i>	...	three fathoms
	<i>a rip</i>	<i>rip</i>	ten fathoms
	...	<i>gogo, lolo</i>	a coil of between 100 and 1,000 fathoms

³ Cited by Simet (1991:107) but not listed in his references. This must be the Methodist missionary R.H. Rickard, and the reference may be to his *Dictionary of the New Britain dialect* (1889). The terms in (6) are listed in a much revised version of the dictionary, Rickard, Fellmann and Linggod (1964).

16.4 Reconstructing linear measurement terms

The list in (1) is a decidedly conservative set of traditional measurement units—conservative in two respects. First, even for other Micronesian languages, comparable lists are hardly to be found. Jackson & Marck (1991:328) come closest, recording Carolinian units corresponding to ten of Alkire’s. Capell (1969:67–68) and Sohn & Bender (1983:202–203) record five each for Sonsorol and Ulithian respectively. Other Micronesian languages appear to retain only a term for fathom. The second aspect of conservatism is that Woleaian retains unit-of-measurement classifiers, which elsewhere are being lost in favour of nouns. Thus in Puluwatese Elbert (1974:112) notes that (7a), where ‘fathom’ is a classifier, is being replaced by (7b), where it is a noun.

7) Pulwatese (Mic)

- a. *wali-ŋaf*
 eight-CLF:fathom ‘eight fathoms’
- b. *wal-ūw* *ŋāf*
 eight-CLF:default fathom ‘eight fathoms’

The only unit of measurement recorded for Mokilese/Ponapean is the noun *ŋap/ŋāp* ‘fathom’ (Harrison & Albert 1977; Rehg 1981). No traditional units of measurement are recorded for Marshallese (Abo et al 1976) or Kosraean (Lee 1975). This patchiness in recording is also found across the SE Solomons, where measurement terms were used at least until recently to measure lengths of shell money. Indeed, some definitions given in dictionaries of SE Solomonic languages (Ivens 1918; Fox 1955) and elsewhere are explicit that some of these terms, particularly those involving more complicated paths across the human body, were used to measure strings of shell money. For example:

NNG: Kove	<i>wala-ra varexe</i>	‘shell money measured to opposite shoulder’ (<i>wala</i> ‘shoulder’; <i>varexe</i> ‘side, half, portion’)
MM: Ramoaaina	<i>babaluka</i>	‘fathom of shell money, twice the length of hand to chest’
SES: Gela	<i>kogana</i>	‘a string of red money; a fathom’
SES: Gela	<i>alo ni toyo</i>	‘measure, length of arm’ (<i>alo</i> ‘string’)
SES: Sa’a	<i>māpou</i>	‘a measure of shell money, from the fingertips to the elbow; a cubit’
SES: Ulawa	<i>ida ʔapala</i>	‘a length of money from the fingertips to the opposite shoulder, a yard and a quarter’ (<i>ʔapala</i> ‘shoulder’)
SES: Arosi	<i>māmoku</i>	‘a measure of shell money from finger tips to elbow’

The absence of records of these terminologies from dictionaries of SE Solomonic and Micronesian languages has two possible causes. The first is that the terms had died out before the dictionary data were recorded, perhaps because shell money usage has diminished. The second is that the dictionary-maker was only interested in recording the modern language, and omitted more traditional or more archaic terms.

In the Ulawa term *ida ʔapala* above, *ʔapala* means ‘shoulder’, but no separate item *ida* is recorded by Ivens. This is, we assume, an idiomatic phrase, the full original meaning of which is now lost. This seems to be true of a number of the terms cited below.

Our goal here is not just to reconstruct POc terms (or terms in a later interstage language) but to ascertain how far back the unit-of-measurement concept can be traced. If we can show that a certain meaning is expressed in daughters of a particular protolanguage (often phrasally), then, even if the terms are not cognate, we can be reasonably certain that the concept was expressed by a dedicated term in the relevant protolanguage.

All the terms reconstructed below have their basis in the fingers, hands and arms of the human body. This is unsurprising, as traditional units of measurement the world over have been based on the human body. The *cubit* (elbow to fingertip; §16.6.4) was an important measure used around the Mediterranean. Mongolian had the *ald*, Ancient Greek the *orgyiá*, Old English the *fæðm*, all denoting a pair of embracing or outstretched arms and corresponding to the Oceanic fathom. The pre-metrication English system had the *inch*, based on the width of a person’s thumb, and the *foot*. The length of the foot is recorded as a unit of measurement in a few Oceanic sources, but no dedicated term is reconstructable.

There is a further division to be made among these body-based terms. The few reconstructable measure concepts other than the span were involved in measuring strings of shell money. The (flexible) object to be measured—the shell money—was strung across the measuring instrument, the human body. The span, however, was used in the converse manner: instead of taking the object to the instrument, one took the instrument—the hand—like a tape measure to the (typically rigid) object to be measured. Alkire (1970:33) shows that the span was used in canoe building. There is no evidence that it was used to measure money strings.

Section 16.5 is thus devoted to the measurement of rigid objects, §16.6 to measurements employed for flexible objects. Section 16.6.1 takes the fathom as its starting point, followed by the half-fathom in §16.6.2 and measures between the half-fathom and the fathom in §16.6.3. With the cubit (§16.6.4) we move to measures less than half a fathom. Section 16.6.5 looks briefly at the scrappy evidence for units longer than the fathom. Section 16.7 is devoted to verbs of measuring, and §16.8 draws some rather restricted conclusions.

One might expect a chapter entitled ‘Measurement’ to deal with terms for ‘length’ and ‘breadth’. If we exclude the use of *length* in *a length of X*, then Oceanic languages tend not to have dedicated terms for ‘length’ and ‘breadth’. Instead they either use the terms for ‘long’ (especially reflexes of POc *[ma]lawa ‘long, tall’; vol.2:198) or ‘broad’ as nouns, occasionally with nominalising morphology, or as adjectives as in *It is 3 metres long*.

16.5 Measuring rigid objects

16.5.1 The span

The most widely reflected term for a hand-based measurement is POc **saja*, which Blust (ACD) glosses ‘crotch, fork of the legs; span, fork of the fingers’. This gloss captures the fact that the POc meaning of this term was less specific than it is in a number of daughter-languages. Further, according to the ACD, POc **saja* had two PMP ancestors, **saja* ‘bifurcation’ and **zajan* ‘handspan’, which merged in PEMP and POc as **saja*. To judge from its Oceanic reflexes, it retained this range of meaning, and also had the senses of a

forked stick or branch (vol.3:96) and the crotch (the bifurcation of the legs; vol.5:173). This breadth of meaning has ensured the word's retention in numerous languages, along with the probable fact that the hand span was a commonly used means of everyday measurement. There is some evidence that it may also have denoted spans other than those formed with the hand. Its Mangseng reflex means 'fathom'; in Tuamotuan 'measure across chest to fingertips'. Even at the level of hand-span, reflexes vary as to whether the involved finger was the forefinger, the middle finger or the little finger (and many definitions do not specify which). It seems possible from the glosses below that in Proto Nuclear Polynesian this was the little finger.

Jackson (1983:77) notes that the loss of *s- in the Chuukese reflexes of *saya, all of them numeral classifiers prefixed by a numeral, is an irregular innovation that along with others defines the Chuukese subgroup. Non-Chuukese Micronesian languages have lost the term.

The non-cognate items listed below as 'other terms for the span' indicate that the concept and use of the hand span as a measure was clearly present in Oceanic regions where a reflex of *saya was not used to denote it. However, it is perhaps significant that no reflexes of *saya are found in mainland New Guinea or in Admiralties, N-C Vanuatu or New Caledonian languages. In the latter cases, this may reflect insufficient data sources; in the case of New Guinea it may reflect contact with Papuan systems of measurement, but this is a matter for further research.

PMP *saya 'bifurcation, fork of a branch'; *zayan 'handspan' (ACD)

PEMP *saya 'crotch, fork of the legs; span, fork of the fingers' (ACD)

POc *saya- 'fork (in tree), forked stick or branch; crotch, fork of the legs; span, fork of the fingers' (ACD) (vol.3:96; vol.5:173)

NNG: Mangseng	<i>ḍaya</i>	'fathom: length between two stretched arms'
MM: Vitu	<i>ḍaya</i>	'span'
MM: Banoni	<i>saya</i>	'span of hand'
SES: Gela	<i>haya</i>	'span, outstretched fingers'
SES: 'Are'are	<i>tana</i>	'span, between thumb and first finger; to span with this measure'
SES: Sa'a	<i>taya-a</i>	(n) 'a span'; (vt) 'to span with the hand'
SES: Arosi	<i>taya(a)</i>	'a hand's breadth, fingers extended' (-a nominaliser)

PChk *yaya 'finger span' (Bender et al. 2003b)

Mic: Puluwatese	<i>-yay</i>	'span'
Mic: Chuukese	<i>-yāy</i>	'span between thumb and forefinger'
Mic: Carolinian	<i>-yay</i>	'hand span: distance from the tip of the thumb to the tip of the little finger of an outstretched hand'
Mic: Woleaian	<i>-yay</i>	'finger-length' (Sohn 1975); 'span from end of thumb to end of middle finger'
Mic: Ulithian	<i>-yaye</i>	'span between thumb and forefinger'
Mic: Sonsorol	<i>-ay</i>	'span'
Fij: Boumaa	<i>ḍaya</i>	'span of outstretched fingers and thumb'

Fij:	Wayan	<i>ḍaŋa</i>	‘span between thumb and extended middle finger’
PPn * <i>haŋa</i> ‘span (measurement)’ (POLLEX); ‘measure in spans’			
Pn:	Tongan	<i>haŋa</i>	‘span; to measure by spans’
Pn:	Niuean	<i>haŋa(tike)</i>	‘span (from tip of thumb to tip of index finger)’
PNPn * <i>aŋa</i> ‘span formed by thumb and little (?) finger; measure’			
Pn:	Samoan	<i>aŋa</i>	‘span (measurement)’
Pn:	Tuvalu	<i>aŋa</i>	‘span; to measure by spans’
Pn:	Tokelauan	<i>aŋa</i>	‘hand-span (used as a measuring-unit)’
Pn:	K’marangi	<i>aŋa</i>	‘unit of measure from tip of thumb to tip of little finger (of outstretched hand)’
Pn:	Nukuoro	<i>aŋa</i>	‘the span of the outstretched thumb and little finger; a measurement of one span’
Pn:	Takuu	<i>(se)ana</i>	‘handspan; to measure in handspans’
Pn:	Hawaiian	<i>ana</i>	‘measure’
Pn:	Marquesan	<i>ʔaka</i>	‘to measure’
Pn:	Mangarevan	<i>aŋa</i>	‘fathom’
Pn:	Tahitian	<i>aa</i>	‘measure length or breadth’
Pn:	Tuamotuan	<i>aŋa</i>	‘measure across chest to fingertips’
Pn:	Rarotongan	<i>aŋā(rima)</i>	‘span between thumb and little finger, used as a measure of length’
Other terms for the span include:			
NNG:	Bariai	<i>leoa</i>	‘measure, to measure by hand spans’
MM:	Sursurunga	<i>keslim</i>	‘width measurement equivalent to hand span’
MM:	Banoni	<i>para</i>	‘span of hand’
MM:	Nehan	<i>haili</i>	‘hand span, unit of measure’
MM:	Halia	<i>seilo</i>	‘hand span as unit of length (from tip of little finger to thumb tip)’
MM:	Babatana	<i>pidoko</i>	‘hand’s span (tip of middle finger to tip of thumb)’
MM:	Roviana	<i>pidoko</i>	‘to span with the thumb and second finger.’
MM:	Maringe	<i>kak^hamo</i>	‘length from end of thumb to little finger of an outstretched hand’
SES:	Bugotu	<i>kakamo</i>	‘a measure, handbreadth, span’
SES:	Tolo	<i>tinagea</i>	‘to measure with outstretched thumb and middle finger’
SES:	Longgu	<i>nivinivi</i>	‘measurement of a span of one hand’
SES:	To’aba’ita	<i>malafunu</i>	‘measure of length: finger span: from the tip of the thumb to the tip of the index finger or another finger, with the fingers fully spread’
SES:	Lau	<i>malafunu</i>	‘take a long stride; a span, length of foot or extended fingers’
SES:	Kwaio	<i>balafonu</i>	‘span between index finger and thumb’
SES:	Arosi	<i>sinaʔake</i>	‘a measure, extending thumb and first finger’

16.5.2 Fingers

There are thinly scattered terms for the lengths of one finger segment and two finger segments in SE Solomonian and Micronesian languages. The fact that there is a (non-Oceanic) Kéo term for a finger segment suggests that a term may have been present in POc, but there is no evidence for a reconstruction.

CMP:	Kéo	<i>fatə</i>	‘a finger segment’
MM:	Babatana	<i>papado tutuku</i>	‘distance between first and second finger joints’ (<i>papado</i> ‘joint’; <i>tutuku</i> ‘finger’)
SES:	Longgu	<i>kidoi</i>	‘an inch; the length of one finger joint’
PChk * <i>makoto-ciki</i> ‘length of one finger segment’ (- <i>ciki</i> ‘small’; Bender et al. 2003b)			
Mic:	Carolinian	<i>m^wɔwo-ʃix</i>	‘length of one finger segment’ (about an inch = 2.5 cm)
Mic:	Woleaian	<i>maxō-ʃix</i>	‘length of one finger segment’ (<i>maxō</i> ‘finger-segment’; <i>ʃix</i> ‘small’)

The evidence for a measurement term meaning two finger segments is weaker and in any case does not go back beyond PEOc.

SES:	’Are’are	<i>ato-ato</i>	‘a measure, the two joints of a thumb’
PChk * <i>makoto-lapa</i> ‘length of two finger segments’ (- <i>lapa</i> ‘big’; Bender et al. 2003b)			
Mic:	Carolinian	<i>m^wɔwo-lap</i>	‘length of two finger segments (about 5 cm)’
Mic:	Woleaian	<i>maxō-rap</i>	‘length of two finger segment’ (<i>maxō</i> ‘finger-segment’; <i>rap</i> ‘big’)

A Proto Chuukic term for ‘length of a finger’ is reconstructable, and the non-cognate terms listed below suggest that a finger length has been used as a unit of measure at least from PEOc times and perhaps earlier.

POc **tusu-* ‘forefinger’ (vol.5:178)

PChk **ka-tudu* ‘finger, finger length’ (Jackson 1983)

Mic:	Chuukese	<i>-wit</i>	‘length of a finger’
Mic:	Carolinian	<i>-xat</i>	‘counting classifier for fingers and parts thereof, used to measure, e.g., depth by widths of fingers’
Mic:	Woleaian	<i>-xatt</i>	‘length of a finger’
Mic:	Sonsorol	<i>-xat</i>	‘finger’

Other terms for ‘finger length’ are:

SES:	Bugotu	<i>posileyo</i>	‘a measure, finger’s length, fork of thumb to top of first finger’
SES:	Gela	<i>yoto kehetu</i>	‘finger’s length’
Mic:	Ulithian	<i>-male</i>	‘length of a finger’

16.5.3 Hand-related units larger than a finger

Just a few terms meaning ‘width of the palm’ have been found: Kéo (CMP) *pəʔba* ‘width across widest part of hand at base of the thumb’; Kwaio (SES) *fadaleʔenima* ‘width of palm and four fingers’; Sa’a *kʷaŋo i saʔo* ‘a measure, a hand’s breadth’; and Woleaian (Mic) *-pešanim* ‘width of the palm’ (lit. ‘handle of hand’). It isn’t clear, however, that these refer to the same dimension, and they may reflect independent innovations.

Some Eastern Oceanic languages have a term for a unit of measure from the wrist to the fingertips, and such a unit was perhaps present in PEOc, but no term is reconstructable.

SES:	Ulawa	<i>kʷaŋo i saʔo</i>	‘a measure, from finger tips to wrist’ (in Sa’a ‘a hand’s breadth’)
Mic:	Carolinian	<i>-xumʷuʂ</i>	‘counting classifier for measurement from the tip of the finger to the wrist, for measuring depth of rice or liquids’
Mic:	Woleaian	<i>xumʷiʂ</i>	‘from wrist to end of fingers’ (<i>xumʷiʂ</i> ‘wrist’)
Pn:	Samoa	<i>lauiʔa</i>	‘a measure from above the wrist to the tips of the fingers’ (Pratt 1862)

16.6 Measuring flexible objects

As was noted earlier, the main flexible object measured in Oceanic communities was probably a string of shell money (§16.3). We start with the most widely attested unit, the fathom, then move to various part-fathom measures, then finally to measures longer than the fathom. Looking at the Tolai terms in (6), it is possible that there were more early Oceanic terms for lengths greater than the fathom, but these are lost to us.

16.6.1 The fathom

16 When both arms are stretched out sideways, the fathom is the measurement from the fingertips of one hand to the fingertips of the other. In English this has become principally a nautical term (1.8288 metres = 6 feet), but in Oceanic languages the measurement was applied in many locations to a length of shell money. It was and remains the basic unit in measuring shell money, where this still exists, but it had other functions, otherwise it would not be reported from so many languages whose speakers do not have or no longer have the shell money tradition.

POc appears to have had two terms for fathom, but they had different grammatical functions. POc **ropa* was a noun, and POc **-ŋapa* a numeral classifier.

PAn **depah* ‘fathom’ (ACD)

POc **ropa* (n) ‘fathom: with arms extended, length from finger tips to finger tips’ (ACD); (v) ‘measure in fathoms’

Adm:	Seimat	<i>kaha(ina)</i>	‘fathom, measure by fathoms’ ⁴
Adm:	Levei-Drehet	<i>(a)lap</i>	‘span; e.g., distance between fingertips of a person's extended arms’
NNG:	Tuam	<i>rōv</i>	‘armspan’
NNG:	Kilenge	<i>lewe</i>	‘armspan; fathom of shell money’
Proto Kilivila <i>*ova-</i> (CLF) ‘fathom; double-arm span’			
PT:	Kiriwina	<i>uva-</i>	‘double-arm span’ (clf)
PT:	Muyuw	<i>ová-</i>	‘double-arm span’ (clf)
PT:	Gumawana	<i>ova</i>	‘one hand length’ (loan from Kilivila)
PT:	Dobuan	<i>loa</i>	‘fathom’
PT:	Motu	<i>roha</i>	‘fathom; length’
		<i>roha-ia</i>	‘to measure; to fathom’
MM:	Nakanai	<i>lova</i>	‘fathom’
NCV:	Mota	<i>rova</i>	‘fathom, i.e. distance between outstretched arms’
Pn:	Tongan	<i>ofa</i>	‘fathom; (in gardening) the distance between two consecutive rows of yams’
Pn:	Niue	<i>ofa</i>	‘fathom; to measure in fathoms (i.e. with outstretched arms)’
Pn:	E Futunan	<i>lofa</i>	‘measure by fathoms’
Pn:	E Uvean	<i>lofa-lofa</i>	‘to measure by fathoms’
Pn:	Nukuoro	<i>loha</i>	‘fathom: the span of one’s outstretched arms.’
		<i>loha-loha</i>	‘to measure off in fathoms’
Pn:	K’marangi	<i>loho</i>	‘fathom, measure in fathoms’
Pn:	Rennellese	<i>goha</i>	‘fathoms of line or distances; to be a fathom’
Pn:	Sikaiana	<i>(se)loha</i>	‘one fathom’ (<i>se-</i> ‘one’)
Pn:	Takuu	<i>(sa)rofa</i>	‘measure of distance between the fingertips of one’s outstretched hands: fathom; to measure in fathoms’ (<i>sa-</i> ‘one’)
Pn:	W Futuna	<i>rafa</i>	‘fathom’

The numeral classifier **-ŋapa* continues to be reflected as a classifier in Admiralties and some Micronesian languages. In other languages it has been reanalysed as a noun. It reflects the PMP classifier construction **numeral-[ŋa-]classifier*, mentioned in §16.2 and discussed in more detail in §14.3. Blust (ACD) does not reconstruct **-ŋapa* to a stage earlier than POc, and we have found no non-Oceanic cognates. Nonetheless, from its form it seems probable that it occurred in the environment of, e.g. †**sa-ŋa-ropa* ‘one fathom’, †**rua-ŋa-ropa* ‘two fathoms’, and so on. However, rather than †**-ŋa-ropa* the data require reconstruction of the abbreviated form **-ŋa-pa*. Section 14.4.5.2 shows that, for example, **sa-ŋa-puluq* ‘(one) ten’ was reanalysed as **sa-ŋapuluq* in very early Oceanic. An analogous change evidently reanalysed †**sa-ŋa-ropa* as **sa-ŋa(ro)pa*, resulting in forms such as in (8).

⁴ Seimat *kaha-ina* is a verb, but reflects the putative PAd noun **drapa* ‘fathom’, which in turn reflects POc **na-ropa*, where **na* was the specific determiner which gave rise to PAd initial secondary nasal grade in alienable nouns (Ross 1988:337–341). The medial *-a-* of Seimat *kaha-* is an unexplained development that is also reflected in the Levei-Drehet cognate *a-lap*. It is possible that it reflects analogy with **-ŋapa* ‘fathom’.

8)	fathoms:	one	two	three
	POc	<i>*sa-ŋapa</i>	<i>*rua-ŋapa</i>	<i>*tolu-ŋapa</i>
	Loniū (Adm) ⁵	<i>ha-ŋah</i>	<i>maʔ-u-ŋeh</i>	<i>ma-culu-ŋah</i>
	Puluwat (Mic)	<i>ye-ŋaf</i>	<i>rua-ŋaf</i>	<i>yeli-ŋaf</i>

Many of the reflexes below reflect a reanalysis of the classifier as a noun.

POc **-ŋapa* (CLF) ‘fathom’ (ACD)

Adm: Lou	<i>ŋap</i>	(v) ‘measure’
Adm: Titan	<i>ŋa</i>	(vt) ‘measure’
Adm: Loniū	<i>-ŋah</i>	‘fathom’
Adm: Nali	<i>-ŋah</i>	‘fathom’
Adm: Nyindrou	<i>ŋaha</i>	‘span’
MM: Tangga	<i>nāf</i>	‘fathom’
	<i>ŋafu</i>	(v) ‘measure with armspans’
MM: Nehan	<i>ŋau</i>	(v) ‘measure distance or time’
MM: Halia	<i>ŋaha</i>	‘unit of length equal to the height of a man’
MM: Banoni	<i>(sa)ŋava</i>	‘fathom; measure with outstretched arms’
MM: Varisi	<i>nava</i>	‘fathom’
MM: Babatana	<i>ŋava</i>	‘fathom: measure of length span of both arms’
MM: Roviana	<i>ŋava</i>	‘fathom’
MM: Maringe	<i>(k^ha)ŋafa</i>	‘unit of measurement equal to the breadth of outstretched arms, approximately one fathom’
SES: Bugotu	<i>(ha)ŋava</i>	‘fathom’
NCV: Raga	<i>ŋava(na)</i>	‘fathom; length’
NCV: Mafea	<i>ŋava</i>	‘measure of two arms’ length, of a person standing with arms wide open’
NCal: Belep	<i>āvā(na)</i>	‘armlengths’
PMic <i>*ŋafa</i> ‘fathom’ (Bender et al. 2003a); (v) ‘measure in fathoms’		
Mic: Kiribati	<i>-ŋā</i>	‘fathom’
Mic: Ponapean	<i>ŋāp</i>	‘fathom: the distance between outstretched arms’
Mic: Mokilese	<i>ŋāp</i>	‘fathom; to measure with outstretched arms’
Mic: Mortlockese	<i>-ŋaf</i>	‘fathom’
Mic: Chuukese	<i>-ŋaf</i>	‘fathom’
Mic: Puluwat	<i>ŋāf</i>	‘fathom’
	<i>(ye)ŋaf</i>	‘one fathom’ (<i>ye</i> ‘one’)
Mic: Satawalese	<i>-ŋaf</i>	‘fathom’
Mic: Carolinian	<i>-ŋaf</i>	‘fathom’
	<i>ŋāf</i>	‘fathom’
Mic: Woleaian	<i>-ŋaf</i>	‘with arms extended, length from finger tips to finger tips (a fathom)’
Mic: Ulithian	<i>-ŋafa</i>	‘fathom’

⁵ The origin of *ma-*, prefixed to numerals above ‘one’ when they are themselves prefixed to a classifier, is not known (Hamel 1994:54).

Mic:	Sonsorol	<i>-ŋava</i>	‘fathom’
Pn:	Tongan	<i>ŋafa</i>	‘length or section of tapa cloth’
Pn:	Samoan	<i>ŋafa</i>	‘fathom’
		<i>ta-ŋafa</i>	‘to measure in fathoms’
		<i>ŋa-ŋafa</i>	‘measure with the arms’ (Pratt 1862)
Pn:	Tuvalu	<i>ŋafa</i>	‘a fathom; distance encompassed by outstretched arms’
Pn:	Rennellese	<i>ŋa-ŋaha</i>	‘to measure distance in approximate fathoms (distance between fingertips arms extended)’
Pn:	Pukapuka	<i>ŋawa</i>	‘fathom’

Listed below are terms for ‘fathom’ in languages that lack a reflex of **ropa* or **-ŋapa*. The Drehu and Nengone terms below may reflect POc **-ŋapa*, but our knowledge of the sound correspondences of these languages is insufficient to be certain.

NNG:	Mbula	<i>re[o]</i>	‘measure of length/ armspan length (for sago thatch, planks)’
NNG:	Bariai	<i>leoa</i>	‘measure by hand spans’
NNG:	Yabem	<i>ŋa-saka</i>	‘distance between the tips of the middle fingers when the arms are outstretched, a fathom’
PT:	Tawala	<i>guli</i>	‘measurement (length of outstretched arms)’
MM:	Ramoaina	<i>babaluka</i>	‘fathom of shell money, twice the length of hand to chest’
SES:	Gela	<i>yoto</i>	‘measure of both arms extended’
SES:	Longgu	<i>tavaŋa</i>	‘fathom; the span of outstretch arms’
SES:	Owa	<i>tafaŋana</i>	‘measure of thumb tip to thumb tip with outstretched arms of s.o.’ (<i>tafaŋa</i> ‘long’)
SES:	To’aba’ita	<i>ʔabala</i>	‘measure of length: from the tips of the fingers of one arm extended to the side to the tips of the fingers of the other arm extended to the side; fathom’
SES:	’Are’are	<i>ahana</i>	‘a measure, one fathom, i.e. the opening of a tall man's arms’
SES:	Kwaio	<i>tafaŋa</i>	‘fathom’
SES:	Sa’a	<i>tahaŋa</i>	‘fathom, to measure a fathom’
SES:	Arosi	<i>duʔu</i>	‘fathom’
NCal:	Cèmuhî	<i>[è]ādā</i>	‘fathom’
NCal:	Drehu	<i>apæŋ</i>	‘to measure with the arms outstretched’
		<i>ŋāpæŋ</i>	‘a measure’
NCal:	Nengone	<i>ŋæpan</i>	‘span (of arms)’
Fij:	Wayan	<i>katu</i>	‘fathom in length or depth, the arm-span with both arms extended’
Fij:	Boumaa	<i>ʔatu</i>	‘distance between finger tips with arms outstretched, fathom’

16.6.2 The half-fathom

The terms listed below all denote a measurement from the centre of the sternum (breastbone) to the fingertips of one outstretched arm, i.e. half a fathom.

The only term that can be reconstructed for a half-fathom is Proto Chuukic **dila-wup^wa*, literally ‘breast split’. Beneath its reflexes are listed terms for half-fathom for a wide range of Oceanic languages. They indicate that the concept was present in POc but was probably expressed by a phrasal idiom. A couple of the terms listed below appear to mean something similar to ‘breast split’: see the glosses of the Banoni and Babatana terms. Within this list are two obvious cognate pairs: Longgu and Arosi, Wayan and Boumaa Fijian. Beyond these, there are no cognate items.

Some glosses mention ‘yard’. In pre-metric Imperial measure a yard is exactly half a fathom, i.e. 0.9144 metres).

PChk **dila-wup^wa* ‘distance from outstretched finger-tip to mid-chest’ (lit. ‘breast split’; Bender 2003b)

Mic:	Carolinian	<i>-tilo-ub^w</i>	‘distance from the tips of the fingers to the center of the sternum’
Mic:	Woleaian	<i>-tero-uf^w</i>	‘with arm extended, length from sternum to end of fingers’
Mic:	Chuukese	<i>tine-wup^w</i>	‘fathom’
Mic:	Sonsorol	<i>-tiro-uba</i>	‘measure from finger tip to centre of chest’
Mic:	Pulo Annian	<i>tino-up^wa</i>	‘fathom’

Other terms for the half-fathom include:

NNG:	Kove	<i>vataŋa</i>	‘shell money measured to middle of sternum’
PT:	Kilivila	<i>sividoga</i>	‘unit of horizontal measurement, from fingertip to centre of chest (e.g. measuring the exact length of a yam)’
MM:	Teop	<i>ato</i>	‘unit of measurement: yard’
MM:	Banoni	<i>koci kobusu</i>	‘half-fathom: finger tip to midline of breast’ (<i>koci</i> ‘cut’, <i>kobusu</i> ‘break’)
MM:	Babatana	<i>dūli kūrisi</i>	‘centre of chest to tip of fingers: half-fathom’ (<i>dūli</i> ‘tear apart’; <i>kūrisi</i> ‘arm’)
SES:	Bugotu	<i>maḏa i sono</i>	‘a measure, from finger-tip to breast-bone or throat’ (<i>maḏa</i> ‘bed mat’, <i>sono</i> ‘swallow’)
SES:	Gela	<i>levutilima</i>	‘measure, chest to finger tips’
SES:	Longgu	<i>aba-i lima-i</i>	‘half a fathom: from breast bone to finger tips’ (<i>aba-</i> ‘side’; <i>lima-</i> ‘(whole) arm’)
SES:	To’aba’ita	<i>ʔāʔaba</i> or <i>g^waʔaba</i>	‘half-fathom: from centre of chest to fingertips of extended arm’ (<i>ʔaba</i> ‘hand, arm’)
SES:	Arosi	<i>ʔaba-i-rima</i>	‘a measure, from middle of chest to extended fingers’
SES:	Sa’a	<i>hahani ʔonoʔonoma</i>	‘measure: a half-fathom’
NCV:	Mota	<i>alo masalepei</i>	‘measure from breastbone to finger-tips’

Fij:	Wayan	<i>taba</i>	‘half a fathom: from the breastbone to the tip of the extended arm’
Fij:	Boumaa	<i>taba</i>	‘measure from middle of chest to end of outstretchcd fingers’
Pn:	Tongan	<i>tofi-fata-fata</i>	‘distance from centre of chest to tip of middle finger when the arm is fully extended sideways; half a fathom’ (<i>fata-fata</i> ‘chest’)

16.6.3 Between fathom and half-fathom

No reconstruction is possible for any measurement term between a fathom and half a fathom. The variation among the glosses of these in-between terms prevents us from inferring what measurements POC speaks might have used..

The most widespread of these measures is a length from the fingertips of one hand of an extended arm to the opposite shoulder. The lowest three items below reflect POC **qapaRa* ‘shoulder’ (vol.5:142).

NNG:	Kove	<i>wala-ra varexe</i>	‘shell money measured to opposite shoulder’ (<i>wala</i> ‘shoulder’; <i>varexe</i> ‘side, half, portion’)
MM:	Tangga	<i>paklu-n-tua-n-er</i>	‘span from fingertips to opposite shoulder’ (<i>paklu-</i> ‘head’, <i>tua-</i> ‘bone’, <i>er</i> ??; Maurer 1966:76)
SES:	Bugotu	<i>tao haðavu</i>	‘a measure, finger tips to further shoulder’ (<i>tao</i> ‘mountain pass, saddle’)
SES:	Ulawa	<i>ʔapala</i>	‘a sum of money reaching from finger tips to opposite shoulder’ (<i>ʔapala</i> ‘shoulder’)
Mic:	Woleaian	<i>-yefaz</i>	‘with arm extended, length from end of fingers to shoulder of opposite arm’ (<i>yefaze</i> ‘shoulder’)
Mic:	Sonsorol	<i>-avala</i>	‘from fingers of one hand to shoulder of opposite arm’ (<i>avala</i> ‘shoulder’)

A slightly longer measure was the length from the fingertips of one hand to the opposite elbow. The root of the Arosi and Owa items appears to reflect POC **bakewa* ‘shark’ (vol.4:30), but, if it does, the association is not clear. Mellow (2014) writes somewhat mysteriously that ‘this measurement looks like a shark’. It is tempting to reconstruct PNPn **fati-uku* (PPn **fati* ‘angle, bend’; PPn **qutu(a)* ‘promontory’) here, but POLLEX questions this, presumably because of the distribution of the Polynesian reflexes below, which embraces no Polynesian subgroup.

PT:	Kilivila	<i>lipoi</i>	‘unit of length measurement, from left fingertip of outstretched arms across to right-hand elbow (three-quarters of a span)’
SES:	Arosi	<i>babaʔewa</i>	‘a measure, from bent elbow of one arm to the extended fingers of the other’

SES:	Owa	<i>payewa-na</i>	‘distance from fingertips to opposite elbow, about 1.4 metres’
Mic:	Woleaian	<i>wō-paii</i>	‘with arms extended, length from end of fingers to elbow of opposite arm’ (<i>paii</i> ‘arm’)
Pn:	E Futunan	<i>fatiuku</i>	‘old fabric measure: distance from one hand of stretched arm to the elbow of the other arm’
Pn:	Nukuoro	<i>hadiugu</i>	‘a unit of linear measure (from the end of an outstretched hand to the bent elbow of the other arm)’
Pn:	Takuu	<i>fatiuku</i>	‘measure from fingertip to opposite elbow’
Pn:	Māori	<i>fatiāna</i>	‘unit of measure (from elbow to fingertip)’

Similar terms, presumably arising from the need for graduated and acceptably precise measurement of shell-money strings, include the following: from fingertips to the opposite armpit/biceps/ear or to the throat. Whether any of these concepts existed in POc one cannot tell.

PT:	Kilivila	<i>tom^waidona</i>	‘from left fingertip to right armpit’ (lit. ‘the whole of him’)
MM:	Banoni	<i>yarara</i>	‘part of fathom from right finger tips to left biceps’
SES:	Ulawa	<i>roŋo-roŋo</i>	‘a measure, from the finger tips to the right ear’ (<i>roŋo</i> ‘to hear’)
SES:	Owa	<i>onomiga-na</i>	‘measure from fingertips to throat’ (<i>onomiga-na</i> ‘throat of s.o.’ < <i>onoa</i> ‘swallow’)
NCV:	Mota	<i>avawosua</i>	‘a measure of length; from right breast to fingers of left hand’

16.6.4 The cubit

The unit denoted by the archaic English word *cubit* is recorded across much of Oceanic. It refers to the length of the forearm, from the elbow to the fingertips. Although the cubit in Mediterranean society was a measure of both rigid and flexible objects, its application in Oceanic communities was to flexible things like strings of shell money. A PMic form (a numeral classifier) can be reconstructed. The non-cognate data below serve to indicate that this was probably a POc concept, but one that was probably expressed by a phrase containing the term for ‘arm’ or ‘elbow’.

PMic *-*m^wanū* ‘length from elbow to finger tips’ (Bender et al. 2003a)

Mic:	Kiribati	<i>-m^wanū</i>	‘elbow joint’
Mic:	Chuukese	<i>-m^walɯ</i>	‘length from inside elbow to finger tip, a cubit’
Mic:	Carolinian	<i>-m^walɯ</i> <i>-m^walū(l peʒe)</i>	‘length from inside elbow to finger tip, a cubit’ ‘inside of the knee or elbow joint; inside of the knee’,
Mic:	Woleaian	<i>-m^warū</i>	‘length of forearm, from elbow to end of fingers; a cubit’
Mic:	Pulo Annian	<i>-m^warɯ</i>	‘length from elbow to fingertip’

Mic:	Sonsorol	<i>-m^war</i>	‘cubit’
Mic:	Ulithian	<i>-m^walo</i>	‘cubit’

Other terms for the cubit are found quite widely:

NNG:	Mangap	<i>yok</i>	‘cubit’
PT:	Gumawana	<i>[k]aba katuguyala</i>	‘length of one’s forearm’
MM:	Babatana	<i>pado körisi</i>	‘cubit, from elbow to finger tip’ (<i>papado</i> ‘joint’; <i>körisi</i> ‘arm’)
SES:	Bugotu	<i>lopo i guema</i>	‘a measure, from finger-tip to elbow-joint’ (<i>lopo</i> ‘be rolled up’, <i>guema</i> ‘fishing rod’)
SES:	Gela	<i>levu</i>	‘measure from the elbow to finger tips’
		<i>louloyulima</i>	‘measure, elbow to finger tips’
SES:	To’aba’ita	<i>kade?e ?aba</i>	‘measure of length: from the elbow to the fingertips; cubit’ (<i>?aba-</i> ‘arm’)
SES:	Lau	<i>fātafaŋa</i>	‘measure, from tip of thumb to elbow’
		<i>kade?aba</i>	‘a cubit’ (<i>?aba-</i> ‘arm’)
SES:	Arosi	<i>māmoku</i>	‘a measure of shell money from finger tips to elbow’
SES:	Sa’a	<i>māpou</i>	‘a measure of shell money, from the fingertips to the elbow, a cubit’
SES:	Ulawa	<i>āni sūsū</i>	‘a cubit’ (<i>āni</i> PREP; <i>sūsū</i> ‘elbow’)
NCV:	Mota	<i>alo maluk panei</i>	‘a measure of length’ (<i>maluk panei</i> ‘inner bend of elbow’)
NCV:	Raga	<i>ŋadu-n lima</i>	‘measure of length: hand to elbow’ (<i>ŋadu</i> ‘measure of length’; <i>lima</i> ‘arm’)

A few Oceanic languages have a term for the length of the arm as a measure, each involving a term for ‘arm’, but it is possible that these are parallel developments.

16.6.5 Longer than the fathom

The lists in (6) show that Tolai (MM) had terms for units of shell money longer than the fathom. Arosi (SES) had terms for larger units still: *tahaŋa* ‘4 fathoms of shell money’; *gagau* ‘25 fathoms of shell money’; *ita* ‘40 fathoms of shell money’. Arosi *?auhoa* is ‘a measure, about a furlong’ (Fox 1978). Owa (SES) *wairina* is ‘ten fathoms’. However, the evidence for such terms is very fragmentary indeed.

Clark (1999) reconstructs Proto Polynesian **(ŋa)kumi* ‘ten fathoms’.

PPn **(ŋa)kumi* (CLF) ‘ten fathoms’ (Clark 1999)

Pn:	Tongan	<i>(se)kumi</i>	‘ten fathoms’ (<i>se-</i> ‘one’)
Pn:	Samoa	<i>?umi</i>	‘ten fathoms’ (Pratt)
Pn:	Rennellese	<i>kumi</i>	‘ten fathoms’
Pn:	Takuu	<i>(se)kumi</i>	‘ten fathoms’ (<i>se-</i> ‘one’)
Pn:	Tuvalu	<i>kumi</i>	‘ten fathoms of line’
Pn:	E Uvean	<i>kumi</i>	‘ten fathoms’

Pn:	Pukapuka	<i>kumi</i>	‘ten fathoms’
Pn:	Rapanui	<i>kumi</i>	‘ten fathoms’
Pn:	Marquesan	<i>kumi</i>	‘ten fathoms’
Pn:	Mangarevan	<i>kumi</i>	‘ten fathoms’
Pn:	Niuean	<i>kumi</i>	‘ten fathoms’
Pn:	Rarotongan	<i>kumi</i>	‘60 feet, ten fathoms; a linear measurement, esp. of rope or fishing line’
Pn:	Hawaiian	<i>ʔumi</i>	‘ten’

16.7 Verbs of measuring

The POc verb for measuring out a length, for example, of wood and marking it accordingly was **topoŋ*. Final **-ŋ* is reflected before a suffix in Mussau and Numbami. It is thus a regular continuation of PAN **tepeŋ* ‘to measure quantities, as amounts of grain’, but appears to have undergone a change in meaning, as only one of the Oceanic reflexes listed below, namely Longgu (SES), refers to measuring volume rather than length. Wherever the glosses of other items are specific about what is being measured, it is the length of a rigid object. Given the distinction made earlier between measuring rigid objects (§16.5) and measuring flexible objects (§16.6), one might also expect a verb for measuring flexible objects. POc **ropa* ‘fathom’ also served this purpose, as the meaning ‘measure in fathoms’ is reconstructable from its reflexes (§16.6.1). The same meaning appears to be reconstructable for **-ŋapa*, but as it was a POc classifier, and thus a bound morpheme, it seems unlikely that it was also used as a POc verb, and probable that reflexes with the meaning ‘measure in fathoms’ are later developments.

PAN **tepeŋ* ‘to measure quantities, as amounts of grain’ (ACD: Formosan and wMP)

POc **topoŋ* ‘to measure; to mark (for cutting); to try (s.t.) out’

Adm:	Mussau	<i>tōŋ-i</i>	‘to mark, measure’
Adm:	Nyindrou	<i>(mu)droh</i>	‘to measure out’
NNG:	Takia	<i>tou</i>	(n) ‘measure, mark, linear size’
NNG:	Mutu	<i>tov</i>	‘to measure (e.g. house)’
NNG:	Numbami	<i>(-a^mbi) tuaŋ(ana)</i>	‘to measure, judge, assess’ (<i>-a^mbi</i> ‘hold, get, take’, <i>tuaŋana</i> (nominalisation) ‘measurement’)
NNG:	Mengen	<i>to[e]</i>	‘to measure’
PT:	Yamalele	<i>(ʔe)toŋava[i]</i>	‘to measure length’ (final <i>-va</i> unexplained)
PT:	Motu	<i>toho-a</i>	‘to try; to mark for cutting; to rule lines’
MM:	Nakanai	<i>tovo</i>	‘to record, to measure, to try out’
MM:	Sursurunga	<i>toho-i</i>	‘try’
		<i>toh (pasi)</i>	‘to measure’ (<i>pasi</i> ‘get, acquire’)
SES:	Tolo	<i>tovo-a</i>	‘to try, attempt’
SES:	Longgu	<i>tovo-a</i>	‘to test s.o. or s.t. (to see if any good); to measure (quantity of rice, sugar)’
SES:	Lau	<i>tō-a</i>	‘to measure’
SES:	’Are’are	<i>to-toho</i>	‘a measure, mark, sign’
		<i>to-toho-a</i>	‘to measure with a measuring stick’

SES:	Kwaio	<i>toʔo-a</i>	‘to measure out’
SES:	Sa’a	<i>toho</i>	‘to measure with a rod’
SES:	Arosi	<i>toho</i>	‘to measure’
PNCV * <i>tovo</i> ‘measure’ (Clark 2009)			
NCV:	Mota	<i>towo</i>	‘to measure (s.t.) out’
NCV:	Araki	<i>tovo</i>	‘to measure, count, read’
NCV:	W Ambrym	<i>tō(tene)</i>	‘measure’ (<i>tene</i> ‘towards’)
NCV:	Mafea	<i>tovo-</i>	‘count’
NCV:	Port Sandwich	<i>tō-to(rini)</i>	‘measure’
NCV:	Raga	<i>dov</i>	‘measure, appoint, design’
NCV:	Lonwolwol	<i>tō</i>	‘to measure’
NCV:	N Ambrym	<i>tou</i>	‘to measure’
NCV:	Paamese	<i>te-toho-ni</i>	‘to imitate’
NCV:	Lewo	<i>tou-tou-ni</i>	‘to measure, imitate’
NCV:	Nguna	<i>to-towo</i>	(n) ‘figure, amount; size’
NCV:	S Efate	<i>to-n</i>	‘to compare ; to measure’

POc **topoj* was evidently lost in PPn, and was replaced by PPn **fua*. There are possible cognates in some Western Oceanic languages.

PPn **fua* ‘weigh, measure’ (POLLEX)

Pn:	Tongan	<i>fua</i>	‘weigh, measure’
Pn:	Niuean	<i>fua</i>	‘to weigh’
Pn:	Samoan	<i>fua</i>	‘measure; size’
Pn:	Tuvalu	<i>fua-fua</i>	(vt) ‘measure; correct’
Pn:	E Futunan	<i>fua</i>	‘a measure, to measure’
Pn:	E Uvean	<i>fua</i>	‘a measure’
Pn:	K’marangi	<i>hua</i>	‘supervise’

cf also:

PT:	Ubir	<i>ifofo-n</i>	‘to measure’
MM:	Madak	<i>po</i>	‘to measure’
MM:	Patpatar	<i>puo</i>	(vt) ‘measure; price something; mark as unsuccessful’

16.8 Conclusions

The data considered in this chapter suggest strongly that there was a distinction in POc between measuring rigid objects and measuring flexible things such as shell money. This is borne out both in the units of measurement and in the verbs of measuring that can be reconstructed. The material also indicates that the lexicon for measuring flexible things was more complex than that for measuring rigid objects. The complexity of measurement units for flexible items was evidently driven by the need to accurately measure pieces of shell money.

Units of measurement applied to shell money and other items centred on the fathom, which with its definition as the distance between the fingertips of two outstretched arms,

served as a baseline for the creation of other terms. It is significant that two POc terms for the fathom are readily reconstructable—**ropa* and **-ŋapa*—but that POc terms for the half-fathom and units between the half-fathom and the fathom are not. The fact that a number of Oceanic languages agree on expressing these meanings implies that the concepts existed in POc, but the fact that no POc lexical items for them are reconstructable suggests that they were perhaps referred to by phrasal idioms that have been continually replaced. Among shorter units of measurement, terms for the cubit are found across Oceania, and there was presumably a POc term for it, but the evidence does not permit a reconstruction.

The two POc reconstructions for ‘fathom’, **ropa* and **-ŋapa*, are respectively a noun and a classifier. Classifiers are discussed at some length in chapter 14.

Appendix A: Sources of lexical data

A.1 Introduction

Below are listed data sources used in cognate sets supporting the reconstructions in this volume. These sources are divided into published data collections which collate lexical material from a number of languages (A.2) and sources for single languages, published and unpublished (A.3).

Material was drawn from additional sources, many of them ethnographies, in the course of writing chapter 2 on kinship and chapter 14 on counting and numerals, and these are listed in the appendices to these chapters.

A.2 Published data collections covering more than one language

We have made use of a number of published or publicly available data collections, each of which collates data across part or all of Oceanic:

Austronesian as a whole, including Oceanic: Tryon 1995; Blust & Trussel 2020; Blust, Trussel & Smith 2023; and Greenhill, Blust & Gray 2008 (all last accessed 28 April 2023)

Admiralties: Smythe 1975; Blust 2021

Western Oceanic: Ross's field data 1978-1982 (see below)

Languages of the Rai Coast (northeast New Guinea): Lincoln 1978

Languages of the Morobe Province: Hooley 1971

Solomon Islands (including Temotu): Tryon & Hackman 1983

Vanuatu: Tryon 1976; Clark 2009 (north and central); Lynch 2001 (south)

Micronesian: Bender et al. 2003a; b

Polynesian: Clark & Biggs 2006, abbreviated as POLLEX (there is now an online version at <http://pollex.org.nz/about/>, last accessed 28 April 2023); see Greenhill & Clark 2011)

Ross's field data from WOC languages spoken in Papua New Guinea and the western Solomons were collected from around 1978 to 1982. These were collated into files covering various regions during the research leading to the publication of Ross (1988), and their sources are listed in the appendices of that work. These files are archived at

<https://doi.org/10.5281/zenodo.7878855>. Many of the original lists as collected and accompanying recordings made on cassette tape are archived at <https://catalog.paradisec.org.au/collections/MR1/>.

A.3 Single-language sources, published and unpublished

The listing of single-language sources below, by alphabetical order of language, shows published and unpublished sources that are listed in the references (ppXXX) and also unpublished sources that do not readily lend themselves to listing as standard references. The language names are as listed in Appendix B.

These unpublished sources consist mostly of electronic files. A few are mimeos or typescripts. Dates are given where they are known, but in many cases the materials are undated. They include electronic files and manuscripts of dictionaries in progress. Many of these were generously made available by individual members of the Papua New Guinea branch of the Summer Institute of Linguistics, others by its Technical Studies department, mostly in the late 1970s or early 1980s. These are marked ‘SIL’ below. Others were kindly provided by colleagues, in some cases more recently, while we were researching for the volumes of *The lexicon of Proto Oceanic*. These are marked ‘unpub’.

- | | |
|--|--|
| Adzera: Karl Holzknrecht, unpub. | Cèmuhî: Rivierre 1994 |
| Amara: Thurston 1996a | Chuukese: Goodenough & Sugita 1990, 1991 |
| Anejom̃: Lynch & Tepahae 2001 | Daakaka: von Prince 2012, 2017 |
| Anus: Grace 1971 | Dami: George Elliott, SIL. |
| Araki: François 2002 | Dawawa: Martin Knauber and Beate Knauber, SIL. |
| ’Are’are: Geerts 1970 | Dehu: Tryon 1967 |
| Aria: Thurston 1996b | Dobu: J.W. Dixon 1928; Grant 1953; Lithgow & Lithgow 2007a |
| Arosi: Fox 1978 | Drehet: Stephan Beard, SIL. |
| Babatana: McClatchey 2007 | Drubea: Paita & Shintani 1983 |
| Baluan: Schokkin 2015 | East Kara: Perry Schlie and Virginia Schlie, SIL; Dryer 2012 |
| Banoni: Lincoln 2005 | East Uvean: Rensch 1986 |
| Bariai: Gallagher 2008 | Fwâi: Haudricourt & Ozanne-Rivierre 1982 |
| Bauan: Capell 1941 | Gao: Johanna Whiteley 2012, unpub. |
| Belep: McCracken 2012 | Gapapaiwa: McGuckin & McGuckin 1992 |
| Bing: Simons & Simons 1977; Doug Bennett, SIL | Gedaged: Mager 1952 |
| Bola: Goodenough 1997; van den Berg & Wiebe 2019 | Gela: Fox 1955 |
| Boumā: R. M. W. Dixon 1988 | Gitua: Lincoln 1977 |
| Bugotu: Ivens 1940a | Gumawana: Clif Olson, SIL. |
| Bukawa: Eckermann 2007 | Haku: Allen & Allen 2005 |
| Bulu: Goodenough 1997 | Hawaiian: Pukui & Elbert 1971, 1986 |
| Buma: François 2021 | Hote: Marguerite Muzzey, SIL |
| Bunama: Lithgow 2007 | |
| Carolinian: Jackson & Marck 1991 | |

- Iaa: Ozanne-Rivierre 1984
 Iamalele: Beaumont & Beaumont 2007
 Iduna: Hockett et al. 1992
 Ifira-Mele: Clark 1998
 Jawe: Haudricourt & Ozanne-Rivierre 1982
 Kairiru: Wivell 1981
 Kaniet: Smythe 1975
 Kaulong: Craig Throop, SIL
 Kayupulau: Grace 1971
 Kilivila: Senft 1986; Lawton 2021
 Kiribati: Sabatier 1971
 Kokota: Palmer 2007a
 Kosraean: Lee 1976
 Kove: Chowning 2009
 Kubokota: Chambers 2018
 Kwaio: Keesing 1975
 Kwamera: Lindstrom 1981, 1986
 Label: Peekel 1930
 Labu: Siegel 1984
 Lamogai: Thurston 1996b
 Lau: Fox 1974
 Lavongai: Fast & Fast 1989
 Lenakel: Lynch 1977
 Lewo: Robert Early, unpub.
 Lolovoli: Hyslop 2001
 Longgu: Deborah Hill, unpub.
 Loni: Hamel 1994
 Lonwolwol: Paton 1973
 Lou: Blust 1998a; Robert Stutzman & Verna Stutzman, SIL
 Lukep: Jeffrey D'Jernes and Lucille D'Jernes, SIL
 Madak: Bob Lee, SIL
 Manam: Böhm 1975; Stephen Blewett & Kim Blewett, SIL
 Mangap: Bugenhagen & Bugenhagen 2007
 Mangseng: Lloyd Milligan, SIL
 Māori: Williams 1971
 Mapos Buang: Rambok & Hooley 2010
 Maringe: White et al. 1988
 Marovo: Hviding 1995
 Marshallese: Abo et al. 1976
 Mato: McHenry, Stober & Troolin 1996
 Matukar: Barth 2012
 Mengen: Fred Madden, SIL
 Meramera: Goodenough 1997
 Minaveha: Nenegemo & Lovell 1995
 Mindiri: Lincoln 1978
 Misima: S. Callister et al. 2005; Bill Callister, SIL
 Mokilese: Harrison & Albert 1977
 Molima: Chowning 1958
 Mota: Codrington & Palmer 1896
 Motu: Lister-Turner & Clark 1954
 Mouk: Thurston 1996b
 Mussau: Blust 1984
 Mutu: Bugenhagen & Bugenhagen 2007b; Alice Pomponio, unpub.
 Muyuw: Lithgow & Lithgow 1974, 2007b
 Mwotlap: François 2023
 Nakanai: Chowning & Goodenough 2016
 Nalik: Volker 2020
 Namakir: Sperlich 2019
 Nanumea: Ranby 1980
 Nduke: Ian Scales, unpub.
 Nehan: Glennon & Glennon 2005
 Nêlêmwa: Bril 2000
 Nemi: Haudricourt & Ozanne-Rivierre 1982
 Nengone: Tryon & Dubois 1969
 Niuean: Sperlich 1997
 Nixumwak: Bril 2000
 Notsi: Leland Erickson & Laurinda Erickson, SIL
 Nukuoro: Carroll & Soulik 1973
 Numbami: Joel Bradshaw, unpub.
 Nyelâyu: Ozanne-Rivierre 1998
 Nyindrou: Bill Martin, SIL
 Owa: Mellow 2014
 Paamese: T. Crowley 1992
 Paicî: Rivierre 1983
 Patpatar: Ed Condra, SIL
 Pije: Haudricourt & Ozanne-Rivierre 1982
 Pingelapese: Good & Welley 1989
 Piva: Peter Lincoln 1976a
 Ponapean: Rehg & Sohl 1979
 Puluwatense: Elbert 1972, 1974
 Ramoaaina: Lisbeth Fritzell and Robyn Davies, SIL
 Riwo: Mager 1952
 Roinji: McHenry, Stober & Troolin 1996
 Rotuman: Churchward 1940

- Roviana: Waterhouse 1949
 Sa'a: Ivens 1918, 1929a
 Samoan: Pratt 1862; Milner 1966
 Seimat: W. Smythe, unpub.
 Sengseng: Chowning 1996
 Siar: Rowe 2005; Frowein 2011; Larry Erdman, SIL
 Sikaiana: Donner 2012
 Sinaugoro (Balawaia): Tauberschmidt 1995, 2007
 Sio: Stephen Clark and Dawn Clark, SIL
 Sissano: Stephen Whitacre, SIL
 Sobei: Ajamiseba, Kafiar & Silzer 1987
 Sonsorolese: Capell 1969
 South Efate: Thieberger 2006b, 2011
 Southeast Ambrym: Parker 1970
 Southwest Tanna: Lynch 1982
 Sudest: Anderson 2007
 Sursurunga: Samson et al. 2018; Don Hutchisson, SIL
 Sye: T. Crowley 2000; Lynch 2001b
 Takia: Salme Bugenhagen & Judy Rehberg, SIL; Curtis Thomas, SIL; Bruce Waters SIL; Malcolm Ross, unpub.
 Tamambo: Jauncey 2011
 Tami: Bamler 1900
 Tangga: Bell 1977
 Tawala: Bryan Ezard, SIL
 Tennis: Lithgow & Claassen 1968
 Teop: Schwartz et al. 2007; David Snyder, SIL
 Tigak: Beaumont 1979
 Tikopia: Firth 1985
 Tinputz: Roman Hostetler, SIL.
 Titan: Bower 2011; Keith Lusk, SIL
 To'aba'ita: Lichtenberk 2008a
 Tokelauan: Simona 1986
 Tolai: Lanyon-Orgill 1962; Rickard et al 1964
 Tolo: S. Crowley 1986
 Tongan: Churchward 1959
 Tumleo: Schultze 1911
 Ughele: Frostad 2012
 Ulawa: Ivens 1918
 Unua: Pearce 2015
 Ura: Lynch 1983c
 Uruava: Palmer 2007b
 Utaha: Lynch 1983d
 Varisi: Fr Stephen Farrant, unpub.
 Vurës: Malau 2016
 Wab: Lincoln 1978
 Wampar: Fischer & Beer 2017
 Wayan: Pawley & Sayaba 2022
 Wedau: Jennings 1956
 Woleaian: Sohn & Tawerilmang 1976
 Wuvulu: Hafford 2014
 Xârâcùù: Moyse-Faurie & Néchéro-Joredié 1986
 Yabem: Zahn 1982
 Yapese: Jensen 1977

Appendix B: Languages

B.1 Introduction

In [B.2](#) are listed in putative language groups all the Oceanic languages and dialects (and occasionally larger isogloss-defined regions, e.g. Western Viti Levu) that are referred to in this volume. This list is for quick reference only: the listing in language groups sometimes does rough justice to complexities that the sources describe, so the list should not be treated as authoritative.

The higher-order groups are those described in §1.3.3. Lower-order groups were originally drawn from the classification in Lynch et al. (2002:877–890), but have been considerably revised on the basis of Blust (2021) on the Admiralties; Ross (2018) on Western Oceanic; Holzkmnecht (1989) on the Markham; Ross (1997) on Central Papuan; Pawley (2011c) on Guadalcanal-Nggelic; Lichtenberk (2010) on Malaita-Makira; Lackey & Boerger (2021) on Temotu; Lynch (1999, 2000) on Southern Oceanic; Clark (1985), Lynch & Crowley (2001), Tryon (2010) and François et al. (2015) on Vanuatu; François (n.d.)¹ on the Torres and Banks Islands; Lynch (2016a) on Malakula; Bender et al. (2003) on Micronesian; Geraghty (1983) on Central Pacific and Fijian; and Pawley (1966) and Wilson (2014, 2018) on Polynesian. [B.3](#) is an index to [B.2](#), and [B.4](#) consists of maps showing approximate locations of the languages. The last section, [B.5](#), lists the languages in alphabetical order (of the names in [B.2](#)) with the latitude and longitude used to plot them on the maps in [B.4](#), together with their ISO 639-3 codes and their glottocodes. This section is introduced into this volume because (a) the maps in [B.4](#) were plotted electronically for the first time and (b) it has become almost standard in comparative linguistics to quote with a language name either a three-letter ISO 639-3 code (Eberhard et al. 2022) or a glottocode (Hammarström et al. 2022) to facilitate identification.

Putative linkages (§1.4.3.2) are labelled ‘linkage’. Other groupings (§1.4.3.3) are left unlabelled.

Group names are in italics in both [B.2](#) and [B.3](#). Single-language “groups” are not italicised. Square brackets enclose the group abbreviations used in cognate sets. Parentheses

¹ Our thanks to Alexandre François, who kindly prepared this Torres-Banks phylogeny for us.

include dialect names or, where an equals sign is used, an alternative name or names for the language. The difficulty of deciding where the borderline between dialect and language lies, combined with the fact that these volumes contain work by a number of contributors, has resulted in some inconsistency in the naming of dialects in the cognate sets. Some occur in the form ‘Halia (Haku)’, i.e. the Haku dialect of the Halia language, whilst others are represented simply by the dialect name, e.g. Iduna, noted in the list below as ‘Iduna (dialect of Bwaidoga)’. Where a language has several dialects, these are shown below in the form ‘Mumeng (Patep, Zenag, Kumaru)’, where Patep, Zenag and Kumaru are dialects of Mumeng.

B.1.1 Espiritu Santo and Malakula

The sources listed above almost all subgroup the languages of their area on the basis of the comparative method. An exception is the island of Espiritu Santo in Vanuatu. There is broad agreement on Vanuatu subgrouping, other than for the languages of the larger islands of Espiritu Santo and Malakula, where there are disagreements between sources. But most sources for Santo offer at most regional groupings, with no evidence of genealogical status. Only Clark (1985) attempts to apply the comparative method to the subgrouping of Vanuatu’s languages, on the basis of the limited data available at the time. His grouping of the languages of Espiritu Santo is used here, with one exception. Clark places Araki in a group with Tangoa, Kiai and Akei, but more recent data collection and analysis by François (2002) places it with the other islands off the south coast of Espiritu Santo. We rely on François et al. (2015) for Vanuatu language names.

Malakula is probably the linguistically most complex island in Vanuatu, with apparently several linkages that it is difficult (and perhaps unwarranted) to tease apart. Here we follow Lynch (2016), because it is the most recent source, and one that carefully employs the comparative method. Lynch himself, however, is tentative about his subgrouping.

B.2 Languages by group

1. Yapese (perhaps more closely related to Admiralties than elsewhere) (Map B.13)
2. *St Matthias [Adm]* (Map B.1) (*perhaps more closely related to Admiralties than elsewhere*)
 - Emira
 - Mussau
 - Tenis (= Tench)
3. *Admiralties [Adm]* (Map B.1)
 - 3.1. *Western Admiralties*
 - Aua

Kaniet
 Seimat (= Ninigo)
 Wuvulu

3.2. *Eastern Admiralties*

3.2.1. *Man*

3.2.1.1. *Eastern Manus linkage*

Bipi
 Ere
 Kele
 Kurti
 Leipon (= Pitilu)
 Lele
 Loni
 Nali
 Papitalai (= Koro)
 Titan

3.2.1.2. *Western Manus*

Drehet (= Ndrehet, Khehek, Levei)²
 Likum
 Mondropolon
 Nyindrou (= Lindrou)
 Tulu-Bohuai³

3.2.1.3. *Northeast Manus*

Andra (dialect of Andra-Hus)
 Andra-Hus
 Hus (dialect of Andra-Hus)
 Ponam
 Sori-Harengan

3.2.2. *Southeast Admiralties*

Baluan (= Paluai)
 Lenkau
 Lou
 Nauna
 Pak
 Penchal

² Previous volumes listed ‘Levei-Tulu’. Both Hammarström et al. (2022) and Simons (2023) list Levei as a dialect of the language here labelled Drehet and Tulu as a dialect of Tulu-Bohuai.

³ See previous footnote.

4. *Western Oceanic linkage*

4.1. *New Guinea Oceanic linkage*

4.1.1. *North New Guinea linkage* [NNG]

4.1.1.1. *Ngero/Vitiaz* (Map B.3)

Amara

Mangap (= Mangap-Mbula, Mbula, Kaimanga)

Sio

Tami

4.1.1.1.1. *Korap*

Barim (= Karnai)

Luke- (Pono) (= Arop-Lokep)

Malasanga

Singorakai (dialect of Malasanga)

4.1.1.1.2. *Kilenge-Maleu*

Kilenge

Maleu

4.1.1.1.4. *Ngero*

4.1.1.1.4.1. *West Ngero*

Gitua

Malai (dialect of Mutu)

Mutu

Tuam (dialect of Mutu)

4.1.1.1.4.2. *East Ngero*

Bariai (= Kabana)

Kove

Lusi

Malalamai

4.1.1.1.5. *Greater Bel*

4.1.1.1.5.1. *Mato-Rondi*

Mato (= Nenaya, Nengaya)

Roinji (= Ronji, Rondi)

4.1.1.1.5.2. *Bel*

4.1.1.1.5.2.1. *Eastern Bel*

Bing (= Biliau)

Dami (= Ham, Marik)

Mindiri

Wab

4.1.1.1.5.2.2. *Western Bel*

Bilibil (= Bilbil)
 Gedaged (= Graged)
 Matukar (= Matukar Panau)
 Megiar (dialect of Takia)
 Takia
 Riwo (= Ziwo, dialect of Gedaged)

4.1.1.1.6. *Southwest New Britain linkage*

4.1.1.1.6.1. *Bibling (= Lamogai)*

Aria (= Tourai) (dialect of Mouk-Aria)
 Lamogai
 Mouk (= Mok) (dialect of Mouk-Aria)
 Mouk-Aria
 Rauto (dialect of Lamogai)

4.1.1.1.6.2. *Arawe*

Akolet
 Apalik (= Ambul)
 Arawe
 Atui (= Amio, Gelimi) (dialect of Atui-Lesing)
 Atui-Lesing (= Amio, Gelimi-Lesing)
 Avau
 Bebeli
 Mangseng

4.1.1.1.6.3. *Pasismanua*

Aighon
 Kaulong
 Psohoh (= Apsokok) (dialect of Aighon)
 Sengseng

4.1.1.1.7. *Mengen (Map B.2)*

Kakuna (dialect of Mamusi)
 Longeinga (= Bush Mengen)
 Mengen (Poeng, Maenge = Orford)
 Mamusi
 Uvol

4.1.1.2. *Huon Gulf (Map B.4)*

Numbami

4.1.1.2.1. *North Huon Gulf*

Bukawa
 Kela
 Yabem (= Jabêm)

4.1.1.2.2. *Markham*

4.1.1.2.2.1 *Lower Markham*

Aribwatsa
Labu
Musom
Sirak (= Nafi)
Wampar
Yalu (=Aribwaungg)

4.1.1.2.2.2 *Watut*

Dangal (dialect of S Watut)
Middle Watut (= Bubwaf, Silisili)
North Watut (= Unank, Onank)
South Watut (= Maralango)

4.1.1.2.2.3 *Upper Markham*

Adzera
Mari
Sirasira (= Sarasira)
Sukurum
Wampur

4.1.1.2.3. *South Huon Gulf*

4.1.1.2.3.1 *Hote*

Misim (dialect of Hote)

4.1.1.2.3.2 *Kaiwa (= Iwal)*

4.1.1.2.3.3 *Buang*

Kapin
Kumaru (dialect of Mumeng)
Mangga (= Mangga Buang)
Mapos Buang (=Central Buang)
Mumeng
Patep (dialect of Mumeng)
Piu
Vehes
Yanta (dialect of Mumeng)
Zenag (dialect of Mumeng)

4.1.1.3. *Schouten (Map B.2)*

4.1.1.3.1. *Manam-Kairiru*

Bam
Kaiep (= Terebu)
Kairiru
Kis

Manam
Medebur
Sepa
Wogeo

4.1.1.3.2. *Siau*

Ali
Sera
Sissano (Arop)
Tumleo
Ulau-Suain

4.1.2. *Sarmi/Jayapura* [SJ] (perhaps part of North New Guinea; Map B.2)

4.1.2.1. *Sarmi*

Anus
Bongo
Sobei
Tarpia (= Tarfia)
Yamna

4.1.2.2. *Jayapura*

Kayupulau
Ormu
Tobati (= Yotafa)

4.1.3. *Papuan Tip* [PT] (Map B.5)

4.1.3.1. *Suauic*

'Auhelawa (= Kurada)
Bohutu (=Buhutu)
Logea
Oya'oya
Saliba (= Sariba)
Suau (Dau, Kwato Suau)
Tubetube (= Bwananwana)
Wagawaga

4.1.3.2. *North Mainland and D'Entrecasteaux*

Anuki
Gumawana (= Gumasi)

4.1.3.2.1. *Dobu-Duau*

Bunama
Dobu
Duau
Galea (= Galeya)

- Gilagila (dialect of Sewa Bay)
- Sewa Bay
- 4.1.3.2.2. *Bwaidoga*
 - Bwaidoga
 - Diodio
 - Iamalele (= Yamalele)
 - Iduna (dialect of Bwaidoga)
 - Kalauna (= subdialect of Iduna)
 - Kalokalo (= Koluwawa) (dialect of Bwaidoga)
 - Molima
- 4.1.3.2.3. *Kakabai-Dawawa*
 - Dawawa
 - Kakabai (Igora)
- 4.1.3.2.4. *Are-Taupota*
 - Are (= Mukawa)
 - Arifama (dialect of Arifama-Miniafia)
 - Arifama-Miniafia
 - Bartle Bay (dialect of Wedau)
 - Boanaki (= Boianaki, Ghayavi)
 - Doga
 - Gapapaiwa (= Paiwa)
 - Kaninuwa
 - Maisin
 - Minaveha (= Kukuya)
 - Miniafia (dialect of Arifama-Miniafia)
 - Taupota
 - Tawala
 - Ubir
 - Wedau
- 4.1.3.3. *Kilivila-Misima*
 - 4.1.3.3.1 Misima
 - 4.1.3.3.2 *Kilivila-Muyuw*
 - Budibud
 - Gawa (dialect of Muyuw)
 - Kilivila (= Kiriwina)
 - Muyuw
- 4.1.3.4. *Nimoa-Sudest*
 - Nimoa
 - Sudest (=Pamela), Sudest (Varavarae)
- 4.1.3.5. *Central Papuan*

- 4.1.3.5.1 *Ouma-Magori*
 - 4.1.3.5.1.1. Ouma
 - 4.1.3.5.1.2. *Magori*
 - Magori
 - Yoba
- 4.1.3.5.2 *Sinaugoro-Keapara*
 - 4.1.3.5.2.1. *Sinaugoro linkage*
 - Balawaia (dialect of Sinaugoro)
 - Taboro (dialect of Sinaugoro)
 - 4.1.3.5.2.2. *Keapara linkage*
 - Hula (dialect of Keapara)
 - Maopa (dialect of Keapara)
- 4.1.3.5.3 *West Central Papuan linkage*
 - 4.1.3.5.3.1. Motu
 - 4.1.3.5.3.2. Gabadi (= Abadi)
 - 4.1.3.5.3.3 *Doura-Lala*
 - Doura
 - Lala (= Nara, 'Ala'ala, Pokau)
 - 4.1.3.5.3.4. *Roro-Kuni-Mekeo linkage*
 - Kuni
 - Mekeo (= East Mekeo)
 - Roro
 - West Mekeo

4.2. *Meso-Melanesian* [MM] (Maps B.6 and B.7)

- 4.2.1. *Bali-Vitu*
 - Bali (= Uneapa)
 - Vitu (= Muduapa)
- 4.2.2. *Bola-Bulu*
 - Bola
 - Bulu
 - Harua (dialect of Bola)
- 4.2.3. Nakanai (= Lakalai)
- 4.2.4. Meramera
- 4.2.5. *New Ireland/Northwest Solomonian linkage*
 - 4.2.5.1. *Tungag-Nalik*
 - East Kara
 - Lakurumau
 - Lavongai (= Tungak, Tungag)

Nalik
Tiang
Tigak
West Kara

4.2.5.2. *Tabar*

Lahir
Notsi (= Nochi)
Tabar (= Mandara)

4.2.5.3. *Madak*

Barok (dialects: Nabo, Usen)
Lamasong (= Lamusong, Lavatbura, North Madak)
Lelet (dialect of Madak)
Madak (= Mandak)

4.2.5.4. Tomoip

4.2.5.5. Tangga (= Tanga)

4.2.5.6. Konomala

4.2.5.7. Sursurunga

4.2.5.8. Siar (= Siar-Lak)

4.2.5.9. *Patpatar-Tolai*

Patpatar
Minigir (= Vinitiri)
Tolai (= Kuanua, Raluana, Tuna), Tolai (Nodup)

4.2.5.10. *Label-Bilur*

Label
Bilur

4.2.5.11. *Kandas-Ramoaaina*

Kandas
Ramoaaina (= Duke of York)

4.2.5.12. *Northwest Solomonian*

4.2.5.12.1. *Nehan/North Bougainville*

Hahon (= Kurtatchi)
Halia (Haku)
Nehan (= Nissan)
Petats
Selau
Solos
Taiof
Teop

- Tinputz
- 4.2.5.12.2. *Papapana-Uruava (?)*
 - Papapana
 - Uruava
- 4.2.5.12.3. *Piva-Banoni*
 - Banoni (= Bannoni)
 - Piva (= Lawunuia)
- 4.2.5.12.4. *Mono-Alu/Torau*
 - Mono-Alu
 - Torau
- 4.2.5.12.5. *Choiseul*
 - 4.2.5.12.5.1. *West Choiseul*
 - Vaghua
 - Varisi
 - 4.2.5.12.5.2. *East Choiseul*
 - Avasö
 - Babatana
 - Ririo
 - Sisiqa (= Sisingga, Sengga)
- 4.2.5.12.6. *New Georgia*
 - Hoava
 - Kubokota (= Ghanongga)
 - Kusaghe
 - Lungga
 - Marovo
 - Mbareke (dialect of Vangunu)
 - Nduke (= Duke)
 - Roviana
 - Simbo
 - Ughele
 - Vangunu
- 4.2.5.12.7. *Isabel*
 - Blablanga
 - Gao
 - Kia (= Zabana)
 - Kokota
 - Laghu
 - Maringe (= Cheke Holo, Hograno)

5. Southeast Solomonic [SES] (Map B.8)

5.1. *Guadalcanal-Gelic*

5.1.1. *Nggelic*

Bugotu

Gela (= Nggela)

5.1.2. *North and West Guadalcanal linkage*

West Guadalcanal

Gae (dialect of West Guadalcanal)

Ghari (dialect of West Guadalcanal)

Lengo

Malango

5.1.3. *Southeast Guadalcanal linkage*

Birao

Talise

Tolo (dialect of Talise)

5.2. *Malaita-Makira*

5.2.1. Longgu

5.2.2. *North and Central Malaita*

Baegu (dialect of Lau)

Baelelea (dialect of Lau)

Fataleka

Kwai

Kwaio

Kwara'ae

Langalanga (= Wala)

Lau

To'aba'ita (= Toqabaqita)

5.2.3. *'Are'are-Oroha*

'Are'are

Dori'o

Marau Sound (dialect of 'Are'are)

Oroha

5.2.4. *Sa'a-Ulawa*

Sa'a

Uki ni Masi (dialect of Sa'a)

Ulawa

5.2.5. *Makira*

Arosi

Bauro

Fagani

Kahua
 Owa
 Santa Ana (dialect of Owa)

6. *Temotu [TM]* (Map B.8)

6.1. *Reefs and Santa Cruz*

6.1.1. Äiwoo (= Reefs)

6.1.2. *Santa Cruz*

Engdewo (= Nagu)

Nalögo

Natügu (= Lödäi, Malo, Nedö)

Noipä (dialect of Nalögo)

6.2. *Utupua*

Asuboa

Nebao (= Aba)

Tanibili

6.3. *Vanikoro*

Buma (= Teanu)

Tanema (= Tanima, Tetau)

Vano (= Lovono, Vana)

7. *Southern Oceanic*

7.1. *North Vanuatu linkage* (see §1.4.1; Map B.9)

7.1.1. *Banks and Torres linkage*

7.1.1.1. *Torres Islands*

Hiw

Loh (dialect of Lo-Toga)

Lo-Toga (= Loh, Toga)

7.1.1.2. *Banks Islands linkage*

7.1.1.2.1. *Northern Banks Islands*

7.1.1.2.1.1. *Ureparapara*

Lehali

Löyöp (= Lehalurup)

7.1.1.2.1.2. *Motalava*

Mwotlap (= Motlav)

Volow

7.1.1.2.2. *Western Banks*

Lemerig (= Sasar)

Vera'a (= Vatrata)

7.1.1.2.3. *Central Banks*

7.1.1.2.3.1 *South Vanua Lava*

Mwesen (= Mosina)

Vurës

7.1.1.2.3.2 *Mota*

7.1.1.2.4. *Southern Banks*

7.1.1.2.4.1 *Gaua linkage*

Dorig (= Wetamut)

Lakon (= Lakona)

Nume (= Tarasag)

Olrat

South Gaua (= Koro)

7.1.1.2.4.2. *Merlav (= Mwerlap)*

7.1.2. *Espiritu Santo linkage*

7.1.2.1. *Northwest Santo*

Tolomako (= Big Bay)

7.1.2.1.1 *Cape Cumberland linkage*

Nokuku

Piamatsina

Tasmate (= Meri, Oa)

Valpei

Vunapu

7.1.2.2 *West Santo*

Wusi (= Kula)

Merei (= Lametin, Tiale)

7.1.2.3 *Southwest Santo*

Akei (= Tasiriki)

Kiai (= Fortsenal, Vara Kiai)

Tangoa

7.1.2.4. *South Santo Interior*

Morouas (= Ande)

Narango (= Farsaf, Nambel)

7.1.2.5 *East Santo*

Tambotalo (= Biliru)

7.1.2.5.1 *Sakao-Shark Bay*

Sakao (= Nkep, Hog Harbour)

Sara (dialect of Sakao)

Shark Bay (= Ngen)

7.1.2.6 *Southeast Santo*

Aore (extinct)
 Araki
 Mafea (= Ma'ŕea)
 Tamambo (= Tamabo, Malo)
 Tutuba

7.1.3.. *Ambae/Maewo/North Pentecost*

7.1.3.1 *Northeast Ambae* (= NE Aoba)

Lolovoli (dialect of Northeast Ambae)
 Lolsiwoi (dialect of Northeast Ambae)
 Lombaha (dialect of Northeast Ambae)
 Longana (dialect of Northeast Ambae)

7.1.3.2 *West Ambae*

Nduindui (= Ngwatua, Duidui)

7.1.3.3 *Maewo/North Pentecost*

Baetora (= South Maewo, Singaloge)
 Raga (= Hano)
 Sungwadaga (= Central Maewo)

7.2. *Nuclear Southern Oceanic*

7.2.1. *Central Vanuatu linkage* (see §1.4.1; Map B.10)

7.2.1.1. *Malakula linkage*

7.2.1.1.1. *Northern Malakula linkage*

Malua Bay (= Middle Nambas)

7.2.1.1.1.1 *North coast*

Nese (= Matanvat)

Vao

7.2.1.1.2. *Eastern Malakula linkage*

NE Malakula (inc. Atchin, Rano, Uripiv, Wala)

Unua (= Onua)

Aulua

Banam Bay (= Burmbar, Vartovo)

Rerep (= Pangkumu, Tisman)

7.2.1.1.2..2. *Southeast Malakula linkage*

Avok

Axamb (= Ahamb)

Maskelynes (= Uliveo)

Nasvang

Nisvai (= Vetbon)

Port Sandwich (= Lamap)

7.2.1.1.3. *Western Malakula linkage*

7.2.1.1.3.1. *Central-Western Malakula linkage*

Larëvat (= Laravat)
 Naman (= Litzlitz)
 Neve'ei (= Vinmavis)
 Neverver (= Nevwervwer, Lingarak)

7.2.1.1.3.2. *Peripheral Western Malakula linkage*

Labo (= Ninde)
 Nāti

7.2.1.1.3.2.1 *Northwestern Malekula*

Big Nambas (= V'ënen Taut)
 Tirax (Dirak, Mae)
 Tape (=Maragus)

7.2.1.1.3.2.1 *Southwestern Malekula*

Avava (= Katbol, Banga', Navava)
 Lendamboi (= Letemboi, Small Nambas)
 Naha'ai (Naha'ai, Malfaxal)
 Nasarian
 Navwien
 Southwest Bay (= Nahavaq, Sinesip)

7.2.1.2. *Central and South Pentecost*

Apma (= Abma)
 Sa
 Ske (= Seke)
 Sowa

7.2.1.3. *Ambrym/Paama*

Daakaka (dialect of West Ambrym)
 Lonwolwol (= Raljago; dialect of West Ambrym)
 North Ambrym
 Orkon (= Fanbak; dialect of West Ambrym)
 Paamese (= Paama)
 Port Vato (= Daakie; dialect of West Ambrym)
 Southeast Ambrym
 West Ambrym

7.2.1.4. *Epi/Efate*

Baki (= Paki, Burumba)
 Bierebo (= Bonkovia-yevali)
 Bieria (= Bieri, Vovo, Wowo)
 Lamenu (= Lamenu, Varmali)
 Lelepa (= Havannah Harbour; dialect of Nakanamanga)

Lewo (= Varsu)
 Nakanamanga (= North Efate)
 Namakir (= Namakura, Makura)
 Nguna (dialect of Nakanamanga)
 Sesake (dialect of Nakanamanga)
 South Efate (= Nafsan, Erakor)

7.2.2. *Southern Melanesian*

7.2.2.1. *South Vanuatu* [SV] (Map B.11)

7.2.2.1.1. *Erromango*

Sye (= Sie, Eromangan)

Ura (extinct)

Utaha (extinct) (= Ifo)

7.2.2.1.2. *Tanna*

Kwamera (= Nafe, Nife)

Lenakel (= Netvaar)

North Tanna

Southwest Tanna (= Nawal)

Whitesands (= Narak)

7.2.2.1.3. *Aneityum*

Anejoñ

7.2.2.2. *New Caledonia* [NCal] (Map B.12)

7.2.2.2.1. Dehu (= Drehu)

7.2.2.2.2. Iai

7.2.2.2.3. Nengone

7.2.2.2.4. *North New Caledonia*

7.2.2.2.4.1 *North*

Belep

Caaàc (= Caac)

Fwâi

Jawe

Pije

Pwapwâ

Nemi

Nêlêmwa

Nixumwak (= Koumak, Koumac, Kumak)

Nyelâyu

Pwaamei

Yuanga

7.2.2.2.4.1.1 *Voh-Koné*

Bwattoo

Wahmwaang

7.2.2.2.4.2 *North Central*

Cèmuhî

Paicî

7.2.2.2.5. *South New Caledonia*7.2.2.2.5.1 *South Central*

Ajië

Arhâ

Ôrôe

7.2.2.2.5.2 *South*

Tîrî (= Tinrin, Grand Couli)

Xârâcùù (= Canala)

Xârâgurè

7.2.2.2.5.3 *Extreme South*

Drubea (= Païta)

Kwênyii

Numèè

8. *Micronesian [Mic]* (Map B.13)8.1. Nauruan⁴8.2. *Nuclear Micronesian*

8.2.1. Kosraean (= Kusaeian)

8.2.2. *Central Micronesian*

8.2.2.1. Kiribati (= Kiribatese, Gilbertese)

8.2.2.2. *Western Micronesian*

8.2.2.2.1. Marshallese

8.2.2.2.2. *Chuukic-Ponapeic*8.2.2.2.2.1. *Ponapeic*

Mokilese

Ponapean (= Pohnpeian)

Pingelapese

8.2.2.2.2.2. *Chuukic*

Pulo Annian (dialect of Sonsorolese)

Sonsorolese

Ulithian

Woleaian

⁴ Recent research shows that Nauruan is not a distinct branch of Micronesian, thus eliminating the Nauruan/Nuclear Micronesian division. However, the probable position of Nauruan *within* Micronesian has yet to be determined (Hughes 2020a, b; Blumenfeld 2022).

- 8.2.2.2.2.1. *East Chuukic*
 - Chuukese (= Trukese)
 - Mortlockese
 - Namoluk (dialect of
Mortlockese)
 - Puluwatese
- 8.2.2.2.2.2. *Central Chuukic*
 - Carolinian
 - Satawalese

9. *Central Pacific [Fij and Pn]*⁵

9.1. Rotuman (Map B.15)

9.2. Fijian⁶ (Map B.14)

9.2.1. *Western Fijian dialects*

Bā
 Deuba
 Macuata
 Nadrogā
 Tavua
 Tavuki
 Tokatoka
 Vuda
 Wayan
 West Viti Levu
 Yasawa

9.2.2. *Eastern Fijian dialects*

Bauan (= Standard Fijian)
 Boumā
 Bua
 Buca Bay
 Cakaudrove
 Kadavu
 Lakeba
 Lau
 Lomaiviti

⁵ We opt here for a division of Central Pacific into Rotuman, Fijian and Polynesian in view of the complexities of its history described in §1.4.3.2.

⁶ The “dialects” listed under Fijian are those cited in this volume. These include appellations used by ethnographers and others (see appendix to chapter 3). No attempt has been made to assimilate these to the definitive listing of Fijian dialects in Geraghty (1983).

Matailobau
Moala
Nadrau
Namosi
Ovalau
Rakiraki
Rewa
Taveuni
Verata
Vanua Levu
Wailevu

9.3. *Polynesian [Pn]* (Map B.15)

9.3.1. *Tongic*

Niuean
Niuatoputapu (dialect of Tongan)
Tongan

9.3.2. *Nuclear Polynesian [NPn]*

East Uvean
East Futunan
Nanumea (dialect of Tuvalu)
Niuafu'ou
Pukapukan
Samoan
Tokelauan
Tuvalu (= Ellicean)

9.3.2.1 *Vanuatu/Loyalties Outliers*

Aniwa (dialect of West Futunan)
Emae
Ifira-Mele (= Mele-Fila, Imere-Ifira)
West Futunan (= Futuna-Aniwa)
West Uvea

9.3.2.2. *Southern Solomons Outliers + Eastern Polynesian*

9.3.2.2.1. *Southern Solomons Outliers*

Anutan
Rennellese (= Mungava), Bellona (= Munggiki)
Pileni (= Vaeakau-Taumako)
Tikopia

9.3.2.2.2. *Northern Outliers + Eastern Polynesian*

9.3.2.2.2.1. *Carolinian Outliers*

Kapingamarangi

- Nukuoro
- 9.3.2.2.2.2. *Northern Solomons Outliers + E Polynesian*
- 9.3.2.2.2.2.1. *Northern Solomons Outliers*
- Luangiua (= Ontong Java)
Nukumanu
Nukuria
Takuu
- 9.3.2.2.2.2.2. Sikaiana
- 9.3.2.2.2.2.3. *Eastern Polynesian [EPn]*
- Hawaiian
Mangaia (dialect of Rarotongan)
Mangarevan
Manihiki
Māori
Marquesan
Rapa
Rapanui (= Easter Island)
Rarotongan
Rurutu (= Inner Australs)
Tahitian
Tongarevan (= Penrhyn)
Tuamotuan

B.3 Language finderlist

Numbers refer to §2 above.

- | | |
|--|---|
| 'Ala'ala 4.1.3.5.3.3. | Akolet 4.1.1.1.6.2. |
| 'Are'are 5.2.3. | Ali 4.1.1.3.2. |
| 'Are'are-Oroha 5.2.3. | Amara 4.1.1.1. |
| 'Auhelawa 4.1.3.1. | <i>Ambae/Maewo/North Pentecost</i> 7.1.3. |
| Aba (= Nebao) 6.2. | Ambrym, SE, N, W 7.2.1.3. |
| Abadi (= Gabadi) 4.1.3.5.3.2. | Ambrym, W (= Lonwolwol) 7.2.1.3. |
| Abma (= Apma) 7.2.1.2. | <i>Ambrym/Paama</i> 7.2.1.3. |
| <i>Admiralties [Adm]</i> 3. | Ambul (= Apalik) 4.1.1.1.6.2. |
| Adzera 4.1.1.2.2.3 | Amio (= Atui) 4.1.1.1.6.2. |
| Ahamb (= Axamb) 7.2.1.1.1.2.1. | Ande (= Morouas) 7.1.2.4. |
| Aighon 4.1.1.1.6.3. | Andra (dialect of Andra-Hus) 3.2.1.3. |
| Äiwoo 6.1.1. | Andra-Hus 3.2.1.3 |
| <i>Äiwoo (= Reefs)</i> 6.1.1. | Aneityum (= Anejom̃) 7.2.2.1.3. |
| Ajië 7.2.2.2.5.1. | Anejom̃ 7.2.2.1.3. |
| Akei (dialect of Southwest Santo) 7.1.2.3. | Aniwa (dialect of West Futunan) 9.3.2.1 |

- Anuki 4.1.3.2.
 Anus 4.1.2.1.
 Anutan 9.3.2.2.1.
 Aore 7.1.2.6.
 Apalik 4.1.1.1.6.2.
 Apma 7.2.1.2.
 Apsokok (= Psohoh) 4.1.1.6.3
 Araki 7.1.2.6.
Arawe 4.1.1.1.6.2.
 Arawe 4.1.1.1.6.2.
 Are 4.1.3.2.4.
Are/Taupota 4.1.3.2.4.
 Arhâ 7.2.2.2.5.1
 Aria (dialect of Mouk-Aria) 4.1.1.1.6.1.
 Aribwatsa 4.1.1.2.2.1.
 Aribwaungg (= Yalu) 4.1.1.2.2.1.
 Arifama (dialect of Arifama-Miniafia)
 4.1.3.2.4.
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 Narango 7.1.2.4.
 Nasarian 7.2.1.1.3.2.
 Nasvang 7.2.1.1.1.2.1.
 Nāti 7.2.1.1.3.2.
 Natügu 6.1.2.
 Nauna 3.2.2.
Nauruan 8.1.
 Nauruan 8.1.
 Navava (= Avava) 7.2.1.1.3.2
 Nawal (=Southwest Tanna) 7.2.2.1.2.
 Ndrehet (= Drehet) 3.2.1.2.
 Nduindui 7.1.3.2.
 Nduke 4.2.5.12.6.
NE Malakula (inc. Atchin, Uripiv)
 7.2.1.1.1.1.
 Nebao 6.2.
 Nedö (= Natügu) 6.1.2.
 Nehan 4.2.5.12.1.
Nehan/North Bougainville 4.2.5.12.1.
 Nêlêmwa 7.2.2.2.4.1.
 Nembao (= Nebao) 6.2.
 Nemi 7.2.2.2.4.1.
 Nenaya (= Mato) 4.1.1.1.5.1.
 Nengaya (= Mato) 4.1.1.1.5.1.
 Nengone 7.2.2.2.3.
 Nese 7.2.1.1.1.
 Netvaar (= Lenakel) 7.2.2.1.2.
 Neve'ei 7.2.1.1.3.1.
 Neverver 7.2.1.1.3.1.
 Nevwervwer (= Neverver) 7.2.1.1.3.1.
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New Georgia 4.2.5.12.6.
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New Ireland/Northwest Solomonian linkage 4.2.5.
Ngero 4.1.1.1.4.
Ngero/Vitiaz 4.1.1.1.
 Nggae (= Gae) 5.1.2.
 Nggela (= Gela) 5.1.1.
Nggelic 5.1.1.
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- Nimoa 4.1.3.4.
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 Niuean 9.3.1.
 Nixumwak 7.2.2.2.4.1.
 Nkep (= Sakao) 7.1.2.5.1.
 Nochi (= Notsi) 4.2.5.2.
 Nodup (dialect of Tolai) 4.2.5.9.
 Noipä. 6.1.2.
 Nokuku 7.1.2.1.1.
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North and West Guadalcanal linkage
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 North Efate (= Nakanamanga) 7.2.1.4.
North Huon Gulf 4.1.1.2.1.
 North Madak (= Lamasong) 4.2.5.3.
 North Maewo (= Suñwadaga) 7.1.5.3.
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North New Caledonia 7.2.2.2.4.
North New Guinea linkage [NNG]
 4.1.1.
 North Tanna 7.2.2.1.2.
North Vanuatu linkage 7.1.
 North Watut 4.1.1.2.2.2.
 Northeast Ambae 7.1.5.1.
 Northeast Aoba (= NE Ambae) 7.1.5.1.
 Northeast Malakula (= Atchin) 7.2.1.1.1.1.
Northeast Manus 3.2.1.3.
Northern Banks Islands. 7.1.1.2.1.
Northern Outliers + Eastern Polynesian
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Northern Solomons Outliers
 9.3.2.2.2.2.1.
- Northern Solomons Outliers + E*
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Northwest Solomonian 4.2.5.12.
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Nuclear Micronesian 8.2.
Nuclear Polynesian [NPn] 9.3.2.
Nuclear Southern Oceanic 7.2.
 Nukumanu 9.3.2.
 Nukuoro 9.3.2.2.2.1.
 Nukuria 9.3.2.2.2.2.1.
 Numbami 4.1.1.2.
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 Nyelâyü 7.2.2.2.4.1.
 Nyindrou 3.2.1.2.
 Oa (= Tasmate) 7.2.1.1.
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 Onank (=North Watut) 4.1.1.2.2.2.
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 Onua (= Unua) 7.2.1.1.1.2.
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 Orkon (= Fanbak; dialect of West
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 Ormu 4.1.2.2.
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Ouma 4.1.3.5.1.1.
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- Paki (= Baki) 7.2.1.4
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 Papapana 4.2.5.12.2.
Papapana-Uruava (?) 4.2.5.12.2.
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Papuan Tip [PT] 4.1.3.
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 Patep (dialect of Mumeng) 4.1.1.2.3.3.
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 Rondi (= Ronji) 4.1.1.1.5.1.
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Sa'a-Ulawa 5.2.4.
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Santa Cruz 6.1.2.
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 Sariba (= Saliba) 4.1.3.1.
Sarmi 4.1.2.1.
Sarmi/Jayapura [SJ] (perhaps part of
North New Guinea) 4.1.2.
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- Schouten* 4.1.1.3.
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 Sinaugoro (Balawaia, Taboro) 4.1.3.5.2.1.
Sinaugoro linkage 4.1.3.5.2.1.
Sinaugoro-Keapara 4.1.3.5.2
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 Singaloge (= Baetora) 7.1.3.3.
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 4.1.1.1.1.
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 Sirak 4.1.1.2.2.1.
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 South Efate 7.2.1.4.
 South Gaua 7.1.1.2.4.1.
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South New Caledonia 7.2.2.2.5.
South Santo Interior 7.1.2.4.
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Southeast Admiralties 3.2.2.
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Southeast Guadalcanal linkage 5.1.3.
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 Southwest Tanna 7.2.2.1.2.
 Sowa 7.2.1.2.
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Suauic 4.1.3.1.
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 Sungwadaga 7.1.3.3.
Sursurunga 4.2.5.7.
 Sursurunga 4.2.5.7.
 Sye 7.2.2.1.1.
Tabar 4.2.5.2.
 Tabar 4.2.5.2.
 Taboro 4.1.3.5.2.1.
 Tahitian 9.3.2.2.2.2.3.
 Taiof 4.2.5.12.1.
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- Takuu 9.3.2.2.2.2.1.
 Talise 5.1.3.
 Tamabo (= Tamambo) 7.1.2.6.
 Tamambo (= Tamabo, Malo) 7.1.2.6.
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 Tami 4.1.1.1.
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 Tanga (= Tangga) 4.2.3.5.
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Tangga (= *Tanga*) 4.2.5.5.
 Tangoa 7.1.2.3.
 Tanibili 6.2.
 Tanima (= Tanema) 6.3.
 Tanimbili (= Tanibili) 6.2.
Tanna 7.2.2.1.2.
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 Tarfia (= Tarpia) 4.1.2.1.
 Tarpia 4.1.2.1.
Tarasag (= Nume) 7.1.1.2.4.1.
 Tasiriki (= Akei) 7.1.2.3.
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 Taupota 4.1.3.2.4.
 Tavua 9.2.1.
 Tavuki 9.2.1.
 Tawala 4.1.3.2.4.
 Teanu (= Buma) 6.3.
Temotu [TM] 5.
 Tench (= Tennis) 2.
 Tennis 2.
 Teop 4.2.5.12.1.
 Terebu 4.1.1.3.1.
 Tetau (= Tanema) 6.3.
 Tiale (= Merei) 7.1.2.2.
 Tiang 4.2.5.1.
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 Tinrin (= Tîrî) 7.2.2.2.5.2.
 Tirax 7.2.1.1.3.1.
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 Tisman (= Rerep) 7.2.1.1.1.2.
 Titan 3.2.1.1.
 To'aba'ita 5.2.2.
 Tobati 4.1.2.2.
 Toga (= Lo-Toga) 7.1.1.1.
 Tokatoka 9.2.1.
 Tokelauan 9.3.2.
 Tolai 4.2.5.9.
 Tolo 5.1.3.
 Tolomako 7.1.2.1.1.
Tomoip 4.2.5.4.
 Tomoip 4.2.5.4.
 Tongan 9.3.1.
 Tongarevan 9.3.2.2.2.2.3.
Tongic 9.3.1.
 Toqabaqita (=To'aba'ita) 5.2.2.
 Torau 4.2.5.12.4.
Torres Islands 7.1.1.1.
 Toura (= Doura) 4.1.3.5.3.3.
 Tourai (= Aria) (dialect of Mouk-Aria)
 4.1.1.1.6.1.
 Trukese (= Chuukese) 8.2.2.2.2.2.1.
 Tuam 4.1.1.1.4.1
 Tuamotuan 9.3.2.2.2.2.3.
 Tubetube 4.1.3.1.
 Tumleo 4.1.1.3.2.
 Tuna (= Tolai) 4.2.5.9.
 Tungag (= Lavongai) 4.2.5.1.
Tungag/Nalik 4.2.5.1.
 Tungak (= Lavongai) 4.2.5.1.
 Tutuba 7.1.2.6.
 Tuvalu 9.3.2.
 Ubir 4.1.3.2.4.
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- Ura 7.2.2.1.1.
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 Uripiv (dialect of NE Malakula) 7.2.1.1.1.1.
 Uruava 4.2.5.12.2.
 Usen (= dialect of Barok) 4.2.5.3.
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 V'ënen Taut (= Big Nambas) 7.2.1.1.3.1.
 Vaeakau-Taumako. (= Pileni) 9.3.2.2.1.
 Vaghua 4.2.5.12.5.1.
 Valpei 7.1.2.1.1.
 Vana (= Vano) 6.3.
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Vanikoro 6.3.
 Vano 6.3.
 Vanua Levu 9.2.2.
Vanuatu/Loyalties Outliers 9.3.2.1
 Vao 7.2.1.1.1.
 Vara Kiai (= Kiai) 7.1.2.3.
 Varavarae (dialect of Sudest) 4.1.3.4.
 Varisi 4.2.5.12.5.1.
 Varmali (= Lamen) 7.2.1.4.
 Varsu (= Lewo) 7.2.1.4.
 Vartovo (= Banam Bay) 7.2.1.1.1.2.
 Vatrata (= Vera'a) 7.1.1.2.2.
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 Vetbon (= Nisvai) 7.2.1.1.1.2.1.
 Vinitiri (= Minigir) 4.2.5.9.
 Vinmavis (= Neve'ei) 7.2.1.1.3.1.
 Vitu 4.2.1.
 Voh-Koné 7.2.2.2.4.1.1
 Volow 7.1.1.2.1.2.
 Vovo (= Bieria) 7.2.1.4.
 Vuda 9.2.1.
 Vunapu 7.1.2..1
 Vurës 7.1.1.2.3.1.
 Wab 4.1.1.1.5.2.1.
 Wagawaga 4.1.3.1.
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 Wampar 4.1.1.2.2.1.
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Watut 4.1.1.2.2.2.
 Watut, Middle, North, South 4.1.1.2.2.2.
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 West Futunan 9.3.2.1
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West Ngero 4.1.1.1.4.1.
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Western Admiralties 3.1.
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Western Micronesian 8.2.2.2.
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 Wetamut (= Dorig) 7.1.1.2.4.1.
 Whitesands 7.2.2.1.2.
 Wogeo 4.1.1.3.1
 Woleaian 8.2.2.2.2.2.
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 Wusi 7.1.2.2.
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 Xârâcùù 7.2.2.2.5.2.
 Yabem 4.1.1.2.1.
 Yalu 4.1.1.2.2.1.
 Yamalele (= Iamalele) 4.1.3.2.2.
 Yamna 4.1.2.

Yanta (dialect of Mumeng) 4.1.1.2.3.3.	Yuanga 7.2.2.2.4.1.
Yap 1.	Zabana (= Kia) 4.2.5.12.7.
Yasawa 9.2.1.	Zenag (dialect of Mumeng) 4.1.1.2.3.3.
Yoba 4.1.3.5.1.2.	Ziwo (= Riwo, dialect of Gedaged) 4.1.1.3.5.
Yotafa (= Tobati) 4.1.2.2.	
<i>Ysabel</i> 4.2.5.12.7.	

B.4 Language location maps

The maps in the section show the approximate locations of the languages from which the data in this volume are drawn. They are listed in B.2. Since some languages are spoken in more than one village, and these villages may be scattered over an area that is not well represented by a point, there are inevitable inaccuracies.

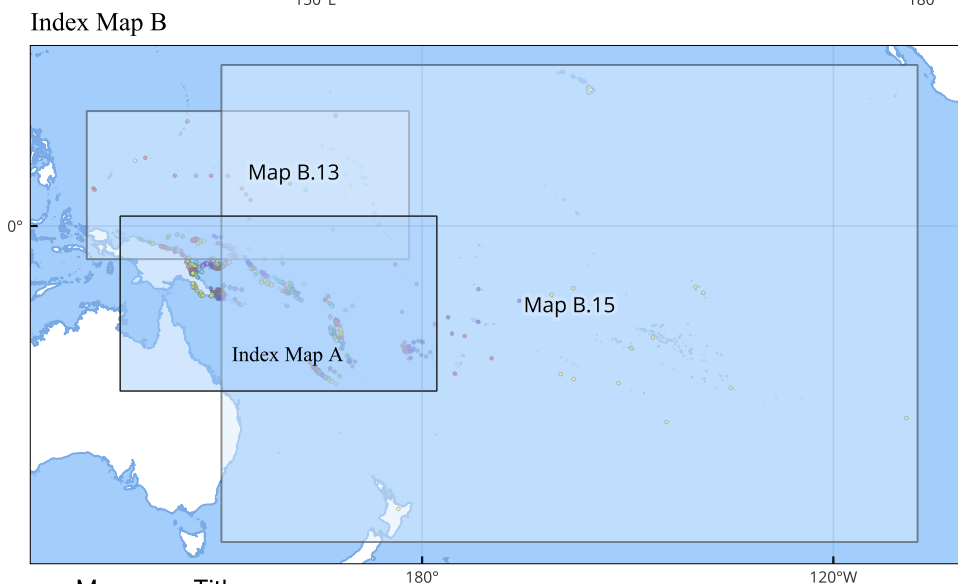
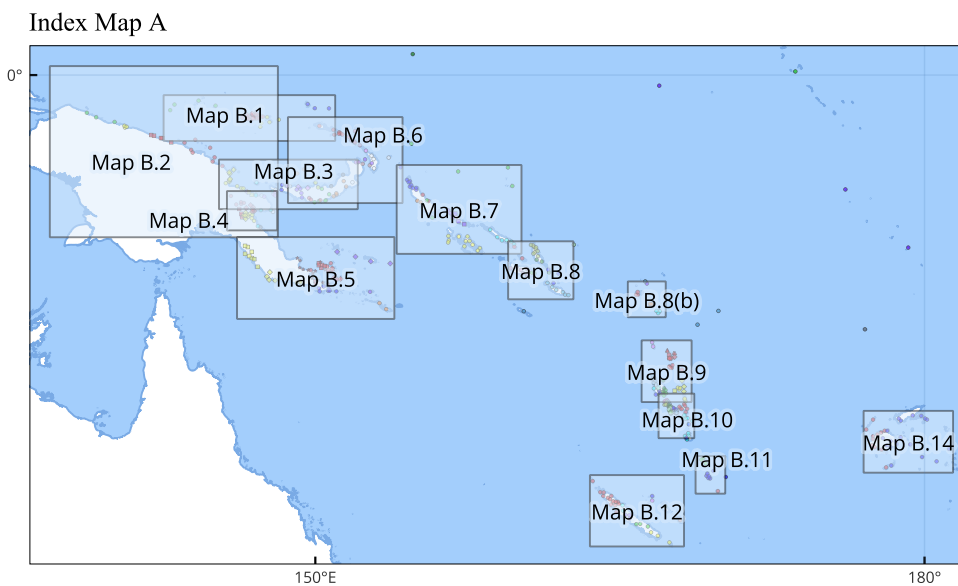
A note on the terminology in the keys to the maps: the term ‘isolate’ is used a little idiosyncratically to denote a single-member subgroup. Thus ‘East Santo isolate’ denotes a single member subgroup within the East Santo group.

The data for each map are in the form of a file that lists the language name, the lowest-order group to which the language belongs, according to B.2, and the latitude and longitude of each language’s location.

Locations were originally downloaded from *Glottolog 4.7* (Hammarström et al. 2022), but a number have been amended for accuracy’s sake, and locations of Glottolog dialects were worked out from various sources, as Glottolog does not give their locations (see B.5).

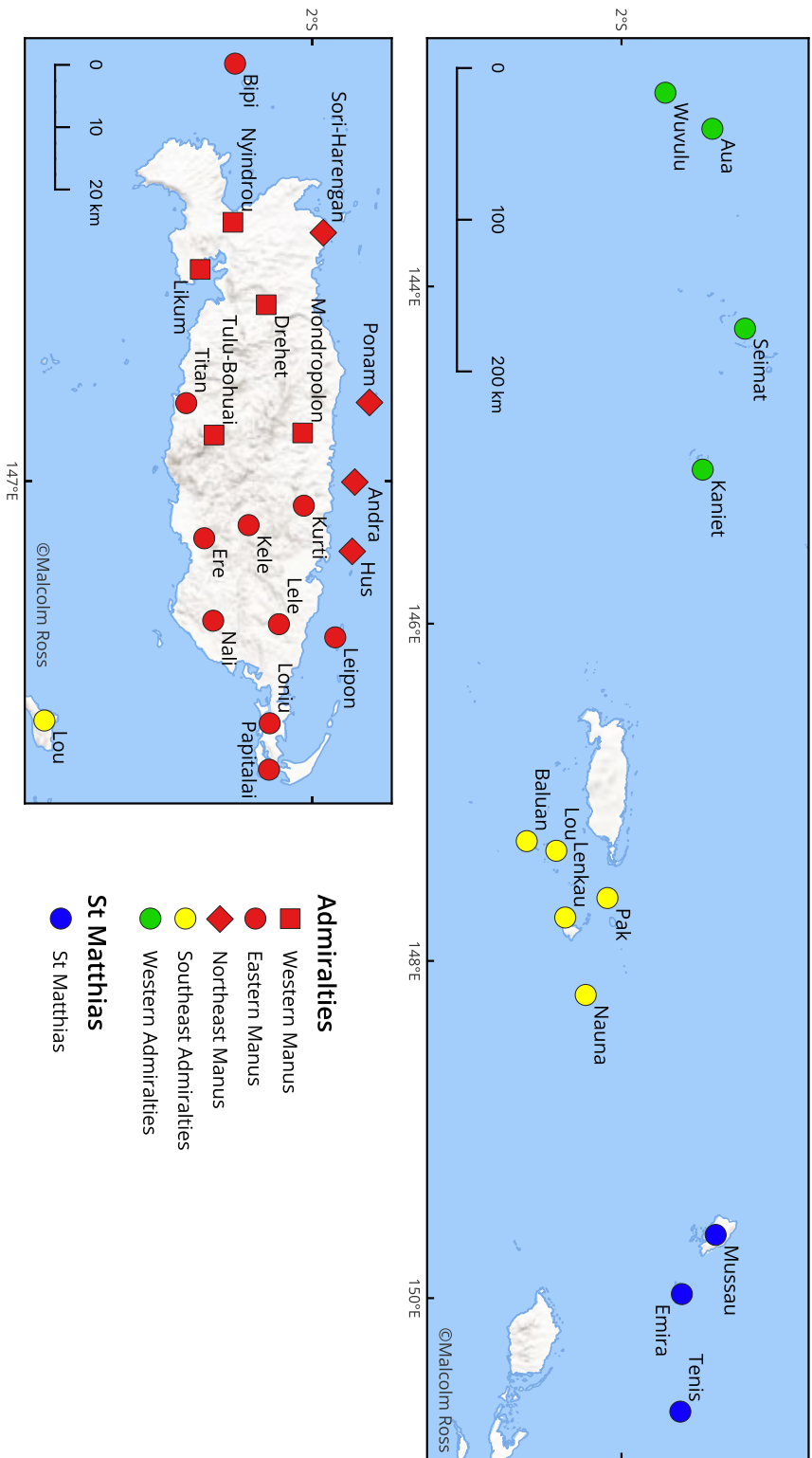
The data files provided input to maps drawn with the open-sources application QGIS. The base maps were derived from ArcGIS World Shaded Relief, accessed through QGIS.⁷

⁷ The maps in this appendix were redrawn and standardised for us by James Ross.

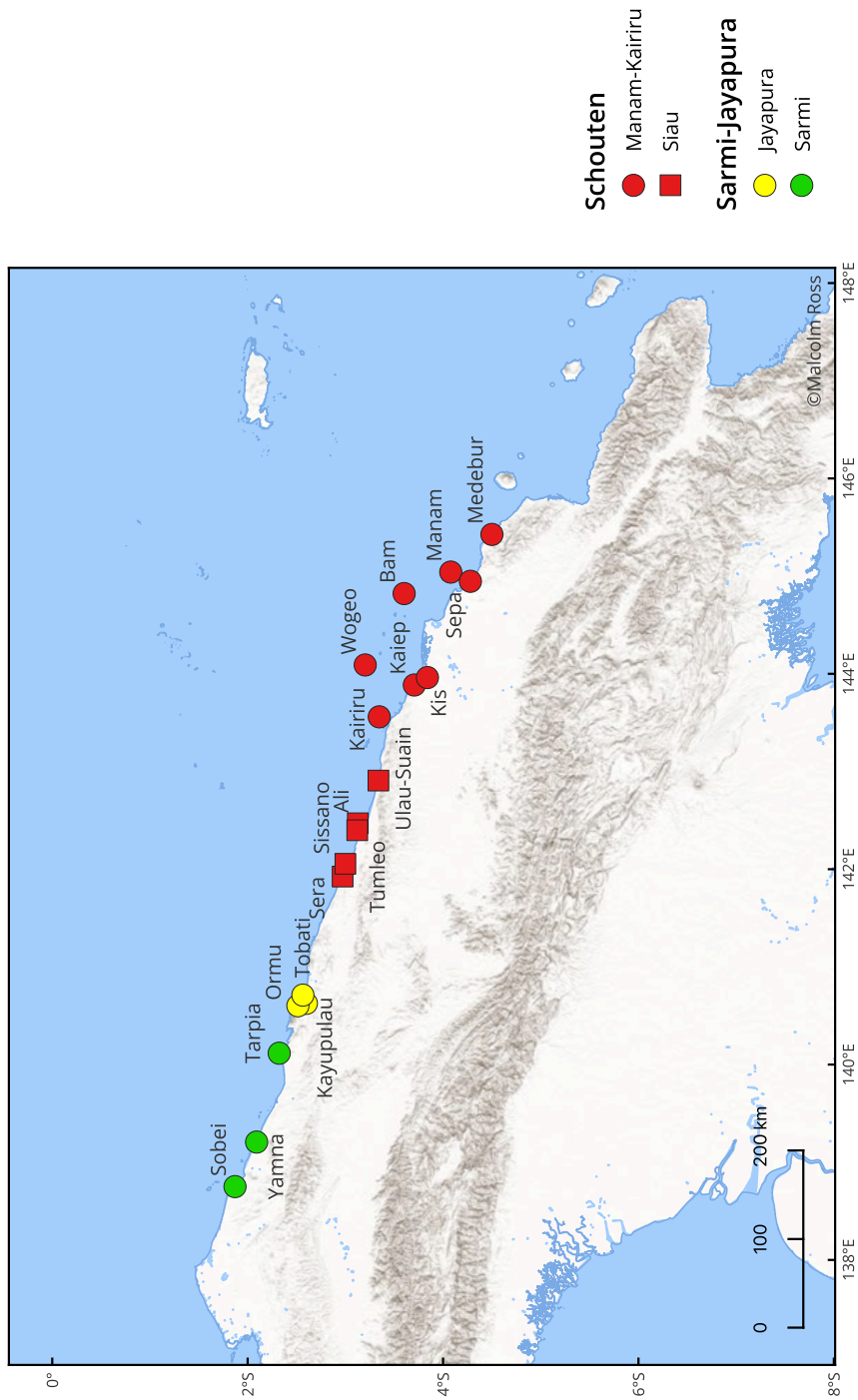


Map	Title
Map B.1	Admiralties and St Matthias Islands
Map B.2	Schouten (NNG) and Sarmi-Jayapura (possibly NNG)
Map B.3	The Ngero-Vitiaz linkage (NNG)
Map B.4	Huon Gulf (NNG)
Map B.5	Papuan Tip
Map B.6	New Britain and New Ireland (MM)
Map B.7	Northwest Solomonian linkage (MM)
Map B.8	Southeast Solomonian and Temotu
Map B.9	North Vanuatu
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Map B.12	Loyalty Islands and New Caledonia
Map B.13	Micronesian languages and Yapese
Map B.14	Fiji
Map B.15	Polynesia

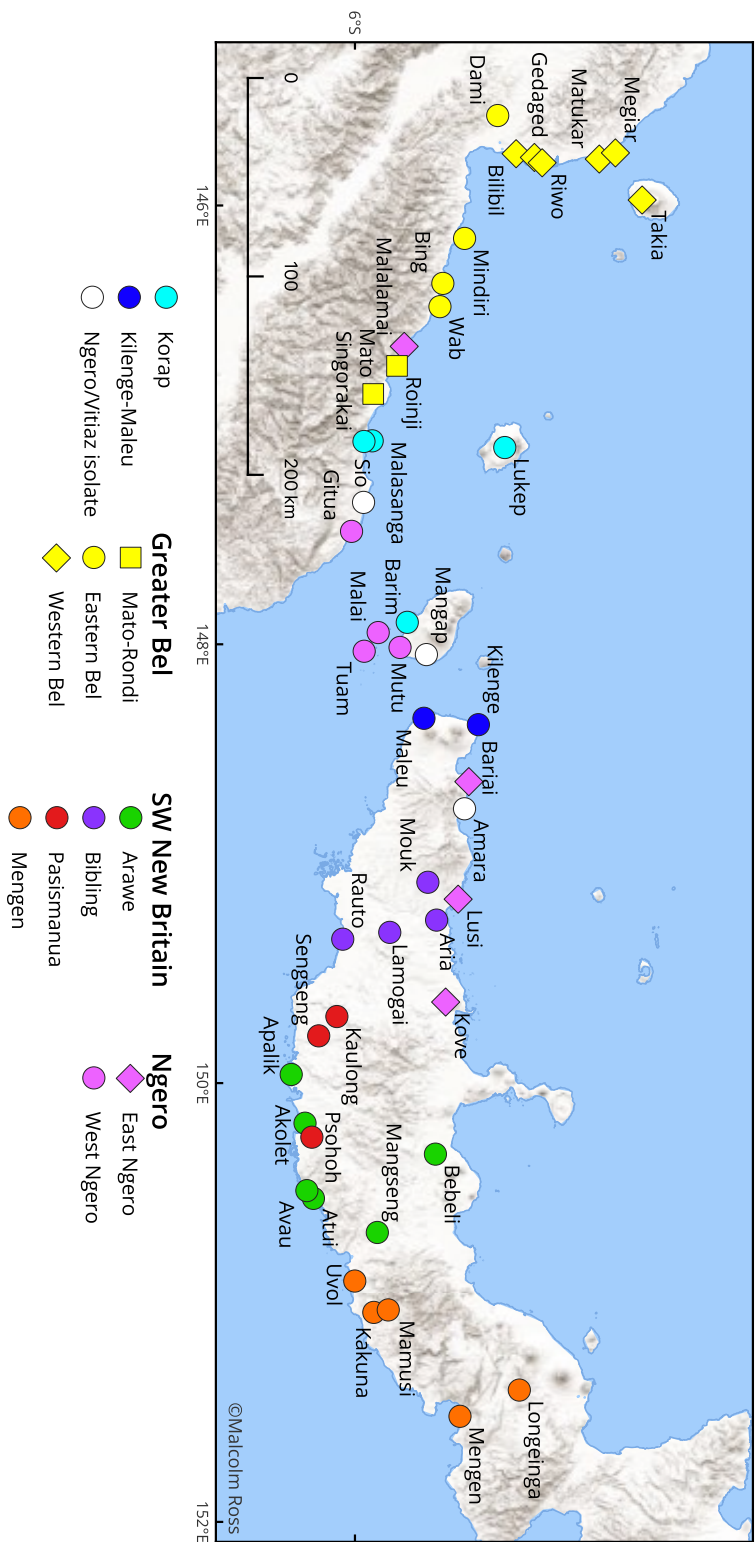
Index maps to the following pages



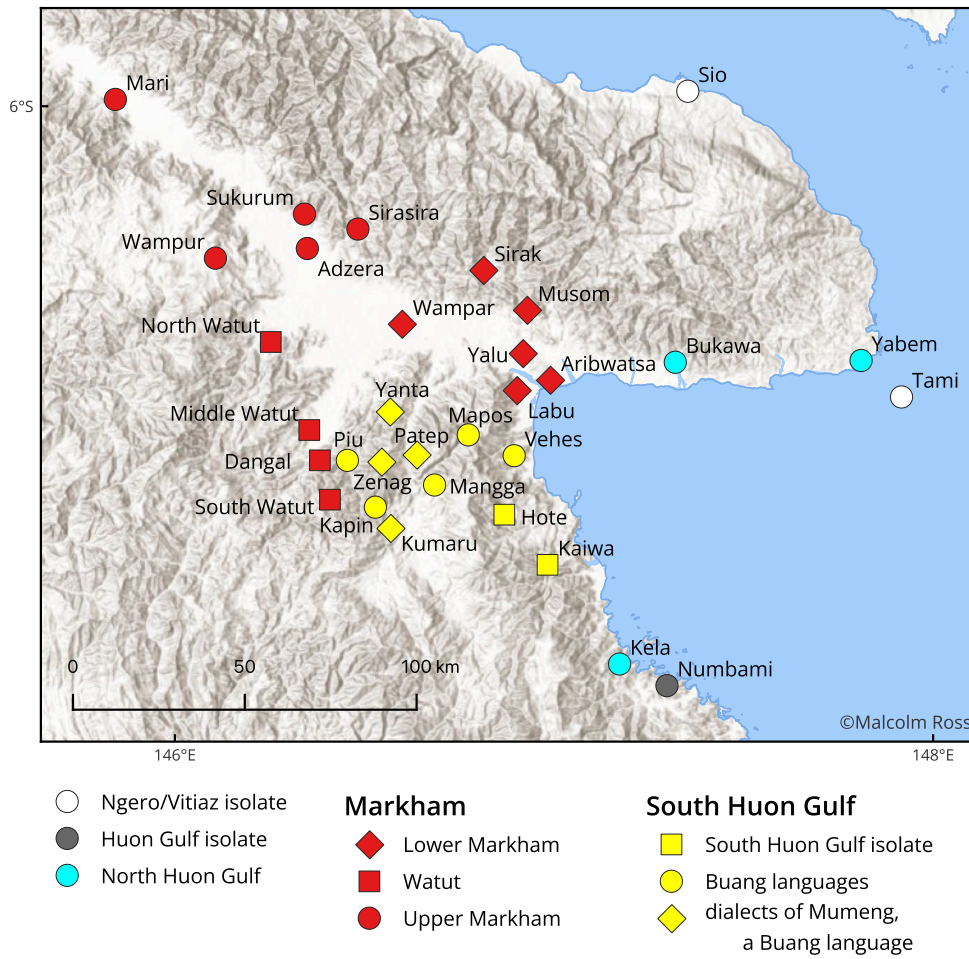
Map B.1 Admiralties and St Matthias Islands



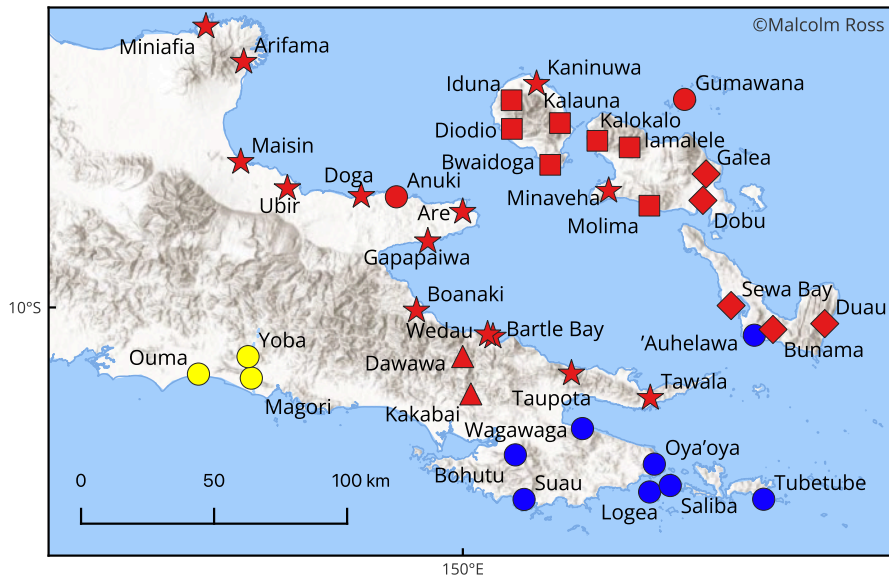
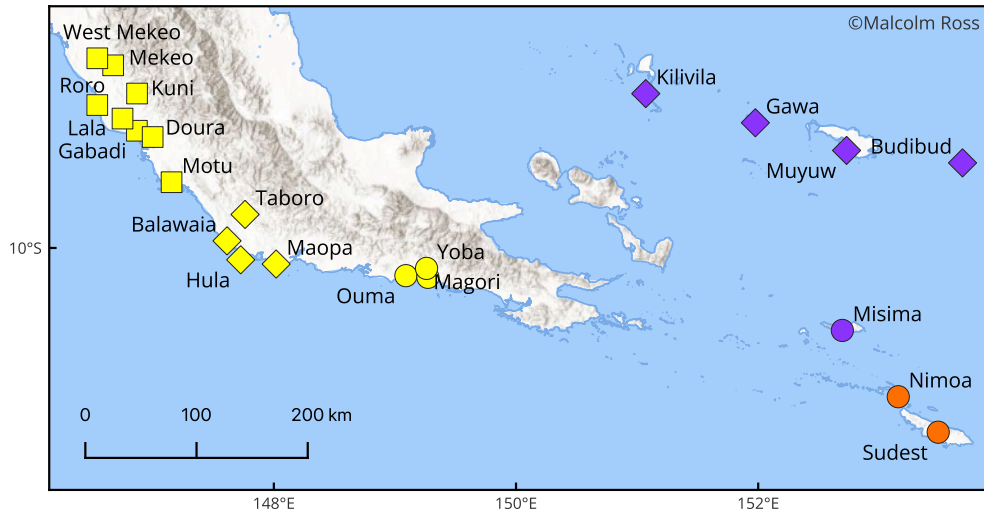
Map B.2 Schouten (NNG) and Sarmi-Jayapura (possibly NNG)



Map B.3 The Ngero-Vitiaz linkage (NNG)



Map B.4 Huon Gulf (NNG)



Central Papuan

- Ouma-Magori
- ◆ Sinaugoro-Keapara
- West Central Papuan

Kilivila-Misima

- ◆ Kilivila-Misima
- Misima

Nimoo-Sudest

- Nimoo-Sudest

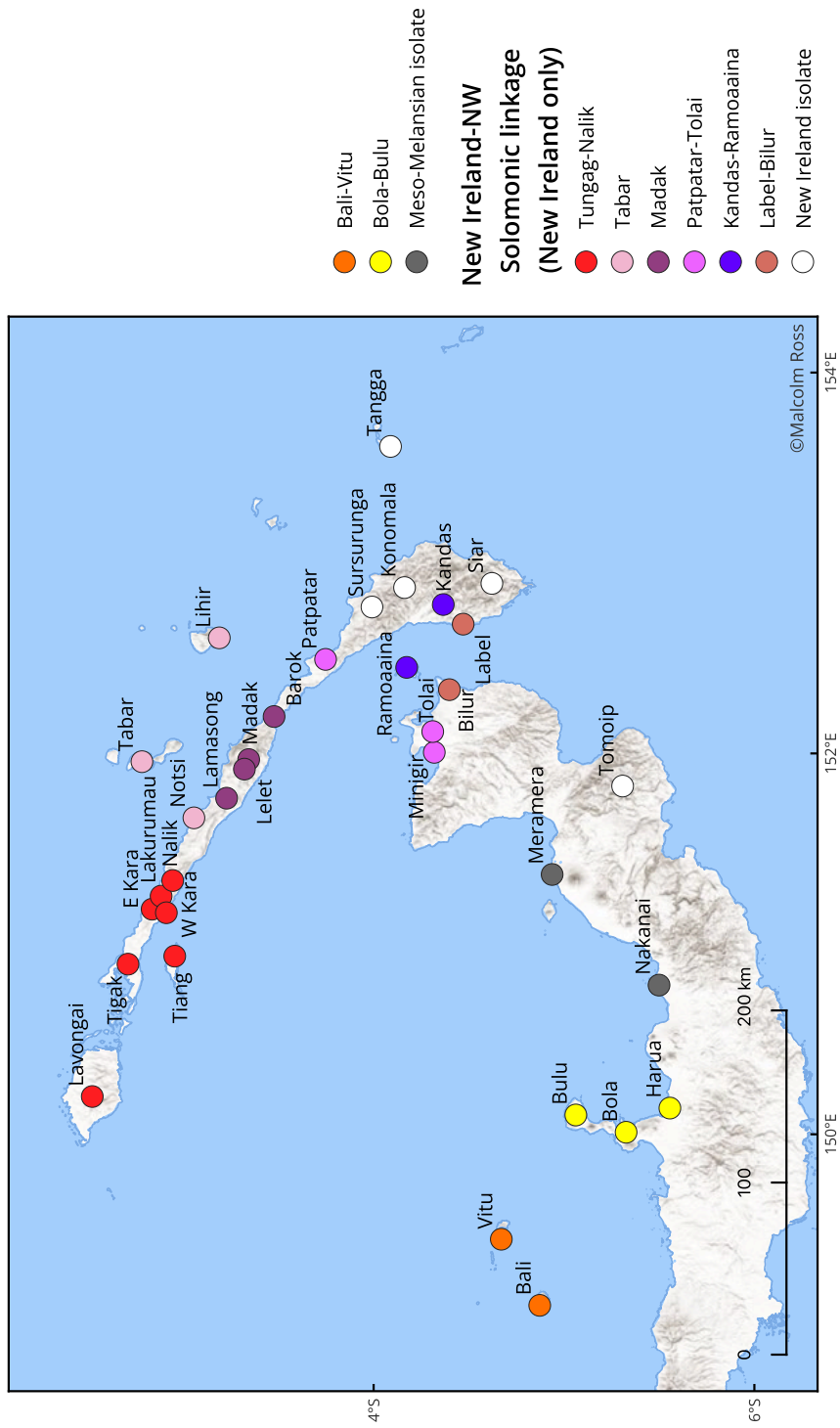
Suauic

- Suauic

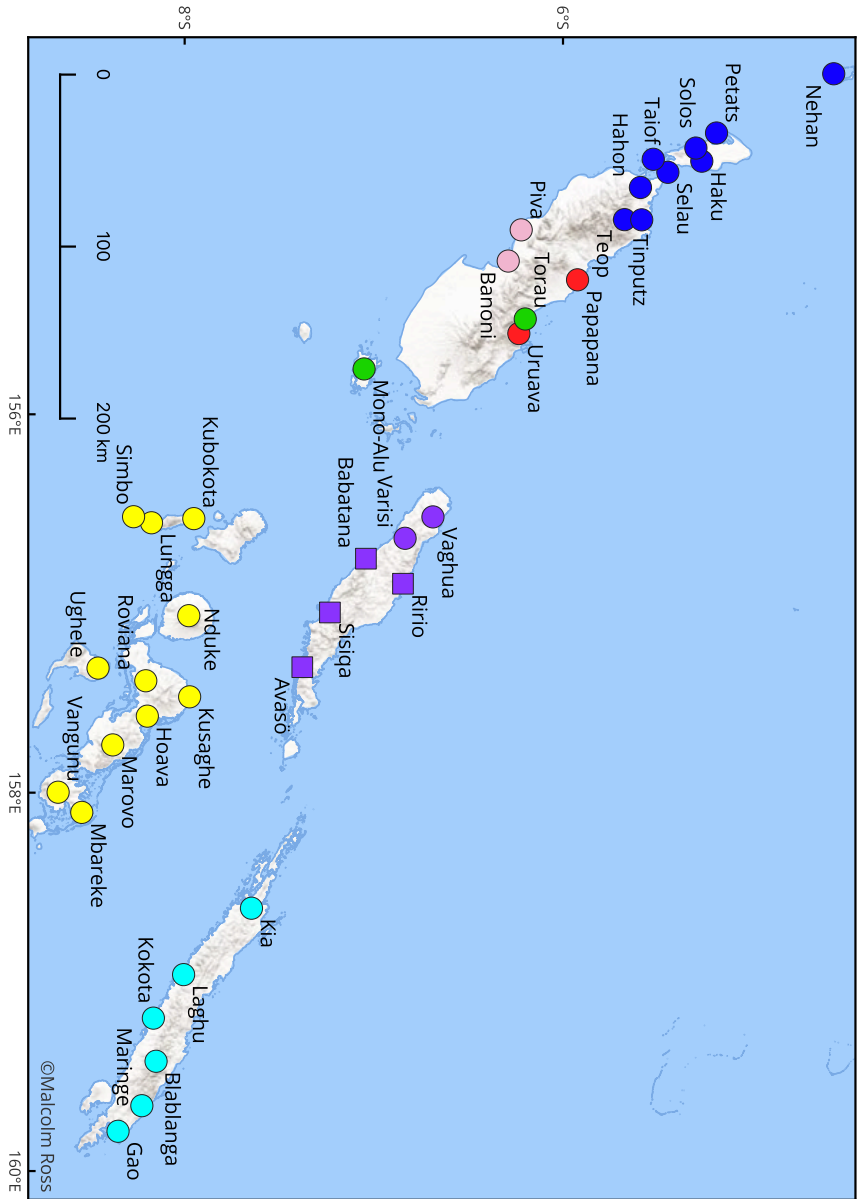
North Mainland and D'Entrecasteaux

- North Mainland and D'Entrecasteaux isolate
- ◆ Dobu-Duau
- Bwaidoga
- ▲ Kakabai-Dawawa
- ★ Are-Taupota

Map B.5 Papuan Tip

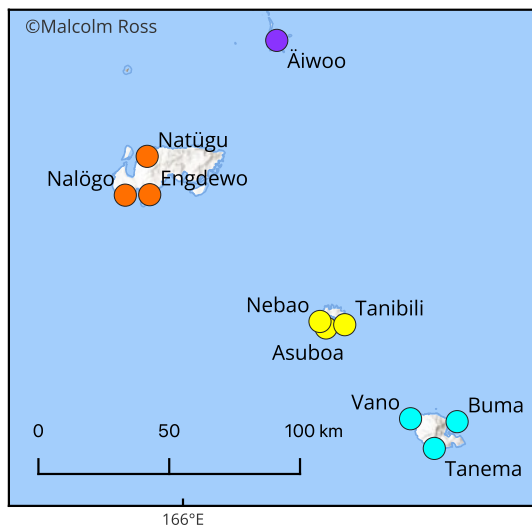
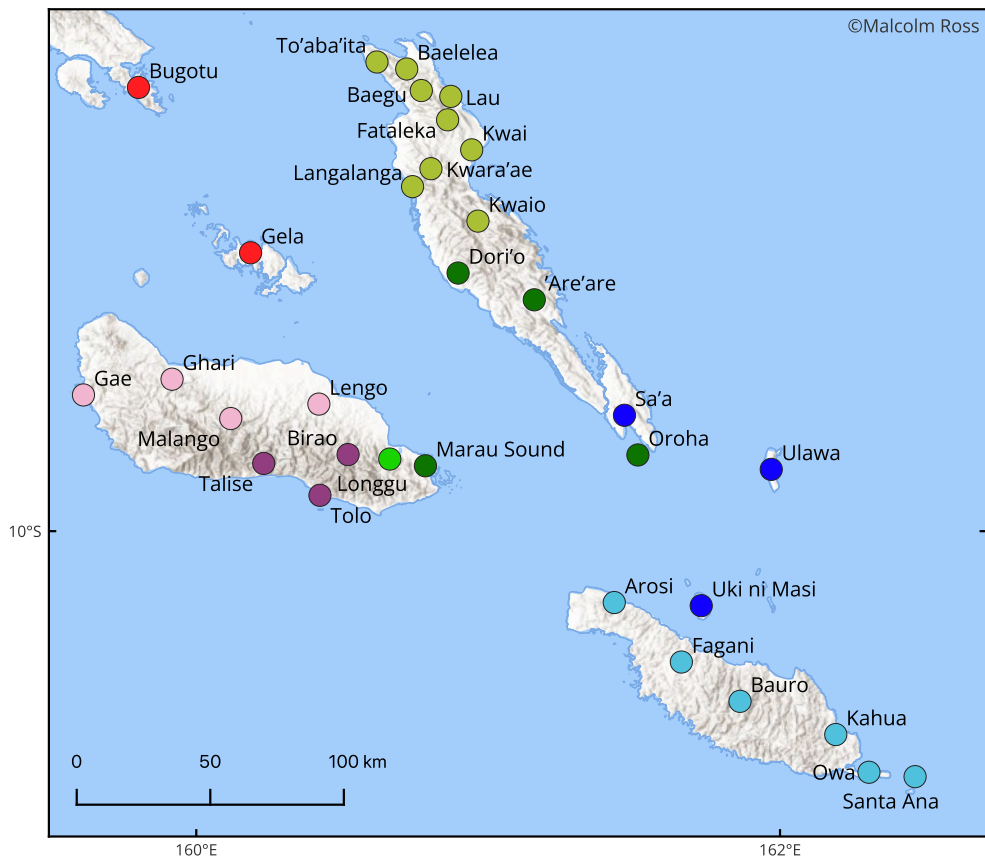


Map B.6 New Britain and New Ireland (MM)



NW Solomon linkage

- Nehan/North Bougainville
 - Papapana-Uruava
 - Piva-Banoni
 - Mono-Alu/Torau
 - Isabel
 - New Georgia
- Choiseul**
- West Choiseul
 - East Choiseul



Southeast Solomonic

Guadalcanal-Gelic

- Nggelic
- North and West Guadalcanal
- Southeast Guadalcanal

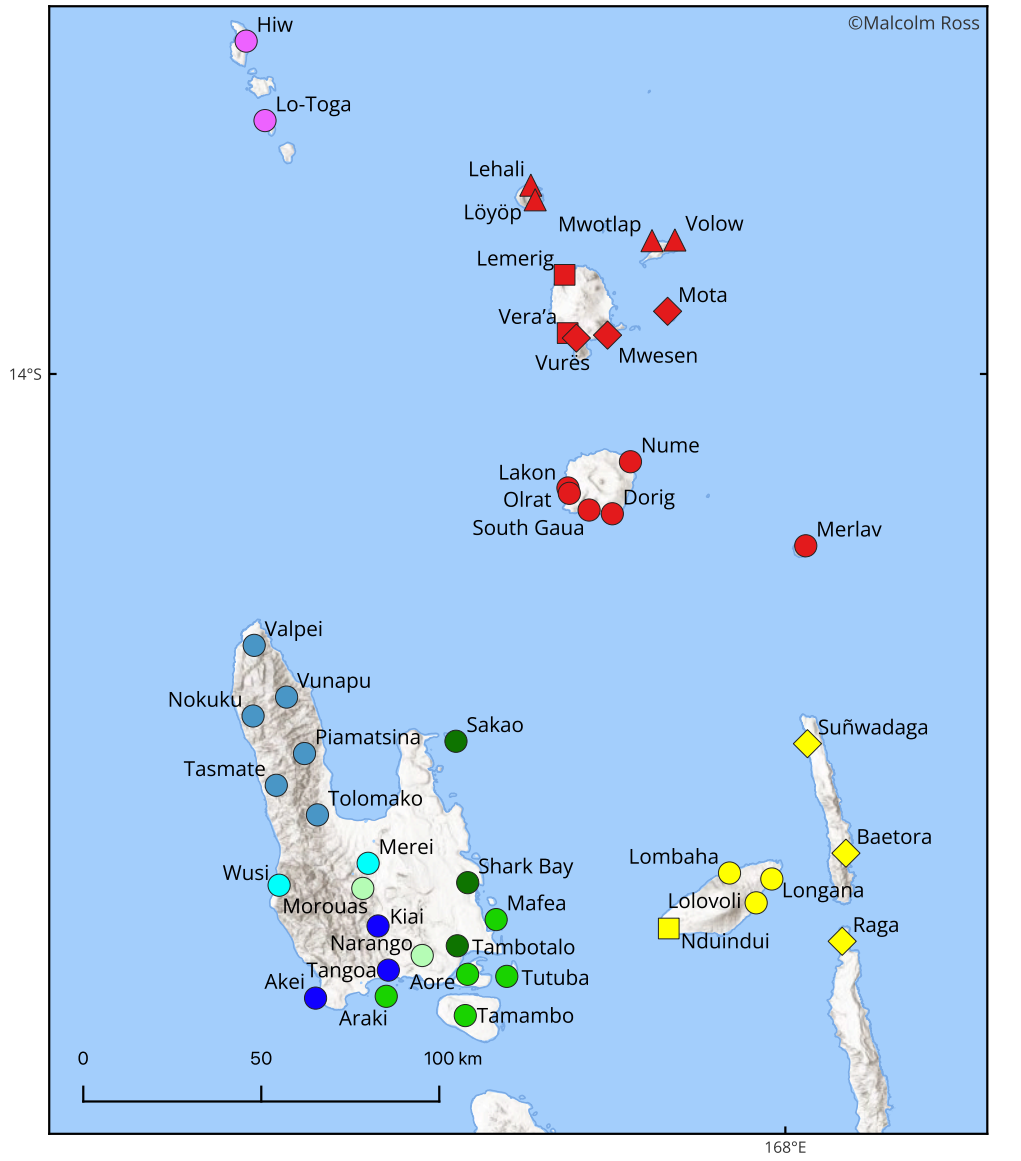
Malaita-Makira

- 'Are'are-Oroha
- Longgu
- Makira
- North and Central Malaita
- Sa'a-Ulawa

Temotu

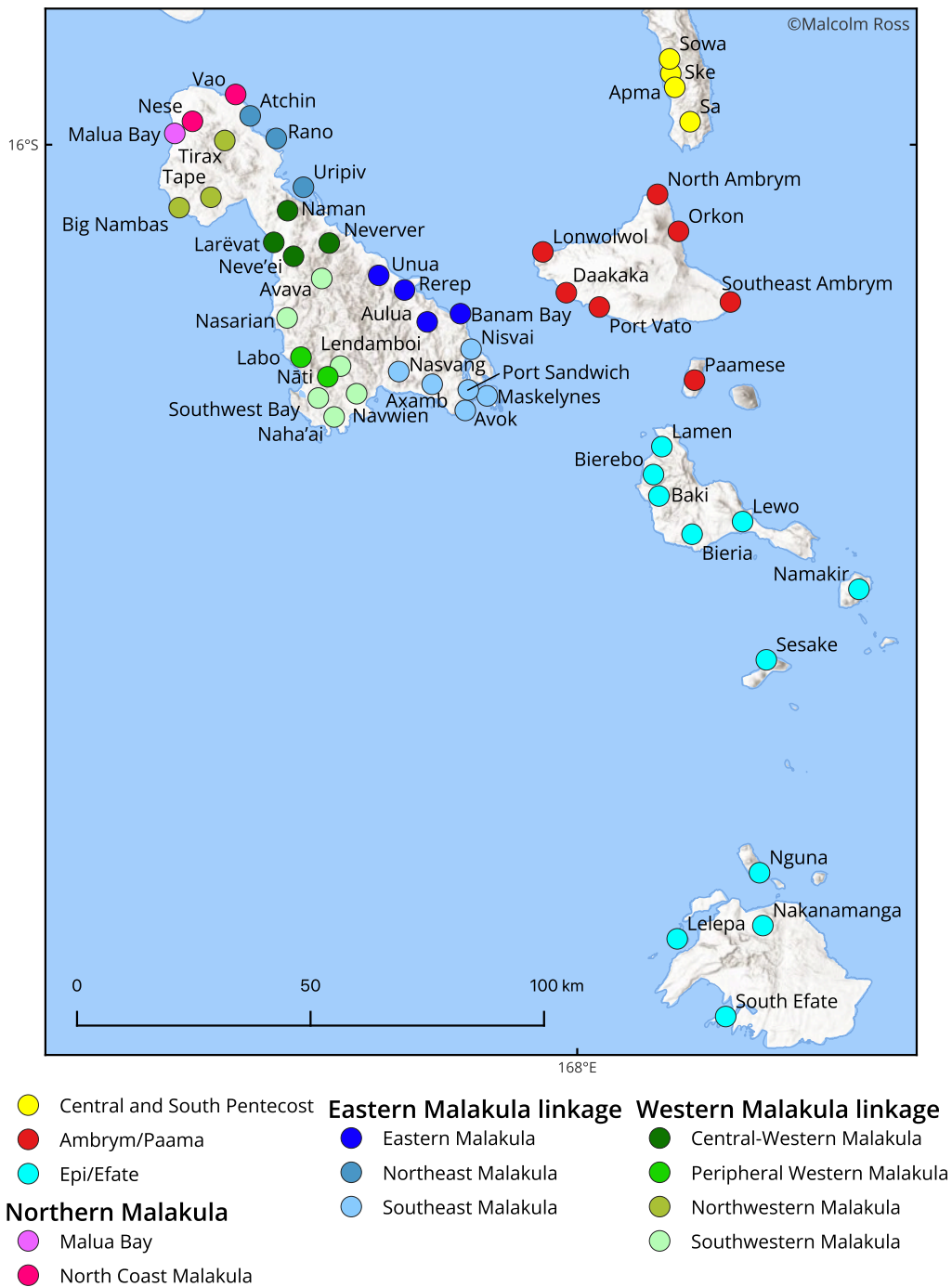
- Reefs
- Santa Cruz
- Utupua
- Vanikoro

Map B.8 Southeast Solomonic and Temotu

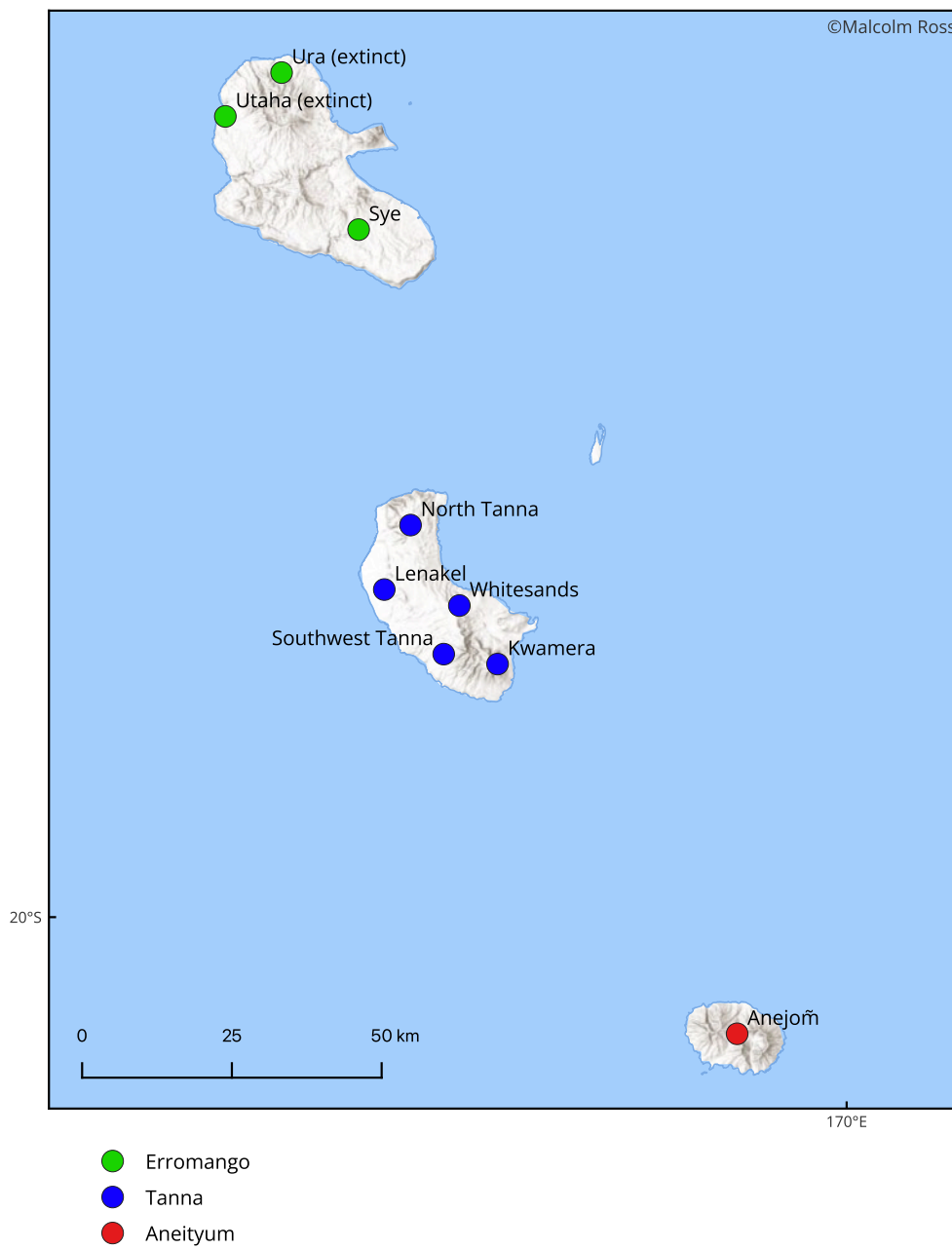


- | | | |
|------------------------------|-------------------------------|--------------------------------|
| ● Torres Islands | Espiritu Santo linkage | Ambae/Maewo/N Pentecost |
| Banks Islands linkage | ● Northwest Santo | ● Northeast Ambae |
| ▲ Northern Banks | ● West Santo | ■ West Ambae |
| ■ Western Banks | ● Southwest Santo | ◆ Maewo/North Pentecost |
| ◆ Central Banks | ● South Santo Interior | |
| ● Southern Banks | ● East Santo | |
| | ● Southeast Santo | |

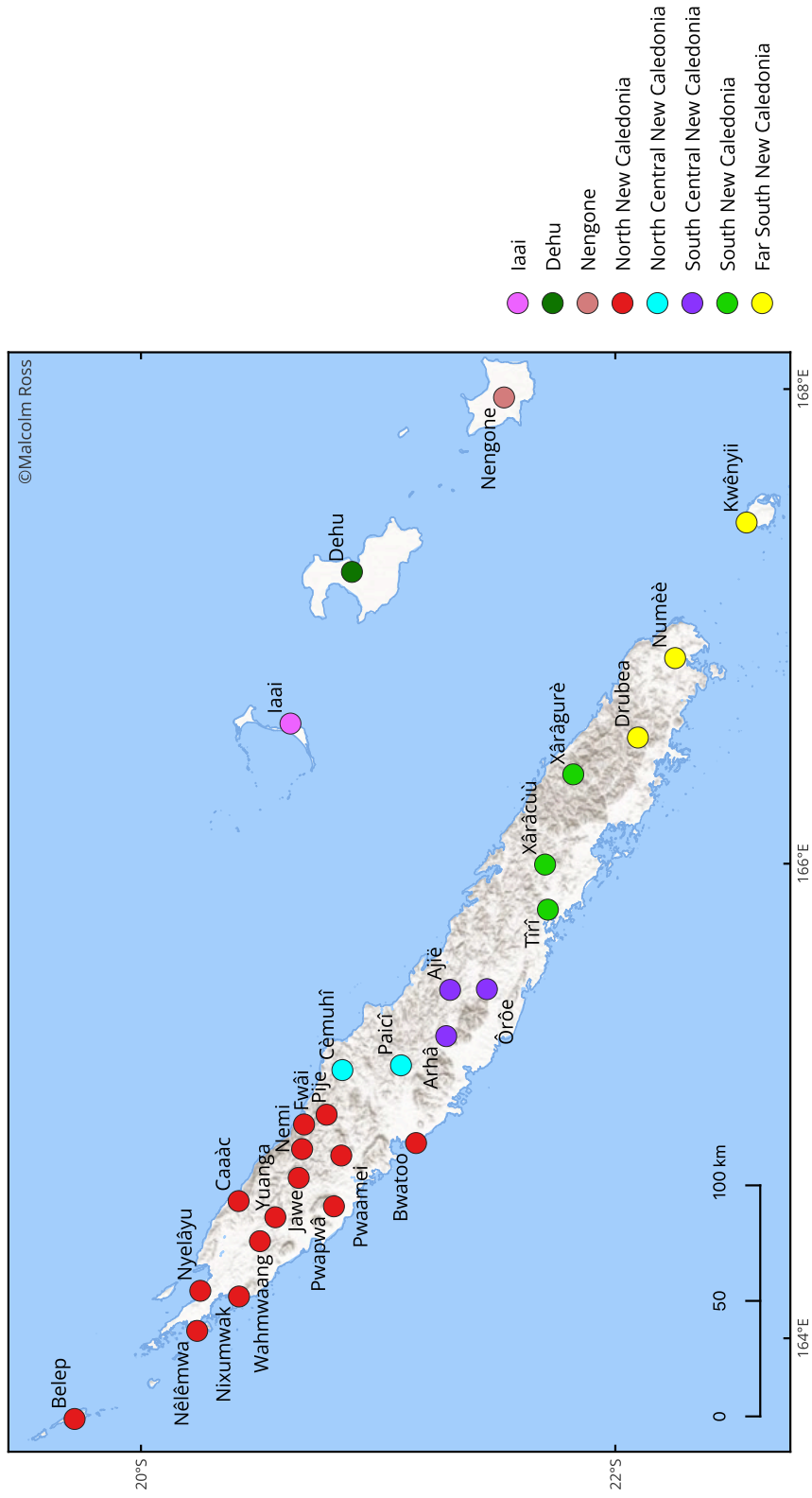
Map B.9 North Vanuatu



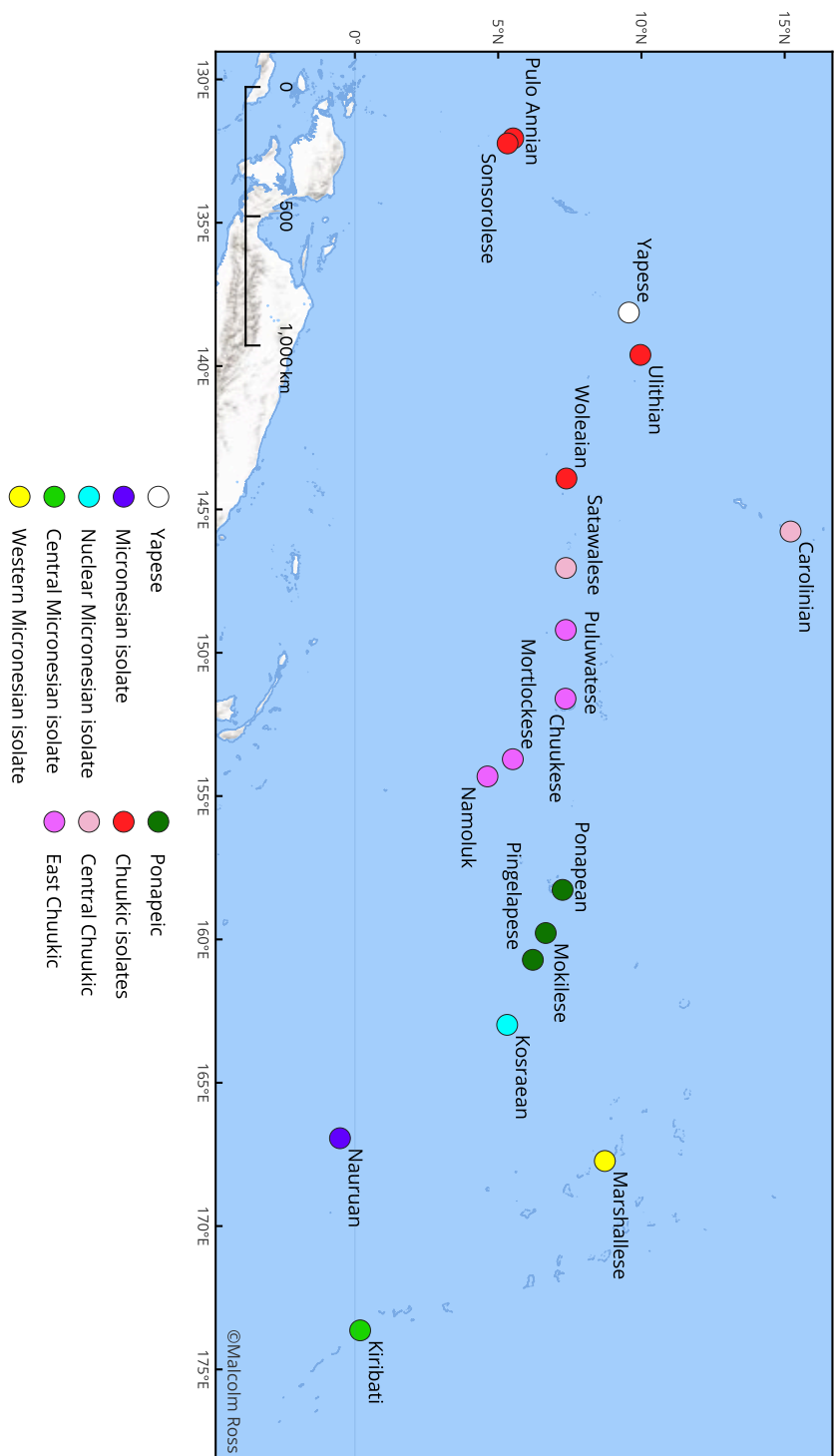
Map B.10 Central Vanuatu



Map B.11 South Vanuatu

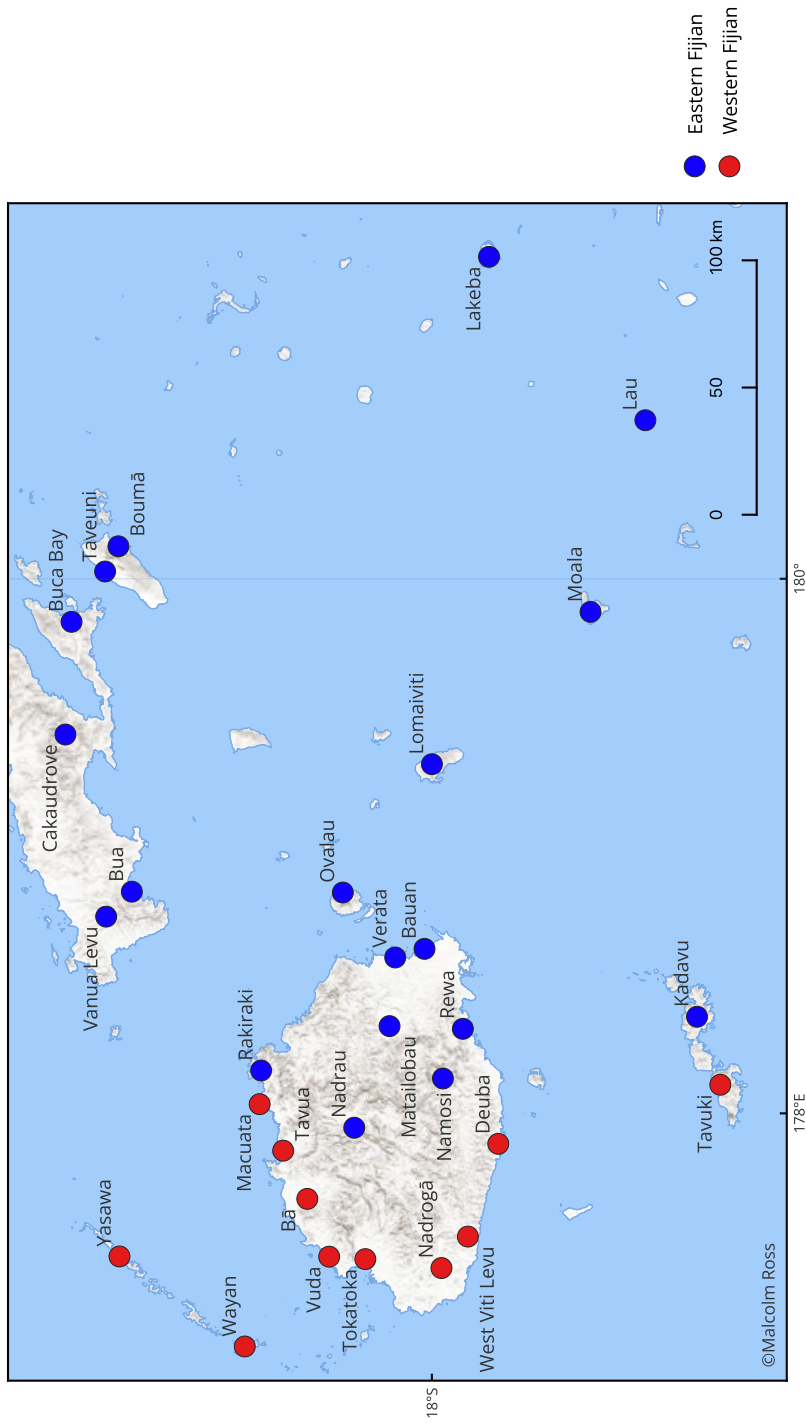


Map B.12 Loyalty Islands and New Caledonia

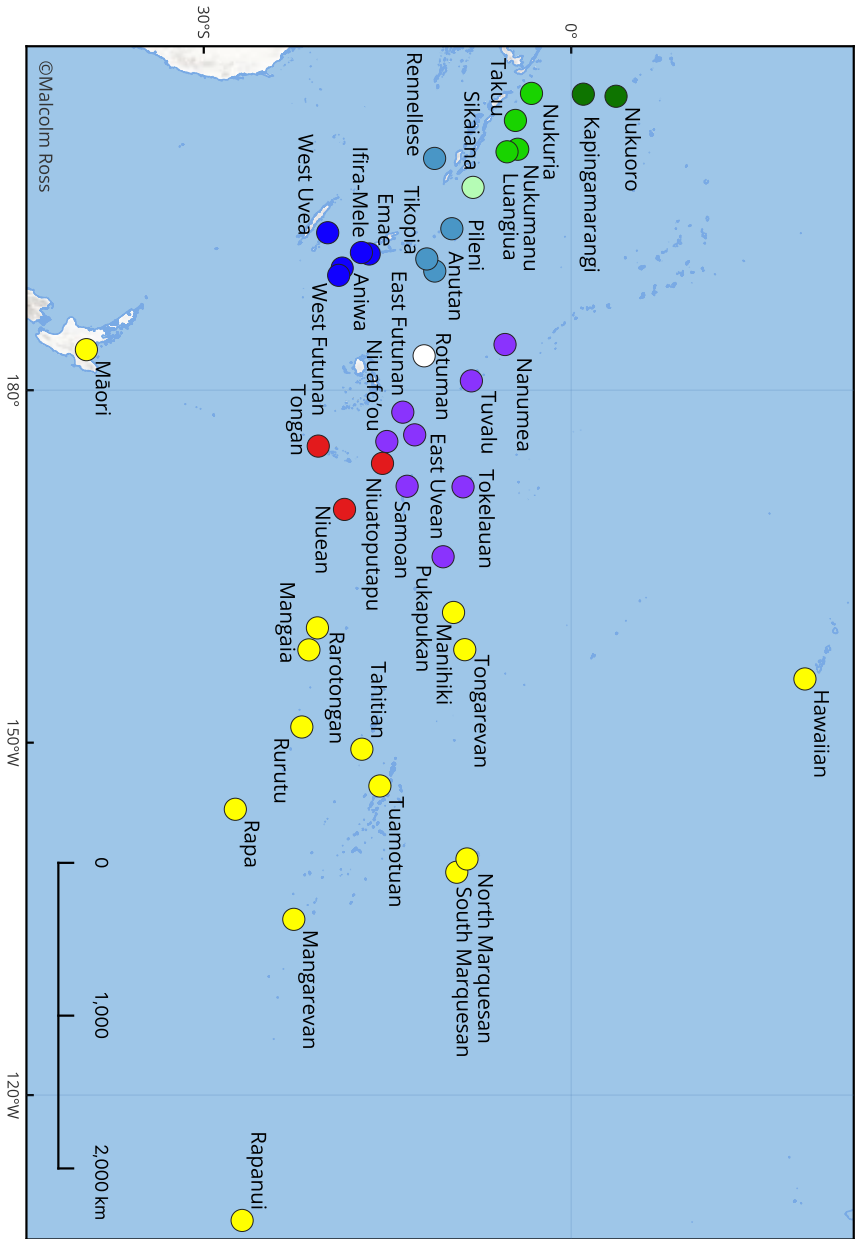


Map B.13 Micronesian languages and Yapese

B.6



Map B.14 Fiji



- Central Pacific isolate:
 - Rotuman
- Polynesian**
 - Tongic
- Nuclear Polynesian**
 - Nuclear Polynesian isolates
 - Vanuatu-Loyalties Outliers
 - South Solomons Outliers
 - Carolinian Outliers
 - Northern Solomons Outliers
 - Sikaiana
 - Eastern Polynesian

Map B.15 Polynesia

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B.7 ISO 639-3 codes, glottocodes and map locations

Glottolog’s authors (Hammarström et al. 2022) catalogue what they call ‘languoids’, i.e. dialects, languages and language groups, giving all languoids a glottocode, whereas Ethnologue (Eberhard et al. 2022) only gives ISO codes to what it authors consider to be languages. This means that Glottocodes exist for more languoids than do ISO codes. In a number of cases below, where a dialect has no ISO code of its own, the ISO code for the language to which it belongs is shown in parentheses. Very occasionally, a glottocode is parenthesised for the same reason. Where no appropriate code is to be found, the cell is left blank.

A number of Fijian “dialects” listed below have no a glottocode. They are labels used by ethnographers and others, and most are not listed in the glottolog.

language	glottocode	ISO	latitude	longitude
'Are'are	area124	alu	-9.21	161.16
'Auhelawa	auhe1237	kud	-10.10	151.00
Adzera	adze124	adz	-6.38	146.35
Äiwoo	ayiw1239	nfl	-10.28	166.33
Ajië	ajie1238	aji	-21.30	165.47
Akei	akei1237	tsr	-15.64	166.77
Akolet	akol1237	akt	-6.23	150.18
Ali	alii1241	(ykm)	-3.13	142.47
Amara	amar1272	aie	-5.50	148.75
Andra	andr1245	anx	-1.94	147.00
Anejoñ	anei1239	aty	-20.19	169.83
Aniwa	aniw1237	fut	-19.25	169.60
Anuki	anuk1239	au	-9.62	149.77
Anus	anus1237	auq	-2.26	139.50
Anutan	anut1237	aud	-11.61	169.85
Aore	aore1237	aor	-15.58	167.17
Apalik	apal1255	apo	-6.29	149.96
Apma	apma124	app	-15.86	168.19
Araki	arak1252	akr	-15.63	166.95
Are	aree1239	mwc	-9.67	150.00
Arhâ	arha1237	aqr	-21.29	165.27
Aria	tour1244	(mwh)	-5.63	149.26
Aribwatsa	arib1241	laz	-6.72	146.99
Arifama-Miniafia	arif1239	aai	-9.16	149.25
Arosi	aros1241	aia	-10.24	161.43
Asuboa	asum1237	aua	-11.30	166.50
Atchin	atch1238	(upv)	-15.94	167.34
Atui	geli1237	(let)	-6.19	150.52
Aua	auaa1241	(wuv)	-1.46	143.06
Aulua	aulu1238	aul	-16.36	167.70
Avasö	avas1237	(baa)	-7.38	157.34
Avau	avau1237	avb	-6.22	150.49
Avava	katb1237	tmb	-16.27	167.48
Avok	avok1244		-16.54	167.77
Axamb	axam1237	ahb	-16.48	167.71
Bā	(west2518)	(wyy)	-17.53	177.68
Babatana	baba1268	baa	-7.04	156.76
Baegu	baeg1237	bvd	-8.49	160.77
Baelelea	bael1237	bvc	-8.42	160.72
Baetora	baet1237	btr	-15.26	168.16
Baki	baki1244	bki	-16.71	168.17
Balawaia	bala137	(snc)	-9.94	147.61
Bali	unea1237	bbn	-4.87	149.10
Baluan	balu1257	blq	-2.56	147.29
Bam	biem1237	bmc	-3.60	144.82
Banam Bay	burm1263	vrt	-16.34	167.76
Banoni	bann1247	bcm	-6.29	155.19
Bariai	bari1286	bch	-5.48	148.63
Barim	karn1252	bbv	-5.76	147.90
Barok	baro1253	bjk	-3.48	152.19
Bartle Bay	(weda1241)	(wed)	-10.10	150.10
Bauan	fiji1243	fij	-17.97	178.62
Bauro	baur1252	bx	-10.58	161.86
Bebeli	bebe1252	bek	-5.63	150.32
Belep	nyal1254	yly	-19.72	163.66
Bierebo	bier1244	bnk	-16.67	168.15
Bieria	bier1246	brj	-16.79	168.23
Big Nambas	bign1238	nmb	-16.13	167.20
Bilibil	bilb1241	brz	-5.27	145.76
Bilur	bilu1244	bx	-4.40	152.33

Bing	awad1244	bcu	-5.60	146.36
Bipi	bipi1237	biq	-2.11	146.40
Birao	bira1254	brr	-9.74	160.52
Blablanga	blab1237	blp	-8.15	159.42
Boanaki	ghay1237	bmh	-10.01	149.84
Bohutu	buhu1237	bxh	-10.51	150.18
Bola	bola125	bnp	-5.33	150.01
Bongo	bong1287	bpg	-2.28	139.58
Boumā	(east2446)		-16.83	-179.88
Bua	(east2446)		-16.88	178.83
Buca Bay	(east2446)		-16.65	179.84
Budibud	budi1249	btp	-9.30	153.69
Bugotu	bugh1239	bgt	-8.48	159.80
Bukawa	buga125	buk	-6.68	147.32
Bulu	bulu1253	bjl	-5.06	150.10
Buma	tean1237	tkw	-11.68	166.87
Bunama	buna1276	bdd	-10.08	151.07
Bwaidoga	bwai1243	bwd	-9.51	150.30
Bwattoo	bwat124	bwa	-21.16	164.82
Caaàc	caac1237	msq	-20.41	164.58
Cakaudrove	(east2446)		-16.63	179.42
Carolinian	caro1242	cal	15.21	145.77
Cèmuhi	cemu1238	cam	-20.85	165.13
Chuukese	chuu1238	chk	7.35	151.60
Daakaka	daka1243	bpa	-16.30	167.98
Dami	mari1428	dad	-5.35	145.59
Dangal	dang1263	(mcy)	-6.93	146.38
Dawawa	dawa1242	dww	-10.17	150.00
Dehu	dehu1237	dhv	-20.89	167.23
Deuba	(west2518)	(bwb)	-18.25	177.89
Diodio	diod1237	ddi	-9.39	150.17
Dobu	dobu1241	dob	-9.63	150.83
Doga	doga1238	dgg	-9.62	149.65
Dori'o	dori1246	dor	-9.12	160.90
Dorig	weta1242	wwu	-14.37	167.55
Doura	tour1242	don	-9.08	147.00
Drehet	kheh1237	tlx	-2.07	146.75
Drubea	dumb1241	duf	-22.09	166.53
Duau	duau1237	dva	-10.06	151.24
E Futunan	east2447	fud	-14.28	-178.14
E Kara	east2453	leu	-2.84	151.18

E Uvean	wall1257	wls	-13.29	-176.21
Emae	emae1237	mmw	-17.05	168.40
Emira	emir1237	(emi)	-1.64	149.98
Engdewo	nang1262	ngr	-10.82	165.88
Ere	erec1241	twp	-2.16	147.08
Fagani	faga1239	faf	-10.45	161.66
Fataleka	fata1245	far	-8.59	160.86
Fwài	fwai1237	fwa	-20.69	164.90
Gabadi	abad1241	kbt	-9.03	146.87
Gae	gae1238	(gri)	-9.53	159.61
Galea	gale1257	gar	-9.54	150.84
Gao	gaoo1237	gga	-8.35	159.79
Gapapaiwa	gapa1238	pwg	-9.77	149.88
Gawa	? loug1237		-8.97	151.98
Gedaged	geda1237	gdd	-5.18	145.78
Gela	gela1263	nlg	-9.05	160.19
Ghari	ghar1239	gri	-9.48	159.92
Gitua	gitu1237	ggt	-6.02	147.49
Gumawana	guma1254	gvs	-9.28	150.76
Hahon	haho1237	hah	-5.59	154.80
Haku	hali1244	hla	-5.27	154.66
Harua	haru1243	(bnp)	-5.56	150.14
Hawaiian	hawa1245	haw	19.63	-155.43
Hiw	hiww1237	hiw	-13.13	166.58
Hoava	hoav1238	hoa	-8.20	157.60
Hote	hote1245	hot	-7.08	146.87
Hula	hula1239	hul	-10.10	147.73
Hus	andr1245	anx	-1.94	147.10
Iaai	iaai1238	iai	-20.63	166.59
Iamalele	iama1237	yml	-9.45	150.57
Iduna	idun1242	viv	-9.29	150.17
Ifira-Mele	mele125	mxe	-17.68	168.28
Jawe	jawe1237	jaz	-20.66	164.68
Kadavu	kada1285		-18.99	178.36
Kahua	kahu1241	agw	-10.70	162.19
Kaiep	kaie1237	kbw	-3.71	143.88
Kairiru	kair1263	kxa	-3.35	143.56
Kaiwa	iwal1237	kbn	-7.21	146.98
Kakabai	kaka1267	kqf	-10.30	150.03
Kakuna	mamu1254	kdf	-5.91	151.04
Kalauna	kala1387	(viv)	-9.37	150.33
Kalokalo	kolu1245	klx	-9.43	150.46

Kandas	kand131	kqw	-4.37	152.78
Kaniet	kani1282	ktk	-1.52	145.09
Kaninuwa	kani1281	wat	-9.23	150.25
Kapin	kapi125	tbx	-7.06	146.53
K'amarangi	kapi1249	kpg	1.04	154.80
Kaulong	kaul124	pss	-6.08	149.70
Kayupulau	kayu1243	kzu	-2.54	140.63
Kela	kela1255	kcl	-7.47	147.17
Kele	kele1258	sbc	-2.09	147.06
Kia	zaba1237	kji	-7.65	158.61
Kiai	fort124	firt	-15.45	166.93
Kilenge	kile1242	(mgl)	-5.44	148.37
Kilivila	kili1267	kij	-8.73	151.07
Kiribati	gilb1244	gil	0.18	173.64
Kis	kiss1246	kis	-3.84	143.96
Kokota	koko1269	kkk	-8.16	159.19
Konomala	kono1269	koa	-4.16	152.87
Kosraean	kosr1238	kos	5.31	162.98
Kove	kove1237	kvc	-5.59	149.63
Kubokota	kubo1244	ghn	-7.95	156.55
Kumaru	kuma1278	ksl	-7.11	146.57
Kuni	kuni1263	kse	-8.73	146.87
Kurti	kurt125	ktm	-2.01	147.04
Kusaghe	kusa1253	ksg	-7.97	157.49
Kwai	(wala1266)	(lgl)	-8.69	160.94
Kwaio	kwai1243	kwd	-8.94	160.97
Kwamera	kwam1252	tnk	-19.60	169.44
Kwara'ae	kwara1239	kwf	-8.76	160.80
Kwênyii	kwen1247	kdk	-22.55	167.44
Label	labe1239	lbb	-4.47	152.68
Labo	labo1244	mwi	-16.43	167.44
Labu	labu1248	lbu	-6.75	146.90
Laghu	lagh1246	lgb	-8.01	158.96
Lakeba	(east2446)		-18.21	-178.80
Lakon	lako1245	lkn	-14.30	167.43
Lakurumau	laku1238	lxm	-2.88	151.25
Lala	lala1268	nrz	-8.93	146.75
Lamasong	lamu1255	(lbv)	-3.23	151.76
Lamen	lame126	lmu	-16.61	168.17
Lamogai	lamo1244	lmg	-5.84	149.31
Langalanga	wala1266	(lgl)	-8.82	160.74
Larëvat	lare1249	lrv	-16.20	167.39
Lau	lauu1247	llu	-8.51	160.87

Lau	lauu1247	llu	-18.80	-179.41
Lavongai	tung129	lcm	-2.52	150.20
Lehali	leha1243	tql	-13.52	167.33
Leipon	leip1237	lek	-1.97	147.23
Lele	lele127	lle	-2.05	147.21
Lelepa	lele1267	lpa	-17.60	168.20
Lelet	lele1268	(mmx)	-3.32	151.92
Lemerig	leme1238	lrz	-13.74	167.42
Lenakel	lena1238	tnl	-19.48	169.26
Lendamboi	lete1242	nms	-16.45	167.52
Lengo	leng1259	lgr	-9.56	160.42
Lenkau	lenk1247	ler	-2.33	147.74
Lewo	lewo1242	lww	-16.76	168.33
Lihir	lihi1237	lih	-3.19	152.61
Likum	liku1243	lib	-2.16	146.70
Lo-Toga	loto124	lht	-13.33	166.63
Logea	loge1237	(sbe)	-10.63	150.64
Loh	(loto124)	(lht)	-13.34	166.63
Lolovoli	(east2443)	(omb)	-15.39	167.92
Lomaiviti	loma1261	lmv	-18.00	179.31
Lombaha	lomb1262	(omb)	-15.31	167.85
Longana	long1396	(omb)	-15.33	167.96
Longeinga	bush1249	(mee)	-5.25	151.40
Longgu	long1395	lgu	-9.75	160.66
Loniu	loni1238	los	-2.06	147.35
Lonwolwol	lonw1238	crc	-16.22	167.93
Lou	louu1245	loj	-2.39	147.35
Löyöp	leha1244	urr	-13.52	167.34
Luangiua	onto1237	ojv	-5.49	159.70
Lukep	arop1243	apr	-5.32	147.10
Lungga	lung1249	lga	-8.17	156.57
Lusi	lusi124	khl	-5.53	149.16
Macuata	(west2518)	(wyy)	-17.36	178.03
Madak	mada1285	mmx	-3.34	151.97
Mafea	mafe1237	mkv	-15.43	167.24
Magori	mago1248	zgr	-10.24	149.27
Maisin	mais125	mbq	-9.50	149.24
Malai	mala1488	(tuc)	-5.89	147.95
Malalamai	mala1489	mmt	-5.77	146.64
Malango	mala1484	mln	-9.61	160.12
Malasanga	mala1487	mqz	-5.92	147.07
Maleu	male129	(mgl)	-5.69	148.34
Malua Bay	malu1254	mll	-15.98	167.19

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Mamusi	mamu1254	kdf	-5.85	151.03
Manam	mana1295	mva	-4.08	145.04
Mangaia	mang142	(rar)	-21.92	-157.90
Mangap	mbul1263	mna	-5.67	148.05
Mangarevan	mang141	mrv	-23.11	-134.97
Mangga	mang144	mmo	-7.00	146.69
Mangseng	mang143	mbh	-5.90	150.68
Manihiki	raka1237	rkh	-10.03	-161.09
Maopa	maop1237	(khz)	-10.13	148.02
Māori	maor1246	mri	-38.29	176.54
Mapos Buang	mapo1242	bzh	-6.87	146.77
Marau Sound	mara1398	(alu)	-9.78	160.79
Mari	mari1429	hob	-5.98	145.84
Maringe	chek1238	mrm	-8.23	159.65
Marovo	maro1244	mvo	-8.38	157.75
Marshallese	mars1254	mah	8.72	167.73
Maskelynes	mask1242	klv	-16.51	167.82
Matailobau	(east2898)		-17.84	178.33
Mato	mato1252	met	-5.92	146.86
Matukar	matu1261	mjk	-4.89	145.79
Mbareke	bare1273	(mpr)	-8.54	158.10
Medebur	mede1237	mjm	-4.50	145.43
Megjar	megi1245	(tbc)	-4.81	145.76
Mekeo	meke1243	mek	-8.49	146.67
Mengen	meng1267	mee	-5.52	151.52
Meramera	mera1242	mxm	-4.94	151.36
Merei	mere1242	lmb	-15.28	166.91
Merlav	merl1237	mrm	-14.45	168.05
Middle Watut	midd1327	mpl	-6.85	146.35
Minaveha	mina1269	mvn	-9.60	150.50
Mindiri	mind1255	mpn	-5.50	146.15
Miniafia	mini1252	aai	-9.03	149.12
Minigir	mini1251	vmg	-4.32	152.01
Misima	misi1243	mpx	-10.68	152.70
Moala	(east2446)		-18.59	179.88
Mokilese	moki1238	mkj	6.66	159.78
Molima	moli1248	mox	-9.65	150.64
Mondropolon	mond1265	nnp	-2.01	146.93
Mono-Alu	mono1273	mte	-7.05	155.76
Morouas	moro1286	mrp	-15.35	166.89
Mortlockese	mort1237	mrl	5.51	153.71

Mota	mota1237	mtt	-13.84	167.69
Motu	motu1246	meu	-9.46	147.15
Mouk	mouk124	(mwh)	-5.67	149.08
Musom	muso1238	msu	-6.54	146.93
Mussau	muss1248	(emi)	-1.44	149.62
Mutu	mutu1242	tuc	-5.79	148.01
Muyuw	muyu1244	myw	-9.20	152.73
Mwesen			-13.90	167.53
Mwotlap	motl1237	mlv	-13.65	167.65
Nadrau	nadr1234		-17.71	177.95
Nadrogā	nadr1235		-18.04	177.42
Naha'ai	malf1237	mlx	-16.55	167.51
Nakanai	naka1262	nak	-5.50	150.78
Nakanamanga	nort2836	llp	-17.58	168.38
Nali	nali1245	nss	-2.14	147.20
Nalik	nali1244	nal	-2.94	151.33
Nalōgo	nalo1235	nlz	-10.83	165.80
Namakir	nama1268	nmk	-16.90	168.57
Naman	litz1237	lzl	-16.13	167.42
Namoluk	(mort1237)	(mrl)	4.62	154.31
Namosi	namo125		-18.04	178.13
Nanumea	nort2844	(tvl)	-5.66	176.10
Narango	nara1263	nrg	-15.53	167.05
Nasarian	nasa124	nvh	-16.35	167.41
Nasvang	nasv1234		-16.46	167.64
Nāti	nati1244		-16.47	167.50
Natūgu	natu1246	ntu	-10.69	165.87
Nauna	naun1237	ncn	-2.21	148.20
Nauruan	naur1243	nau	-0.53	166.94
Navwien	navw1234		-16.50	167.55
Nduindui	west2513	nnd	-15.46	167.69
Nduke	duke1237	nke	-7.98	157.06
Nebao	amba1266	utp	-11.30	166.50
Nehan	neha1247	nsn	-4.57	154.20
Nêlêmwa	nene125	(nee)	-20.24	164.03
Nemi	nemi124	nem	-20.68	164.80
Nengone	neng1238	nen	-21.53	167.96
Nese	nese1235		-15.95	167.22
Neve'ei	vinm1237	vnm	-16.23	167.43
Neverver	ling1265	lgk	-16.20	167.50
Nguna	ngun1274	(llp)	-17.47	168.37
Nimoa	nimo1246	nmw	-11.23	153.16
Nisvai	nisv1234		-16.41	167.79

Niuafono'u	niua124	num	-15.60	-175.64
Niuatopu-tapu	niua1241	nkp	-15.96	-173.78
Niuean	niue1239	niu	-19.06	-169.86
Nixumwak	nucl1483	(nee)	-20.41	164.18
Nokuku	noku1237	nkk	-14.90	166.60
N Ambrym	nort2839	mmg	-16.10	168.16
N Marquesan	nort2845	mrq	-8.89	-140.11
N Tanna	nort2847	tnn	-19.37	169.30
N Watut	nort2857	una	-6.62	146.25
Notsi	nots1237	ncf	-3.06	151.66
Nukumanu	nuku1258	nuq	-4.58	159.49
Nukuoro	nuku126	nkr	3.84	154.98
Nukuria	nuku1259	nur	-3.40	154.73
Numbami	numb1247	sij	-7.53	147.30
Nume	nume1241	tg	-14.23	167.59
Numèè	nume1242	kdk	-22.25	166.87
Nyelâyu	bala1316	yly	-20.25	164.20
Nyindrou	nyin125	lid	-2.11	146.63
Oirat	olra1234	olr	-14.31	167.43
Orkon	orko1234	fnb	-16.17	168.20
Ormu	ormu1248	orz	-2.51	140.60
Ôrôe	orow1242	bpk	-21.46	165.47
Oroha	oroh1237	ora	-9.74	161.51
Ouma	ouma1237	oum	-10.23	149.09
Ovalau	(east2446)		-17.67	178.83
Owa	owaa1237	stn	-10.83	162.30
Oya'oya	oyao1237	oyy	-10.54	150.66
Paamese	paam1238	pma	-16.48	168.24
Paicî	paic1239	pri	-21.10	165.15
Pak	pakk1242	(pkg)	-2.08	147.63
Papapana	papa1265	ppn	-5.92	155.29
Papitalai	papi1254	pat	-2.06	147.42
Patep	pate1247	ptp	-6.92	146.64
Patpatar	patp1243	gfk	-3.75	152.49
Penchal	penc1239	pek	-2.30	147.81
Petats	peta1245	pex	-5.19	154.51
Piamatsina	piam1242	ptr	-15.00	166.74
Pije	pije1237	piz	-20.78	164.94
Pileni	pile1238	piv	-10.17	166.25
Pingelapese	ping1243	pif	6.21	160.71
Piu	piuu1237	pix	-6.93	146.46
Piva	lawu1237	tgi	-6.22	155.02
Ponam	pona125	ncc	-1.92	146.89
Ponapean	pona1249	pon	7.25	158.27
Pt Sandwich	port1285	psw	-16.50	167.78
Port Vato	port1286	ptv	-16.33	168.04
Psohoh	apso1237	aix	-6.20	150.25
Pukapukan	puka1242	pkp	-10.91	-165.83
Pulo Annian	pulo124	(sov)	5.52	132.05
Puluwatese	pulu1242	puw	7.36	149.20
Pwaamei	pwaa1237	pme	-20.84	164.77
Pwapwâ	pwap1237	pop	-20.81	164.56
Raga	hano1246	lml	-15.49	168.15
Rakiraki	(east2446)		-17.36	178.16
Ramoaina	ramo1244	rai	-4.17	152.45
Rano	(wala1267)	(upv)	-15.99	167.39
Rapa	oldr1239	ray	-27.63	-144.34
Rapanui	rapa1244	rap	-27.11	-109.34
Rarotongan	raro1242	rar	-21.24	-159.78
Rauto	puli1237	(lmg)	-6.06	149.34
Rennellese,	renn1242	mnv	-11.62	160.27
Rerep	rere124	pgk	-16.29	167.65
Rewa	(east2446)		-18.12	178.32
Ririo	riri1237	rri	-6.85	156.90
Riwo	(geda1237)	(gdd)	-5.15	145.81
Roinji	(geda1237)	roe	-5.81	146.73
Roro	roro1238	rro	-8.82	146.54
Rotuman	rotu1241	rtm	-12.50	177.07
Roviana	rovi1238	rug	-8.20	157.41
Rurutu	ruru1237	(aut)	-22.48	-151.34
Sa	saaa1241	sax	-15.95	168.23
Sa'a	saaa124	apb	-9.60	161.47
Sakao	port1296	sku	-14.96	167.14
Saliba	sali1295	sbe	-10.61	150.71
Samoan	samo135	smo	-13.92	-171.83
Santa Ana	sant1414	(stn)	-10.84	162.46
Satawalese	sata1237	stw	7.36	147.04
Seimat	seim1238	ssg	-1.27	144.25
Selau	sela1258	(hla)	-5.45	154.72
Sengseng	seng1281	ssz	-6.16	149.78

Sepa	sepa1243	spe	-4.28	144.95
Sera	sera126	sry	-2.97	141.92
Sesake	sesa1243	(llp)	-17.04	168.38
Sewa Bay	sewa1251	sew	-9.99	150.92
Shark Bay	lore1244	lnn	-15.33	167.17
Siar	siar1238	sjr	-4.62	152.89
Sikaiana	sika1261	sky	-8.38	162.73
Simbo	simb1256	sbb	-8.27	156.54
Singorakai	sing1268	(mqz)	-5.96	147.08
Sio	sioo124	xsi	-5.96	147.35
Sirak	nafi1237	srf	-6.43	146.82
Sirasira	sara1323	zsa	-6.32	146.48
Sisiqa	sisi125	(baa)	-7.23	157.05
Sissano	siss1243	sso	-3.00	142.05
Ske	seke1241	ske	-15.88	168.20
Sobei	sobe1238	sob	-1.87	138.75
Solos	solo1257	sol	-5.30	154.59
Sonsorolese	sons1242	sov	5.33	132.22
Sori-Harengan	sori1242	sbh	-1.98	146.64
S Efate	sout2856	erk	-17.76	168.30
S Gaua	koro1318	krf	-14.36	167.48
S Marquesan	sout2866	mqm	-9.76	-138.9 8
S Watut	sout2877	mcy	-7.04	146.41
SE Ambrym	sout2859	tvk	-16.32	168.31
SW Bay	sout2857	sns	-16.51	167.48
SW Tanna	sout2869	nwi	-19.58	169.36
Sowa	sowa1244	sww	-15.83	168.19
Suau	suau1242	swp	-10.66	150.21
Sudest	sude1239	tgo	-11.52	153.49
Sukurum	suku1264	zsu	-6.28	146.34
Suñwadaga	mari1426	mrb	-14.97	168.06
Sursurunga	surs1246	sgz	-3.99	152.77
Sye	siee1239	erg	-18.90	169.22
Tabar	mand144	tbf	-2.78	151.96
Taboro	tabo124	(snc)	-9.72	147.76
Tahitian	tahi1242	tah	-17.65	-149.4 5
Taiof	taio124	(sps)	-5.52	154.65
Takia	taki1248	tbc	-4.69	145.98
Takuu	taku1257	nho	-4.77	157.03
Talise	tali1259	tlr	-9.77	160.23
Tamambo	malo1243	mla	-15.68	167.16
Tambotalo	tamb1253	tls	-15.50	167.14

Tami	tami129	tmy	-6.77	147.92
Tanema	tane1237	tnx	-11.68	166.97
Tangga	tang1348	tgg	-4.09	153.61
Tangoa	tang1347	tgp	-15.56	166.96
Tanibili	tani1255	tbe	-11.30	166.51
Tape	mara1399	mrs	-16.11	167.26
Tarpia	tarpi124	tpf	-2.32	140.12
Tasmate	tasm1246	tmt	-15.08	166.66
Taupota	taup1242	tpa	-10.23	150.37
Taveuni	(fiji1243)	fij	-16.88	-179.9 3
Tavua	(nuc1487)		-17.44	177.86
Tavuki	(west2518)	(wyy)	-19.08	178.11
Tawala	tawa1275	tbo	-10.31	150.64
Tenis	teni1244	tns	-1.65	150.67
Teop	teop1238	tio	-5.67	154.97
Tiang	tian1237	tbj	-2.96	150.94
Tigak	tiga1245	tgc	-2.71	150.89
Tikopia	tiko1237	tkp	-12.28	168.82
Tinputz	tinp1237	tpz	-5.58	154.97
Tirax	maee1241	mme	-15.99	167.29
Tirī	tiri1261	cir	-21.72	165.81
Titan	tita1241	ttv	-2.18	146.89
To'aba'ita	toab1237	mly	-8.39	160.62
Tobati	toba1266	tti	-2.56	140.71
Tokatoka	(west2518)	(wyy)	-17.75	177.45
Tokelauan	toke124	tkl	-9.23	-171.7 8
Tolai	kuan1248	ksd	-4.31	152.11
Tolo	tolo1254	(tlr)	-9.88	160.42
Tolomako	tolo1255	tlm	-15.16	166.77
Tomoip	tomo1244	tqp	-5.31	151.83
Tongan	tong1325	ton	-21.17	-175.2 5
Tongarevan	penr1237	pnh	-9.08	-157.9 2
Torau	tora1259	ttu	-6.20	155.50
Tuam	tuam1243	tuc	-5.96	148.03
Tuamotuan	tuam1242	pmt	-16.17	-146.3 2
Tubetube	bwan1241	tte	-10.66	151.03
Tulu-Bohuai	tulu1259	rak	-2.14	146.93
Tumleo	tuml1238	tmq	-3.12	142.40
Tutuba	tutu1241	tmi	-15.58	167.27

Tuvalu	tuva1244	tvl	-8.52	179.20
Ubir	ubir1237	ubr	-9.59	149.40
Ughele	ughe1237	uge	-8.46	157.34
Uki ni Masi	ukin1237	(apb)	-10.25	161.73
Ulau-Suain	ulau1237	svb	-3.34	142.91
Ulawa	ulaw1237	(apb)	-9.79	161.97
Ulithian	ulit1238	uli	9.96	139.60
Unua	unua1237	onu	-16.26	167.60
Ura	urav1235	uur	-18.65	169.10
Uripiv	urip124	(upv)	-16.09	167.45
Uruava	urua1242	urv	-6.23	155.57
Utaha	ifoo1237	iff	-18.72	169.01
Uvol	lote1237	uvl	-6.00	150.90
Vaghua	vagh1249	tva	-6.69	156.54
Valpei	valp1237	vlp	-14.71	166.61
Vangunu	vang1243	mpr	-8.67	158.00
Vano	vano1237	vnk	-11.61	166.80
Vanua Levu	nucl1825		-16.78	178.74
Vao	vaoo1237	vao	-15.90	167.31
Varisi	vari1239	vrs	-6.83	156.66
Vehes	vehe1237	val	-6.92	146.90
Vera'a	vera1241	vra	-13.89	167.43
Verata	(east2898)		-17.86	178.58
Vitu	mudu1242	wiv	-4.67	149.45
Volow	volo1238	(mlv)	-13.65	167.71
Vuda	(west2518)	(wyy)	-17.62	177.46
Vunapu	vuna1239	vnp	-14.85	166.69
Vurës	vure1239	msn	-13.91	167.45
Wab	wabb1237	wab	-5.61	146.46
Wagawaga	waga1268	wgb	-10.42	150.41
Wahmwaang	waam1236	wmn	-20.50	164.41
Wala	wala1267	(upv)	15.98	167.38
Wampar	wamp1247	lbq	-6.58	146.60
Wampur	wamp1248	waz	-6.40	146.11
Wayan	waya1268	(wyy)	-17.30	177.13
Wedau	weda1241	wed	-10.09	150.08
W Futunan	futu1245	fut	-19.53	170.22
W Kara	west2524	(leu)	2.91	151.16
W Mekeo	west2528	(mek)	-8.43	146.54
W Uvea	west2516	uve	-20.41	166.59
W Viti Levu	(west2518)	(wyy)	-18.13	177.54
Whitesands	whit1269	tnp	-19.50	169.38
Wogeo	woge1237	woc	-3.20	144.09
Woleaian	wole124	woe	7.38	143.92

Wusi	wusi1237	wsi	-15.34	166.67
Wuvulu	wuvu124	wuv	-1.74	142.85
Xârâcùù	xara1244	ane	-21.70	166.00
Xârâgurè	xara1243	axx	-21.82	166.38
Yabem	yabe1254	jae	-6.67	147.81
Yalu	arib124	ylu	-6.65	146.92
Yamna	yamn1237	ymn	-2.09	139.21
Yanta	yant1237	(goc)	-6.81	146.57
Yapese	yape1248	yap	9.56	138.13
Yasawa	(waya1268)	(wyy)	-16.83	177.46
Yoba	yoba1237	yob	-10.17	149.26
Yuanga	yuag1237	nua	-20.57	164.51
Zenag	zena1237	zeg	-6.94	146.55

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Index of reconstructions by protolanguage

Protolanguages are ordered from the top of the Austronesian tree downward, but with all branches of Western Oceanic before Eastern Oceanic: see Figures 1.1 and 1.5 (pp.11, 28).

In alphabetising reconstructions, an upper-case character follows the corresponding lower-case character (thus *R* follows *r*); *y* follows *g*; *ñ* follows *n*; *ŋ* follows *ñ*; the digraph *dr* follows *d*; a superscripted character is treated like the corresponding unsuperscripted character; and macrons, parentheses and brackets are ignored. Because reconstructions that contain brackets represent two or more alternative reconstructions (for bracketing conventions see Table 1.1), where the alternatives would appear at different points in the index, they are spelt out as alternative reconstructions and appear at the appropriate point in alphabetical order. Thus POC **[bu]bui*, ‘grandparent, grandchild’ occurs at two points in the index, as **bubui* and as **bui*, and PAN **qaL(i,u)Cu* ‘ghost, spirit of the dead; owl’ as **qaLiCu* and **qaLuCu*.

Verbs with intransitive and transitive forms are often shown with both forms in a single entry. Thus POC **butu*, **butuR-i-* ‘stamp foot, tread, kick’, ‘stamp on, tread on, trample’ or POC **panaq*, **panaq-i-* ‘shoot’.

Reconstructed PSV nouns consisting of **n(V)-*, **e-* or **i-* ‘article’ + root and verbs consisting of **a-* or **e-* + root are alphabetised by the root, thus PSV **m^wane-*, [*na-*] ‘♀brother’.

Proto Austronesian (PAN)

<i>*amax</i> ‘father’ 85	<i>*duSa</i> ‘two’ 455
<i>*asa</i> ‘one’ 448	<i>*enem</i> ‘six’ 463
<i>*bajaq</i> ‘tell, inform, ask, enquire, know, understand’ 383	<i>*esa</i> ‘one’ 448
<i>*beli</i> ‘buy’ 408	<i>*ina</i> ‘mother, mother’s sister’ 89
<i>*beRay</i> ‘give’ 422	<i>*isa</i> ‘one’ 448
<i>*bubu</i> ‘grandparent, grandchild’ 108	<i>*kaka</i> ‘elder sibling’ 116
<i>*Cakaw</i> , ‘steal’ 423	<i>*kuŋkuŋ</i> ‘slitgong’ 204
<i>*Caŋis</i> ‘to weep, cry; mourn; beseech’ 217	<i>*lima</i> ‘five, hand’ 461
<i>*da-duSa</i> ‘two, of people’ 457	<i>*mamah</i> ‘father, father’s brother’ 85
<i>*damaR</i> ‘tree resin used in torches (?)’ 307	<i>*pakpak</i> ‘to clap, sound of clapping or flapping’ 222
<i>*depah</i> ‘fathom’ 558	<i>*paliSi</i> ‘taboo, ritual restriction; purifying rite’ 294
	<i>*panaq</i> ‘throw s.t. at a target; shoot with bow and arrow’ 231

- *pijax* ‘how many? how much?’ 474
**pitu* ‘seven’ 464
**qaLiCu* ‘ghost, spirit of the dead; owl’
 236
**qaLijū* ‘shadow, reflection’ 242
**qasawa* ‘spouse’ 125
**qauR* ‘bamboo sp.’ 198
**qudip* ‘life; alive’ 240
**Rumaq* ‘dwelling house’ 177
**sa-puluq* ‘10’ 468
**Sepat* ‘four’ 459
**Si-ka*-NUMERAL
 ‘prefix for ordinal numerals’ 479
**Siwa* ‘nine’ 466
**ta-amax* ‘father’ 83
**ta-ina* ‘mother’ 87
**telu* ‘three’ 457
**tepeŋ* ‘to measure quantities, as amounts
 of grain’ 566
**walu* ‘eight’ 465
- Proto Malayo-Polynesian (PMP)**
**ama* ‘father, father’s brother’ 85
**ampu* ‘grandparent, grandchild’ 107
**aya* ‘respect term for a member of ego’s
 parents’ generation’ 98
**balay* ‘public building’; ‘unwalled
 building’ 179
**balu* ‘some, some more’ 474
**batuR* ‘plait, weave’ 219
**beli* (N) ‘value, price; marriage
 prestations, brideprice’; (v) ‘purchase’
 408
**beRay* ‘give, present gifts to; gift’ 422
**bubu* ‘grandparent, grandchild’ 108
**bubu-y* ‘grandparent, grandchild’ 109
**buluq* ‘a constellation, the Pleiades’ 309
**cikep* ‘catch with the hands’ 229
**datu* ‘chief; leader, lineage priest, head
 of family, prince, grandparent, title
 given to a sovereign, shaman, ancestor
 in the female line’ 156
**duha* ‘two’ 455
**epat* ‘four’ 459
**hipaR* ‘sibling-in-law (probably of the
 same sex only)’ 128
**ihap* ‘count’ 439
**ina* ‘mother, mother’s sister’ 89
**ina-y* ‘mother (ADDR)’ 90
**kaka* ‘elder s.s. sibling’ 116
**kamaliR* ‘men’s house’ 179
**kunu* ‘it is said, people say...’ 395
**kuwá* ‘say’ 379
**ma-qudip* ‘living, alive; grow, flourish;
 fresh; heal, cure, revive, recover’; (n)
 ‘vital principle, soul, spirit; flame’ 240
**mama* ‘father, father’s brother’ 85
**matuqa* ‘mother’s brother, mother’s
 brother’s wife, wife’s parent’ 95
**nana* ‘mother’ 89
**ŋeni* ‘beg, ask for’ 389
**ŋuŋ*, **ŋu(ŋ)-ŋuŋ* ‘buzz, hum’ 209
**paka*-NUMERAL (FREQUENTATIVE ADVERB)
 ‘NUMERAL times’ 480
**panakaw* ‘steal’ 423
**pened* ‘stopped up, plugged’ 419
**qaninu* ‘shadow, reflection’ 242
**qanitu* ‘ghost, ancestral spirit; nature
 spirit; corpse; owl; various plants’ 236
**qanunu* ‘shadow, reflection’ 242
**qatuan* ‘deity’ 245
**sa ŋa puluq* ‘10’ 470
**sa ŋa Ratus* ‘100’ 470
**sa-Ratus* ‘100’ 469
**saŋa* ‘bifurcation, fork of a branch’ 555
**saRup* ‘sing in unison’ 212
**siwa* ‘nine’ 466
**t-ama* ‘father, father’s brother’ 83
**taji* ‘younger s.s. sibling’ 2
**takaw* ‘steal’ 423
**taŋis* ‘to cry’ 217
**tapuRiq* ‘conch shell trumpet’ 196

- **taqun* ‘period of a year’ (?); ‘recurrent seasonal cycle, especially yam season cycle’ 298
- **tina* ‘mother, mother’s sister’ 87
- **tulali* ‘bamboo nose flute’ 200
- **tumpu* ‘grandparent, grandchild’ 105
- **tuRaŋ* ‘kinsman, relative (undefined)’ 123
- **umpu* ‘grandparent, grandchild’ 107
- **zayan* ‘handspan’ 555

Proto Philippine

- **nana* ‘older female relative (ADDR)’ 89

Proto Central-Eastern Malayo-Polynesian (PCEMP)

- **bai* ‘say’ 381
- **buu* ‘conch shell trumpet’ 196
- **matay* ‘money, payment, medium of commercial exchange’ 410
- **pati* ‘four’ 460
- **tambu* ‘forbidden, taboo’ 285
- **wari* ‘sing, song’ 208

Proto Eastern Malayo-Polynesian (PEMP)

- **aya-* ‘father’s sister, mother’ 98
- **b<in>ai* ‘woman, wife’ 127
- **babinay* ‘♂sister’ 118
- **bawa* ‘great-great-grandparent, great-great-grandchild’ 111
- **boRe* ‘give’ 422
- **matuqa* ‘mother’s brother’ 95
- **muaqanay* ‘♀brother’ 119
- **nai* ‘mother (ADDR)’ 90
- **natu* ‘child, offspring’ 99
- **nene* ‘mother’ (ADDR) 90
- **ŋkaŋka* ‘parent’s sibling’ (?) 93
- **pat* ‘four’ 459
- **qatu* ‘child, offspring’ 101

- **sana* ‘crotch, fork of the legs; span, fork of the fingers’ 555
- **tampu* ‘grandparent, grandchild’ 107
- **taRam* (V) ‘answer, agree’ 391
- **tu* ‘child, offspring’ 101
- **tuqa* ‘mother’s brother’ 95
- **wanse* ‘divide’ 415
- **wase* ‘divide’ 415
- **wawa* ‘grandparent, grandchild’ 109

Proto Oceanic (POc)

- *NUMERAL-NUMERAL ‘NUMERAL by NUMERAL’; ‘NUMERAL at a time’; ‘NUMERAL each’ 481
- *[*sa*]Ratus ‘100’ 469
- *[*tau*]laki ‘marry; married person’ 135
- **abu[a]* ‘grandparent, grandchild’ 107
- **ama* ‘father, father’s brother’ 85
- **aya* ‘member of EGO’s parents’ generation (respectful address term)’ 98
- **baki* ‘strike one against another, knock, clap’ 222
- **balau* ‘lie (by exaggeration?)’ 397
- **bawa[-]* ‘great-great-grandparent, great-great-grandchild’ 111
- **bogo-bogo* ‘jew’s harp’ 201
- **bubu* ‘grandparent, grandchild’ 108
- **bubui* ‘grandparent, grandchild’ 109
- **bugo-bugo* ‘jew’s harp’ 201
- **bui* ‘grandparent, grandchild’ 109
- **buku* ‘debt’ 418
- **bulu(q)* ‘a constellation, the Pleiades’ 309
- **buŋV* (CLF) ‘bunch (of fruit, esp. betelnut?)’ 489
- **butu*, **butuR-i-* ‘stamp foot, tread, kick’, ‘stamp on, tread on, trample’ 224
- **buu* ‘conch shell trumpet’ 196
- **b^waku* (V) ‘to sing, dance’ 210
- **b^wala* ‘say, speak’ 383
- **dramaR* (sense uncertain) 307

- **garamut* ‘slitgong’ 205
 **iap*, **iap-i-* ‘count’ 439
 **-ika*, **ika-* (CLF) ‘unit of 10’ 498
 **i-ka*-NUMERAL
 ‘prefix for ordinal numerals’ 479
 **ina* ‘mother, mother’s sister’ 89
 **ipaR*, **ipa-* ‘s.s. sibling-in-law’ 128
 **ipu* ‘blow; native flute’ 199
 **isa* ‘one’ (ATTRIBUTIVE); (?) INDEFINITE
 ARTICLE 448
 **kabi-ña* ‘chief’ 171
 **kaci-* ‘younger s.s. sibling’ 114
 **kai* (CLF) ‘long, rigid object; wooden
 object; tree’ 485
 **kaka* ‘elder s.s. sibling (ADDR), elder
 parallel cousin (ADDR)’ 116
 **kaka* ‘parent’s sibling’ (?) 93
 **kamali(R)* ‘men’s meeting house’ 179
 **kanam* ‘sing, song’ 209
 **kap^wat* ‘call or speak loudly’ 397
 **kawe(C)* ‘woman, wife’ ? 127
 **kina-* ‘mother’ 89
 **koŋkoŋ* ‘slitgong’ 204
 **kopi* ‘bamboo; bamboo flute’ 198
 **koro* ‘fenced-in area’; ‘? settlement
 fortified by barrier’ 182
 **koron* ‘lie, tell a lie’ 396
 **k^wa*, **k^wai-* ‘say, tell’ 379
 **k^waro* ‘call out a greeting’ 393
 **lagar* ‘dance accompanied by singing’
 222
 **lami* ‘tell a lie’ 397
 **lapat* ‘big, great’ 171
 **lawa* ‘♂sister’s child (?), mother’s
 brother’ 102
 **lima* ‘five’ 461
 **luku* ‘count’ 440
 **mako* (N,V) ‘dance’ 221
 **makubu-* ‘grandchild; kin two
 generations below ego’ 77, 110
 **malaqai* ‘? public space in a village,
 village plaza’ 182
 **mama* ‘father, father’s brother’ 85
 **manu* (CLF) ‘animate’ 487
 **manuk* ‘bird; Bird constellation
 including Canopus, Sirius, Procyon’
 342
 **maqurip* (V) ‘be alive, live, flourish; be
 in good health’; (N) ‘soul, life force’
 240
 **masi* ‘magic; perform magic’ 250
 **mate* (N) ‘price’; (V) ‘transact’ 410
 **matu(q)a* ‘mother’s brother’ 95
 **m^waja* ‘play, have fun’ 228
 **m^wal(i)aw(i,a)-* (?) ‘spirit, living or dead’
 239 **m^wane*, PNCal, ‘♀brother’ 120
 **m^wala* ‘? person of low social status’;
 173
 **m^walala* (N) ‘cleared land, clearing’, (V)
 ‘clear land’ 183
 **m^waqane-* ‘♀brother’, ♀male parallel
 cousin (?) 119
 **m^war(i)aw(i,a)-* (?) ‘spirit, living or dead’
 239
 **m^waR(i)aw(i,a)-* (?) ‘spirit, living or
 dead’ 239
 **nai* ‘mother (ADDR)’ 90
 **ñaña* ‘mother, mother’s sister’ 89
 **natu-* ‘child, s.s. sibling’s child, parallel
 cousin’s child, mother’s brother’s
 child’ 76, 99, 100
 **nene* ‘mother’ 90
 **nima-* (CLF) ‘hand, arm’ 463
 **noŋi* ‘beg, ask (for s.t.)’ 389
 **nunu* ‘shadow of person, likeness,
 reflection; soul that may leave the
 body in dreams’ 242
 **-ŋapa* (CLF) ‘fathom’ 560
 **-ŋapuluq* (CLF) ‘unit of 10’ 501
 **ŋoni* ‘beg, ask (for s.t.)’ 389
 **ŋulu* ‘in a whisper’ 398
 **ŋulu-ŋulu* (V) ‘whisper’ 398
 **ŋuŋu* ‘hum’ 209
 **oli-oli* ‘a lullaby’ 216

- **onom* ‘six’ 463
 **pa*-NUMERAL (FREQUENTATIVE ADVERB)
 ‘NUMERAL times’ 480
 **pa*-NUMERAL- **ña* ordinal numeral form
 478
 **pacu*, **pacua*- ‘♂sister’s child’ (?) 103
 **paila* ‘greet/welcome loudly;
 exclamation of welcome’ 393
 **painako* ‘steal’ 424
 **paka*-NUMERAL (FREQUENTATIVE ADVERB)
 ‘NUMERAL times’ 480
 **paka*-NUMERAL- **ña* ordinal numeral
 form 478
 **pala*, **pala-i*- ‘give’ 423
 **pale* ‘building for storage or public use,
 open-sided building, shed’ 179
 **pali* ‘ritually restricted or prohibited’ 294
 **palu* ‘some, a few’ 474
 **panako* ‘steal’ 423
 **panaq* ‘bow’ 231
 **panaq*, **panaq-i*- ‘shoot’ 231
 **pani*- ‘give’ 422
 **panua* ‘land, territory, inhabited place,
 community, etc’ 183
 **panji* ‘four’ 461
 **papaq[a]*- (CLF) ‘coconut frond’ 505
 **papine*- ‘♂sister’, ♂female parallel
 cousin’ 118
 **paq[a]*- (CLF) ‘coconut frond’ 505
 **paRi* ‘generic term for cat’s cradle’ 229
 **pasu*, **pasua*- ‘♂sister’s child’ (?) 103
 **pat* ‘four’ 459
 **pata* ‘long cylindrical object; tree trunk’
 488
 **pati* ‘four’ 460
 **pato*, **patoli*- ‘say or call s.o.’s name;
 say, speak’ 393
 **patu(R)* ‘plait, weave’ 219
 **pela* ‘greet/welcome loudly; exclamation
 of welcome’ 393
 **pelapela* ‘shout, exclaim’ 393
 **penako* ‘steal’ 424
 **pera* ‘? settlement, open space associated
 with a house or settlement’ 181
 **pica* ‘how many? how much?’ 474
 **pi(g,k)o* ‘bamboo wind instrument’ 199
 **pine* ‘woman, wife’ (ACD: 127
 **pitu* ‘seven’ 464
 **poli* (V) ‘to barter, purchase by
 exchange’; (N) ‘price, brideprice;
 value’ 408
 **poli-poli* ‘trade, barter’ 409
 **ponot* ‘to close up; be full, complete’ 419
 **pua* (CLF) ‘default inanimate; round
 object’ 483
 **pui*, **pui* (CLF) ‘bunch, group’ 490
 **-pua* (CLF) ‘10 roundish objects’ 508
 **p^wa*, **p^wai*- ‘say, tell’ 381
 **p^waca(q)* (N) ‘word, speech, language’;
 (V) ‘speak’ 383
 **p^waca(q)i*- ‘speak (s.t.), say (s.t.)’ 383
 **p^waja(R)* (VI) ‘clap hands’ 223
 **p^wajaR-i* (VT) ‘slap with open hand’ 223
 **p^wanaq* ‘bow’ 231
 **p^wanaq*, **p^wanaq-i*- ‘shoot’ 231
 **qalawa* ‘♂sister’s child’ (?), mother’s
 brother’ 102
 **qanitu* ‘ancestral spirit, spirit of the dead’
 236
 **qanunu* ‘shadow of person, likeness,
 reflection; soul that may leave the
 body in dreams’ 242
 **qapa* (CLF) ‘flat object; sheet of s.t.; leaf’
 488
 **qasawa* ‘spouse’. ‘marry’ (?) 125, 134
 **qata* ‘soul, spirit; shadow, reflection’ 243
 **qatu*- ‘child: offspring of ego or of s.s.
 sibling’ 101
 **qatuan* ‘deity, supernatural being’ 245
 **qauR* ‘bamboo; bamboo wind
 instrument’ 198
 **qiti*, **qi* (CLF) ‘hand of bananas’ 489
 **ra-rua* ‘two, of people’ 457
 **rali* ‘slitgong’ 205

- *raŋi* ‘a song to accompany dance’, 210
**raun* (CLF) ‘leaf’ 506
**rawa* ‘parent- or child-in-law’ 132
**roŋoR* ‘hear’ 214
**ropa* (N) ‘fathom: with arms extended, length from finger tips to finger tips’; (v) ‘measure in s’ 558
**roroŋoR* ‘to sound, be audible’ 214
**rua* ‘two’ 455
**rup^was*, **rup^wasi-* ‘tell lies to s.o., deceive s.o.’ 396
**Rumaq* ‘dwelling house’ 177
**sa* ‘one’ (ATTRIBUTIVE); (?) INDEFINITE ARTICLE 448
**sa ŋa puluq* ‘10’ 470
**sa ŋa Ratus* ‘100’ 470
**sa-puluq* ‘10’ 468
**sagar* (N,V) ‘dance’ 220
**saŋa-* ‘fork (in tree), forked stick or branch; crotch, fork of the legs; span, fork of the fingers’ 555
**saRa* ‘shell money made from small shells’ 411
**saRu(p)* ‘sing in unison’ 212
**sese-* ‘great-great-grandparent (?)’ 111
**sikop* ‘catch with the hands’ 229
**siwa* ‘nine’ 466
**soli*, **soli(t,ŋ)-i-* ‘distribute, pass to another’ 417
**soRo(p)*, **soRo(p)i-* ‘call, summon’ 394
**suga*, **sugai-* ‘ask s.o. for .s.t.’ 390
**ta* INDEFINITE ARTICLE; (?) ‘one’ 450
**ta-sa* ‘one’ (serial) 449
**ta-si* ‘one’ 449c
**ta(u)-lapat* ‘chief’ or ‘big man’ 169
**tabu* (VSt) ‘forbidden, prohibited’; (N) ‘prohibition’ 285
**tabu-* ‘grandparent, grandchild’ 107
**tabuna* ‘dehortative: “don’t!”’ 295
**taci-* ‘younger s.s. sibling, parallel cousin’s younger s.s. child’; ‘o.s. sibling-in-law, younger than 2, 130’
**tai* ‘one’ 452
**takunu* ‘tell a story, narrate’ 215
**tama-* ‘father, father’s brother, mother’s sister’s husband’ 83
**taŋis*, **taŋis-i* ‘cry, wail, lament, for humans; for animals to make a sound appropriate to their character; for musical instruments to sound’ 217
**tapuRiq* ‘triton shell: *Charonia tritonis*; a triton shell trumpet’ 196
**tara(s)*, *taras-i-* ‘distribute, divide up, share’ 417
**tari* ‘some’; 474
**taRam*, **taRami-* ‘allow, agree, cooperate’ 391
**tata* ‘address term for any male called “father” and for other senior males’ 86
**tau* ‘animate; person’ 486
**tau-mate* ‘corpse; spirit of the dead’ 237
**tib^wa(ŋ)* ‘dart, arrow’ 230
**tina* ‘mother, mother’s sister’ 87
**tolu* ‘three’ 457
**topoŋ* ‘to measure; to mark (for cutting); to try (s.t.) out’ 566
**tu-* ‘child: offspring of ego or of s.s. sibling’ 101
**tua-* ‘o.s. sibling-in-law, older than ego’; 131
**tuaka-* ‘elder s.s. sibling, elder parallel cousin’ 115
**tubu-* ‘grandparent, grandchild’, mother’s brother (?) 105
**tubuqan* ‘supernatural being’ 246
**tulali* ‘bamboo nose flute’ 200
**tuqa* ‘mother’s brother’ 95
**tuRaŋ* ‘friend, companion; relative of ego’s generation’ 123
**tusu-* ‘forefinger’ 557
**ubu* ‘grandparent, grandchild’ 107
**udolu* ‘all, whole’ 473
**upi* ‘blow; native flute’ 199
**uraki* ‘make an offering to the gods’ 256

- **wali* ‘paint, smear, rub on’ 225
- **walu* ‘eight’ 465
- **waRa*, **waRai*- ‘say (s.t.), tell (s.o. to do s.t.)’ 384
- **wari* ‘sing, song’ 208
- **wase* ‘distribute (food at a feast), divide up, count out’ 415
- **wawa* ‘grandparent, grandchild’ 109
- **wawa* ‘mother’s brother’ 96
- NUMERAL- **ña* ‘ordinal numeral form’ 476

Possibly Proto Oceanic (POc?)

- **kai-sa* ‘one’ (serial) 455
- **nanasa*, **nanasai*- ‘ask’ 386
- **peRe* ‘give’ 422
- **qata* ‘person’ 487
- **sa-kai* ‘one’ 454
- **ta-kai* ‘other’ 454
- **waRo* (CLF) ‘a string of a specified number of a product’ 490

Proto Admiralty (PAd)

- *-*bunu* (CLF) ‘cluster, bundle (usually of fruit)’ 489
- *-*fu*, (ə-) DEFAULT NUMERAL CLASSIFIER 484
- *-*kaba* (CLF) ‘flat object; leaf’ 488
- *-*kai* (CLF) ‘long rigid object; tree’ 485
- *-*m^waw* (CLF) ‘animate; person (?)’ 502
- *-*ηafulu* (CLF) ‘unit of 10’ 501
- *-*potV* (CLF) ‘fire, firewood’ 502
- *-*Ruma* (CLF) ‘house’ 502
- **m^walaw(i,a)*- ‘spirit, perhaps of the dead’ 239
- **nana* ‘parent- or child-in-law’ (?) 133
- **ñana* ‘parent- or child-in-law’ (?) 133
- **sanafulV* ‘10’ 470
- **sanatV* ‘100’ 470

Proto Western Admiralty

- **tai* ‘one’ 452

Proto Eastern Admiralty

- *-*cala* (CLF) ‘path’ 503
- *-*fatV* (CLF) ‘container, bag, basket’ 502
- *-*koro* (CLF) ‘village’ 503
- *-*ηatu* (CLF) ‘unit of 100’ 501
- *-*polV* (CLF) ‘(longitudinal?) half’ 503

Proto Western Oceanic (PWOc)

- **baqe* ‘wing (?)’, hand’ 526
- **bara* ‘poison, magic employed to affect another person’ 266
- **kud(e,u)* ‘hourglass drum’ 203
- **kul(a,e)* ‘exchange, buy’ 409
- **pile* ‘speak negatively or scornfully to (s.o.)’ 396
- **sowa*, **sowai*- ‘say, speak’ 383
- **tore* ‘ask, enquire’ (?) 387
- **varis* ‘mother’s brother, ♂father-in-law’ 96

Proto New Guinea Oceanic

- **bara(q)um* ‘spirit of dead person’ 238
- **m^waria(b,w)a*- ‘spirit, perhaps of a person’ 239
- **nab^wa* ‘a spell’ 266

Proto Papuan Tip (PPT)

- *(*tau*)*baravu* ‘sorcerer’ 265
- **baravu* ‘sorcery’ 265
- **ika*- (CLF) ‘10 of s.t.’
- **kai[u]*- (CLF) ‘default inanimate classifier (?)’; long rigid object; wooden thing’ 486
- **manu*- (CLF) ‘animal’ 487
- **tau*- (CLF) ‘human; male human (?)’ 503
- **ta* ‘one’ 450
- **waRo*- (CLF) ‘a bundle of coconuts’ 490

Proto Sudest-Nimoa

- **ta[ya]* ‘one’ 450

Proto Kilivila

**ova-* (CLF) ‘fathom; double-arm span’
559

**ta-za* ‘one’ 449

Proto North Mainland/D’Entrecasteaux

**ta-mo[qa]-* ‘one’ 450

Proto Bwaidoga

**sa-qe-ana* ‘one’ 454

Proto Central Papuan

**ta* ‘one’ 450

Proto NW Solomonian

**ratus* ‘100’ 469

Proto Eastern Oceanic (PEOc)

**apu* ‘house foundation’ 180

**bata* ‘speak, utter’ 384

**kai* ‘call out to (s.o.), say forcefully’ 394

**mana* (VSI) ‘to have supernatural power from ancestral spirits as manifest in successful outcomes; be efficacious’;
(N) ‘efficacy, success’ 271

**noqi* ‘ask for, beg’ (?) 390

**paRage* ‘tree sp., *Pangium edule*; dance rattles’ 202

**pono* ‘to settle a debt; complete, close up’ 419

**sori(t)* ‘lie, tell a lie’ 396

**soso* ‘expiate, compensate, propitiate’
257, 420

**sui* ‘pay, redeem a debt’ 419

**[ta]tata* ‘stammer’ (?) 398

**tau panua* ‘person belonging to a place, land owner’ 192

**tubuqa* ‘spirit being (possibly guardian spirit)’ 246

**tukunu* ‘tell a story, tell news’ 215

**vaizu*, **vaizuni-* ‘ask, enquire’ 387

**wati* ‘spouse’ 126

Proto Southeast Solomonian (PSES)

**iva-* ‘♀sister-in-law’, 129

**kesa* ‘one’ (serial) 455

**kunu* ‘gossip, talk negatively about s.o.’
395

**m^wai-m^wane* ‘o.s. sibling, cross-sex cross-cousin’ 119

**sa-kai* ‘one’ (ATTRIBUTIVE) 454

**suga*, **sug(a,e)ti-* ‘desire (s.t.), ask for (s.t.)’ 390

**tadalo* ‘ghost, spirit’ 238

**tidalo* ‘ghost, spirit’ 238

**vanayo* ‘steal’ 424

**vavine-* ‘♂sister’ 119

**waRa-* ‘speak’ 385

**wati* ‘spouse’ 126

Proto Malaita-Makira

**adalo* ‘ghost, spirit’ 238

**yai*, **yai(li)-* ‘shout to s.o., insist on s.t.’
394

**ili-* ‘say’ 387

**mola* ‘usual, merely; permitted’ 293

**p^wela* (CLF) ‘1000 coconuts’ 501

**sinola* (CLF) ‘10 large fish, 10 collections of ten yams, or ten branches of s.t.’
500

**yaru*, **yaru?-i* ‘invoke a spirit, make imprecations, put a spell on someone over something’ 252

Proto Malaitan

**a-ariki* ‘unmarried girl, maiden, daughter’ 172

Proto Remote Oceanic (PROc)

**kato* (V) ‘speak a foreign language’; (N) ‘speech, language, foreign language’
398

**[ro]roŋoR* (V) ‘sing; chant, recite traditional lore’; (N) ‘traditional lore’
214

**taku* ‘brother-in-law’ 129

**u(C)unu* ‘Aldebaran’ 341

Proto Southern Oceanic

**nunu* ‘shadow, image, reflection, soul’
243

Proto North-Central Vanuatu (PNCV)

*[*ta*]taro ‘pray, wish for’ 253

**abu[a]* ‘grandparent, grandchild’ 107

**alawa* ‘sister’s child’ 103

**asoa-* ‘spouse’ 125

**buku* ‘debt’ 419

**b^walika* ‘parent- or child-in-law’ 134

**ina* ‘mother, mother’s sister’ 89

**kai* ‘call out (to s.o.), vocalise loudly’
395

**kai-masi* ‘sorcerer’ 250

**kamali* ‘men’s house’ 180

**mako* ‘boys’ dance’ 221

**makubu* ‘grandchild’ 110

**mama* ‘father’ 86

**matu(q)a* ‘mother’s brother’ 95

**galawa* ‘sister’s child’ 103

**qata-* ‘soul, spirit’ 243

**qata-mate* ‘ghost; spirit of dead person’
237

**ra-tina-* ‘mother’ 88

**sa-wa* ‘one’ 448

**sale* ‘jump, dance’ 222

**tama-* ‘father, father’s brother’ 84

**taRam^{wi}* ‘allow, accept, agree’ 392

**tina* ‘mother’ 88

**tovo* ‘measure’ 567

**tubu-* ‘grandparent, grandchild’ 106

**tukunu* ‘story, tell a story’ 215

**usi* ‘ask’ 388

**vanako* ‘steal’ 424

**vaRage* ‘tree sp., *Pangium edule*, fruit
used as dance rattles’ 202

**vareqa* ‘outside, public space’ 181

**vava* ‘speak, say’ 382

**vavine-* ‘♂sister’ 119

**viti* ‘speak, say’ 386

**voza* ‘clap, slap, strike’ 223

**v^wara* ‘speak, say, call’ 385

**v^wasa* ‘speak, say’ 383

**v^wav^wa* ‘mother’s brother, father’s sister’
96

Proto North Vanuatu

**te-wa[le]* ‘one’ 453

Proto Torres-Banks

**mana* ‘supernatural power held by a
person or thing; magic force’ 272

**m^wakoto* + ‘fresh/wet Panax grass’ ≈
April–May 338

**m^wakoto ranjo* ‘dry grass’ ≈ May–June
338

**m^wonu* ‘thunder’ 277

**ud gogona* ‘bitter (palolo)’ ≈ September
337

**ud lava* ‘big palolo’ ≈ November–
December 337

**ud were* ‘rump of palolo’ ≈ December–
January 337

Proto Central Vanuatu

**tau-wia* ‘brother-in-law’ 130

Proto North Malakula

**sa-ya-l* ‘one’ 448

Proto Central-West Malakula

**sava[y,m]* ‘one’ 448

Proto Efate

**si-kai* ‘one’ 454

Proto Southern Vanuatu (PSV)

*-*tua-* ‘elder s.s. sibling’ 115

*[*va*]vine-, na- ‘♂sister’ 119

**alwə-* ‘♂sister’s son’ ? 103

- **cinV-*, *ri-* ‘mother, mother’s sister’ 88
- **mayub^{wu}-* ‘grandchild’ 110
- **mata-* ‘mother’s brother, spouse’s father, parent’s sister’s husband’ 95
- **m^wane-*, [*na-*] ‘♀brother’ 120
- **natu* ‘child’ 100
- **ri-(t,c)inV-* ‘mother, mother’s sister’ 88
- **tbu-*, [*e-*] ‘grandparent’ 106
- **tinV-*, *ri-* ‘mother, mother’s sister’ 88
- **tme-*, *e-* ‘father, father’s brother’ 84
- **tpu-*, [*e-*] ‘grandparent’ 106

Proto New Caledonia (PNCal)

- **iva-* ‘♀sister-in-law’, 129
- **gasao-* ‘spouse’ 126
- **tama-* ‘father, father’s brother’ 84
- **tasi-* ‘younger s.s. sibling’ 113
- **tina-* ‘mother, mother’s sister’ 88
- **tta* ‘one’ 451
- **tuka-* ‘elder s.s. sibling’ 115
- **tu^mbu-* ‘grandparent’ 106

Proto Far North New Caledonia

- **p^wa-* (CLF) ‘round object; time’ 484

Proto Micronesian (PMic)

- **-ai* (CLF) ‘long slender object’ 486
- **-bui* (CLF) ‘group, herd’ 490
- **-cau* (CLF) ‘thin (flat object), leaf’ 506
- **-dau* (CLF) ‘animate; person’ 487
- **-fata* (CLF) ‘long cylindrical object; tree trunk’ 488
- **-kai* (CLF) ‘plant, tree, stick’ 486
- **-manu* (CLF) ‘animate’ 487
- **-m^wanū* (CLF) ‘length from elbow to finger tips’ 564
- **-ŋawulu* (CLF) ‘unit of 10’ 504
- **-p^woŋi* (CLF) ‘night’ 506
- **-p^wukua* (CLF) ‘100’ 506
- **-sukumV* (CLF) ‘package, packet’ 505
- **-ua* DEFAULT NUMERAL CLASSIFIER 484

- **anitu* ‘god, spirit’ 236
- **fa(s,S)ua* ‘o.s. sibling’s child’ 103
- **fale* ‘meeting house’ 179
- **fali* ‘engage in ceremonial rite’ 294
- **kai* ‘inform’ 380
- **kata* (N,V) speech, language, foreign language’; ‘talk, chatter, talk a foreign language’ 398
- **kayinaŋa* ‘clan, folk, tribe, stock’ 191
- **kisi* (CLF) ‘small, little’ 506
- **-kisi* (CLF) ‘small parts of s.t.’ 506
- **kua* ‘Dolphin constellation, a constellation including Cassiopeia and approximately equivalent to Aries’ 347
- **mana*, *mana-mana* (V) ‘be efficacious, have supernatural power’; (N) ‘efficacy, supernatural power’ 272
- **manu* ‘bird; Bird constellation consisting of Canopus, Sirius, and Procyon’ 342
- **māti-ciki* ‘stars in Sagittarius’ 345
- **māti-lapa* ‘the star Altair (or perhaps the constellation Aquila including Altair)’ 346
- **m^wāne-* ‘♀brother’ 120
- **natu* ‘child’ 100
- **ŋafa* ‘fathom’ 560
- **paa* (CLF) ‘leaf and stalk, frond’ 505
- **p^wā* (VT) ‘tell’ 382
- **p^wuku* (CLF) ‘node, joint, knot, knee’ 506
- **p^wutu* ‘step, tread, apply one’s foot’ 224
- **sum^wuru* ‘the star Antares’ 344
- **tama* ‘father, father’s brother’ 84
- **te-* ‘one’ (ATTRIBUTIVE) 453
- **tina* ‘mother, mother’s sister’ 88
- **tup^{wu}* ‘grandparent, grandchild’ 106
- **ūnu* ‘Aldebaran’ 341
- **waSe*, **waSe-ki* ‘count’ 416

Proto Central Micronesian

- **-papa* (CLF) ‘flat object’ 507

Proto Western Micronesian

- **laka* ‘stars in the constellation Pegasus’ 345
 **telu-telu* ‘about August; three stars of Orion’s Belt’ 341

Proto Ponapeic-Chuukic

- **m^wakariker* ‘about July; the Pleiades’ 341
 **tarobolu* ‘about October, the constellation Corvus’ 343

Proto Chuukic (PChk)

- **aremoi* ‘about November; the star Arcturus’ 343
 **cēwu* ‘about December, January; constellation Corona Borealis’ 343
 **dila-wup^wa* ‘distance from outstretched finger-tip to mid-chest’ 562
 **elu-elu* ‘about August; three stars of Orion’s Belt’ 341
 **icci* ‘about September, the constellation Leo’ 342
 **ka-tudu* ‘finger, finger length’ 557
 **kap^wata* ‘call loudly, shout’ 397
 **kua* ‘porpoise; May/June; huge constellation including Cassiopeia and Aries’ 346
 **laka* ‘about May; stars in the constellation Pegasus’ 345
 **manu* ‘about September; Bird constellation consisting of Canopus, Sirius, and Procyon’ 342
 **māti-ciki* ‘about February; stars in Sagittarius’ 344
 **māti-lapa* ‘about March; the star Altair (or perhaps the constellation Aquila including Altair)’ 345
 **mæł* ‘about February; the star Vega in Lyra’ 344
 **pata* ‘spoken, said, uttered’ 384
 **sum^wuru* ‘about January; the star Antares’ 343

- **taidā* ‘about April; the constellation Equuleus’ 345
 **te-ŋa-ratu* ‘1000’ 471
 **yalimadaï* ‘Andromeda (within **kua* constellation)’ 347
 **yaŋa* ‘finger span’ 555

Proto Central Pacific (PCP)

- **kai* ‘points scored in a game’ 233
 **k^wai* ‘say, tell’ 380
 **lali* ‘wooden drum or gong’ 206
 **lasu* ‘tell a lie, deceive’ 396
 **lavo* ‘game played with discs’ 232
 **mata-* (CLF) ‘10 fish; 10 taro’ 491
 **ŋ^waqane-* ‘♀brother’ 120
 **rau* ‘100’ 499
 **sau* ‘chiefly authority or rule’; 154
 **se(q)a* ‘k.o. dance’ 222
 **solif[-]* ‘give’ 417
 **tig^wa* ‘dart, to throw a dart’ 230
 **tuqi* ‘ceremonial title of the paramount chief of a region’ 157
 **vai* ‘cat’s cradle, general term’ 229
 **valau* ‘canoe house’ 180
 **vasu* ‘♂sister’s child’ 103
 **volau* ‘canoe house’ 180
 **waga* ‘spirit medium’ 262
 **wase* ‘divide; separate’ 416

Proto Polynesian (PPn)

- **fai* ‘cat’s cradle, string games’ 229
 **faka-afu maquri* ‘a month name, April–May’ 356
 **faka-afu-mate* ‘a month name, May’ 356
 **faka-qariki* ‘(act) in the manner of a chief’ 154
 **faka-qariki* ‘make into a chief’ 154
 **faka-seke* ‘slide deliberately, surf’ 233
 **fana* ‘shoot with arrow’ 231
 **fanaja* ‘story intended for entertainment and usually containing repetitions of a short chant’ 212

- *faŋo* ‘bamboo nose flute’; 200
**faŋu* ‘breathe, blow through nose’ 200
**faŋu-faŋu* ‘nose-flute’ 200
**faqe(e)* ‘mother, mother’s sister’ 91
**faqe(e)* ‘woman who is pregnant or has recently given birth’ 92
**fasu* ‘♂sister’s child’ 103
**fati* ‘tune, melody’ 219
**fatu* ‘weave, compose’ 219
**fatu*, **fatu kāiŋa* ‘leader of the *kāiŋa’ 156
**fosa* ‘♂son, ♂brother’s son’ 102
**fua* ‘weigh, measure’ 567
**-fua* (CLF) ‘10 tens or scores of certain food items’ (?) 485, 508
**fuŋao-ai* ‘parent-in-law’ 133
**fuŋao*, **fuŋaona* ‘child-in-law’ 133
**haŋa* ‘span (measurement)’ (pollex); 556
**huqi* ‘ask (a question)’ 388
**kainana* ‘clan, unilineal descent group’; ‘cognatic descent group’; (3) ‘populace, commoners’ 158
**kainana* ‘descent group, headed by an *qariki “chief”; ‘the subjects of a chief, the common people’; ‘a land-holding exogamous descent group tracing descent from a common ancestor and headed by an *qariki’ 191
**kapa* ‘flap, of wings or stretched out arms’ 214
**-kau* (CLF) ‘a score, 10 pairs’ 509
**kofe* ‘bamboo sp.’ 198
**koloa* ‘valuable possessions’ 413
**kumi* (CLF) ‘ten fathoms’ 565
**lafo* ‘tossing game (like quoits) played with asymmetrical discs’ 232
**lani* ‘one of sufficiently high rank to be honoured or treated as one in authority’ 155
**lani* ‘sing, song’ 210
**lau* ‘recite, count, list’ 441
**lisa muqa* (?) ‘December’ 354
**lisa muri* (?) ‘January’ 354
**loloŋo* ‘sing, song’ 214
**makupu-na* ‘kin of two or more descending generations’ 110
**mana* (N,V) ‘thunder’ 277
**maqā* ‘s.s. sibling-in-law’ 129
**masakitana* ‘father’s sister’ 99
**mataliki* ‘Pleiades’ 350
**matuqa* ‘parent’ 92
**mātuqa* ‘parents’ 92
**nafa* ‘a wooden drum’ 206
**noa* ‘be common, worthless’ 293
**ŋafua* ‘be allowed’ 293
**ŋakumi* (CLF) ‘ten fathoms’ 565
**oli* ‘move to and fro, move rhythmically’ 216
**paki* (N) ‘paddle-shaped instrument used when dancing’; (v) ‘slap’ 222
**palau* ‘lie by exaggeration’ 397
**pasu* ‘drum, to drum, thump’ 206
**pū* ‘triton shell trumpet’ 197
**qahawa-*, **qahawana* ‘spouse’ 126
**qahawa(n,ŋ)a* ‘marry’ 126
**qana-qana* ‘soul, spirit’ 244
**qariki* ‘chief, person of chiefly rank’ 152
**qariki-tia* ‘be occupied by a chief or chiefs, have a chief or chiefs present’ 154
**qata* ‘spirit, soul; shadow (not shade), reflection, image’ 244
**qatua* ‘supernatural being’; 245
**qilāmutu* ‘♂sister’s child’ 104
**qinati* ‘share, allocated portion of food’; 258
**qutete* ‘jew’s harp’ 201
**rau* ‘100’ 499
**sa* INDEFINITE ARTICLE 449
**sau* ‘chiefly authority or rule’; 154
**se[ŋa]-fui* ‘set of 5 pairs (of coconuts etc)’ 490
**sili* ‘ask questions’ 388

- *siliŋa kelekele* ‘June’ 351
**siliŋa maqa* ‘July’ 352
**siwa* ‘sing and dance’ (pollex) 211
**sui* ‘exchange, change, replace’ 419
**ta(a)-kalo* ‘to play; a game’ 228
**taaula[-qatua]* ‘priest, medium, shaman’ 261
**tahi-*, *tahina* ‘younger s.s. sibling’ 113
**tākelo* ‘name of a star or stars, possibly in Orion constellation’ 355
**taki-* DISTRIBUTIVE PREFIX 482
**takulua* ‘a bright star’ 352
**tala* ‘tell stories; tale, story’ 216
**tala-noa* ‘talk uselessly’ 216
**[talo]talo* (V) ‘to invoke supernatural intervention; pray’; (N) ‘spell, incantation’ 253
**tama* ‘woman or couple’s child or classificatory child, esp. son’ 101
**tama-*, **tamana* ‘father, father’s brother’ 85
**taqokete* ‘elder s.s. sibling’ 116
**taqoŋa* ‘valuable, alienable property’ 412
**tau* ‘count, tell’ 440
**taumafa* ‘ceremonial food; offering to the gods’ 256
**te-rau* ‘100’ 499
**teka* ‘roll, rotate, spin’ 232
**tika* ‘dart, darts game; to throw a dart’ 230
**toka-* (CLF) ‘person’ 509
**tua-fafine* ‘♂sister’ 120
**tua-fine* ‘♂sister’ 120
**tua-ŋaqane* ‘♀brother’ 121
**tuaka-*, **tuakana* ‘elder s.s. sibling’ 116
**tupe* ‘disc used in game of **lafo*’ 232
**tupu-*, *tupuna* ‘kin of the second and further ascending generations’ 106
**tupuqa* ‘supernatural being’ 246
**tuqa-tina* ‘mother’s brother’ 94
**tuqi* ‘ceremonial title of the paramount chief of a region’ 157
**wahe* ‘divide, separate’ 416
**wai muqa* ‘February–March’ 355
**wai muri* ‘March–April’ 355
**waka* ‘medium or bodily abode of a god’ 262
**welo* ‘thrust, as in spearing’ 233
Proto Tongic **taha* ‘one; another’ 449
Proto Nuclear Polynesian (PNPn)
**aŋa* ‘span formed by thumb and little (?) finger; measure’ 556
**faka-afu* ‘a month name, April–May’ 356
**kai* ‘traditional story’ 216, 380
**kakai* ‘traditional story’ 216
**kapa* ‘dance to accompany ritual chant’ 214
**kau-* (CLF) ‘10 roundish objects’ 510
**kau-unu-unu* ‘June’ 350
**masakitana* ‘father’s sister’ 99
**mataliki* ‘month name, June’ 350
**matuqa* ‘parent, parent’s sibling; old, mature (of a person)’ 92
**munifa* ‘November–December’ 353
**oli-oli* ‘a chant’ 216
**oloamanu* ‘August’ 352
**palolo muli* ‘second (major) spawning of the palolo worm; month name, October–November’ 353
**palolo muqa* ‘first (minor) spawning of the palolo worm; month name, September–October’ 353
**pese* ‘sing; song, chant’ 212
**qilāmutu* ‘♂sister’s child’ 104
**se* INDEFINITE ARTICLE 449
**tāfao* ‘to play’ 228
**tai-*, *taina* ‘younger s.s. sibling’ 113
**takaŋa* ‘January’ 354
**tākelo* ‘Orion’s Belt or Betelgeuse: January’ 355
**takulua* ‘Sirius; July’ 352

- **taqo-kete* ‘s.s. sibling’ 117
- **tasi* ‘one’ 449
- **toe utua* ‘February’ 356
- **tupu-*, *tupuna* ‘kin of the second and further ascending generations’ 106
- **unu-unu* ‘June’ 350
- **utua muli* ‘February’ 355
- **utua muqa* ‘January’ 354
- **waka atua* ‘spirit medium’ 262
- **tolu* ‘three; the stars of Orion’s Belt; June’ 352

Proto Samoic

- **fua-* ‘unit of ten’ 510
- **lau-* ‘unit of ten’ 510
- **tino-* (CLF) ‘animate being’ 509

Proto Eastern Polynesian (PEPn)

- **irāmutu* ‘sibling’s child’ 104
- **matuqa* ‘parent, parent’s sibling’ 92
- **muriafa* ‘November–December’ 354
- **noqi* ‘ask for, solicit’ 390
- **taqokete* ‘s.s. sibling-in-law’ 117
- **tua-fine* ‘♂sister’ 120
- **tupuna* ‘kin of two or more ascending generations’ 107

Alphabetical index of reconstructions

In alphabetising reconstructions, an upper-case character follows the corresponding lower-case character (thus *R* follows *r*); *y* follows *g*; *ñ* follows *n*; *ŋ* follows *ñ*; the digraph *dr* follows *d*; a superscripted character is treated like the corresponding unsuperscripted character; and macrons, parentheses and brackets are ignored. Because reconstructions that contain brackets represent two or more alternative reconstructions (for bracketing conventions see Table 1.1), where the alternatives would appear at different points in the index, they are spelt out as alternative reconstructions and appear at the appropriate point in alphabetical order. Thus POC **[bu]bui*, ‘grandparent, grandchild’ occurs at two points in the index, as **bubui* and as **bui*, and PAN **qaL(i,u)Cu* ‘ghost, spirit of the dead; owl’ as **qaLiCu* and **qaLuCu*.

Verbs with intransitive and transitive forms are often shown with both forms in a single entry. Thus POC **butu*, **butuR-i-* ‘stamp foot, tread, kick’, ‘stamp on, tread on, trample’ or POC **panaq*, **panaq-i-* ‘shoot’.

Reconstructed PSV nouns consisting of **n(V)-*, **e-* or **i-* ‘article’ + root and verbs consisting of **a-* or **e-* + root are alphabetised by the root, thus PSV **m^wane-*, [*na-*] ‘♀brother’.

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Index of glosses

Most entries in this index refer to the gloss of a reconstruction. Language names are not listed here: see Appendix B.

A number of items indexed here are kin terms. Partly because of Oceanic kinship organisation, these are indexed here under genderless entries: ‘child’, ‘cousin’, ‘grand-’, ‘great-’, ‘parent’, ‘sibling’, ‘spouse’. For example, for ‘mother’ *see under* ‘parent’.

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