Asia-Pacific Linguistics

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The Lexicon of Proto Oceanic

The culture and environment of ancestral Oceanic society

5 People: body and mind

Edited by
Malcolm Ross, Andrew Pawley
and Meredith Osmond

A-PL 28

The lexicon of Proto Oceanic. The culture and environment of ancestral Oceanic society.
Volume 5 – People: body and mind

Malcolm Ross, Andrew Pawley and Meredith Osmond

People: Body and Mind is the fifth in a series of seven volumes on 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, and Vol. 4 Animals. Vol. 6 will be entitled *People: Society*, while vol. 7 as presently envisaged, will include a sketch grammar and a complete index of reconstructions.

Volume 5 contains first a general introduction to the series in Chapter 1, Chapter 2 deals with terms for people, by gender, age and marital status. Chapters 3 and 4 deal with body parts and with bodily functions and states respectively. Chapter 5 presents terms for health and disease. Chapters 6, 7 and 8 contain a detailed examination of verbs: those describing posture and movement, other physical acts not included elsewhere, and verbs of perception. Chapter 9 examines how body-part metaphors are used in expressions of emotion and cognition. Chapter 10 deals with cognition verbs. Chapter 11 explores ways of describing people – by stature, temperament, emotion and evaluation. As in the other volumes, appendices include an index of reconstructions, a full listing of languages by subgroups, and a series of maps locating languages.

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Abbreviations are listed below, other than glosses of pronominals. Bound pronominals are glossed in accordance with the schema X:*n*Y, where X is one of O (object), P (possessor) or S (subject); *n* is 1, 2 or 3, indicating person, and Y is one of SG (singular) or PL (plural).

ACD	Blust & Trussel (ongoing)
ADJ	adjective
Adm	Admiralties
ART	article
BPM	body part metaphor
CAUS	causative
CEMP	Central/Eastern Malayo-Polynesian
CMP	Central Malayo-Polynesian
CSTR	construct marker
DIR	directional (vol.2:267–282)
esp.	especially
Fij	Fijian
k.o.	kind of
Mic	Nuclear Micronesian
MM	Meso-Melanesian
N	noun
NCal	New Caledonia
NCV	North/Central Vanuatu
N LOC	relational local noun (§3.1.2)
NNG	North New Guinea
NOM	nominaliser
PAdm	Proto Admiralty
PAn	Proto Austronesian
PCEMP	Proto Central/Eastern Malayo-Polynesian
PCP	Proto Central Pacific
PEMP	Proto Eastern Malayo-Polynesian
PEOc	Proto Eastem Oceanic
PEPn	Proto Eastern Polynesian
PERF	perfect
PMic	Proto Micronesian
PMM	Proto Meso-Melanesian
PMP	Proto Malayo-Polynesian
Pn	Polynesian
PNCV	Proto North/Central Vanuatu
PNGOc	Proto New Guinea Oceanic
PNNG	Proto North New Guinea
PNPn	Proto Nuclear Polynesian
POc	Proto Oceanic
POLLEX	Clark & Biggs (2006)
PPn	Proto Polynesian
PREP	preposition
PROc	Proto Remote Oceanic
PSOc	Proto Southem Oceanic
PSV	Proto South Vanuatu
PT	Papuan Tip
PWMP	Proto Western Malayo-Polynesian
PWOc	Proto Western Oceanic
RECIP	reciprocal
S	singular
s.o.	someone
s.t.	something
SES	Southeast Solomonic
SJ	Sarmi/Jayapura
SV	South Vanuatu
TM	Temotu
V	verb
VI	intransitive verb
VSt	stative verb
VT	transitive verb
wMP	western Malayo-Polynesian

Acknowledgments

Special thanks go to our co-editor, Andrew Pawley. His ostensible contributions to the volume are to chapters 1 and 8, 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.

John Lynch also read the entire manuscript and made numerous comments and suggestions that have contributed substantially to improving our work. We are very grateful for this.

We also thank Alexandre François and 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.

Meredith Osmond and Malcolm Ross

Canberra, January 2016

1 *Introduction*

MALCOLM ROSS, ANDREW PAWLEY AND MEREDITH OSMOND

1.1 Aims

This is the fifth in a series of volumes on the lexicon of the Proto Oceanic (POc) language.[1] 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—more than 450 languages in all (see Map 1).[2] Extensive arguments for the existence of Oceanic as a clearly demarcated branch of Austronesian were first put forward by Otto Dempwolff in the 1920s, and the validity of the subgroup is now recognised by virtually 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, are separated by 70 degrees of latitude from its southernmost outpost, Stewart Island in New Zealand.

It is likely that the divergence of Oceanic from its nearest relatives, which are the Austronesian languages spoken around Cenderawasih Bay and in South Halmahera (Blust 1978a), began when Austronesian speakers from the Cenderawasih Bay area moved eastwards along the north coast of New Guinea and into the Bismarck Archipelago. There is a strong school of opinion that 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 2 and volume 2, chapter 2).

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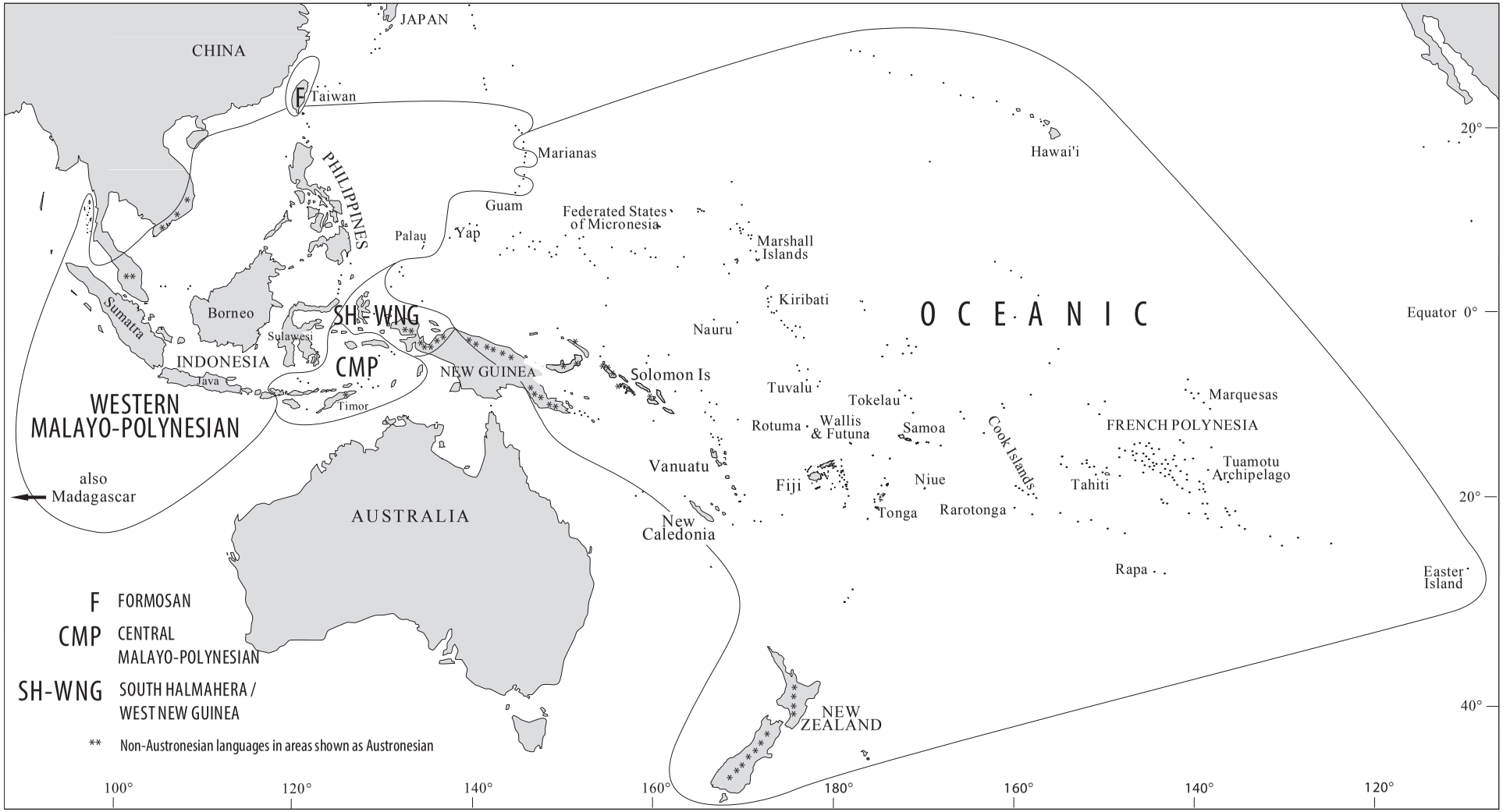
[1] The project has been jointly directed by Andrew Pawley and Malcolm Ross, with research assistance from Meredith Osmond, in the Department of Linguistics, formerly of the Research School of Pacific and Asian Studies, now of the College of Asia and the Pacific, at the Australian National University. Originally, five volumes were planned, but the large amount of material has required this to be increased to seven (see p3).

[2] The listing in Lewis, Simons & Fennig (2015) contains 513 Oceanic languages.



Map 1 The Austronesian language family and major subgroups

The present project aims to bring 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 semantic change and subgrouping in the more than 450 daughter languages.

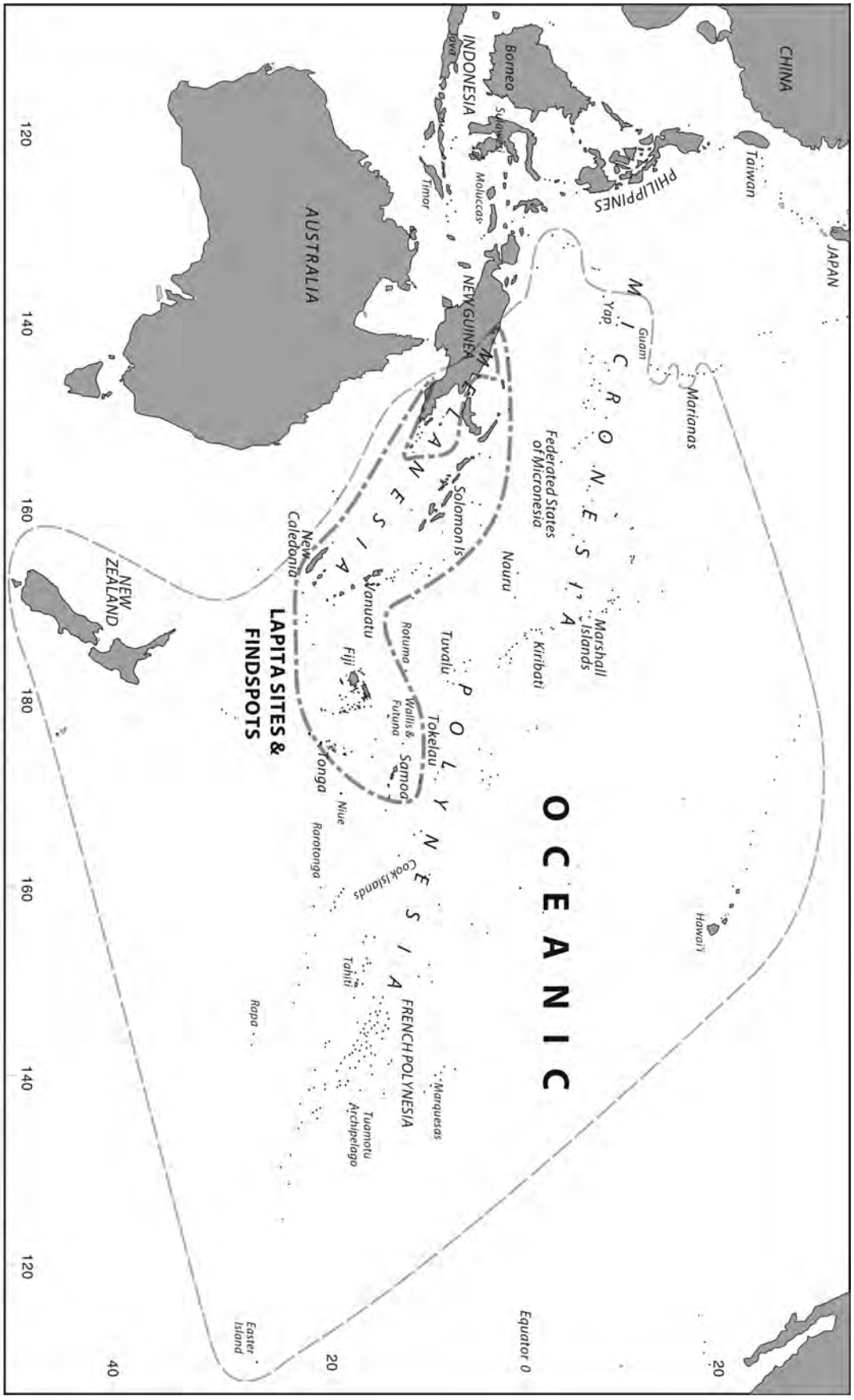
Volume 1 of *The lexicon of Proto Oceanic* deals with material culture. Volumes 2, 3 and 4 examine relevant sets of cognate terms in order to gain insights into how POc speakers viewed their environment. Volume 2 deals with the geophysical or inanimate environment, volumes 3 and 4 treat plants and animals respectively. The present volume and volume 6 return to terminologies centring on people. This volume is concerned with gender and age, the body, and human conditions and physical and cognitive activities that arise from nature rather than nurture. Volume 6 will concern culturally learned activities, social organisation, belief systems, rituals, recreation and other elements of non-material culture. The seventh and final volume will perform a number of functions. It will treat certain lexical categories, e.g. closed classes of lexical roots, not dealt with in earlier volumes. It will review the main findings of the project concerning the culture and environment of Proto Oceanic speakers and will compare these findings with what archaeology tells us about the way of life and environment of the bearers of the Lapita culture. Volume 7 will also provide an index to the POc and other reconstructions presented in the whole work, as well as an English-to-POc finderlist and a list of all languages cited, together with their subgroups.[3]

Chapter 2 of the present volume presents reconstructions and supporting cognate sets for terms for people: ‘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. Kin relationship terms are handled in volume 6 rather than here, as they are a dimension of social organisation.

Chapters 3 to 7 concern terms that have to do with the human body. Chapter 3 presents terms for the parts of the body and bodily substances, both substances of which the body is made up and which it emits. Chapter 4 is dedicated to conditions and activities of the human body, ranging from processes that occur spontaneously (sweating, breathing, snoring) to deliberate activities like eating, drinking and copulating. In between these extremes are numerous events with lesser degrees of agentivity, like sleeping, belching, yawning, defecating, laughing and crying. Chapter 5 is entitled ‘Health and disease’ and gives some insight into the diseases recognised and labelled by POc speakers. Chapter 6 investigates how Oceanic languages talk about posture and movement, the latter including not only human locomotion but also how people cause other people and things to move: raising and lowering, pulling, pushing and putting, various modes of carrying, and so on. Chapter 7 gives terms for a miscellany of activities performed with the body and its parts: working, gesturing, seizing and holding, treading, bathing and washing, waiting and hiding.

Chapters 8 to 11 deal with various aspects of the human mind. Chapter 8 presents terms for the five senses: seeing, hearing, smelling, tasting and perceiving by touch. Chapter 9 investigates the structure and semantics of body-part metaphors in Oceanic languages, as these

[3] This Introduction incorporates much of the material in the Introductions to Volumes 1–4. We replicate this material here in order that each volume can be used independently. The introduction to volume 3, however, introduced a fresh presentation of the subgrouping of Oceanic languages, and this is retained here.



Map 2 Geographic limits of historically known Oceanic speakers and of presently documented Lapita sites (after Kirch 1997:17, 54 and David et al. 2011)

evidently formed an integral part of the POc terminologies handled in Chapters 10 and 11. Chapter 10 examines terms for various aspects of cognition (knowing and thinking, truth, memory, deciding, agreeing, choosing and learning) and their organisation in POc. The final chapter, Chapter 11, presents terms that human beings use to describe one another with respect to their physical qualities, temperaments, emotions, desires and evaluations.

1.2 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)—contains 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 Greenhill & Clark 2011); for Proto Micronesian by scholars associated with the University of Hawai'i (Bender et al. 1983, 2003); for the ancestor of the Banks and Torres languages by Alexandre François (several unpublished manuscripts); for Proto North and Central Vanuatu by Clark (Clark 1996, 2009); for Proto Southern Vanuatu by Lynch (1978b, 1996, 2001c); 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 (1970), and Geraghty (1990); and for Proto Central Papuan by Pawley (1975), Lynch (1978a, 1980), and Ross (1994).

Robert Blust of the University of Hawai'i has, 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 have a major work in progress, the Austronesian Comparative Dictionary (ACD), which will bring together all Blust's reconstructions for Proto Austronesian and lower-order stages.

This is stored in electronic form at the University of Hawai'i.[4] The version to which we refer dates from 2012.

Several papers predating our project systematically investigated particular semantic domains in the lexicon of POc, e.g. Milke (1958), French-Wright (1983), Pawley (1982, 1985), Pawley & Green (1984), Lichtenberk (1986), Walter (1989), and the various papers in Pawley & Ross (1994). Ross (1988) contains 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 most 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 and a summary of the Project's collation procedures is found in Appendix 1.

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. (2003), two editions of POLLEX (Biggs & Clark 1993 and Clark & Biggs 2006), Blust & Trussel (ACD), Clark (2009) and Lynch (2001c).

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. 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 something of a problem, 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 and further authors.

1.3 Reconstructing the lexicon

The lexical reconstructions presented in these volumes are arrived at using the standard methods of comparative linguistics, which require as preliminaries a subgrouping or internal classification of the languages in question (§1.3.2) and the working out of systematic sound correspondences among cognate vocabulary in contemporary languages (§1.3.3). As well as cognate sets clearly attributable to POc, we have included some cognate sets which at this stage are attributable to various interstage languages, particularly Proto Western and Proto Eastern

[4] http://www.trussel2.com/ACD/.

Oceanic (but see §1.3.2.4 for definitions). 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.

1.3.1 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 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.

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 genetic 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*^{w}*ita* '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; this volume, §3.6.8.1.2). Reconstruction of the meaning of **p*^{w}*ita* 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 proved a more fruitful source of information than many word lists.

Another problem is inherent in the dangers of sampling from over 450 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 turning round and round?

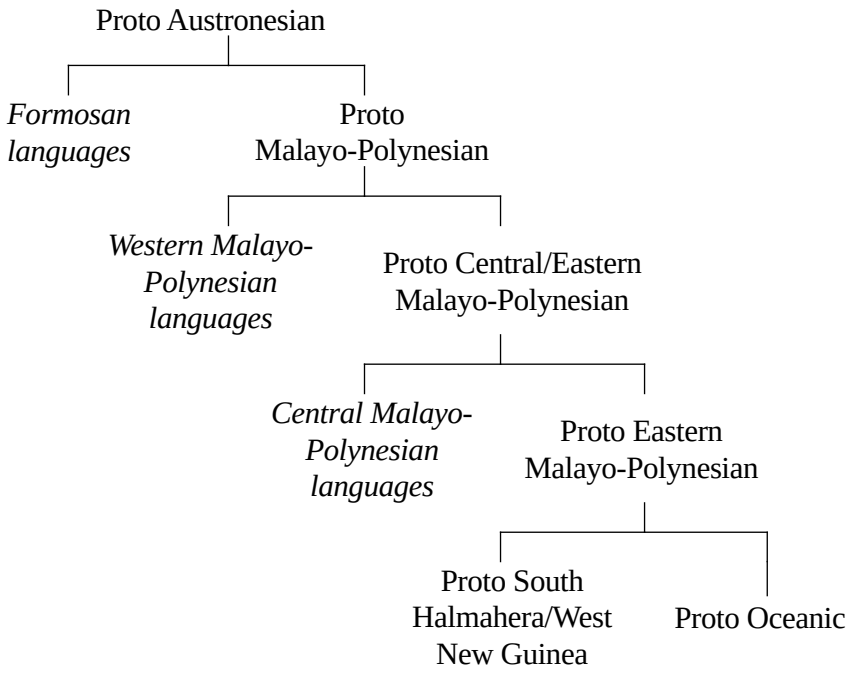


Figure 1 Schematic diagram showing higher-order subgroups of Austronesian languages

1.3.2 Subgrouping and reconstruction

1.3.2.1 Subgrouping

Although the subgrouping of Austronesian languages, and hypotheses about which protolanguage was spoken where, remain in certain cases somewhat controversial, it is impossible to proceed without making some assumptions about these matters. Figures 1 and 2 are approximate renderings of our subgrouping assumptions. The upper part of the tree, shown in Figure 1, is due to Blust, originally presented in Blust (1977) and repeated with additional supporting evidence in subsequent publications (Blust 1978a, 1982, 1983-84b, 1993a, 2009a).[5] The diagram of the lower (Oceanic) part of the tree in Figure 2 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. Sections 1.3.2.2, 1.3.2.3 and 1.3.2.4 offer some commentary on our subgrouping, and in §1.3.2.4 we explain how we handle the rake-like structure in making reconstructions.

[5] For critical overviews of the literature on Austronesian subgrouping, see Ross (1995), Pawley (1999), Adelaar (2005) and Blust (2009a). The CEMP and Central Malayo-Polynesian linkages, and also PEMP, have been called into question, but these issues lie beyond our present scope (Donohue & Grimes 2008, Blust 2009b).

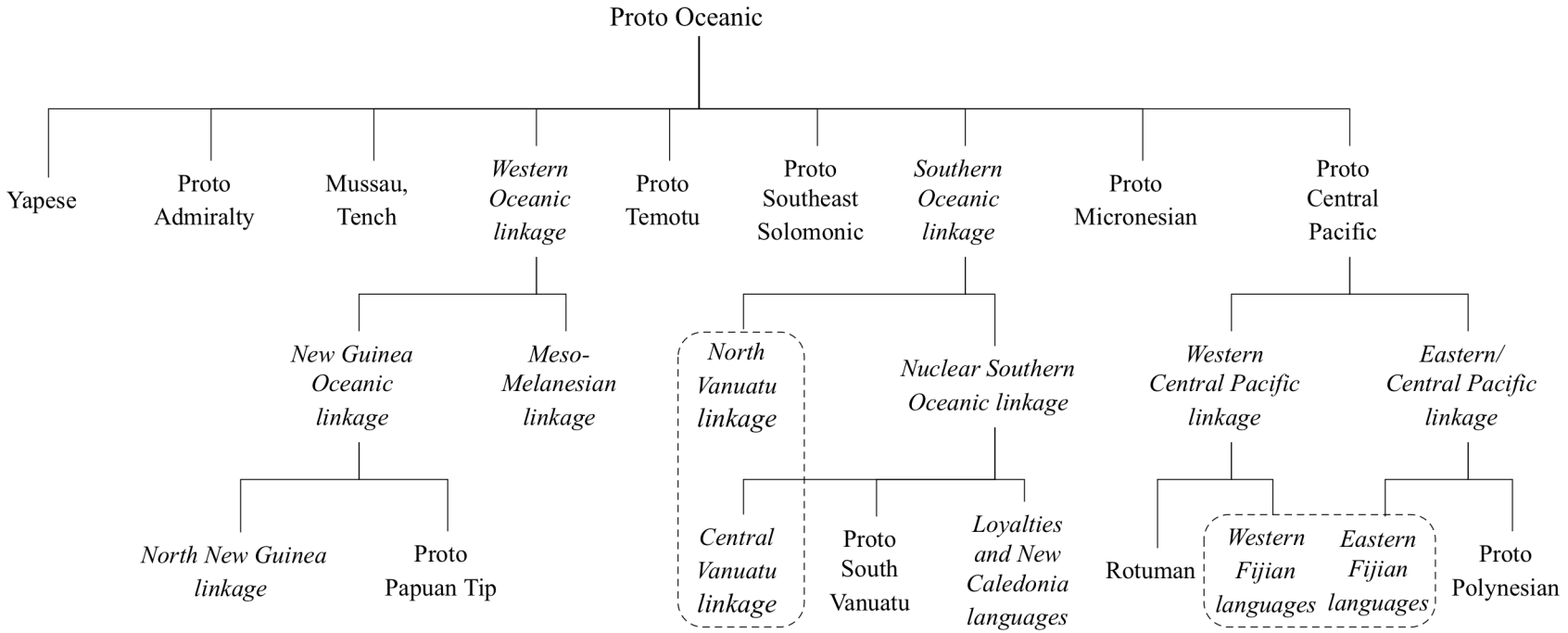


Figure 2 Schematic diagram showing the subgrouping of Oceanic Austronesian languages.

1.3.2.2 Kinds of subgroup

In Figures 1 and 2 each node is either a single language,[6] usually a reconstructed protolanguage, or, in italics, a group of languages.

Where a node is a protolanguage, its descendants form a proper subgroup (in the technical sense in which historical linguists use the term 'subgroup'). A proper subgroup is identified by 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 (Dempwolff 1934).[7] 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 innovations may be phonological (e.g. PMP **e*, pronounced [ə], and PMP **aw* both became POc **o*), morphological (e.g. POc acquired a morphological distinction between three kinds of possessive relationship: food, drink and default), or lexical (e.g. PMP **limaw* 'citrus fruit' was replaced by POc **molis).*

Italics are used in Figures 1 and 2 to indicate a group of languages which is not a proper subgroup, i.e. has no identifiable *exclusively* shared parent. Thus *Formosan languages* in Figure 1 indicates a collection of languages descended (along with PMP) from PAn. 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.

Some of the italicised labels in Figures 1 and 2 include the term *linkage*. A linkage (an 'innovation-linked group' in the terminology of Pawley & Ross 1995) is a collection of usually quite closely related languages or dialects,[8] speakers of which were in sufficient contact at one time or another during their history for innovations to pass from one language to the next, often resulting in a pattern such that the domains of various innovations overlap but are not coterminous.[9] A number of Oceanic linkages have been recognised by scholars researching the history of the languages of Fiji (Geraghty 1983), of the Caroline Islands (Jackson 1983), of NW Melanesia (Ross 1988), of the SE Solomons (Lichtenberk 1988, 1994a; Pawley 2011) and of Vanuatu (Tryon 1976, Clark 1985, Lynch 2000a, 2004c, François 2011a, 2014).[10] A linkage may arise in at least three ways, but distinguishing between them is often impossible.

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6 The two very closely related languages Mussau and Tench form a minor exception.

7 Chapter 4 of Lynch (2002) gives a recent account of these innovations.

8 In what follows, 'language' is used to mean 'language or dialect'.

9 One or more innovations may spread right across the languages of the linkage. In this case it becomes virtually impossible to distinguish it from a proper subgroup.

10 Recent work in Indo-European appeals to the concept of linkage: Garrett (2006) suggests that the dialects ancestral to Greek were not dialects of 'Proto Greek' but a collection of Nuclear Indo-European dialects drawn together by relations between the communities ancestral to the Greek city states, across which spread the innovations which characterise Ancient Greek.

First, what would otherwise be a proper subgroup may happen to lack exclusively shared innovations, perhaps because the parent did not exist as a unit for long enough to undergo any innovations of its own.[11]

Second, a linkage may consist 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 common to the whole of Western Oceanic (although the merger of POc **r* and **R* comes close). However, the languages of its three component linkages—North New Guinea, Papuan Tip and Meso-Melanesian—display complex patterns of overlapping innovations. The Western Oceanic linkage appears to be 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 2 had moved away to the north or east (Ross 2014, In press). 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 third type of linkage is the result of contact among languages descended from more than one immediate parent, indicated in Figure 2 by a dashed line around the relevant groups of languages. An example 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 1996b).[12] 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.

For most of the linkages noted in Figures 1 and 2 this kind of analysis is not available. For example, Blust (1993a) argues that CEMP was a linkage. But its history is far from clear. Does CEMP perhaps include some languages that share history with languages to their west and others that share history with those to their north? The North/Central Vanuatu linkage, long assumed to be some sort of genealogical unit, appears to reflect the partial reintegration of at east two dialect networks, North Vanuatu and Central Vanuatu, that probably had not diverged greatly from each other, but the details of this history are difficult to elucidate (Lynch 2000a).[13]

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 Figures 1 and 2: CEMP, Western Oceanic, New Guinea Oceanic, Southern Oceanic or the reintegrated North and Central Vanuatu linkage. As with PEOc and PROc (§1.3.2.4), we think it is preferable to attribute these reconstructions to a hypothetical protolanguage rather than to a higher node in the tree. Hence there are reconstructions labelled PCEMP, PWOc and so on.

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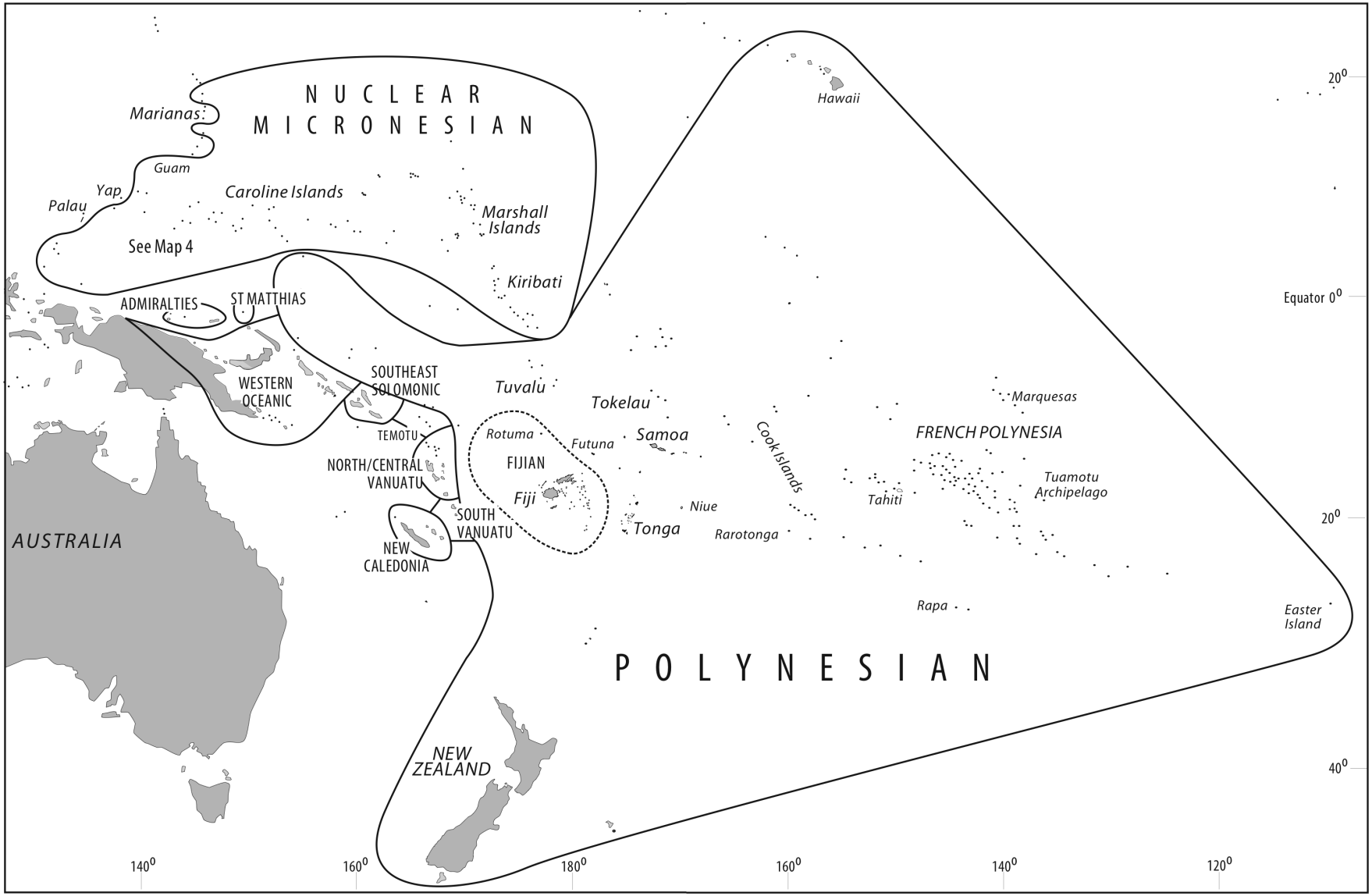
[11] A situation in which a subgroup is both proper (i.e. defined by exclusive innovations) and a linkage (displaying overlapping patterns of innovations) is of course possible, the exclusively shared innovations having occurred in the parent, the others after the break-up of the parent. It so happens that we have no need of this construct here.

[12] 'Eastern Fijian languages' in Figure 2 is our label for Geraghty's (1983) 'Tokalau Fijian'.

[13] For a history of scholarly views of the subgrouping of North and Central Vanuatu languages see Clark 2009:§1.3). For arguments supporting a NCV grouping, see Clark (2009: ch.4).



Map 3 Groups of Oceanic languages used in cognate sets

Again these apparent lexical innovations offer only the weakest evidence for the protolanguage to which they are attributed. In addition to the explanations of the kinds offered for PEOc and PROc etyma in §1.3.2.4 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.

1.3.2.3 Further notes on subgroups

This section brings together brief notes on the subgroups in Figure 2 beyond those mentioned in the discussion in §1.3.2.2.

Admiralty is a proper subgroup Ross (1988: ch.9).

Western Oceanic consists of the North New Guinea linkage (NNG), Papuan Tip family (PT), Meso-Melanesian linkage (MM) and the Sarmi/Jayapura (SJ) group (see Map 4). The last-named may belong to the NNG linkage, but this is uncertain Ross (1996b). It is not shown in Figure 2 and its languages do not play a crucial role in reconstruction. It is possible that the NNG and PT groups form a super-group, the New Guinea Oceanic linkage, and so etyma reflected only in NNG and PT languages are attributed to a putative Proto New Guinea Oceanic (Milke 1958, Pawley 1978), and etyma reflected in either NNG or PT (or both) and in MM are labelled PWOc.

SE Solomonic was established as a proper subgroup by Pawley (1972:98–110). Further support was provided by Levy (1979, 1980, n.d.), Tryon & Hackman (1983) and Lichtenberk (1988). Lichtenberk (1994) and Pawley (2011) look at the internal structure of SE Solomonic.

Temotu comprises the languages of the Reef Islands, Santa Cruz, Utupua and Vanikoro, located 400 km east of the main Solomons archipelago and to the north of Vanuatu (Map 3). Its identity as a proper subgroup of Oceanic was established by Ross & Næss (2007) and further supported by Næss & Boerger (2008).

The *Southern Oceanic* linkage as proposed by Lynch (1999, 2000a, 2001b, 2004c) is characterised by complex overlapping innovations, but by none that are reflected in all its member languages and would qualify it as a proper subgroup (see discussion in Lynch, Ross & Crowley 2002:112–114).[14]

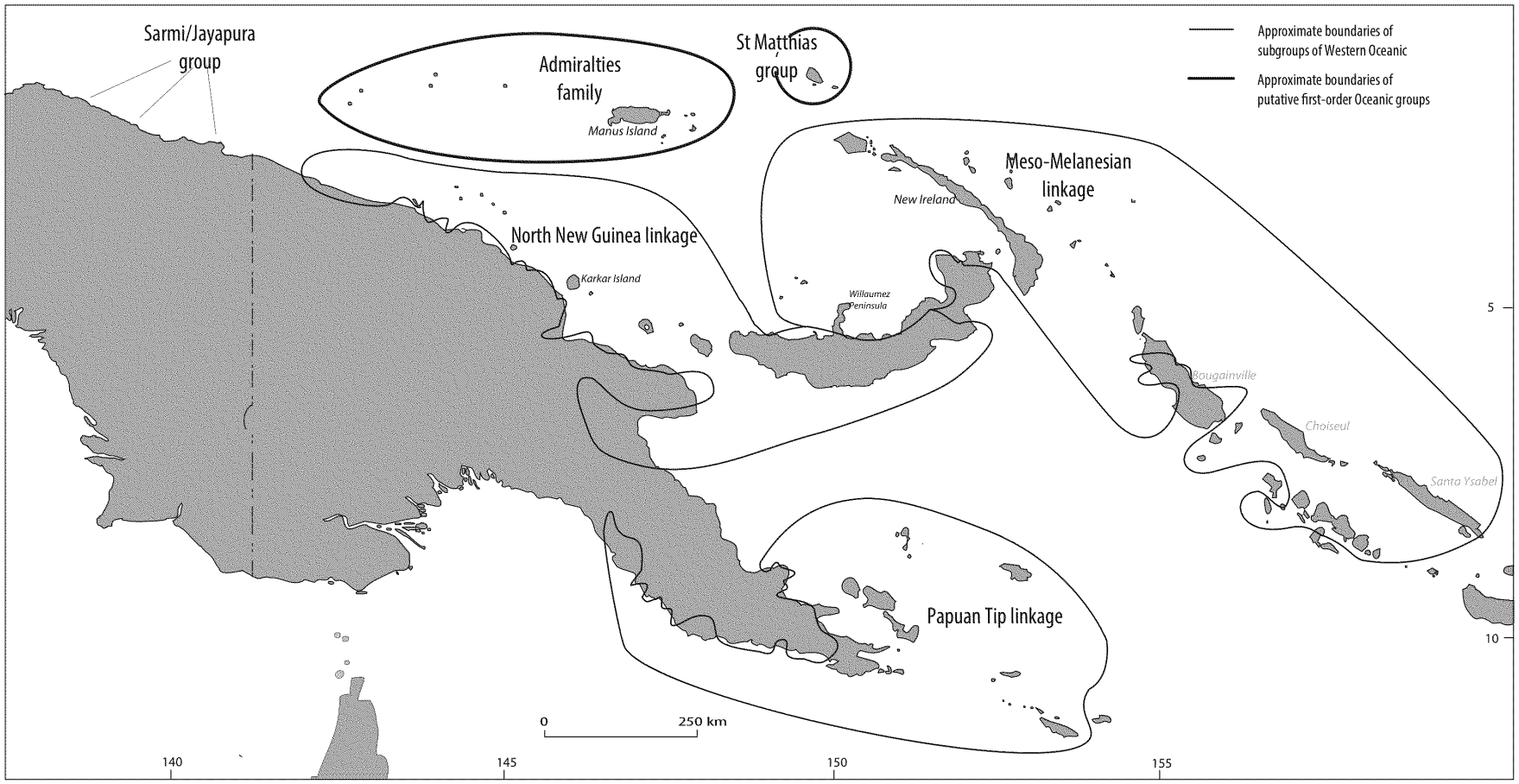
Micronesian is a proper subgroup (Jackson 1983, 1986, Bender et al. 2003).

Central Pacific is a proper 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, due to Pawley (1996b). Within Central Pacific is another long recognised proper subgroup, *Polynesian*, for which Pawley (1996a) lists diagnostic innovations.

1.3.2.4 Criteria for reconstruction

The strength of a lexical reconstruction rests crucially on the distribution of the supporting cognate set across subgroups. 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

[14] Because they have only been recently proposed, Temotu and Southern Oceanic do not appear in Figure 1 of volumes 1 and 2.



Map 4 Oceanic language groups in northwest Melanesia: the Admiralties and St Matthias groups and the subgroups of Western Oceanic

reconstruction if a cognate set occurs in just two languages in a family, with agreement in meaning, provided that the two languages belong to different primary subgroups and provided that there is no reason to suspect that the resemblances are due to borrowing or chance. The PMP term **apij* 'twins' is reflected in several western Malayo-Polynesian languages (e.g. Batak *apid* 'twins, double (fused) banana') but only a single Oceanic reflex is known, namely Roviana *avisi* 'twins of the same sex'. Because Roviana belongs to a different first-order branch of Malayo-Polynesian from the western Malayo-Polynesian witnesses and because there is virtually no chance that the agreement is due to borrowing or chance similarity, this distribution is enough to justify the reconstruction of PMP **apij*, POc **apic* 'twins'.

The rake-like form of Figure 2 almost certainly reflects the very rapid settlement of Oceania out of the Bismarcks,[15] but it confronts us with a methodological question. If we follow the rubric that we make a reconstruction if a cognate set occurs in languages of just two primary subgroups, 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 2.[16] These are

- Remote Oceanic, comprising Southern Oceanic, Micronesian and Central Pacific;
- Eastern Oceanic, comprising SE Solomonic and Remote Oceanic.[17]

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

[15] 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 2001). 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).

[16] 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, so we abandon it here and in Appendix 2.

[17] 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.

unwilling to treat PROc or PEOc as anything other than convenient hypothetical groups which allow us to retain conservative criteria for a POc reconstruction.

A reconstruction here labelled 'PROc' was in volume 1 or 2 labelled 'PEOc', but if its supporting data include no SE Solomonic reflexes, it has the same status as a PROc reconstruction in volumes 3 and 4 and the present volume. Two factors have led to the distinction between PEOc and PROc in more recent volumes. One is that the historical separateness of SE Solomonic from both Western Oceanic and the groups treated as Remote Oceanic has become increasingly clear through recent research (Pawley 2009). The other, especially relevant to volume 3, 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 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 occur in at least two out of four criterial groupings: Admiralties (or Yapese or Mussau), Western Oceanic, Temotu 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.[18] 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 subgroups on the left branches in Figure 1), as illustrated above by the reconstruction of POc **apic* 'twins'.

These criteria are identical to those applied in volumes 1 and 2 except for the addition of Temotu (which figures in few cognate sets). The establishment of Temotu as a primary subgroup (Ross & Næss 2007) postdates the publication of volumes 1 and 2.

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,[19] 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 of a reflex in one or more of these languages and one of Western Oceanic, Temotu and 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

[18] 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).

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

than to POc) can easily recognise them, however. They are those POc reconstructions for which (i) there are no Admiralties reflexes, and (ii) there is no higher-order reconstruction (i.e. PEMP, PCEMP, PMP or PAn), since the latter would be based on cognates outside Oceanic.

1.3.3 Sound correspondences

As we noted above, reconstruction depends 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 our own previous work and the work of others. The sound correspondences we have used are those given by Ross (1988) for Western Oceanic and Admiralties; by Levy (1979, 1980) and Lichtenberk (1988) for Cristobal-Malaitan, by Pawley (1972) and Tryon & Hackman (1983) for SE Solomonic; by Ross & Næss (2007) for Temotu; by Tryon (1976) and Clark (2009) for North and Central Vanuatu; by Lynch (1978b, 2001c) for Southern Vanuatu; by Geraghty (1989), Haudricourt & Ozanne-Rivierre (1982), Ozanne-Rivierre (1992, 1995) and Lynch (2015) for New Caledonia; by Jackson (1986) and Bender et al. (2003) for Nuclear Micronesian; by Geraghty (1986) for Central Pacific; by Biggs (1978) for Polynesian; by Ross (1996a) for Yapese; and by Ross (1996b) for Oceanic languages of Irian Jaya.

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; and by Blust (1978a) for South Halmahera and Irian Jaya.

We are aware that 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, as recent research suggests, 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.

1.3.4 Proto Oceanic phonology and orthography

1.3.4.1 Reconstructed Proto Oceanic phonology

Work based on the sound correspondences of both Oceanic and non-Oceanic languages has resulted in the reconstructed paradigm of POc phonemes shown in Table 1. The orthography used here and in the POc reconstructions in this work is from Ross (1988), with the addition of *p^w and *k^w. The terms 'oral grade' and 'nasal grade' and the relationship of POc phonology to PMP are discussed in §1.3.4.2.

Table 2 shows two POc orthographies. The first was established by Biggs (1965), for PEOc, and Grace (1969), who applied it to POc. It has been used with a number of variants, separated by a slash in Table 2. The second, introduced by Ross (1988), is the one generally used in this work. One matter not discussed here is POc stress, for which see Lynch (2000b).

Table 1 Reconstructed paradigm of POc phonemes

*p^{w}	*p	*t	*c	*k	*k^{w}	*q
*b^{w}	*b	*d	*j	*g		
		*s				
*m^{w}	*m	*n	*ñ	*ŋ		
		*r				*R
		*dr				
		*l				
*w			*y			
	*i		*u			
	*e		*o			
		*a				

Table 2 POc orthographies after Grace (1969) and Ross (1988)

Grace	oral grade	*p	—	*t	*d/*r	*s	*j	*k	—		
Ross		*p	*p^{w}	*t	*r	*s	*c	*k	*k^{w}		
Grace	nasal grade	*mp	*ŋp/*mpw	*nt	*nd/*nr	*nj		*ŋk			
Ross		*b	*b^{w}	*d	*dr	*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	*o	*e	*a	*u					
Ross		*i	*o	*e	*a	*u					

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

Oceanic languages reflect a set of shared innovations relative to PMP (see Table 3) and it was on the basis of some of these that Dempwolff (1937) first recognised Oceanic as a major Austronesian subgroup. The innovations which occurred over the pre-POc period were mergers and splits, the introduction of new phonemes, and one deletion, as follows:

a) The PMP voiced/voiceless pairs **p, *b* and **k, *g* merged respectively as early pre-POc **p* and **k*. Ozanne-Rivierre (1992) suggests that the corresponding **t, *d* merger was hindered by their mismatch in point of articulation (dental vs alveolar).

b) The PMP pairs **s, *z* and **d, *r* merged respectively as pre-POc **s* and **d* (phonetically probably [r], since Eastern Malayo-Polynesian cognates are liquids).

c) PMP and a number of its descendants had word-medial homorganic nasal + obstruent sequences (not shown in the table). Some instances of the pre-POc word-initial obstruents **p, *t, *k, *d/r, *s* and **j* also acquired a preceding homorganic nasal (the occurrence of this process is unpredictable and its causes largely unknown). These sequences became the unitary POc prenasalised voiced obstruents.

Table 3 Correspondences between PMP and POc protophonemes[20]

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	*pʷ	*t	*r	*s	*c	*k	*kʷ			
POc nasal grade		*b	*bʷ	*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	*mʷ	*n	*ñ	*ŋ	*w	*y	*l	*q	*R	*Ø	
PAn, PMP		*i, *-uy(-)		*e,* -aw		*-ay		*a		*u		
POc		*i		*o		*e		*a		*u		

d) The labiovelars **pʷ, *bʷ *mʷ* and **kʷ* entered the language (Blust 1981, Lynch 2002, Ross 2011). Most of the items containing a labiovelar lack non-Oceanic cognates, and some, at least, must have been borrowed into POc from neighbouring Papuan languages. For example, it can be argued that **mʷapo(q)* 'taro' was borrowed by POc speakers as they acquired more sophisticated taro-growing techniques from Papuan speakers (vol.3:267). A few of these items were inherited into POc, and the labiovelar was the reflex of a labial occurring next to a round vowel. However, it is not clear in these items that the labiovelar actually occurred in POc. Thus a number of Oceanic languages reflect **tamʷata* 'man, husband', derived from **tau* 'body, person' + **mataq* 'unripe, immature, young', but we cannot be sure whether this or **taumata(q)* was the POc form (§2.2.2.1)

e) PMP **h* was lost in POc.

f) PMP **e*, phonetically [ə], became POc **o*, and the PMP word-final diphthongs **-uy(-),*[21] **-aw* and **-ay* were simplified to POc **-i*, **-o* and **-e* respectively, the first two thereby merging with plain vowels.

The combined effect of (a) and (c) is that each of the PMP pairs **p, *b* and **k, *g* first merged and then split. As a result, for example, PMP **p* became either POc **p* or POc **b*, and the same was true of PMP **b*, giving the kind of crossover seen in the initial consonants of these examples:

PMP **panas*	'hot, warm'	POc **panas*
PMP **punay*	'wild pigeon'	POc **bune*
PMP **baqeRuh*	'new'	POc **paqoRu*
PMP **beRek*	'pig'	POc **boRok* 'domestic pig'.

Similarly, either PMP **k* or PMP **g* could become either POc **k* or POc **g*. For example,

[20] The PAn phoneme represented here as **L* is often written **N* by Austronesianists, but **N* is reserved here for the morphological feature described in §1.3.5.6.

[21] 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*.

PMP **kuden*	'cooking pot'	POc **kuron*
PMP **kabut*	'mist'	POc **gabu*
PMP **gapgap*	'stammer'	POc **kaka(p)*
PMP **gemgem*	'make a fist	POc **gogo(m)*, **gom-i* 'hold in the fist'

An innovation that has come to light during work on these volumes concerns certain PMP trisyllabic roots with **-e-* (*[ə]) as the nucleus of their second syllable. These trisyllables lost **-e-* in POc, along with the second consonant of the resulting consonant cluster. Thus PMP **buteliR* 'wart' became POc * *putiR* (§5.3.2.5). Other etyma where this happened are PMP **buqeni*, POc **puni* 'ringworm, *Tinea imbricata*' (§5.3.3.2), PMP **tuqelan*, POc **tuqan* 'bone' (§3.3.4), PMP **baReqaŋ*, POc **paRa(ŋ)* 'molar tooth' (§3.4.12.5), PMP **biseqak* 'split', POc **pisa(k)~ *pisak-i-* (vol.1:261), and PMP **ma-udehi* , POc **muri* 'be behind' (vol.2:251 and §6.5.3), PMP **ma-heyaq* 'shy, embarrassed; ashamed', POc **maya(q)* (§11.4.2). The conditioning of this change remains unclear, as it did not affect PMP **maqesak*, POc **maosak* 'ripe, cooked' (vol.1:157), PMP **baqeRu*, POc **paqoRu* 'new' (vol.2:203), PMP **qateluR*, POc **qatoluR* 'egg' (vol.4:278) or PMP **qulej-an*, **quloc-a(n)* 'maggoty' (vol.4:415).[22]

1.3.5 Proto Oceanic bound verbal morphology[23]

Because reconstructions in the present volume more often entail POc bound morphemes than those in previous volumes, this section briefly revisits aspects of POc morphology described in chapter 2 (§3) of volume 1. This is a consequence of the present volume's subject matter. Many of the reconstructions in chapter 3 are of nouns denoting inalienably possessed body-parts that entail the direct possession construction, which is described in §3.1.1.

Chapters 4 and 6–11 are overwhelmingly concerned with the reconstruction of verbs denoting events and states.[24] POc had only a rather small class of adjectives (properly, adjectival nouns; Ross 1998), and many states were encoded as verbs. The following subsections deal briefly with the morphology of POc verb stems. The POc verb complex is reconstructed by Pawley (2003). Verbs evidently took a proclitic indexing their subject and, if transitive, an enclitic indexing their object, e.g. POc **i=kiniti=au* 'he pinched me' (cf. Manam *i-ʔint-a*).[25] In many daughter languages these are a prefix and a suffix, and their obligatory presence is often indicated in cognate-set data by a preceding and following hyphen.

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[22] POc **qaco* 'daylight, sun' (vol.2:153–155) at first sight appears exceptionally to have lost the first consonant of the cluster in PMP **qalejaw*, but there is evidence that it in fact reflected a PAn variant **qajaw*.

[23] Much of the material in this section is a reduced version of parts of Ross (2004a), to which the reader is referred for more detail. Ross (2004a) in turn relies heavily on Evans (2003), a book-length detailed treatment of POc bound verbal morphology.

[24] The one earlier chapter in which verbs predominate is chapter 9 of volume 1, which concerns verbs of impact, force and change of state.

[25] It is not clear how complete the POc clitic sets were. Evidence is strong that an object enclitic occurred only if the object was singular or third person non-singular. If it was first or second person non-singular, the object was probably an independent pronoun (Evans 1995). Something similar may have been true of subject proclitics.

1.3.5.1 A-verbs, U-verbs and statives

In English—and many other languages—intransitive verbs can be divided into those which intrinsically only have one participant, like 'die', 'fall', 'walk' and 'swim', and those which could have a second but unspecified participant, like 'eat [s.t.]', 'kick [s.o.]' and 'hunt [s.t.]'. In English an intransitive verb with a second but unspecified participant usually has the actor as its single argument.[26] One says *John ate* or *John ate the bread*, but not **The bread ate* (meaning that someone ate it). In some Oceanic languages, however, there is a subclass of intransitive verbs which do work like *ate* in **The bread ate*. They denote a semantic relation with a potential second participant, but the subject of the verb is the undergoer, not the actor, as in this sentence:

e	*gagi*	*a*	*dovu*
S:3S	crush	ART	sugarcane

'The sugarcane is being crushed.' (literally 'The sugarcane crushes') (Dixon 1988:204)

This and the following examples are from Boumaa Fijian.

The potential second participant is of course the actor, who emerges in the transitive version of the verb (which in this—but not every—case has the same form as the intransitive).

au	*gagi-a*	*a*	*dovu.*
S:1S	crush-O:3S	ART	sugarcane

'I'm crushing the sugarcane.'

Intransitive verbs of this kind are here called U-verbs ('undergoer verbs'). Their existence in Fijian has long been recognised (Arms 1974, Biggs 1974, Foley 1976), and has also been documented for Longgu by Hill (1992) and for Hoava by Davis (2003:113). Evans (2003:26-32) suggests that U-verbs are quite common in Oceanic languages.

Some Oceanic languages, like Fijian, have two other subclasses of intransitive verb. One is the subclass of U-verbs which contains stative or 'adjectival' verbs, as in this example:[27]

e	*loaloa*	*a*	*ʔolii*	*ya*
S:3S	be.black	ART	dog	this

'This dog is black.'

These verbs are stative in the sense that they denote states. In actual use, statives were and are often used inchoatively, i.e. of coming to be in a state. This explains why, for example, **mate* and many of its reflexes mean both 'be dead' and 'die', as well as 'be unconscious' and 'faint, become unconscious' (§4.2.1.2). The difference between stative meaning and inchoative meaning was and is made by using a verb in differing grammatical constructions. Specifically, the stative meaning was indicated by a perfective construction, as it is in Sa'a *mae ʔoto* 'quite dead' and Manam *-mate tina* 'dead + intensifier'.

Contrasting with U-verbs are A-verbs ('actor verbs'), which resemble English intransitives

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[26] Exceptions are, e.g. *The door closed* and *The vase smashed*.

[27] An extensive study of Oceanic stative verbs and adjectives from both typological and diachronic perspectives has been published elsewhere (Ross 1998a, 1998c).

in that the actor is the subject both of the intransitive and of its transitive counterpart.[28]

a.	*au*	*rabe*		b.	*au*	*rabe-t-a*	*a*	*polo*
	s:1s	kick			s:1s	kick-TR-o:3s	ART	ball
	'I'm kicking.'				'I'm kicking the ball.'			

Dixon (1988:205) notes that Boumaa Fijian A-verbs are mostly verbs of motion like 'go', 'jump', 'creep', 'fly' etc, whereas U-verbs are mostly verbs of affect: 'crush', 'bend', 'fold', 'squeeze', 'tie up' etc. The same appears to be true of Longgu (Hill 1992). This is noteworthy, because it means that U-verbs denote semantic relations which one would expect to be prototypically transitive (Hopper and Thompson 1980) (and they do have transitive counterparts, as the sugarcane-crushing example illustrates).

Unfortunately, the data usually do not allow us to distinguish between U- and A-verbs in our glosses of intransitives, but there are a few exceptions, e.g. POc **kilat* (U-verb) 'be seen clearly, discerned, recognised' (§8.2). In many languages it is not clear whether there are U-verbs. Some sources (e.g. Capell's 1941 dictionary of Bauan Fijian and Fox's 1955 dictionary of Gela) often gloss U-verbs as if they were A-verbs.

Oceanic languages have an array of valency-changing morphemes, described in §§1.3.5.2–1.3.5.5, which interact with A- and U-verbs in various ways to shift semantic roles (but only rarely to add a second object). These are all lexical derivations. In other words, they are partially unpredictable, and lack the productivity of a voice system.

1.3.5.2 Transitivising morphology: **-i* and **-akin[i]*

POc had two transitivising suffixes (or perhaps enclitics), **-i* and **-akin[i]*. When **-i* was added to an A-verb, its valency was increased by the addition of an object. When it was added to a U-verb, the undergoer subject became the object and its valency was increased by the addition of an actor subject, as illustrated in the examples in §1.3.5.1.

It is somewhat inaccurate, however, to talk about "POc **-i*", as the morpheme had a zero alternant. POc verb roots were mostly disyllabic and either consonant-final or vowel-final, that is, (C)V(C)VC or (C)V(C)V. The canonic shape of the root alone determined its transitive form. The transitive of a consonant-final root was formed with **-i* , but with a vowel-final root like **wase-* 'share (s.t.) out' or **kati-* 'husk (s.t.) with teeth', no transitive suffix occurred and the object enclitic was added directly to the root (Evans 1995, 2003:96-99, 106-118). A probable exception were roots ending in **-a*, where the suffix **-i-* may have occurred between the root and the object enclitic, at least when the enclitic itself began with **a* (**=au* o:1s, **=a* o:3s). In Table 4 are some reconstructed POc A- verbs and U-verbs, both consonant-final and vowel-final, with their corresponding transitives.

POc **-akin[i]* was an applicative suffix which increased the valency of an intransitive verb by the addition of an object (or in some cases perhaps simply replaced **-i* on a transitive verb that no longer had an intransitive counterpart). Whereas the object of a verb formed with **-i* (or zero) was typically a patient or location, however, the object of a verb formed with **-akin[i]* typically had some other semantic role. With a verb of movement, for example, it was an entity that accompanied the actor, e.g. Bauan Fijian *ðiði* 'run', *ðiðiv-i* 'run to', *ðiðiv-aki*

[28] Classes of this kind were first reconstructed for POc by Pawley (1973:128), whose A-class and B-class statives correspond respectively to the stative and U-verb classes reconstructed here. He subdivides A-verbs into various semantic subclasses.

Table 4 Proto Oceanic transitivising **-i*

	intransitive		corresponding transitive	
A-verbs	**kinit*	'pinch'	**kinit-i-*	'pinch (s.o/s.t)'
	**inum*	'drink'	**inum-i-*	'drink (s.t.)'
	**kati*	'husk with teeth'	**kati-*	'husk (s.t.) with teeth'
	**muri*	'follow'	**muri-*	'follow (s.t./s.o.)'
U-verbs	**pʷosa(k)*	'be cracked open'	**pʷosak-i-*	'crack (s.t.) open'
	**loŋoR*	'be audible'	**loŋoR-i-*	'hear, listen to'
	**soka*	'be pierced, stabbed'	**soka-i-*	'pierce, stab (s.t./s.o.)'
	**wase*	'be shared out'	**wase-*	'share (s.t.) out'
	**poli*	'be bought'	**poli-*	'buy (s.t.)'

run off with (s.t.)' (§6.6). With a verb of cognition or emotion it was a cause or stimulus, e.g. Bauan Fijian *leva* 'be angry', *levað-i* 'be angry with (s.o)', *levat-aki* 'be angry about (what s.o. has done)'. With a verb of bodily emission it was the emitted substance, e.g. Bauan Fijian *lua* 'vomit', *luað-a* 'vomit on s.t.', *luar-ak-a* 'vomit s.t. up' (§4.4.4).

We follow Evans (2003) in reconstructing **-akin[i],* indicating that the morpheme had two forms, **-aki(n)* and **-akini,* formally parallel to the alternation between intransitive and transitive forms with consonant-final roots in Table 4 (Clark 1973). Indeed, there is good evidence that **-akin[i]* was once a verb. The final **-n* of the **-aki(n)* variant is, however, nowhere preserved. Instead, we find *-aki, -aʔi* and other such reflexes, reduced in some Oceanic languages (e.g. Tawala [PT]) to *-e*.

In POc, **-i* and **-akin[i]* were often added to an intransitive root with a final consonant, like **taŋis* 'weep', but in many Oceanic languages word-final consonants have been lost, with the result that when the ancient consonant is retained before a transitive affix it is interpreted as part of the suffix, as in Wayan Fijian *taŋi* 'weep' vs *taŋi-ði-* 'cry for (s.o.)' and *taŋi-ðakini-* 'cry about (s.t.)'. This has had the consequence that, at least in SE Solomonic and Fijian languages, the inherited consonant has been replaced by another consonant, as in the verbs above derived from Bauan Fijian *leva* and *lua*.

Table 5 summarises the valency-changing devices putatively used with the three POc verb classes. This situation remains more or less unchanged in many daughter languages. Column 2 indicates a difference between U-verbs and statives: a transitive verb could be formed with **-i* from either an A-verb or a U-verb, but a transitive could be formed from a stative only with one of the causative prefixes **pa-* and **paka-*, which are the topic of the next subsection.

Table 5 Classes of intransitive verb in Proto Oceanic

	1 intransitive subject	2 forms a transitive with **-i* ?	3 forms a causative?
A-verbs	A	*yes*	*yes*
U- verbs	U	*yes*	*yes*
Stative verbs	U	*no*	*yes*

1.3.5.3 Causativising morphology: **pa-* and **paka-*

POc causatives were formed with one of the two widely reflected prefixes **pa-* and **paka-*, usually accompanied by the transitiviser **-i*. A given Oceanic language reflects either **pa-* or **paka-*, but not both. This is curious, as it compels us to reconstruct two POc prefixes with apparently the same function. However, the history of the two forms is well known. In PAn and PMP **pa-ka-* causativised stative or non-agentive verbs (**ka-* marked a verb stem as stative or non-agentive: see §1.3.5.4), whereas **pa-* causativised dynamic, agentive verbs (Zeitoun & Huang 2000, Ross 2015). The fact that their reflexes are in contrast in no known Oceanic language indicates that when POc broke up, the distinction between them had been lost but the two forms continued to coexist.

Table 5 shows that causatives could be formed from all three POc verb classes. Indeed, this was the only way that a transitive verb could be formed from a stative. The causative adds an actor argument, the causer, to the verb, as these Boumaa Fijian examples show. The verb *vuli* 'learn' in (a) is an A-verb, so its actor subject is the same as that of the transitive in (b). The causative in (c) introduces the causer argument *o Jone* 'John', and the actor becomes its object. The object of (b), 'arithmetic', is an oblique in both the intransitive of (a) and the causative of (c).

a. *au* *sā* *vuli* *(i-na* *fika)*
s:1S ASP learn PREP-ART arithmetic
'I am learning (about arithmetic).'

b. *au* *sā* *vuli-ŋa* *a* *fika*
s:1S ASP learn-TR:O:3S ART arithmetic
'I am learning arithmetic.'

c. *e* *sā* *vaʔa-vuli-ŋi* *au* *o* *Jone* (*i-na* *fika)*
s:3s ASP CAUS-learn-TR O:1S ART John PREP-ART arithmetic
'John is teaching me (arithmetic).' (Dixon 1988:50)

In (d) the verb *ʔau* 'take, carry' is a U-verb, so its subject 'letter' in (a) becomes the object of the transitive in (b) and of the causative in (c).

d. *e* *ʔau* *yane* *a* *ivola*
s:1s take thither ART letter
'The letter is being taken/sent.'

e. *e* *ʔaut-a* *yane* *a* *ivola* *a* *ðauravou*
s:1s take-o:3s thither ART letter ART youth
'The youth is taking the letter.'

f. *e* *vaʔa-ʔau-t-a* *yane* *a* *ivola* *a* *marama*
s:1s CAUS-take-O:3S thither ART letter ART woman
'The woman is posting (= causing to be sent) the letter.' (Dixon 1988:185)

Boumaa Fijian, like many other Oceanic languages, has no ditransitive verbs, so one of the three roles potentially associated with the causative must become an oblique or disappear, as happens in (c) and (f).

The situation described with regard to transitivisation and causativisation in Boumaa Fijian also holds with various complications or simplifications in many other Oceanic languages and

presumably did so in POc.

1.3.5.4 Detransitivising morphology: reduplication, **ma-/*ka-, *ta-* and **paRi-*

Detransitivising morphology took four forms in POc: reduplication and the prefixes **ma-/*ka-, *ta-* and **paRi-*. Only **paRi-* remained as productive in POc as the transitivising and causativising morphology described in the two preceding subsections. It formed reciprocals,[29] and reflexes occasionally appear in the data, and are marked 'reciprocal' accordingly.

The other three pieces of detransitivising morphology shared the function of reducing a verb's valency from two to one. Reduplication turned a transitive into an A-verb (Evans 2003:81–84, 301). This was perhaps the most productive of POc's detransitiving stategies, as Evans reports a number of languages reflecting an apparent POc **kani-kani* (VI) 'eat', from **kani* (VT) 'eat', in competition with inherited **paŋan* (VI) 'eat', discussed in §1.3.5.5.

On Evans' analysis (2003:268–279, 300), POc **ma-* had several functions. One was to turn a transitive into a U-verb, e.g. POc **ma-kini(t)* 'be stung, have a stinging pain' (§5.3.2.3), from POc **kinit, *kinit-i-* 'to pinch, nip' (vol.1:280). Another was to form a stative from a dynamic verb or perhaps a noun, e.g. POc **ma-raqu* 'be thirsty' (§4.3.3.2), **ma-draRa(q)* 'be bloody, bleed' (§4.4.1), **ma-ridriŋ* 'be cold' (§4.8.1), **ma-saki(t)* (V) 'be in pain, sick' (§5.3.1), **matakut* (VI) 'be afraid' (§11.4.1). In this function **ka-* alternated with **ma-* in POc, the outcome of a productive PMP alternation explained in §1.3.5.5, but it seems that neither was productive by the time POc broke up. The prefix **ma-* is also found in a small number of non-stative intransitives with an experiencer subject, and the following are reconstructed in ch.4: POc **ma-soru* 'hiccup' (§4.3.7.1), **ma-ñawa* 'breathe' (§4.5.1), **mawap* 'yawn' (§4.5.6), **ma-turu(R)* 'sleep, be asleep' (§4.6.1).

The functions of **ta-* were similar to those of **ma-*, but with three differences. First, a U-verb with **ta-* denoted an action or state that had seemingly occurred without the intervention of an agent, whereas **ma-* remained unspecified with regard to agency. Second, **ta-* appears to have been productive in POc, as it remains productive in some modern languages (Evans 2003:289–300). Reflexes of **ta-* crop up in the data, but rarely in reconstructions, e.g. POc **ta-lili* 'be dizzy' (§5.3.16), **ta-bulo(s)* (VI) 'turn round, turn back', spontaneous derivative of *bulos-i-* (VT) 'turn round, turn back' (§6.4.2).

1.3.5.5 Malayo-Polynesian fossils: verbal morphology

A number of Malayo-Polynesian fossils occur in the POc reconstructions in this volume. They are fossils in the sense that by the break-up of POc they were apparently fully integrated into the POc stems in which they are reflected, appear only sporadically, and had no productive function. Nonetheless, knowledge of parts of the verbal system of PMP is necessary to understanding how these forms came to be present in POc.[30]

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[29] The functions of **paRi-* were more complex than this: see Lichtenberk (2000).

[30] What we reconstruct as POc is the language at the point that it broke up, i.e. when innovations no longer spread across the whole speech community (Pawley 2008). It is possible, perhaps probable, that the PMP features described in this subsection survived productively in the Austronesian language of those who settled in the Bismarck Archipelago, but lost productivity shortly before the break-up. However, papers by van den Berg & Boerger (2011) and Næss (2015) suggest that a more PMP-like system than we reconstruct continued on beyond the break-up. This raises questions that need further research, but

Table 6 A schematic representation of the English, PMP and POc voice systems (A = actor, U = undergoer, V = verb)

	English	PMP	POc
Transitive	active voice	undergoer voice	transitive
	A_{SUBJ} V U_{OBJ}	V $A_{GENITIVE}$ U_{SUBJ}	V A_{SUBJ} U_{OBJ}
Intransitive	passive voice	actor voice	intransitive
	U_{SUBJ} V [by A]	V A_{SUBJ} [$U_{OBLIQUE}$]	V A_{SUBJ} [$U_{OBLIQUE}$]

The relevant feature of the PMP system is a contrast between two voices.[31] The English voice system distinguishes between a transitive active voice (e.g. *The chicken bit a mango*) and an intransitive passive voice (*The mango was bitten [by the chicken]*). The PMP voice system was organised differently. It had a transitive undergoer voice, i.e. the undergoer was the subject and the actor was marked as genitive ('be-bitten of-the chicken the mango'). There was also an intransitive actor voice, i.e. the actor was subject and the undergoer, if any, was in an oblique case ('bit the chicken [at a mango]').[32] This system is maintained in most languages of the Philippines, where specialists have labelled this kind of voice system a 'focus' system. The contrast between the English and PMP voice systems is presented in Table 6.

One would predict from this configuration that PMP actor-voice verbs gave rise to POc intransitives, while PMP undergoer-voice verbs became POc transitives, and, as Table 6 implies, this prediction is fulfilled, but with certain qualifications. Table 6 also indicates that at some point between the break-up of PMP and the emergence of POc, transitive clause structure was realigned so that the PMP (undergoer) subject became the POc object and the PMP genitive actor was reanalysed as the subject.

Table 7 shows the parts of the PMP voice paradigm that are relevant to POc. Forms in the grey cells did not survive as verbal morphemes in POc.[33] PMP had three sets of undergoer voices, marking the subject as semantic patient, location, and instrument or beneficiary respectively. PMP dependent forms occurred after an auxiliary, and it is these that have become the default POc forms.

Table 7 The PMP voice morphology (partial) (√ = verb root)

	independent		dependent
	neutral	perfective	
Actor voice or intransitive	*‹*um*›√	(*‹*um-in*›√)	*√
Undergoer voice (patient)	(*√-*en*)	*‹*in*›√	(*√-*a*)
Undergoer voice (location)	*√-*an*	(*‹*in*›√-*an*)	*√-*i*
Undergoer voice (instrument/beneficiary)	(*i-√)	(*i-‹*in*›√)	*√-*áni*

we think it unlikely that the answers will have a radical effect on our reconstructions.

[31] A wider-ranging account of the PMP verbal system and its development up to the break-up of POc is given in Lynch et al. (2002:57–63).

[32] The pseudo-English glosses do not work well, as 'be-bitten' is English intransitive passive, whereas the PMP verb form was transitive.

[33] All PMP independent undergoer voice forms also functioned as nominalisers, and *‹in›√*, *√-an*, *‹in›√-an* and *i-√* retained this (apparently productive) function in POc. *√-en* is reflected only as a fossil.

The typical POc intransitive is a plain or reduplicated root reflecting the PMP actor voice dependent form. The patient and location undergoer voice forms merged at some pre-POc stage, so that the location form *√-*i* became the POc transitive suffix, as described in §1.3.5.2. The PMP instrument/beneficiary undergoer voice form *√-*áni*[34] became a POc applicative *-*ani*, reflected in various Admiralties languages and Meso-Melanesian languages of New Ireland.[35] However, in a far larger number of Oceanic languages it has been replaced by POc *-*akin[i]*, the origin of which is far from obvious, despite widespread reflexes in non-Oceanic Malayo-Polynesian languages (Evans 2003:157–170, Ross 2002).

The PMP dependent forms mentioned in the previous paragraph evidently remained productive in POc. The evidence suggests that the PMP independent forms that survived into POc were restricted in function and that the undergoer voice forms √-*an* and *‹*in*›√ did not participate in realignment, becoming passives in scattered Oceanic languages.[36] Thus in clauses where these forms occurred, the PMP transitive construction V A$_{\text{GENITIVE}}$ U$_{\text{SUBJ}}$ noted in Table 6 became V U$_{\text{SUBJ}}$. Allomorphs of the PMP actor voice form *‹*um*›√, meanwhile, survived as a fossil in various POc verbs, listed in Table 8. There were several such allomorphs. The infix *‹*um*› itself does not appear in POc forms, with two possible grey-shaded WOc exceptions. Instead, the survivors are allomorphs that are more readily reanalysed as part of the root. With a vowel-initial root, infix *‹*um*› became prefix *[u]m-, and with a labial-initial root, infix *‹*um*› also became *m- but here replacing the initial labial. There is just one example of the latter, at the bottom of Table 8.[37]

Table 8 POc forms reflecting a fossilised allomorph of the PMP actor voice infix *‹*um*›

Root forms			Forms reflecting *‹*um*›			
POc	*inum-i- (VT)	‘drink’	POc	*m^{w}inum (VI)	< *um-inum	§4.3.2.1
PAn	*utaq	‘vomit’	POc	*mutaq (VI)	< *(u)m-utaq	§4.4.4
POc	*ase	‘breathe’	POc	*mase	< *(u)m-ase	§4.5.1
POc	?*(k)asio	‘sneeze’	PROc	*m^{w}at(i,u)a	< *um-at(i,u)a	§4.5.9
PMP	*qaŋa[p,b]	‘gape etc’	POc	*maŋa(p)	< *q‹um›aŋa(p)	§4.5.5
PMP	*hipi	‘dream’	POc	*mipi	< *(u)m-ipi	§4.6.3
POc	*turu-	‘knee, joint’	PWOc	*tudruŋ ‘kneel’	< *t‹um›uruŋ	§6.2.4.2
POc	*k[i,u]su	‘spit’	PWOc	*kamisu/*kimusu	< *k‹um›[i,u]su	§4.4.3
POc	*puni (VI)	‘hide’	POc	*muni	< *m-uni	§7.7.2

[34] Wolff (1973) and others since have reconstructed the PAn/PMP suffix as *-*án*, reflected in Puyuma and Paiwan (both Formosan) and in Philippine languages, but PMP *-*án-i* can be reconstructed with confidence, as it is reflected in Tsou, Saaroa, Saisiyat, Atayal and Seediq (all Formosan) and in Oceanic languages. There is also paradigmatic evidence for *-*án-i* (Ross 2009:300–301).

[35] Reflexes of POc *-*ani* are found in the Admiralties languages Lou, Titan, Kele, Loniu and Nyindrou and in Meso-Melanesian languages of New Ireland Tigak, Kara, Tabar, Lihir, Barok, Patpatar and Tolai.

[36] Passives reflecting an allomorph of *‹*in*› are found in Bola (MM), Nakanai (MM), and Natügu (TM) (van den Berg & Boerger 2011). Passives reflecting *-*an* occur in Bali-Vitu (MM) (van den Berg 2007), Kara (MM) (Schlie 1984, Dryer 2013), Raga (NCV) (Walsh 1966, Crowley 2002b), Abma (NCV) (Schneider 2010:56–57, 2011).

[37] POc *muni may reflect *N + puni (§1.3.5.6) rather than *m-uni.

Table 9 POc forms reflecting fossilised PMP perfective infix *‹*in*›*

Root forms			Forms reflecting *‹*in*›			
PMP	**hipi*	‘dream’	POc	**nipi*	< **in-ipi*	§4.6.3
POc	**k[i,u]su*	‘spit’	POc	**kanisu*	< **k‹in›[i,u]su*	§4.4.3

two possible grey-shaded WOc exceptions. Instead, the survivors are allomorphs that are more readily reanalysed as part of the root. With a vowel-initial root, infix *‹*um*› became prefix **[u]m-*, and with a labial-initial root, infix *‹*um*› also became **m-* but here replacing the initial labial. There is just one example of the latter, at the bottom of Table 8.[38]

Not surprisingly, the perfective infix *‹*in*› occurs less often in lexicalised forms. The two possible cases are shown in Table 9, neither of them entirely convincing.

1.3.5.6 Malayo-Polynesian fossils: verbal derivations

PMP also had certain derivational prefixes that were attached to roots to form stems to which the voice morphology of Table 7 then applied. Two of these, **ka-* and **paN-*, play a significant role in POc reconstruction.

The POc detransitivising morpheme **ma-*, at least in its stative function (§1.3.5.4), reflected an ancient (pre-PAn) combination of *‹*um*› intransitive + **ka-* stative. As a result POc has occasional **ka-/*ma-* alternants, e.g. POc **ka-(r,R)aŋo* ‘be dry, be low tide’ vs **[ma]Raŋo* ‘become withered’ (vol.2:220) and POc **ka-uRi-* vs POc **ma-wiRi*, both ‘left-hand, be on the left; left side or direction’ (§3.6.3).

Table 10 POc forms reflecting a fossilised PMP **paN-*, **N-* or **maN-*

Root forms			Forms reflecting **paN-*		
POc	**kani* (VT)	‘eat’	POc	**paŋan* (VI)	§4.3.1.1
PMP	**qaŋa[p,b]*	‘gape etc’	POc	**paŋaŋap*	§4.5.5
PMP	**takaw*	‘steal’	POc	**panako*	Ross 1988:41–42
POc	**roŋoR*	‘hear’	POc	**panoŋoR*	Geraghty 2010
PMP	**qetaq*	‘eat raw’	POc	**paŋoda* ‘gather shellfish’	vol.4:438; Geraghty 2010
Root forms			Forms reflecting **N-*		
POc	**sop-i*	‘suck’	POc	**ño-ñop*	§4.3.2.2
POc	**k[i,u]su*	‘spit’	PWOc	**ŋ[i,u]su*	§4.4.3
POc	**tari*	‘wait’	Motu	*nari*	§7.7.1
Root forms			Forms reflecting **maN-*		
PMP	**qinit*	‘heat, warmth	POc	**maŋini(t)* ‘become warm’	§4.8.2
POc	**[ma]raqu*	‘be thirsty’	POc	**madraqu*	§4.3.3.2
POc	**ma-ridri(ŋ)*	‘(s.o.) be cold’	POc	**madridriŋ*	§4.8.1
PAn	**diRi*	‘stand’	POc	**madriRi*	§6.2.2

[38] POc **muni* may reflect **N + puni* (§1.3.5.6) rather than **m-uni*.

More widely reflected is the PMP verb-deriving prefix **paN-* and its allomorph **N-*. Its history and function are unclear, other than that it formed dynamic verbs. It is barely present in Formosan languages, but ubiquitous in conservative Malayo-Polynesian languages.[39] The **N* symbol here indicates a process that replaces a root-initial voiceless obstruent with a homorganic nasal, and places a homorganic nasal before a voiced obstruent and **-ŋ-* before a root-initial vowel (Blust 2004). Reflexes of both **paN-* and **N-* occur in POc, with no discernible conditioning or difference in function. Systemically, a PMP stem with **paN-* or **N-* occupied the dependent actor-voice slot in Table 7, i.e. the slot from which POc intransitives were derived. The corresponding PMP independent actor-voice form was **maN-*, which, like **‹um›*, is rarely reflected in POc. Reconstructed POc verbs that include these morphemes are shown in Table 10.

1.4 Conventions common to the series

1.4.1 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 bulk of each contribution consists of reconstructed etyma with supporting data and a commentary on matters of meaning and form.

The reconstruction of POc **[ma]saki(t)* (V) 'be in pain, sick'; (N) 'sickness' below, adapted from Chapter 5, shows how reconstructions and supporting cognate sets are presented. Above it is a superordinate (PMP) reconstruction drawn from Blust's Austronesian Comparative Dictionary (ACD; see §1.2). Below it are supporting reflexes. Chapters vary in the degree to which lower-order reconstructions like PSV **a-misa* below are included. Lower-order reconstructions are sometimes given to clarify the relationship of reflexes to the higher-order reconstruction: Southern Vanuatu languages, for example, have undergone so much phonological change that a Proto Southern Vanuatu reconstruction helps explicate the relationship between Southern Vanuatu reflexes and the POc reconstruction. Sometimes a lower-order reconstruction displays an extension of meaning or some other semantic change.

PMP **masakit* 'be in pain, be sick' (ACD)

POc **[ma]sakit* (V) 'be in pain, sick'; (N) 'sickness'

NNG:	Gitua	*mazai*	'sick'
NNG:	Kaulong	*sahi*	'sick, sickness'
NNG:	Mapos Buang	*rak*	'sick'
NNG:	Sengseng	*sahi*	'sick' (*h* reflects **g*)
MM:	Vitu	*maðaɣi*	'sick'
MM:	Tigak	*masak*	'be in pain'
MM:	Tolai	*maki*	(N) 'pain, ache', (VI) 'to ache, be sore'
SES:	Gela	*(va)haɣi*	'be in pain; be ill, have malaria'
SES:	Talise	*masaɣe*	'sick'

[39] Kaufman (2009) suggests that a trigger for its proliferation was the ambiguity of multifunctional PMP **ma-*, which occurred on both stative and dynamic verbs.

SES:	Tolo	*masahe*	‘sick, ill; illness, disease’
SES:	Kwaio	*mataʔi*	‘fever, malaria’
SES:	To’aba’ita	*mataʔi*	(VI) ‘be sick’
SES:	Arosi	*(mara)mataʔi*	‘to feel malaria coming on’
SES:	Arosi	*mataʔi*	‘to have fever, malaria, be feverish’
SES:	Sa’a	*mataʔi*	(VI) ‘malaria, to have malaria’
NCV:	Dorig	*msāɣ*	‘fever’
NCV:	Unua	*mesaxit*	‘sick’

PSV **a-misa* ‘sick, be in pain’ (Lynch 2001) (vowel metathesis)

SV:	Lenakel	a-*mha*	‘be sick, in pain’
SV:	Kwamera	*a-misa*	‘be sick, in pain’
SV:	Anejom	*e-mθa*	‘be sick, in pain’
Mic:	Ponapean	*metek*	‘be painful’
Mic:	Woleaian	*metax*	‘sick, sickness, in pain’
Pn:	Tongan	*mahaki*	‘sickness, disease, ailment’ (first element in many compounds[40])
Pn:	Rennellese	*masaki*	‘sickness’ (first element in many compounds[41])
Pn:	Samoan	*maʔi*	‘be sick; fall ill’ (first element in many compounds)
Pn:	Tuvaluan	*mahaki*	‘illness’
Pn:	Maori	*mahaki*	‘ill; sick person; cutaneous disease’

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. Table 11 is a key to the labels. Figure 2 shows the positions of these groups in the Oceanic tree. 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.

Lynch’s recent research on Southern Oceanic (§1.3.2.3) 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, even though 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.

In the interests of space we have not given 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. ‘ACD’ above, but this is difficult when earlier reconstructions differ in form and meaning.

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[40] e.g. *mahaki-kili* ‘skin disease’, *mahaki-mata* ‘eye disease’, *mahaki hela* ‘asthma’, *mahaki moa* ‘epilepsy, be epileptic’.

[41] e.g. *masaki tinaʔe* ‘stomach ache, *masaki tuʔa* ‘backache’, *masaki niho* ‘toothache’, *masaki ɣotoi* ‘epilepsy; flinching sickness’.

Table 11 Abbreviations for the genealogical or geographic groups

Yap:	Yapese (one language)
Adm:	Admiralty and Mussau/Tench
NNG:	North New Guinea
SJ:	Sarmi/Jayapura
PT:	Papuan Tip
MM:	Meso-Melanesian
SES:	Southeast Solomonic
TM:	Temotu
NCV:	North/Central Vanuatu, i.e. the reintegrated network formed by the North and Central Vanuatu linkages
SV:	Southern Vanuatu
NCal:	Loyalty and New Caledonia
Mic:	Micronesian
Fij:	Fijian, i.e. the reintegrated network formed by Western and Eastern Fijian dialects
Pn:	Polynesian

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 §1.3.2.4). 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 sought to make 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, together with their abbreviations.

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.

1.4.2 Data

Data sources are listed in Appendix 1.

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 genetically representative, but also provides evidence to justify the shape of the reconstruction. 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.[42] This means, for example, that the *j* of the German-based orthographies of Yabem and Gedaged becomes *y*, Yabem *c* becomes *ʔ*, Gedaged *z* becomes *ɬ* and so on; the *ng* of English-based orthographies becomes *ŋ*; and Fijian *g*, *q* and *c* become *ŋ*, *g* and *ð* respectively.

The following symbols have more or less their usual IPA values: *ð, ɢ, ɣ, h, k, l, ʟ, ɬ, ʎ, m, n, ŋ, ñ, p, q, χ, ɾ, r, s, t, w, x, z, ʔ, a, æ, e, ɛ, ə, i, ɨ, o, œ, ɔ, ʌ, u, ʉ, ɯ*. 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 *ʙ* 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:

f	[ɸ, f]	voiceless bilabial or (less often) labio-dental fricative
v	[β, v]	voiced bilabial or (less often) labio-dental fricative
c	[ts], [ʧ]	voiceless alveolar or palatal affricate
j	[dz], [dʒ]	voiced alveolar or palatal affricate
y	[j]	palatal glide
dr	[ⁿr]	prenasalised voiced alveolar trill (as in Fijian)
ö	[ø]	rounded mid front vowel
ü	[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*;
- labialisation is marked by a superscript w, e.g. *pʷ*;
- velarisation is marked by a superscript ɯ, e.g. *pᵚ*;
- contrastive aspiration is marked by a superscript h, e.g. *pʰ*;
- apicolabials are represented by the corresponding apical symbol and the linguolabial diacritic (the ‘seagull’), e.g. *t̼*;
- retroflexes are represented by the corresponding apical symbol with a dot beneath, e.g. *ṛ*.

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[42] The main reason for retaining Ross’ 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).

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 (vol.1, ch.2, §3.2). Where an inflexional morpheme cannot readily be omitted, then 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 adjectival *-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 (proper or otherwise), 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 naming of dialects in the 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)'.

1.4.3 Conventions used in representing reconstructions

Reconstructions are marked with an asterisk, e.g. **manuka* 'ulcer, sore, wound', a standard convention in historical linguistics. POc reconstructions, and also PWOc and PNGOc reconstructions, are given in the orthography of §1.3.4. 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 used for data (§4.2). Geraghty's (1986) PCP orthography, for example, based on Standard Fijian spelling, 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.[43] 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 12.

Table 12 Bracketing and segmentation conventions in protoforms

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

[43] 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.

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 the PMP finals. This is so when a PMP etymon is not attested in an Oceanic language that consistently retains POc final consonants. An example is *-*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, the Longgu term *dau* 'hang down; drop anchor' is presented in support of POc **tau(r)* 'hang, be suspended' (§6.2.4.3). Given the reconstruction, however, we would expect the Longgu form to be *tau*. In this volume we use a less widely employed convention and mark expected forms with a dagger, e.g. '*d-* for †*t-*' or '†*tau*', to distinguish them both from reconstructions and real data.[44]

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 §3.3.9, 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 not attested to.

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 we 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)', or '(VT)' to indicate that it is a verb, intransitive verb or transitive verb. Because in many environments transitive verbs were regularly formed from the intransitive stem by adding the suffix *-*i-* (§1.3.5.2), 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'.

In putting together cognate sets we have quite often found possible cognates which do not quite 'fit' the set: they display unexplained phonological irregularities 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'.

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

1.5 Indexes

This volume has three indexes. The first, as in volumes 1–4, is an index of reconstructions arranged by their protolanguages. The second, as in volumes 3 and 4, is an alphabetical list of reconstructions. The third is an index to the English glosses.

10 *Cognition*

MALCOLM ROSS AND MEREDITH OSMOND

10.1 Introduction

A cognition verb like 'know', 'think', 'understand' or 'remember' denotes a concept that speakers are aware of because it denotes an event within their own minds, but often has only indirect correlates in the perceived world. As a result, speakers of different languages classify cognitive events in rather different ways, requiring us first to gain some insight into how speakers of present-day Oceanic languages classify these events.

English cognition verbs tend to cover a range of events. The verb *think* has a considerable range of meanings:

1. *Don't talk to me—I'm thinking.* (cogitation)
2. *I think John stole the key.* (belief, opinion)
3. *I didn't think of it* ('I forgot it.')
4. *I thought I would go shopping* (intention)
5. *I keep thinking about poor Mary* ('I'm worried because she is ill' OR 'I'm saddened by her death' OR 'I would like to be with her')

To be sure, a native speaker disambiguates each meaning in context. The progressive aspect in the present tense (… *am thinking*) in (1) indicates that this is thinking in the sense of cogitation. The complement clause (… *I would go shopping*) in (4) points to intention.

There is probably no other language in the world with a verb whose range of meanings exactly corresponds to those of English *think* (not even close neighbours like French or German do), but many of our sources give English glosses consisting of a single cognition verb like 'think', leaving us ignorant of how the verb thus glossed is used.

To gain insight into how speakers of present-day Oceanic languages classify cognitive events, we have first tried to ensure that we compare like with like semantically. A list of semantic frames for cognition terms was drawn up. A semantic frame is a description of an event, relation, or entity and the participants involved in it.[1] Making the list was a two-step procedure. First, the FrameNet website[2] was consulted. It provides semantic frames for a very large number of English lexemes and, for example, distinguishes the various senses of English

[1] Semantic frames are part of Frame Semantics, a theory of meaning deriving from the work of Charles J. Fillmore (see especially Fillmore 1982, 1985, Croft & Cruse 2004:8–22 and *passim*.).

[2] https: //framenet. icsi. berkeley. edu/fndrupal/.

think. Second, frames were defined that reflect meanings found in dictionaries of Oceanic languages for cognitive states and activities. Semantic frame labels appear below in small capitals. Terms for each frame were found in dictionaries of four Oceanic languages: Nakanai (MM; Chowning 2014), To'aba'ita (SES; Lichtenberk 2008), Mwotlap (NCV; François 2012) and Wayan Fijian (Pawley & Sayaba 2003) and are tabulated in the sections on knowing (§10.2), thinking (§10.3) and remembering (§10.5). This constituted a check of the appropriateness of the list of frames and of their possible representation in POc. In the event, several cognition frames that were supported by dictionary glosses did not lead to the reconstruction either of forms or of metaphorical structures, and they are omitted here. These include 'not know, be ignorant' (often a simple verb), 'think about, long for', 'be on one's mind, have s.t. on one's mind', 'remember to do s.t.', 'forget to do s.t.', 'hope' and 'expect'.

A larger language sample would have been ideal, but identifying semantic frames requires sentence examples. These are absent from Chowning (2014), but the latter is the best available dictionary of a MM language. Because semantic frames are subject to borrowing by bilingual speakers, and NNG and PT languages have all been in contact with Papuan languages at various points in their histories, they are probably poor indicators of POc's frames and were therefore excluded from the sample, meaning that WOc could be appropriately represented only by a MM language.

There is a tendency for terms denoting abstractions to be metaphors that refer to less abstract concepts. Metaphors in turn are often encoded by complex lexemes; that is, lexemes made up of two or more simple lexemes. Complex lexemes include body-part metaphors (BPMs; ch.9), serial verb constructions (SVCs),[3] and compounds derived from either of these, and apparently these have long been productive lexeme-creating devices, as they are also present in Central Malayo-Polynesian and South Halmahera/West New Guinea languages and were apparently constructions of Proto Central/Eastern Malayo-Polynesian. We can be sure that complex lexemes with these structures occurred in POc.

Each section below discusses a single cognition frame or a set of related frames. Sections discussing further frames could be added, but these would not contain reconstructed forms. They would at best list the meanings of complex lexemes together with supporting data, and these are already well enough represented in the chapter.

10.2 Knowing

Verbs encoding three semantic frames denote knowledge in Oceanic languages:

- AWARE, e. g. 'I know that he is coming.'
- ACQUAINTED, e. g. 'I know him well.'
- EXPERT, e. g. 'I know how to plant yams.'

[3] Oceanic SVCs are described by Crowley (2002) and in the contributions to Bril & Ozanne-Rivierre (2004).

Their distribution across verbs in the four witness languages is shown in Table 22.[4] In Mwotlap, Wayan and To'aba'ita one verb is used for all three frames, but To'aba'ita also has dedicated EXPERT verbs. Nakanai has distinct verbs in each frame, but the AWARE verb *rovi* also occurs in the ACQUAINTED compound *rovi-lala*. The morpheme *-lala* is perhaps related (diachronically, at least) to *lalai* 'to try (to do s.t.)'. If so, it has a similar meaning to To'aba'ita *toʔo*, which means 'to try, test' in a number of compound verbs (§8.5) including apparently *θaitoʔoma-* 'know', but does not occur independently.

Table 22 Verbs of knowing in the four witness languages

	AWARE	ACQUAINTED	EXPERT
	'know (s.t. /that …)'	'know/recognise (s.o.)'	'know/learn (how to …)'
Nakanai	***rovi***	*mata-kilala* [look-(know)] ***rovi**-lala* [know-?]	*tahai, mari*
To'aba'ita	***θai-toʔoma-*** [(know)-?]		***θaitoʔoma-***, *filo-, filoŋani-, maʔalutani-* [eye-?], *dau-fīfirisi-* [? -thoroughly]
Mwotlap	*eɣlal*		
Wayan	*kilāti-*		

The glosses on the second line of Table 22 are intended to capture the fact that in certain contexts (e. g. in the presence of a perfective marker) ACQUAINTED and EXPERT verbs often have dynamic punctual senses, respectively 'recognise (s.o.)' and 'learn (how to …)'.

The POc 'know' verb with the most widely distributed reflexes is **kilala*. It appears to have had AWARE, ACQUAINTED and EXPERT senses, to judge from the more specific glosses in the cognate set below, but it is difficult to be certain. WOc glosses match the PMP gloss, ACQUAINTED. The trisyllabic form is unusual, and there is reasonable evidence for a transitive alternant **kila-i-* from which the third root syllable was deleted.

PMP **kilala*, 'know (a person), recognise, be acquainted with; feel, perceive' (ACD)
POc (VI) **kilala*, (VT) **kilala-i-*, **kila-i-* 'know'

Adm:	Mussau	*kile*	'know'
NNG:	Lukep (Pono)	*-kil-*	'recognise'
NNG:	Mangap	*-kilaala*	(VT) 'know well, recognise, be aware, understand'
NNG:	Manam	*-kilala*	'recognise'
NNG:	Bariai	*kilala*	(N) 'memorial, monument, mnemonic'
NNG:	Amara	*klele*	(VT) 'know'
NNG:	Aria	*-ile*	(VT) 'know (s.o.)'
MM:	Nakanai	*(mata)kilala*	'know, recognise (s.o.)
MM:	Madak	*kilem*	'know'

[4] Bolded verbs are identical across frames. Glosses in square brackets give senses of compound elements. Parentheses indicate that an element does not occur independently with this meaning, which is inferred either from occurrence in several compounds or from cognates in closely related languages.

MM:	Kubokota	*ɣila-ɣila*	‘know’
MM:	Lungga	*ɣi-ɣila-i*	‘know’
MM:	Nduke	*ɣi-ɣile-*	‘know’
MM:	Roviana	*ɣilani-*	‘know’ (*-n-* for †*-l-*)
MM:	Hoava	*ɣilali-*	‘know’
SES:	Birao	*hila-hila*	‘know’
SES:	Lengo	*ɣila-ɣila-*	‘know’
SES:	To’aba’ita	*ʔilala*	‘perform divination’
SES:	Arosi	*ʔirara*	‘know, understand, perceive’
SES:	Owa	*ɣirara*	‘know’
TM:	Natügu	*klʌ*	‘know’
NCV:	N Ambrym	*kela*	‘know’
NCV:	Paamese	*kilea*	‘know, know how to, be able to’
NCV:	Lewo	*kilia*	(VT) ‘know, understand’
NCV:	Mota	*ɣilala*	‘know, understand’
NCV:	Mwotlap	*eɣlal*	‘know’
NCV:	Sakao	*köl*	‘look for, find’
SV:	Sye	*okili*	‘know’
NCal:	Nemi	*hina*	‘know’
NCal:	Iaai	*xanā*	‘know’

PMic **kila, kila-a, kila-i-* ‘know’

Mic:	Kosraean	*(a)kile(n)*	(VT) ‘notice’
Mic:	Kiribati	*kinā*	‘recognise, know’
		kina-i	(VT) ‘recognise, know’
Mic:	Marshallese	*kile-y*	‘recognise, realise, distinguish, be familiar with, identify, notice, perceive’;
Mic:	Chuukese	*siɾe*	‘know how (to do s.t.), be skilled’,
		siɾe-e-	(VT) ‘know s.o.’
Fij:	Bauan	*kila[-]*	‘know, understand’

A number of languages have verbs that are formally similar to the reflexes above but have meanings that indicate that they more probably reflect POc **kilat* (VI) ‘be seen clearly, discerned, recognised’, (VT) ‘see clearly, discern, recognise’ (§8.2).

NCV:	Tolomako	*kile-*	‘see’,
NCV:	Araki	*kila*	‘watch, look (in a certain direction)’
NCV:	Atchin	*kila*	‘look round, down’
NCV:	Avava	*kil-kila*	‘look, open eyes’
Mic:	Ponapean	*kila(ŋ)*	‘see, discern, look at, observe, examine’
Mic:	Woleaian	*xle*	‘be clear, seen clearly, recognised’
Pn:	Rennellese	*kiga*	(VSt) ‘be clearly seen, in plain sight’

The Wayan verb *kilāti-* ‘know’, on the other hand, conflates a form reflecting **kilat* with the sense ‘know’.

From the glosses of the data below, POc **qataq, *qataq-i-* evidently meant ‘know, understand, realise (that)’, encoding AWARE. In a few languages the verb has the same form as the reflex of **qate-* ‘liver’ (§3.7.6). Despite the role played by **qate-* in bodypart metaphors,

particularly those expressing emotions (§9.2.1), however, the resemblance seems to have emerged by chance. Final **-q* is attested in Mutu and Namakir.

POc (VI) **qataq*, (VT) **qataq-i-* 'know, understand, realise (that)'

Adm:	Nyindrou	*ata(na)*	'come to know, realise, understand' (syntactically a verb, but the subject is encoded as a possessor suffix, e. g. *atana-k* 'I realise')
NNG:	Kilenge	*ota-i*	'know'
NNG:	Mutu	*wataɣ-i*	'know'
NNG:	Gitua	*wata*	'know'
NNG:	Bariai	*oata-i*	'know, learn'
NNG:	Kove	*ata-i*	'know'
NNG:	Mangseng	*ate*	'recognise, see that'
PT:	Iamalele	*ʔase(ta-i)*	'know, understand'
PT:	Dawawa	*kata-i*	'learn'
PT:	Tubetube	*kata-i*	'know'
PT:	Saliba	*kata-i*	'know'
PT:	Suau	*ʔata*	'know'
PT:	Misima	*ate(na)*	'know, understand'
PT:	Sudest	*ɣarei-ɣarei*	'know, understand'
MM:	Notsi	*ati*	'know'
MM:	Nehan	*ate, iate*	'know'
MM:	Halia	*atei*	'know'
MM:	Mono-Alu	*atae*	'know s.o.'
SES:	Longgu	*ðai-*	'know, understand, be accustomed (to doing); be able (to do)'
SES:	Marau Sound	*rae-*	'know'
SES:	Lau	*sai(toma), sai(tama)*	'know (s.t., s.o.)'
SES:	To'aba'ita	*θai(toʔoma-)*	'know'
SES:	'Are'are	*rai-*	'know, understand'
		rai hitari-	'know well' (*hitari-* (VT) 'split')
TM:	Asumboa	*kata*	'know'
NCV:	Namakir	*ʔataʔ*	'know'
NCV:	Nguna	*atae*	'know'
NCV:	Lelepa	*tae-*	'know'
NCV:	S Efate	*tae*	'know'
		(nroŋ)tae	'recognise by hearing'
		(mro)tae	'understand' (*mro* 'think')
		(le)tae	'realise, recognise, identify' (*le* 'look, see')

PMic **ata*, **ata-i-* 'know, understand'

Mic:	Ponapean	*ɛsɛ*	'know, understand (s.t.)'
Mic:	Kiribati	*ata-i*	(VI) 'know, have knowledge',
		ata-a	(VT) 'know (s.t.)';
Mic:	Kosraean	*etʌ*	'know, understand (s.t.)'

The first morpheme of PPn **qata-mai* ‘intelligent, expert, clever’ evidently reflected POc **qataq*.

PPn **qata-mai* ‘intelligent, expert, clever’ (POLLEX)

Pn:	Tongan	*ʔatamai*	‘intelligent, intelligence’
Pn:	Samoan	*atamai*	‘intelligent, clever’
Pn:	Anutan	*atamai*	‘mind, meaning’
Pn:	Tuvalu	*atamai*	‘skilful, able; skill, ability’
Pn:	Emae	*atamai*	‘wise, wisdom’
Pn:	Nukuoro	*adamai*	‘recollect/recall past events/persons’
Pn:	Pukapukan	*atamai*	‘wish, desire; intelligent, having common sense’
Pn:	W Futunan	*atamai*	‘right-minded, sane, clever’
Pn:	Tahitian	*atama*	‘wisdom, intelligence, wise, intelligent’
Pn:	Hawaiian	*akamai*	‘clever, expert’
Pn:	Māori	*atamai*	‘knowing, quick-witted; malicious’

POc evidently had another term with an EXPERT meaning, **taqu*, but it is reflected with reasonable certainty only in Anejom (SV) and in Polynesian languages, and two PPn terms are reconstructable: **tau* ‘skilful at, familiar with’ and **mātau* ‘know, understand, be experienced’. The latter has an apparent Banoni (MM) cognate, allowing the reconstruction of POc **ma-taqu* (**ma-* was a stative formative; §1.3.5.4).

PAn **Caqu* ‘know how, be able to, be skilled at’ (ACD)

PMP **taqu* ‘know how, be able to, be skilled at’ (ACD)

POc **taqu* ‘know how, be able to, be skilled at’

SV:	Anejom	*a-tou*	‘know, know how to, be able, understand, be certain, be sure’ (John Lynch, pers. comm.)

PPn **tau* ‘skilful at, familiar with’ (POLLEX)

Pn:	Tongan	*tau*	‘skill that one is accustomed to do’
Pn:	Tuvalu	*tau*	‘proper, necessary, possible, compulsory’
Pn:	Pukapukan	*tau*	‘to fit, look nice’
Pn:	Rarotongan	*tau*	‘be suitable, befit, able, to be possible’
Pn:	Sikaiana	*tau*	‘be fit or suitable’
Pn:	Takuu	*tau*	‘equal to a task’
Pn:	Tikopia	*tau*	‘be accustomed, used to, adapt, fit’
Pn:	W Futunan	*tau*	‘follow in the ways of, take after, learn from’
Pn:	Māori	*tau*	‘be able, be suitable’

cf. also:

NNG:	Manam	*to*	‘learn’

POc **ma-taqu* ‘know, understand, be experienced’ (also ‘right-hand’: §3.6.3)

MM:	Banoni	*matō*	‘know, be smart’
Fij:	Wayan	*mātau*	(VSt) ‘be familiar to s.o’. (subject the thing that is familiar), ‘accustomed to, used to’ (experi-

			encer marked by oblique case)
		matau	‘right-hand side’
Fij:	Bauan	*matau*	‘be right-handed’

PPn **mātau* ‘know, understand, be experienced’ (POLLEX)

Pn:	Tuvalu	*matau*	‘clever, experienced, right hand’
Pn:	Tongarevan	*mātau*	‘accustomed to, usual’
Pn:	Rarotongan	*mātau*	‘have knowledge of, be accustomed to, be in the habit of’
Pn:	Tuamotuan	*mātau*	‘understand’
Pn:	Māori	*mātau*	‘know, understand’

cf. also:

Fij:	Rotuman	*macau*	‘be expert, skilful’ (*-j-* for †*-t-* or †*-f-*)

It is well known that in many languages a perception verb may also mean ‘know, understand (s.t.)’ (Aikhenvald & Storch 2013, Evans & Wilkins 2000, Viberg 1984). English uses ‘I see’ to mean ‘I understand’, i.e. an AWARE sense. This semantic extension occurs occasionally in Oceanic languages. A few NNG languages use a reflex of POc **reki[-]*, **reqi[-]* ‘see, look, see s.t., look at s.t.’ (§8.2) also in the sense ‘know’:

NNG:	Mangap	*re*	‘see, look, experience; consider, think, be aware’
NNG:	Yabem	*liʔ*	‘see, look at s.t., know, have experience’
NNG:	Lamogai	*rik*	‘see, know’

A similar extension of meaning occurs with PPn **kite* ‘see, appear, know’ from POc *kita-i-* ‘see s.t.’, and Raga (NCV) *ilo* ‘know, perceive’ from POc **qilo* ‘be aware of, discern, see’ (§8.2). The transitive reflex of POc **qilo*, namely PPn **qilo-* (VI) ‘to know, be aware’, (VT) ‘know s.t.’, had been fully repurposed as a verb of knowing.

Reflexes of POc **roŋoR-* ‘hear s.t., listen to s.t.’[5] with the additional sense ‘know’ are sufficiently widespread to raise the possibility that this sense was already present in POc.

NNG:	Mutu	*-lōŋ*	‘know how to’
NNG:	Bing	*-luoŋ*	‘know’
NNG:	Takia	*-loŋ*	‘hear, listen, perceive, know’
NNG:	Gedaged	*-loŋ*	‘know, have knowledge of, be aware of, hear, learn, perceive, understand’
PT:	Wedau	*-nonori*	‘know’
PT:	E Mekeo	*loŋo*	‘know’
PT:	NW Mekeo	*oŋo*	‘know’
MM:	Nakanai	*lolo*	‘hear, understand, know’
MM:	Sursurunga	*a-loŋr-a*	‘hear; listen and understand’
MM:	Nehan	*loŋoro*	‘hear, understand’
SES:	Sa’a	*roŋo*	‘hear, listen, hear tidings of, understand’
NCV:	Lakon	*ruŋ*	‘hear, feel; obey, know’

[5] Reflexes of POc **roŋoR-* raise a number of formal challenges. These are discussed in §8.3.

Lexical replacement has evidently been frequent among verbs of knowing, and many reconstructions can be made of verbs that are reflected in just one subgroup. Some are listed here in the hope that their origins may eventually be identified.

Proto Willaumez **maci* 'know' (Goodenough 1997)

MM:	Bola	*mari*	'know'
MM:	Nakanai (Bileki)	*mari*	'know'
MM:	Nakanai (Maututu)	*masi*	'know'

Proto Papuan Tip **siba* 'know'

PT:	Bohutu	*siba*	'know'
PT:	Hula	*riba*	'know'
PT:	Balawaia	*riba*	'know'
PT:	Motu	*diba*	'know'

The verbs below reflect **sagova, *sagov-i-* 'know', reconstructable to a lower-order interstage within the Papuan Tip cluster.

PT:	Gumawana	*-yagoi-*	'understand s.t., know s.t. /s.o.'
PT:	Iduna	*-yakovi-*	'recognise s.o.'
PT:	Gapapaiwa	*-akova*	(VI) 'know, understand'
PT:	Anuki	*-akovi-*	'know'
PT:	Ubir	*-sagob*	'know'

All languages below reflect **b‹in›isi,* but Nokuku also reflects **bisi*, implying that **bisi* is the root and that **‹in›* reflects the POc nominalising infix, the resulting nominalisation having been reanalysed as a verb in these languages.

PNCV **bisi, *b‹in›isi* 'know'

NCV:	Raga	*binihi*	'think, consider'
NCV:	Nokuku	*pi-pinis*	'know'
		pisi-	'know, understand, be able',
NCV:	Tolomako	*pinisi-*	'know'
NCV:	Kiai	*pinisi*	(VI) 'be able to, know'
		pinisi-	(VT) 'know'

Interestingly, many Oceanic languages have distinct verbs for 'not know (s.t.), be ignorant of (s.t.)' and for 'not recognise (s.o.)', but none of the terms found is cognate with any of the others. Some terms are evidently monomorphemic, like Lou *tɔn* 'not know', Mangap *-kus* 'not recognise', Takia *-ŋaoŋ* 'not know', whilst others, like Balawaia *ɣita-lea* 'not recognise' (*ɣita* 'see' + *lea* 'miss') and Wayan *kila sēti-* 'not recognise' *(kila* 'know (s.t., s.o)' + *sēti-* 'do s.t. wrongly') are clearly serial verb constructions.

10.3 Thinking

Across languages verbs of thinking fall into two broad semantic frames:

- OPINE, e. g. 'I think/believe that he is coming.'
- COGITATE, e. g. 'I think of/about him/this a lot.'

Table 23 shows that in all four witness languages there is a verb (in bold) that embraces both frames, but in Nakanai, To'aba'ita and Wayan there are other verbs with somewhat more specialised meanings. None of this is surprising. English has *believe, surmise, guess, suspect* and *suppose* as OPINE verbs, and a number of COGITATE verbs: *cogitate on, consider, ponder, reflect on, contemplate* and others, each with a different shade of meaning. Dictionaries often do not encapsulate these shades of meaning well.

Table 23 Verbs of thinking in the four witness languages

	OPINE	COGITATE
	'think/believe (s.t. /that …)'	'think about/consider (s.t.)'
Nakanai	***gabu***, *ule, vei, kau*	***gabu***, *aliale, loho-tavu* [cogitate-towards], *ilo-tavu* [inside-towards], *hilo-tavu* [see-towards]
To'aba'ita	***manata***, *sore-*	***manata-i-***, *loloma, ono-toʔo-* [belly-(test)]
Mwotlap	***dem***	
Wayan	***nūmi-***	***nūmi-***, *lēŋa-i-*

OPINE verbs seem to occur less frequently in Oceanic discourse than they do in European languages, and there are at least two reasons for this.

First, OPINE verbs differ from AWARE verbs (§10.2) in that a complement clause of the latter is taken to be a fact, whereas the complement clause of an OPINE is not. *I know John is a teacher* entails the proposition *John is a teacher* as a fact, but *I think John is a teacher* doesn't guarantee the truth of the proposition. One result of this is that in English *I think* is often little more than a marker of possibility, i.e. 'perhaps'. The Tok Pisin term for 'perhaps' is *ating*, transparently reflecting English *I think*, and many Oceanic languages have a corresponding sentence adverb that is glossed in dictionaries 'perhaps, I think'; e. g., Mangseng (NNG) *ava*, Misima (PT) *tabam*, Muyuw (PT) *adók*, Tawala (PT) *nugote*, Ramoaaina (MM) *bi-gaŋ*, Sursurunga (MM) *gut*, Teop (MM) *aekas*, Kwaio (SES) *baleʔe*, Mwotlap (NCV) *so*. Of these, however, only the Tawala adverb has a derivational relationship to an OPINE verb (see below), and it seems that in Oceanic languages OPINE verbs typically do not have this bleached 'perhaps' function.

Second, OPINE is quite often expressed by a languages'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 *pʷa* to be spoken or simply thought (Dineke Schokkin, pers. comm.). Bugenhagen & Bugenhagen (2007) gloss the Mangap sentence

Nio	*aŋ-so*	*ina*	*aᵐbai*	*som*
I	I-say	that (DEM)	good	not

as both *I say that is not good* and *I think that is not good.* Thus the meaning of the example 'say/think' verbs listed below is something like 'formulate in words, either spoken or unspoken'.

Adm:	Baluan	*pʷa*	(VT) ‘say, express, think’
Adm:	Nyindrou	*añа*	‘think, say’
NNG:	Bariai	*oaŋga*	‘think, say’
NNG:	Kaulong	*vo*	‘talk, say, speak; suppose, intend’
NNG:	Mangap	*-so*	‘say, speak, communicate, talk, tell; think’
NNG:	Takia	*-bol*	‘say, talk, speak,’
PT:	Iamalele	*vo*	‘say, think’; quotative marker
MM:	Nakanai	*vei*	‘think, opine, talk, tell say’
MM:	Teop	*boha*	‘think, say’
SES:	Gela	*ne*	‘say, think’
SES:	To’aba’ita	*sore-*	‘say, think’
SES:	Kwaio	*ilia*	‘say, tell, think’

Hence OPINE verbs in Oceanic languages are centrally about mental activity, and it is not surprising that Table 23 shows them overlapping with COGITATE verbs. Indeed, no dedicated POc OPINE verb that is not also a speech verb is reconstructable.

Glosses of reflexes of POc **nonom* ‘think, remember; mind, thought’ point quite strongly to it being a COGITATE verb with a semantic focus on thinking about or remembering something. Its reconstruction, though, involves some *ad hoc* assumptions about the history of the apparent reflexes listed below. These display a somewhat abstract formal template *nVNV[N]*, where *N* is *n* or *m*, but *m* occurs no more than once in a reflex. The shape is that of POc **nonom* (V) ‘think’, (N) ‘mind, thought’, the expected reflex of PAn **nemnem* ‘think’ (ACD). However, Blust (ACD) notes Fordata (CMP) *nanaŋ* ‘remember, remember sadly’, with *-a-* twice for expected *-e-* (< PAn **-e-*). This suggests that there was an alternant of the form **nanam* as far back as PCEMP, perhaps ancestral to some of the forms listed below. Treating the forms below as a cognate set also assumes that the presence of three nasals led to metathesis in Seimat and Nehan (**nVnVm* > **nVmVn*), and to assimilation of point of articulation in Bariai, Babatana and Ririo (**nVnVm* > **nVnVn*).

The Wayan transitive verb *num-i-* (VT) ‘think of s.t.’ requires special mention. As Blust (1977a) shows, a POc intransitive verb of the form C_1V_1-$C_1V_1C_2$ often had a corresponding transitive of the form $C_1V_1C_2$-*i*. Thus POc **nonom* may have been paired with transitive **nom-i*, of which Wayan *num-i-* is the only reflex known to us. Alternatively, it may be a back-formation from intransitive **nanum*, reflected in Bauan *nanu*.

PAn **nemnem* ‘think’ (ACD)

POc **nonom, *nanam* ‘think about s.t., remember s.t.’, (N) ‘mind, thought’

Adm:	Seimat	*namena*	(VI) ‘remember’ (metathesis of nasals)
NNG:	Bariai	*nanan*	‘think, remember’
PT:	Kiriwinan	*nano*	‘mind’
MM:	Nehan	*namana*	‘think; think about s.t.’ (metathesis of nasals)
MM:	Babatana	*nanana*	(V) ‘think’; (N) ‘thought, mind’
MM:	Ririo	*(no)nono*	‘think’
MM:	Roviana	*nonoŋa*	‘remember, know’
NCV:	Mwotlap	*nonom*	‘opinion’
NCV:	SE Ambrym	*nɛnem-i-*	‘think, remember’
NCal:	Nêlêmwa	*nanam*	‘thought, think, reflect, believe’

Fij:	Wayan	*num-i-*	(VT) ‘think of s.t.’
Fij:	Bauan	*nanu*	(VI) ‘think, meditate, remember’
		nanum-a	(VT) ‘think of, meditate on, remember s.t.’

cf. also:

NNG:	Lukep-Pono	*nan(tut)*	‘remind’
NNG:	Poeng	*nan(guni)*	‘think, surmise’
MM:	Babatana	*nüni*	‘think’
MM:	Vaghua	*nanavu*	‘think’
MM:	Varisi	*nanao*	(V) ‘think, consider’, (N) ‘idea’

The two verbs discussed below, POc **drodrom* ‘think, worry; love, be sorry for, long for’ and POc **nuka* ‘think, feel’, are both COGITATE verbs, but both also have emotional overtones. Indeed, glosses in Oceanic dictionaries suggest that cogitation and worry or longing frequently go together.

Although its reflex is the Mwotlap default verb for thinking (Table 23), the NCV evidence, presented in some detail below, suggests that the POc verb was a COGITATE verb with an emotional overtone of ‘love, be sorry for, long for’, i.e. the SORRY semantic frame recognised in §11.4.3. Indeed, the emotion-related meanings are the only ones recorded for the Nakanai, Nokuku, Namakir, Nguna and S Efate reflexes, and they also figure in the Tamambo and Uripiv glosses. The expected POc reflex of PAn **demdem* is POc †**rodrom* (**-md-* > **-nd-* > *-dr-)*, but maintaining the consistency of reduplication is perhaps responsible for **drodrom*. Transitive **drom-i* arose via the template recognised by Blust (1977a).

PAn **demdem* ‘brood, hold a grudge, remember, keep still’ (ACD)

POc (VI) **drodrom*, (VT) **drom-i* ‘think, worry; love, be sorry for, long for’

NNG:	Mangseng	*(lemi-) rum*	‘think’ (*lemi-* ‘insides’)
		rum(oŋ)	(N) ‘thought’ (*-oŋ* NOMINALISER*)*
NNG:	Poeng	*roma*	‘think about’
MM:	Nakanai	*gogo*	‘be sorry for, be fond of, treat gently; be generous to’
MM:	Madak	*doma*	(V) ‘think’

PNCV **dodomi* ‘think about, love’ (Clark 2009)

Proto Torres-Banks **do-domi* ‘think, worry’ (François 2005)

NCV:	Dorig	*dum*	‘think, worry’
NCV:	Nume	*dudum*	‘think, worry’
NCV:	Mosina	*nunum*	‘think, worry’
NCV:	Mota	*nom*	‘think, have in mind’
		no-nom	‘think’
NCV:	Mwotlap	*dem*	‘think’
NCV:	Nokuku	*ʔomi*	‘love, have mercy on’
NCV:	Kiai	*komi-a*	(VT) ‘think of’
		komi-komi	‘thinking, thought’,
NCV:	Tamambo	*domi*	‘feel sad about, sorry’
		domi-domi	‘think’

NCV:	Sakao	*rem*	(VI) ‘think’
		röm	(VT) ‘think’
NCV:	NE Ambae	*domi*	‘think’
NCV:	Uripiv	*(o)r̃m-i*	‘think, worry, regret, have pity, show mercy’
NCV:	Ninde	*rur(uox)*	‘think’ (*uox* ‘follow’)
NCV:	Lonwolwol	*dɛmɛ*	‘think’
NCV:	Paamese	*demi*	‘think, believe; think about’
NCV:	Namakir	*do-dom*	‘love, feel emotion’
		do-do-	‘mind’
NCV:	Nguna	*do-domi-a*	‘love, be sorry for, feel for, miss’
NCV:	S Efate	*ⁿrom*	(V) ‘love’

Blust (ACD) reconstructs PAn **ajem* ‘heart, mind’. Reflexes are found in SE Solomonic languages, some of which reflect an unexpected initial **q-*.

PAn **ajem* ‘heart, mind’ (ACD)

POc (VI) **(q)ajom,* (VT) **(q)ajom-akin-i-* ‘think, understand’

SES:	Gela	*ado-ado*	‘think, understand’
SES:	Sa’a	*adom-aʔini*	**‘**think’
SES:	Arosi	*ʔado-ʔado*	‘think’
		ʔadom-aʔi	**‘**think’
SES:	Faghani	*kato-katom-aɣi*	**‘**think’

POc **nuka* ‘think, feel’ was also evidently a COGITATE verb, but with a sense of associated emotion—desire for its object. In some daughter languages the reflex of **nuka* is a verb, in others a monovalent body-part noun meaning ‘mind’, ‘thought’, ‘feeling’, or ‘desire’, and in yet others both a nominal and a verbal reflex occurs. When it occurs in complex lexemes, it is sometimes difficult to tell whether it is a verb or a noun, and a rule of thumb is adopted such that it is glossed as a verb ‘think’ unless there is clear evidence that it is a monovalent noun.

The reconstruction of **nuka* is a little problematic with regard to its medial **-k-*, and it is tempting to avoid irregularity by splitting the data into two formally similar cognate sets. However, the glosses imply quite strongly that this is a single set. The irregularity occurs in the Micronesian reflexes. Woleaian *nʉ-nʉwa-n* and Ifaluk *nu-nuwa-n* reflect either **nua* or **nuqa*, whereas Carolinian *lɨxɨ-lɨx* reflects **nuka.* The Adzera medial *-g-* and Tolai and Ramoaaina final *-k* reduce the choice to **nuqa* or **nuka*, but could reflect either (final **-q* is occasionally retained in New Ireland languages). Since **q* is lost in Micronesian languages and the reflexes of **-k-* in Chuukic languages like Woleaian and Ifaluk are known to be complex and not always regular (Jackson 1983:175–185), it makes sense to treat the Carolinian reflex as criterial and to reconstruct **nuka*. The MM and PT reflexes in which **-k-* is thus deemed to be lost are all regular.

POc **nuka* (V) ‘think, feel’, **nuka-* (N) ‘mind, thought’

NNG:	Adzera	*nugu-*	‘insides, heart, seat of emotions’
PT:	Gumawana	*nue*	(VT) ‘think of s.t.’ (*-nue* < **nuka-i-*)
		nuo-nuo-	(N) ‘thinking, thoughts about s.t.’
PT:	Iduna	*-nua-nua*	(VI) ‘think’

		-nua-nue-	(VT) ‘think (about s.t.)’ (*-nue* < **nuka-i-*)
		nua-nua	(N) ‘thought, desire, idea’
PT:	Bwaidoga	*nua-*	‘mind, insides’
PT:	Gapapaiwa	*nua*	‘feel, think’
		nua-nua	‘feelings, thoughts’
PT:	Kukuya	*nua-*	‘feelings, desire, thought’
		nua-nua-	‘knowledge, memory, desire’
PT:	Dobu	*nua-*	‘mind, desire, thought, will’
PT:	Molima	*nua-nua*	‘think’
PT:	Wedau	*nua-nua-*	(N) ‘chest; seat of the emotions’
PT:	Tawala	*nugo*	‘mind’
PT:	Bunama	*nua-nua*	(V) ‘think, want’; (N) ‘mind’
PT:	Saliba	*nua*	‘mind’
PT:	Muyuw	*nua-*	‘abdomen, belly; insides’
PT:	Sudest	*(re)nua(ŋa)*	(N) ‘thought, mind’
MM:	Kara	*nə-*	(N) ‘thought, idea’
MM:	Madak	*nua*	‘think’
MM:	Tolai	*nuk[-nuki]*	‘mind, heart, soul, seat of thoughts or ideas’
MM:	Ramoaaina	*nuk*	(VT) ‘think, remember’
		nu-nuk	(VI) ‘think’
Mic:	Carolinian	*lɨxɨ-lɨx*	‘believe, think’
Mic:	Woleaian	*nɯ-nɯa-n*	(VI) ‘to think, remember’
		nɯ-nɯa-n-	(VT) ‘remember s.t.’
Mic:	Ifaluk	*nu-nua-n*	(N) ‘thought, emotion’ (Lutz 1988)

The inherited core meaning of POc **manaca(m)* was evidently ‘tame (of animals), familiar to’ (of people). Its form—**ma-* + disyllabic root—indicates that it was originally a stative verb, but the glosses of the forms below suggest that it came also to be used of people in the senses ‘quiet, thoughtful, learned’, and then developed the meanings ‘know, understand, think about’ and was also used as an abstract noun. In a number of languages it became the base for a transitive verb. In some languages the original meaning has been lost, but the retention of ‘tame’ as one of its senses in Lau, ’Are’are, Sa’a, Arosi and Owa attests to something like this series of semantic developments. Reflexes vary in meaning between AWARE and COGITATE.

PAn **ma-Lajam* ‘tame, accustomed to’ (ACD)

PMP **ma-najam* ‘tame, accustomed to’

POc **ma-nacam* (VI) ‘tame, quiet, thoughtful, learned; know, understand, think about’; (N) ‘knowledge, understanding, thought, wisdom’

NNG:	Gedaged	*mana-n*	‘tame, docile (mostly of animals), peaceful, obedient, trained’ (for †*manaya-n*)
PT:	Motu	*manada*	‘even, smooth, gentle’
MM:	Ramoaaina	*manā(na)*	(VI) ‘know, understand’; (N) ‘knowledge, understanding, wisdom’
MM:	Nehan	*mahanama*	‘tame, unafraid’ (metathesis)
SES:	Gela	*manaha*	(VT) ‘know, understand, appreciate; wise, clever’

SES:	Lengo	*manaθa*	(N) ‘knowledge’
SES:	To’aba’ita	*manata*	(VI) ‘think’; (N) ‘thought, mind’
		manata-i-	(VT) ‘think of, about s.t., think (that…)’
		manatā	‘thought, idea’
SES:	Lau	*manata*	(V) ‘tame, quiet, civilised, sensible, understanding, think, thoughtful, careful’
		manata-	(N) ‘mind, will, understanding’
		manata-ŋa, manatā	(N) ‘thought’
SES:	Kwaio	*manata*	‘think, reason, know’
		manate-ʔe wane	‘a man’s mind’
SES:	’Are’are	*manata*	‘be tame (of birds and animals), behave oneself, wise, sensible, learned’
		manata-na	(N) ‘disposition, character, nature, custom, behaviour, conduct, knowledge, wisdom’
		manata-ʔini-	(VT) ‘know, be aware of, notice’
SES:	Sa’a	*manata*	(VI) ‘tamed, quiet, taught’
		manata-ŋa	(N) ‘wisdom, nature, knowledge’
SES:	Arosi	*manata*	‘tame, trained, gentle (of man or animal)’
		manata-si-	‘be tame towards’
		manata-na	(N) ‘custom, use’
SES:	Owa	*manata*	‘be tame; be familiar to’
		manata-si-	(VT) ‘know (s.o.)’
cf. also:			
MM:	Nehan	*manate*	‘know’ (*-t-* for †*-h-*)

10.4 True and believing to be true

In those Oceanic languages for which there are relevant data[6] believing something to be true usually differs lexically from OPINE (§10.3) and thus forms a separate semantic frame, here labelled BELIEVE. In most of these languages, the basic BELIEVE predicate is a complex form, either a derived verb or, less commonly, a BPM, involving a stative verb root meaning ‘true, real, genuine, correct, right’, a frame here labelled TRUE. The most widespread derivation is a TRUE verb preceded by the prefix that forms causative verbs, reflecting POc **pa[ka]-*. Verbs with this form are listed in Table 24.

From the examples in Table 24 it seems likely that there was a POc believe verb of the form **pa[ka]-* + true verb, but its form is uncertain. The glosses of **pa[ka]-* + true verbs in the table point to the likelihood that the basic meaning of POc **pa[ka]-* + true was ‘verify as true’, and that ‘believe (s.t.) to be true’ was a secondary meaning. Other derivations with a true root are listed in Table 25. The Takia lexeme is a BPM, and the Owa lexeme is a compound derived from a BPM. The Gela, Longgu, Sa’a and Pn forms are evidently compounds derived from SVCs.

[6] In a number of languages for which there are otherwise good data, including Nakanai and Mwotlap, two of our witness languages, BELIEVE terms are not recorded.

It follows from the material in Tables 21 and 22 that the term to be reconstructed is the stative verb for the true frame rather than a believe verb. In other words, this is an instance where the basic lexeme was a stative verb with the stimulus as subject: 'X is true' rather than 'I believe X'.

Table 24 BELIEVE verbs formed from the causative prefix + a TRUE verb

		BELIEVE	TRUE
		'believe (s.t.) to be true'	'true, real, genuine, correct, right'
PT:	Balawaia	*vaɣa-moɣoni* 'believe, agree, confirm'	*moɣoni*
MM:	Teop	*va-mana-mana* 'believe'	*mana*
MM:	Banoni	*va-cū* 'believe'	*cu*
MM:	Babatana	*va-tuna* 'believe'	*tuna*
MM:	Roviana	*va-hinokar-i-* 'believe; prove'	*hinokara-*
MM:	Maringe	*fa-tu-tuani* 'believe'	*tuani*
SES:	Bugotu	*va-utu-utuni* 'believe'	*utuni*
SES:	To'aba'ita	*faʔa-mamana* (VI) 'be truthful, reveal the truth' *faʔa-mamane-* (VT) 'believe, give credence to'	*mamana*
SES:	Arosi	*haʔa-momori* 'believe'	*momori*
Fij:	Bauan	*vaka-dina-dina* 'confirm, witness' *vaka-dina-t-* 'believe'	*dina*
Fij:	Wayan	*vaka-dū-ni-* ' 'believe; confirm truth or accuracy of s.t.'	*dū*
Pn:	Tongan	*faka-moʔoni* 'bear witness, prove, verify'	*moʔoni*
Pn:	Niuean	*faka-mooli* 'witness, tell truth, prove'	*mooli*
Pn:	Rennellese	*haka-māʔogi* 'verify as true'	*māʔogi*
Pn:	Maori	*ɸaka-pono* 'believe'	*pono* 'true; bountiful, abundant'

Table 25 Other BELIEVE lexemes formed with a TRUE verb

		BELIEVE	TRUE
		'believe (s.t.) to be true'	'true, real, genuine, correct, right'
NNG:	Takia	*ilo-* ***rumok*** (*ilo-* 'insides')	*rumok* 'truth'
SES:	Gela	*talu-**utuni*** (*talu* 'put')	*utuni*
SES:	Tolo	*t-**utuni-***	*utuni*
SES:	Longgu	*naʔi-**utuni*** (*naʔi* 'put')	*utuni* (borrowed from a Guadalcanal language)
SES:	Sa'a	*hī-**walaʔimoli*** (*hī* 'perceive')	*walaʔimoli*

SES:	Owa	*raro-ni-**m^{w}ora*** (*raro* 'insides')	*m^{w}ora*
Pn:	Samoan	*tali-**tonu*** (*tali* 'accept')	*tonu* 'correct'
Pn:	Tokelauan	*tali-**tonu*** (*tali* 'accept')	*tonu* 'correct'

The most widely reflected TRUE verb is POc **tuna* (sometimes **tutuna*) 'true, genuine, correct'.

POc **[tu]tuna* 'true, able to be believed, correct'

NNG:	Lukep (Pono)	*tun*	'correct'
PT:	Misima	*tuna(hot)*	'that's true; yes' (*hot* emphatic)
MM:	Patpatar	*tun*	'correct
		tu-tun	'true, faithful, responsible, real in form or appearance'
MM:	Ramoaaina	*(liŋ)ta-tuna*	'true; truth'
MM:	Tolai	*tuna*	'real, true, proper, correct'
MM:	Babatana	*tuna*	'true, real'
		tu-tuna	'true, just; truth'
		(va)tuna	'believe'
SES:	Arosi	*(hu)una*	'real, true, original'

cf. also:

Adm:	Lou	*tuɛna-*	'true' (origin of *-ɛ-* is unknown)
Fij:	Bauan	*dina*	'true; very' (*-i-* for †*-u-*)
		(vaka)dina-t-	'believe'

It is tempting to combine the set below with the set above. All the forms above could reflect putative **tuquna*, with regular loss of **-q-* and shortening of resulting **-uu-*. However, none of the forms below would be regular reflexes, as they fail to reflect either **-a* or **-na* as predicted by regular sound change. Either the formal similarity between **tuna* and **(t,d)uqu* is accidental, or they were associated at some point in their history by an unknown derivational process.

POc **(t,d)uqu* 'true, able to be believed'

Adm:	Nyindrou	*(ha)dru*	'true; very, really' (reflects **d-*)
NNG:	Dami	*tu-tuk*	'correct, innocent'
MM:	Banoni	*cu*	'true'
		(va)cū	'believe'
NCal:	Cèmuhî	*ju, jū*	'true' (reflects **d-*)
Fij:	Wayan	*dū*	'right, correct, genuine, real, true' (reflects **d-*)
		(vaka)dū-ni-	'believe'

Overlapping semantically with the TRUE frame is the STRAIGHT frame, as Oceanic verbs meaning 'straight' tend strongly also to have the metaphorical sense 'correct', a component of the TRUE frame. Some reflexes of POc **tonuq* 'straight, correct' have the additional sense 'true', and it seems possible that contamination by reflexes of **tuna* has occurred, resulting in forms that appear to reflect †**tunuq* rather than **tonuq*. On the strength of Nokuku *ta-tino* 'true' and Kiai *tu-*

tunu ‘good, straight, sweet’ below, all the NCV forms have been attributed to **tunuq*, but some may either reflect **tuna* above or a contamination of one form by the other.

POc **tonuq* ‘straight, correct’[7]

NNG:	Bam	*tun-tunu*	‘straight’
NNG:	Numbami	*tonowa*	‘straight’
PT:	Kukuya	*tunuɣa*	‘straight’
		tunu-tunuɣa	‘do right, be righteous’
PT:	Iduna	*tunu-tunuɣ(ina)*	‘straight (of objects, path), upright, honest’
PT:	Molima	*tunu-tunv(ina)*	‘straight, flat’
MM:	Laghu	*to-tonu*	‘straight’
NCV:	Nokuku	*ta-tino*	‘true’
NCV:	Kiai	*tu-tunu*	‘good, straight, sweet’
NCV:	Uripiv	*(were)tun*	‘tell truth’
NCV:	W Ambrym	*ten*	‘real’
NCV:	SE Ambrym	*(rei)tin*	‘true’
NCV:	Lonwolwol	*ten*	‘real’
		(fɪ)tɛn	‘true; truly’
NCV:	N Ambrym	*(fɛ)tn*	‘true; truly’
NCV:	Paamese	*tine*	‘true’
NCV:	Avava	*(ba)rīn*	‘true’

PPn **tonu* ‘straight, correct’ (POLLEX)

Pn:	Tongan	*tonu*	‘exact, correct, be right’
Pn:	Niuean	*tonu*	‘proper, right’
Pn:	Samoan	*tonu*	‘exact, correct, just’
Pn:	Tuvaluan	*tonu*	‘straight, correct’
Pn:	Mele-Fila	*tō-tonu*	‘right, correct’
Pn:	Tikopia	*tonu*	‘right, correct, true, exact’

cf. also:

NNG:	Mangap	*du-dūŋ*	‘real, correct, straight’
NNG:	Malai	*dunu(ŋa)*	‘straight’
SES:	Bugotu	*jino*	‘straight, right, righteous’ (*-i-* for †*-u-*)
NCV:	Mota	*nun*	‘true, truth’
SV:	Kwamera	*a-tuən*	verbal adjunct: implies straightening
Fij:	Bauan	*donu*	‘straight, correct, true’
Fij:	Wayan	*donu*	‘right, correct, true’

Several forms with initial **m-* meaning ‘true’ can be reconstructed. The reason is perhaps that each has its origins in a form with the PMP anticausative/stative prefix **ma-*. This is certainly true of reflexes of POc **ma-qoli* and **ma-qoni*, both ‘true, real’. Despite their formal

[7] In vol.2:212, **[t,d]onu(p)* ‘straight’ was reconstructed. The PT reflexes now show that the final consonant was **-q*. Reflexes of initial **t-* and **d-* both occur, and the latter are listed under ‘cf. also’. They give grounds for reconstructing a POc doublet **donuq* ‘straight, correct’. How it arose is unknown, but **d* was the least frequently occurring of all the POc obstruents, reflecting an earlier **nt* sequence.

and semantic similarity, they appear to have been separate POc terms. Their similarity has almost certainly led to crossovers in meaning and to conflation of the two terms, as apparently no language other than Anutan reflects both—and the gloss of Anutan *maori* 'indigenous, true, close of kin' suggests it is borrowed from an EPn language. No EPn language has a reflex of **ma-qoni*. PEPn **ma-qoni* acquired the additional sense 'native, indigenous', giving rise to the terms *Māori* and *Mōriori* for the Polynesian inhabitants of New Zealand and New Zealand's Chatham Islands respectively.

Perhaps the clearest indicator that the terms originally had slightly different meanings is the contrast in meaning between the PPn causatives PPn **faka-moqoli* 'assent (V)' and PPn **faka-maqoni* 'tell the truth, be honest'.

There is evidence that Gela, Lau and S Efate reflexes (shown under 'cf. also' below) of POc **ma-qoli* 'true, real' have been conflated with those of POc **maqurip* 'be alive, live, flourish' (§4.2.1.1). All three reflect POc **-r-* rather than **-l-*, and the Gela and Lau reflexes mean 'alive' as well as 'real'.

POc **ma-qoli* 'true, able to be believed'

MM:	Bola	*muɣoli*	'true'
SES:	'Are'are	*(wara-ʔi)mori*	'true' (*wara* 'speech')
SES:	Arosi	*mori* , *mo-mori*	'true'
		haʔa-momori	'believe'

PPn **maqoli* 'true, real' (POLLEX)

Pn:	Niuean	*mooli*	'true, sure'
Pn:	Anutan	*maori*	'indigenous, true, close of kin' (EPn loan?)
Pn:	Emae	*māri*	'true, indeed, truth'
Pn:	Ifira-Mele	*māori*	'true, real'
Pn:	Pileni	*maoli*	'true; tell the truth'
Pn:	Rennellese	*māʔogi*	'right, true, real; exist'
Pn:	Tikopia	*maori*	'true, truth; feel sure of'
Pn:	W Futunan	*mari*	'true, truth, indeed'

PEPn **maoli* 'true, genuine; native, indigenous'

Pn:	Rapanui	*maʔori*	'skilled, old'
Pn:	Hawaiian	*maoli*	'true, real, native, indigenous'
Pn:	Marquesan	*maoʔi*	'indigenous'
Pn:	Tahitian	*māohi*	'native, indigenous' (*-h-* unexpected)
Pn:	Tongarevan	*māori*	'local, aboriginal, traditional'
Pn:	Tuamotuan	*maori*	'indigenous'
Pn:	Rarotongan	*māori*	'of native origin, indigenous'
Pn:	Māori	*māori*	'indigenous, natural; mortal man as opposed to supernatural beings; fresh (of water)'
Pn:	Moriori	*mōri-ori*	'indigenous people of the Chatham Islands'

cf. also:

SES:	Gela	*mauri*	'living, real'
SES:	Lau	*mori*	'alive, real'
NCV:	S Efate	*mori*	'true'

POc **ma-qoni* ‘true, real’

MM:	Balawaia	*moɣoni*	‘true’

PPn **maqoni* ‘true, real’ (POLLEX)

Pn:	Tongan	*moʔoni*	‘true, genuine, real, intrinsic’
Pn:	Samoan	*moni*	‘true, speak truth’
		(faʔa)maoni	‘true, faithful’
Pn:	Anutan	*mooni*	‘true, as opposed to a lie’
Pn:	E Uvean	*moʔoni*	‘true, certain’
Pn:	Sikaiana	*māoni*	‘true, genuine’
Pn:	Takuu	*maoni*	‘true, real’
Pn:	Tokelauan	*moni*	‘true, sincere, honest’

PEMP **molaŋ* ‘true, real, genuine’ has just one known non-Oceanic reflex, Buli *molaŋ* ‘correct, real, genuine, true’ (ACD).

PEMP **molaŋ* ‘true, real, genuine’ (ACD)

POc **mola(ŋ)* ‘true, real, genuine’

NNG:	Lukep (Pono)	*mōl-mōl*	‘true’
MM:	Nakanai	*imo-imola*	‘talk that is true; the truth’ (*i-* unexplained)
SES:	Lau	*mola*	‘true, real, abundant’
SES:	Arosi	*mora*	‘original, true, real; customary’
SES:	Owa	*mʷora*	‘true, real’
Mic:	Marshallese	*mʷōl*	‘true’

The question mark against POc **moqi* below refers to its form. If Takia *mok* is indeed a reflex, then medial **-q-* should be reconstructed.

POc **moqi* ? ‘true’

NNG:	Takia	*mok*	‘true, real; very, truly’
NNG:	Dami	*mo-moi*	‘true’
NNG:	Manam	*moi-moi*	‘true’
PT:	Tawala	*moi-*	‘true’
SS:	Arosi	*moi*	‘true’[8]

A small number of forms meaning ‘true’, all Northwest or Southeast Solomonic, reflect a root **mana*. It is tempting to associate these with POc **mʷane* ‘straight, direct; flat, level’ (Vol. 2:213),[9] and this is probably the origin of Gela *mae-mane* ‘correct’ below. However, neither forms nor meaning otherwise support this association. It is possible that these forms are cognate with PPn **mana* ‘supernatural power’ (POLLEX) and reflect the term that Blust (ACD) reconstructs as POc **mana* ‘power in natural phenomena; thunder, storm wind’. However, the glosses below suggest (i) that **mana/*ma-mana* was a homophone of Blust’s reconstruction, and (ii) that the Simbo and Lau reflexes below reflect a conflation of Blust’s POc **mana*

[8] In his dictionary of Arosi Fox (1978) takes *moi* ‘true’ to be an ‘abbreviated’ form of *mori* ‘true’ (under **maqurip* above), but this is not a regular phonological process in the language.

[9] In vol.2 this form was reconstructed as **mʷane-mʷane*, but the reduplication is not justified by the data.

'power…' and **mana* 'true'. Since all reflexes of the latter are located in the Solomons archipelago, it is difficult to know which interstage it should be attributed to.

MM:	Nehan	*mana*	'true'
MM:	Halia	*mana*	'true'
MM:	Teop	*mana*	'truth, meaning'
		(va)mana-mana	'believe'
MM:	Simbo	*mana*	'true; powerful, potent, effective; gracious; to grant, be favourable; power'
SES:	Ghari	*mana*	'truth, true, correct'
SES:	To'aba'ita	*ma-mana*	'true, real'
		faʔa-mamane-	'believe'
SES:	Lau	*ma-mana*	'efficacious; be true, come true, be fulfilled'
cf. also:			
SES:	Gela	*mae-mane*	'correct'

The set below deserves mention because of its frequent occurrence in Table 25. It is restricted to SES languages, and there seems to be no consistent semantic difference between forms with and without **-ni*.

PSES **utu, *utuni* 'true'

SES:	Bugotu	*[t]utuni*	'true'
		(va)utu-utuni	'believe'
SES:	Gela	*utu*	'true'
		utuni	'certainly, truly, right'
		(talu)utuni	'believe' (*talu* 'put')
SES:	Tolo	*utuni*	'true, correct'
		(t)utuni	'believe'
SES:	Longgu	*utuni*	'true' (borrowing)
		(naʔi)utuni	'believe' (*naʔi* 'put')
SES:	Arosi	*ū*	'true, real'
cf. also:			
SES:	Longgu	*uðua*	'true'

Finally, the small set below has a curious distribution. Reflexes of PMP **bener* occur in Western MP languages, but none are known in Oceanic outside Eastern Polynesian.

PMP **bener* 'true, righteous, honest' (ACD)

POc **bono(r)* 'true, correct'

PPn **pono* 'true, correct' (POLLEX)

Pn:	Maori	*pono*	'true; hospitable, bountiful; abundant; means, chattels, abundance'
		ɸaka-pono	'believe, admit as true'
Pn:	Marquesan	*pono*	'correct, proper, well done'
Pn:	Hawaiian	*pono*	'correct procedure, correctness'

10.5 Remembering

Probably all Oceanic languages have terms for MEMORISE ('commit s.t. to memory') and for RECALL ('remember s.t. /that…'), but these terms are usually complex lexemes, (§10.1). The glosses of their components are given henceforth in square brackets. Table 26 sets out terms for the two semantic frames in the four witness languages.

Table 26 Verbs of remembering in the four witness languages

	MEMORISE	RECALL
	'commit (s.t.) to memory'	'remember (s.t. /that …)'
Nakanai	*mata-toro* [look-strong]	*hilo-tavu* [see-towards]
To'aba'ita		*manata oli uri-* **[**think back about]
Mwotlap		*dem sas* [think find]
Wayan	*katoni-* 'put in box', *bolani-* 'put in basket'	*numi-lesu-ni-* [think-back-TR], *divi-* 'daydream, remember longingly'

The absence of MEMORISE lexemes in Mwotlap and To'aba'ita typifies their absence from many dictionaries. The data are so sparse that they will not be further considered here. The Wayan verbs are simple metaphors: *katoni-* is derived from *kato* 'container with lid' and *bolani-* from *bola* 'coconut leaf basket, container with lid'.

The default POc RECALL verb was apparently **nonom*, **nanam* 'think about s.t., remember s.t.', reconstructed in §10.3. It encoded both RECALL and COGITATE frames. The only simple RECALL verb in Table 26 is the Wayan verb *divi-* 'daydream, remember longingly', but this includes the additional sense of longing, quite common in RECALL verbs in Oceanic languages.

The remaining RECALL terms in Table 26 are complex lexemes, and three of them begin with the language's default COGITATE verb. In this they are typical of Oceanic RECALL terms outside Polynesia. It is possible that, for example, the 'think + find' sequence immediately below is of POc antiquity, but the data do not allow us to reconstruct the forms that occurred in this and other complex lexemes.

An effect of employing complex lexemes is that they may encode more specific meanings than English usually encodes with *remember*. Thus one sense of *remember*, as in 'He managed to remember the address', views remembering as finding a piece of information in one's memory after a search, encoded by a SVC 'think + find':

PT:	Dobu	*nua loba*	[think find] 'think and finally remember'
SES:	Kwaio	*manata dalia*	[think find] 'remember, recall'
NCV:	Mota	*nom suar*	[think find] 'think and find, recollect'
NCV:	Mwotlap	*dem sas*	[think find] 'remember'
NCV:	Paamese	*mudem sāli*	[think find. out] 'remember, discover'

These data imply the existence of a compound lexeme meaning 'search one's memory for s.t.', and examples occur, but sometimes with rather vague glosses. Here and below, languages around the Vitiaz Strait replace 'think' or 'mind' with 'eye', giving a BPM.

NNG:	Bariai	*i-mata nanan*	[S:3SG-eye pursue] ‘remember’
NNG:	Kove	*mata-ɣu i-nana*	[eye-my S:3SG-pursue] ‘remember’
SES:	Kwaio	*manata fana*	[think hunt] ‘think about, remember’
		lada ʔōfia	[dig. up look. for] ‘wander about, search for, try to remember’
NCV:	Mwotlap	*dem sɔsɔk*	[think look. for] ‘think hard in order to remember s.t.’
NCV:	Paamese	*mudem lēkati*	[think look. for] (VT) ‘try to remember’ (*lē-kati* [see-really] ‘look for’)

Remembering in the sense of casting one’s mind back, recalling and recollecting is often expressed by the sequence ‘think + go back’ or sometimes ‘think again’. Note below that Iduna has two syntactically different variants of the same expression. In one, *nua-* ‘mind’, a monovalent noun, is subject of the verb *-nauye-* ‘go back’. The other is a compound verb made up of the same morphemes.

NNG:	Mangap	*mata- i-miili*	[eye- S:3SG-go. back] ‘remember again’
PT:	Dobu	*nua-ila*	[mind go. back] ‘think of the past, reminisce’
PT:	Iduna	*nua- gi-nu-nauye-*	[mind- S:3SG-REDUP-go. back-] ‘remember, call to mind, think about’
		-nua-nua-nauye-	[think-think-go. back-] ‘remember, think about, consider, recall s.t.’
PT:	Tawala	*nugo-gae*	[think-go. up] ‘remember, recall’
MM:	Patpatar	*lik leh*	[think go. towards] ‘remember’
MM:	Tolai	*nuk-mule*	[mind again] ‘remember, recall to mind’
MM:	Nehan	*namana poluku*	[think again] ‘remember again, recall to mind’
MM:	Tinputz	*nat hah*	[know again] ‘remember’
SES:	Gela	*ganagana oli*	[think-go. back] ‘remember’
SES:	Tolo	*pada-visu-*	[think-go. back-] ‘remember’
SES:	To’aba’ita	*manata oli uri-*	[think go. back toward-] ‘think back to’
NCV:	Mota	*nom-kel*	[think back] ‘call to mind, remember’
NCV:	Mwotlap	*dēm lok*	[think again] ‘remember’
Fij:	Wayan	*numi-lesu-ni-*	[think-back-TR] ‘recall or think back on s.t.’

Remembering in the MEMORISE sense of holding something in one’s memory is expressed in a number of WOc languages by the sequence ‘think + hold’, or in Nehan by a simple ‘hold’ metaphor.

NNG:	Kove	*mata-xu vara*	[eye-my hold. tight] ‘I think of s.t., remember s.t’.
PT:	Gumawana	*nuo-kavata*	[think hold] (VI) ‘remember’
		nuo-kavate	[think hold] (VT) ‘remember s.t.. memorise s.t.’
PT:	Dobu	*nua-yai*	[think-hold. firmly] ‘remember’
PT:	Kukuya	*nua vi-avini*	[think S:3SG-hold] ‘remember s.o., s.t.’
MM:	Nehan	*saŋa dede*	[hold continually] ‘remember well’

Much the same concept is occasionally expressed by a ‘think + stay’ sequence:

PT:	Balawaia	*tuɣamaɣi-taɣo*	[think-sit.quietly] ‘remember, think of’
MM:	Patpatar	*lik kawase*	[think wait] ‘remember’

SES:	Lau	*manata tō*	[think stay] ‘remember’

In many Oceanic languages, serialisation and compounding have remained productive, and there are complex lexemes that appear to be quite localised:

NNG:	Mangap	*mata- i-ᵑgal*	[eye- S:3SG-pierce] ‘think of, remember’
NNG:	Tuam	*mata i-ᵑgal*	[eye S:3SG-pierce] ‘remember’
PT:	Gumawana	*nua-isi*	[think-break] ‘remember s.t.’
PT:	Iduna	*nua- -afole-*	[mind- -pierce] ‘remember, recall’
		ua- -ʔakakili-	[mind- -overbalance] ‘suddenly remember s.t.’
PT:	Tawala	*nugo-momota*	[think-pull. tight] ‘remember, hold in the heart’
MM:	Nakanai	*hilo-tavu*	[see-towards] ‘remember’
NCV:	Paamese	*mudem silati*	[think come. across. by. chance] ‘suddenly recall’

10.6 Forgetting

Like terms for RECALL, many terms for forgetting are complex lexemes, the first component of which is either the default COGITATE verb or the body-part noun that the language uses for ‘mind’. The second component is a verb, the meanings of which are in several instances quite widespread. There are dozens of combinations in the data. A geographically well distributed combination is ‘think/mind’ + ‘lose’.

Adm:	Nyindrou	*bale- mani*	[neck lose] ‘forget, lose’
NNG:	Bariai	*mata- sapian*	[eye lose] ‘forget’
PT:	Balawaia	*tuɣa-rekwa*	[think-lose] (VT) ‘forget’
MM:	Patpatar	*lik luben se*	[think lose] ‘forget’
NCV:	Lonwolwol	*nɔr̄ helalɛ*	[think lose] ‘forget’

Another is ‘think/mind’ + ‘short’, where ‘short’ is apparently used metaphorically for ‘lacking’. The two terms below are from the opposite geographic extremes of MM.

MM:	Poeng	*lau pogo*	[liver.my be.short] ‘forget’
MM:	Maringe	*ɣaðo kmoʔe*	[think be.short] ‘forget’

The existence of a verb meaning ‘not know’ in many Oceanic languages was noted in §10.2. It figures as the second component of the following lexemes.

NNG:	Takia	*ilo- -ŋaoŋ*	[inside- -not know] ‘forget’
PT:	Iamalele	*nua-fani*	[think-not.know] ‘forget’
		nua- -fani	[mind- -not.know] ‘forget’
MM:	Maringe	*ɣaðo iho*	[think not.know] ‘forget’
SES:	To’aba’ita	*lio-dorā*	[look-not.know]‘forget (about’).
SES:	Kwaio	*maa-bolosia*	[eye-not.know] ‘forget’

A number of complex lexemes glossed ‘forget’ have a verb meaning ‘leave, go away’ as one of their components, usually the second. However, some of these have glosses—‘abandon’, ‘leave behind’—that imply a conscious choice to forget.

Adm:	Baluan	*wot lilisek*	[go. away forget] ‘forget’
MM:	Nakanai	*tapa-taro*	[? -away] (VT) ‘forget, leave, behind, abandon’ (*tapa* apparently does not occur as a verb alone)
MM:	Maringe	*ɣaðo ɣosu*	[think leave. behind] ‘forget, leave behind; ignore; be unaware of’
NCV:	Mwotlap	*dem vɛtɛɣ*	[think leave] ‘forget, pardon, abandon, drop’
Fij:	Wayan	*numi-deini-*	[think-leave] ‘forget s.t., have s.t. slip one’s mind, be unable to remember s.t.’

Clark (2009:130) reconstructs a PNCV BPM **lolo- boŋi* [mind night] ‘forget’, and infers that one component or the other has been replaced in various languages. He may well be right, but a more conservative inference is that a complex lexeme ‘mind’ + ‘night’ was present in early EOc. The terms for ‘night’ reflect either POc **rodrom* ‘be dark, be night’ or POc **boŋi* ‘night’ (vol.2:295–298). In some languages this BPM also has the sense ‘be ignorant’ (§11.3.4.1).

SES:	Sa’a	*maa rodo*	[eye night] ‘be blind, forget’
SES:	Ulawa	*sae rorodo*	[liver night] ‘forget’
NCV:	Mota	*lolo-pʷoŋ*	[inside-night] ‘ignorant, stupid, unenlightened; forget’,
NCV:	Mwotlap	*lɔl-pʷoŋ*	[inside-night] (VT) ‘forget, ignorant’
NCV:	Nokuku	*lolo- ōra*	[inside- night] ‘forget, ignorant’
NCV:	SE Ambrym	*e- bovoŋ*	[? -night] ‘forget’[10]
NCV:	Port Sandwich	*na-lö- e-boŋ-boŋ-ini*	[ART-inside- it-REDUP-night-TR] ‘forget’
NCV:	Paamese	*ē- vo-boŋo*	[inside- night] ‘forget’
NCV:	Lewo	*sine- poni*	[guts- night] ‘forget’
NCV:	Lonwolwol	*lɔ- mʊ̄ buŋ-buŋ*	[inside-? night] ‘forget’

PPn **nimo* ‘vanish, forget’ perhaps reflects a metaphorical use of ‘vanish’ for ‘forget’.

PPn **nimo* ‘vanish, forget’ (POLLEX)

Pn:	Tongan	*(ma)nimo*	‘secret, underhand, surreptitious’
Pn:	Niuean	*nimo*	‘forget’
		nimo(pō)	‘forget completely’ (*pō* ‘dark’)
Pn:	Samoan	*ni-nimo*	‘completely forgotten’ (*nimo* ‘vanish, disappear’)
Pn:	Rennellese	*nimo*	‘forget, vanish’

PPn **ŋalo* uses the metaphor of a submerged (i. e. hidden) rock for ‘forgotten’.

POc **mʷaloq* ‘submerged rock or coral reef, coral head’ (vol.2:108)

PPn **ŋalo* ‘out of sight, disappeared, forgotten, lost’ (POLLEX)

Pn:	Tongan	*ŋalo*	(VSt) ‘be forgotten, sink, disappear from sight or memory’
Pn:	Niuean	*ŋalo*	‘be lost, absent’ (*faka-ŋalo-ŋalo* ‘try to forget’)
Pn:	E Futunan	*ŋalo*	‘forgotten’

[10] SE Ambrym *e-* is a monovalent noun used in a few complex lexemes and has no independent meaning.

Pn:	Samoan	*ŋalo*	(VSt) ‘forgotten’
Pn:	Tikopia	*ŋaro*	(VSt) ‘be lost (from sight or mind)’
		ma-ŋaro-ŋaro	‘lost, gone out of sight’
Pn:	Maori	*ŋaro*	‘disappeared, forgotten; be out of sight, invisible’
Pn:	Hawaiian	*nalo*	‘disappeared, forgotten, lost’

10.7 Deciding

The gloss ‘decide’ is rare in dictionaries of Oceanic languages, implying that deciding is not an Oceanic concept. One reason for this is that major decisions are traditionally made by consensus, for which—if one digs far enough—a term can be found. Its meaning, though, often includes the foregoing discussion as well as the decision.

NNG:	Takia	*awa- -tumani*	[mouth confer] ‘agree, decide together, come to consensus, take counsel (with each other)’
NNG:	Mapos Buang	*jō ɢaɢek*	[tie.knot speech] ‘decide, agree, to finish a discussion and come to a conclusion’
MM:	Nehan	*uel-halata*	[RECIP-discuss] ‘decide; discuss, decide together’
Fij:	Wayan	*boseti-*	‘confer about s.t., meet to discuss or decide on s.t.’

No reconstruction can be made, and no consistent BPM pattern has been found.

On the rather rare occasions that one finds a term that appears to denote individual decision-making, it typically also includes either a reference to planning or to choosing. Indeed, the gloss ‘plan’ occurs rather more frequently than ‘decide’, but again no reconstruction is possible. ‘Choosing’, on the other hand, is clearly an Oceanic concept, and a verb can be reconstructed (§10.10).

When one searches a dictionary for ‘decide’, the gloss ‘undecided’ frequently turns up, and this is the topic of the next section.

10.8 Being undecided, of two minds

The English idioms ‘be of two minds’ (this section) and ‘be of one mind’ (§10.9) translate as semantically similar BPMs in Oceanic languages.

Numerous expressions in Oceanic languages for ‘be undecided’ translate roughly as ‘be of two minds’. Expressions for ‘be undecided’ have been found in three of the four witness languages, and examples are given in Table 27.

The Nakanai example and the first To’aba’ita example are BPMs, with a body-part as subject and ‘two’ as predicate. The second To’aba’ita example is a compound verb, ‘mind’ + ‘two’, presumably derived from a BPM. The Wayan example also appears to be a BPM-derived compound, but here ‘two’ is replaced by ‘entangled (with weeds)’.

Table 27 Predicates of indecision in three witness languages

Nakanai	*la-gabutatala* *ilua* ART-thoughts two	‘Thoughts are two.’
To’aba’ita	*manata-ku* *e=ruarua* mind-my it=two	‘My mind is two.’
	nau *ku=manata-ruarua,* I I=mind-two	‘I (am) two minds.’
Wayan	*Sā* *leŋaleŋā-rau* s/he thinking-entangled	‘S/he (has) entangled thoughts.’

BPMs that are semantically similar to the top three examples in Table 27 are widespread in Oceanic languages (but seemingly infrequent in Vanuatu), and such a metaphor almost certainly occurred in POc.

NNG:	Lukep	*lo- ru*	[insides two] ‘be undecided’
NNG:	Takia	*ilo- ulalu*	[insides two] ‘doubt, uncertain, unsure’
NNG:	Yabem	*tɪtaʔ lulu*	[belly.his twofold] ‘be in doubt’
NNG:	Numbami	*tae-lualua*	[guts-two] ‘doubt, be of two minds’
NNG:	Buang	*kʷa lū*	[throats two] ‘undecided, doubtful’
		ayo lū lū	[feelings two two] ‘undecided, doubtful’
NNG:	Manam	*ilo- i-rua-rua*	[insides- 3SG-two-two] ‘doubtful, undecided, hesitating’
PT:	Dobu	*(e)nuana-lua*	[two-minds] ‘doubt’
PT:	Iamalele	*-nuana-luɣa*	[-mind-two] (VI) ‘undecided’
PT:	Iduna	*-nuanua-luɣa*	[-mind-two] (VI) ‘doubleminded, undecided’
PT:	Tawala	*nugo-lualuaga*	[mind-twofold] (VI) ‘confused, hesitant, undecided between two courses of action’
PT:	Misima	*nua-elelua*	[mind-twofold] ‘undecided’
		nua-lalabui	[mind-twofold] ‘undecided, be of two minds’
MM:	Nakanai	*la-gabutatala ilua*	[ART-thoughts two] ‘of two minds, undecided’
MM:	Patpatar	*i-riruo lilik*	[be.two thought] ‘doubt’
MM:	Sursurunga	*ru i kən hol*	[two in her/his thought] ‘doubt’
SES:	Bugotu	*gāgana ruarua*	[thought two] ‘doubt, be undecided’
SES:	Sa’a	*sae ruerua?a*	[liver twofold] ‘doubt’
SES:	Lau	*ro si lio*	[two of voice] ‘undecided, double-minded’
		manata rurua	[mind two] ‘doubt’
SES:	’Are’are	*manata-rua*	[mind-two] ‘divided in mind’
SES:	To’aba’ita	*manata- ruarua*	[mind- two] ‘be undecided, of two minds’
		manata-ruarua	[mind-two] ‘be undecided, of two minds’
SES:	Arosi	*ahu-ruaruā*	[mind-two] ‘be in two minds’
SES:	Owa	*tako ruarua*	[mind two] ‘doubt’
NCV:	Mota	*nom-ruarua*	[mind-two] ‘be in two minds, hesitate, doubt’
Mic:	Kiribati	*nano-uoua*	[mind-two] (N) ‘doubt, perplexity’

Fij:	Bauan	*lomaloma-rua*	[insides-two] (N) ‘hesitation’
		lomaloma-rua-taka	[insides-two-APPLICATIVE] ‘be in doubt about’
Pn:	Tongan	*loto-loto-ua*	[inside-inside-two] ‘of two minds, undecided’
Pn:	Samoan	*faʔa-lotu-lotu-lua*	[CAUS-inside-inside-two] ‘indecisive’
Pn:	E Uvean	*faka-loto-loto-lua*	[CAUS-inside-inside-two] ‘hesitant’
Pn:	Rarotongan	*ŋākau rua*	[guts two] ‘of two minds’

If by inference the POc body part in this context was **lalom* ‘insides’ (§9.4), then the POc BPM **lalo- rua-rua* is a plausible reconstruction.

In a few languages a reduplicated reflex of POc **rua* ‘two’ with the sense ‘twofold’ serves alone as ‘of two minds’.

Mic:	Carolinian	*rɨarɨ*	[twofold] ‘be undecided, in doubt, of two minds’
Fij:	Rotuman	*ararua*	[twofold] ‘(habitually) indecisive’

Occasionally the BPM turns up with ‘many’ instead of ‘two’, indicating that in some languages at least the metaphor remained productive.

NNG:	Takia	*ilo- wei*	[insides- many] ‘be in doubt’
PT:	Dobu	*(e)nuana-yauna*	[mind many]‘be undecided’
Mic:	Kiribati	*nano koraki*	[insides crowd] ‘indecision’
		nano maiti	[insides many] ‘perplexed’

10.9 Agreeing, being of one mind

Metaphors for ‘agree, reach consensus, be unanimous’ fall into two patterns. The first roughly translates ‘be of one mind’. Its POc form may well have been parallel to that of POc **lalo- rua-rua* ‘be of two minds’ (§10.8), but its reconstruction is obstructed by the fact that several POc forms for ‘one’ can be reconstructed (Lynch, Ross & Crowley 2002:72), and their distribution is not yet well enough understood to infer which form probably occurred in this BPM.

NNG:	Takia	*ilo- kisaek*	[insides one] ‘be of one mind, agree’
PT:	Iduna	*veʔa-nuwanuwa-saeʔya-*	[RECIP-mind-one-] ‘be of one mind with (s.o.)’
PT:	Kiriwina	*nina-tala*	[mind-one] ‘be of one mind’
PT:	Motu	*lalo- tamona*	[insides one] ‘agree’
SES:	Bugotu	*lio- sikei*	[mind one] ‘of one mind, decided; resolute’
Mic:	Carolinian	*tipi-yew*	(VI) [one neck] ‘be of one mind, agree’
Pn:	Tongan	*loto-taha*	[insides-one] ‘unanimous, of one mind’
Pn:	Rennellese	*goto tasi*	[insides one] ‘agree’

Other languages employ a variety of complex lexemes meaning ‘mind together’ or ‘speak together’.

Adm:	Nyindrou	*sahou radra le*	[talk one only] ‘agreement, covenant’
NNG:	Takia	*awa- -tumani*	[mouth- -meet] ‘reach consensus, make collective decision’
PT:	Motu	*gwau-bou*	(VI) [speak-together] ‘agree’
SES:	Gela	*lio kolu*	[mind together] ‘agree’
SES:	Bugotu	*fari hagore*	[share speech] ‘agree’
SES:	Sa'a	*ruru wala*	[gather.together speech] ‘agree’
SES:	Owa	*tamasi faga-etagai*	[speak CAUS-one] ‘agree’
NCV:	Mota	*sara-tuwale*	[gather.together-one] ‘agree, meeting together’
Fij:	Bauan	*loma-vata*	[insides-together] ‘agree’
Fij:	Wayan	*lia vata*	[one together] ‘be unified, unanimous’

10.10 Choosing

Choosing is a cognitive act, but it is one that has visible physical consequences, and it is perhaps for this reason that a POc etymon, **piliq* (VI), **piliq-i-* (VT) ‘choose, select, pick out’ , has enjoyed considerable continuity and relatively little replacement..

PAN **piliq* ‘choose, select, pick out’ (ACD)

POc **piliq* (VI), **piliq-i-* (VT) ‘choose, select, pick out’

NNG:	Takia	*-pili-an-*	‘mark out, select, choose, pick up, deal out’
PT:	Gapapaiwa	*vine*	‘choose’
PT:	Tawala	*win(agana)*	‘choose, select’
PT:	Dawawa	*vine*	‘choose’
PT:	Misima	*hili*	‘choose (piece of material)’
PT:	Balawaia	*viriɣ-i*	‘choose’
MM:	Sursurunga	*pilək*	‘choose’
MM:	Ramoaaina	*pilak*	‘choose, select’
SES:	Bugotu	*vili*	‘choose’
SES:	Gela	*vili*	‘choose, select; give a judgment’
SES:	Longgu	*vili-*	‘choose, select, appoint’
SES:	Lau	*fili*	‘choose, prefer’
		*fili-s-i*a	‘be chosen’
SES:	Sa'a	*hili*	‘choose for one’s own, desire and take
		hili-si	‘pick, choose’
SES:	’Are’are	*hiri-si-*	‘choose, pick out, select’
SES:	Arosi	*hiri*	‘choose’
NCV:	Lonwolwol	*wɛl*	‘choose’

PMic **fili* ‘choose’ (Bender et al. 2003)

Mic:	Chuukese	*fiɾi-*	‘choose, select; appoint’
Mic:	Puluwatese	*fili-*	‘choose, select’
Mic:	Woleaian	*f-firi*	‘choose, pick up, decide, select’
Mic:	Ponapean	*pil*	‘choose, pick out, select’
Mic:	Mokilese	*pil*	‘choose, select’

Fij:	Rotuman	*hili*	‘pick out, choose, select’
Fij:	Wayan	*vili-*	‘pick up (s.t.)’
Fij:	Fijian	*vili*	‘pick up scattered things, as fallen leaves or fruits’

PMic **fili* ‘choose’ (POLLEX)

Pn:	Tongan	*fili*	‘choose, pick out, cull, select’
Pn:	Niue	*fi-fili*	‘choose, select’
Pn:	Futunan	*fili*	‘choose’
Pn:	Samoan	*fili*	‘choose’
Pn:	K’marangi	*hili*	‘choose, select; choice’
Pn:	Nukuoro	*hili*	‘pick from among several, choose; be choosy’
Pn:	Rennellese	*higi*	‘choose, select; be choosy, selective’
Pn:	Rarotongan	*iri*	‘select, choose, pick out, name’
Pn:	Maori	*ɸiri*	‘select, choose’

10.11 Learning and teaching

To teach someone something is to cause them to learn it, and the learner then either knows what has been taught or knows how to do something. This causative relationship is explicit in many Oceanic languages. Occasionally it is expressed simply by using the same transitive verb for learning something and teaching something, as in the instances below:

SES:	Tolo	*sasani-*	‘learn, educate, instruct’ (cf. *sasani* (VI) ‘learn, go to school’)
SES:	To’aba’ita	*toʔo-*	‘learn s.t.; teach s.o. s.t.’
Fij:	Wayan	*vuli-ði-*	‘study, learn s.t., teach s.o.’ (*vuli* (VI) ‘study, learn’)
Pn:	Samoan	*aʔo*	‘learn, teach, train’

More often (Table 28) it is expressed by attaching a causative prefix, usually a reflex of POc **pa[ka]-* CAUSATIVE, to a root meaning ‘know’ (§10.2) or ‘learn’. Since to learn is often synonymous with ‘come to know’, the English distinction between ‘know’ and ‘learn’ is not relevant in this context.

The Bariai (NNG), Misima (PT) and Halia (MM) items above, along with Dawawa (PT) *wai-kata-i* ‘show’, suggest that there was a PWOc causative **paka-qataq-i-* ‘teach, cause to know, show’, formed from **qataq-i-* ‘know, understand, realise (that)’ (§10.2).

Another semantic dimension of verbs of learning and teaching arises out of teaching styles in traditional Oceanic communities. A young person learned how to do something by watching an older person and imitating them, and this is reflected in the fact that POc **towa* ‘imitate, learn by imitation’ and POc **usuri*/**usawiri* ‘imitate’ below both have ‘imitate’ as their primary sense. The causatives formed from them, however, mean ‘teach, instruct’, presumably by demonstration.

Lou, Baluan and Manam reflexes of intransitive POc **towa* ‘imitate, learn by imitation’ reflect a transitive **towa-(a)kini-* ‘learn (s.t.) by imitation’ formed with the suffix **-(a)kini* (§1.3.5.2). Curiously, PT reflexes of **towa* are formed with a causative prefix, but mean ‘imitate’ rather than ‘teach’.

Table 28 Verbs of teaching formed with a causative prefix

NNG:	Bariai	*pa-oatai*	'teach'	*oatai*	'know, possess knowledge'
NNG:	Bariai	*pa-nanale*	'teach'	*nanale*	'learn; be accustomed to, get used to'
NNG:	Mangap	*-pa-kilaala*	'teach, help to understand'	*kilaala*	'know well, be aware, understand'
NNG:	Mangap	*pa-ute*	'teach'	*-ute*	'know, know how to'
PT:	Dobu	*e-ʔita*	'teach, show, train'	*ʔita*	'see, look'
PT:	Misima	*a-atena*	'teach'	*ate(na)*	'know, understand'
PT:	Balawaia	*vaɣa-riba*	'teach, inform'	*riba*	'know'
PT:	Motu	*ha-diba-ia*	'teach, learn'	*diba*	'know, understand'
MM:	Ramoaaina	*wer*	'teach'	*wa-wer*	'learn; teach'
MM:	Halia	*h-atatei*	'learn, begin to know'	*atei*	'know'
SES:	'Are'are	*haʔa-usuri-*	'teach, instruct'	*usuri-*	'follow, copy, imitate'
SES:	Kwaio	*faʔamanatā*	'teach, advise'	*manata*	'think, reason, know'
SES:	Owa	*faga-usuri*	'teach s.o.'	*usuri-*	'imitate s.o.'
Mic:	Carolinian	*a-xulē-y*	'teach (s.o.)	*xule*	'learn, know'
Fij:	Bauan	*vaka-vuli-ði-*	'teach a person s.t., make s.o. learn s.t.'	*vuli-ði-*	'study, learn s.t., teach s.o.'

POc **towa* (VI) 'imitate, learn by imitation', **towa-(a)kini-* (VT) 'learn (s.t.) by imitation'

Adm:	Lou	*to-ek*	'show'
		to-to-ek	'show how'
Adm:	Baluan	*tou-ek*	'show; teach'
NNG:	Manam	*to*	'learn'
		to-aka	'imitate, copy, mimic, mock'
NNG:	Sio	*towo*	'demonstrate; show how'
PT:	Gumawana	*va-to-towa-na*	'imitate'
PT:	Bunama	*he-to-towa-ne*	'copy, imitate'
PT:	Dobu	*e-to-towa-na*	'copy, mimic, imitate'
MM:	Bola	*tovo*	'learn'
NCV:	Paamese	*te-toho-ni*	'imitate, copy'
NCV:	Lewo	*tou-towo*	(VI) 'measure, imitate'
		tou-tou-ni	(VT) 'measure, imitate'

At first sight, the set below appears to reflect the POc root **usuri*, but the Ramoaaina and Nehan reflexes suggest that formal reconstruction is more complicated. The Nehan root *sairi* contains no internal *-u-*. The fact that NW Solomonic languages lose *-w-*. but not *-u-*, suggests that *sairi* reflects *usawiri* (with unpredicted loss of initial *u-*). Ramoaaina loses *-s-*, and its

expected reflex of **usuri* would be †*ūr*, rather than actual *wer*, which also attests to the presence of **-w-* followed by an unrounded vowel.

POc **usuri* or **usawiri* 'imitate'; **pa[ka]-usuri* or **pa[ka]-usawiri* 'teach, pass on'

MM:	Patpatar	*ha-usur*	(VT) 'teach'
		hara-usur	(VI) 'learn'
MM:	Ramoaaina	*wer*	'teach'
		wa-wer	'learn; teach'
MM:	Nehan	*ua-sairi*	'copy'
		uala-siri	'teach; understand, train, skill'
SES:	Longgu	*(gere)usuli-*	'copy writing'
SES:	Lau	*usuli-*	'copy; take after, resemble'
SES:	'Are'are	*usuri-*	(VT) 'follow, copy, imitate'
		haʔa-usuri-	'teach, instruct'
SES:	Arosi	*usuri*	(VT) 'hand on a tale'
		haʔa-usuri	'teach, instruct; teacher'
SES:	Owa	*usuri-*	(VT) 'imitate s.o.'
		faga-usuri	(VT) 'teach s.o.'
NCV:	Mota	*usur*	'pass on, relate'

cf. also:

MM:	Siar	*ariri*	learn (first *-r-* for †*-s-*)

Reflexes of another term for 'learn' are known only from Gapapaiwa and from Polynesian languages.

POc **akop* 'learn'

PT:	Gapapaiwa	*akova*	'learn, know, understand'

PPn **ako* 'acquire mentally, learn, teach' (POLLEX)

Pn:	Tongan	*ako*	(VI) 'learn, study; teach, train in'
		ako-naki	(VI) 'teach, give instruction'
Pn:	Niuean	*ako*	(VI) 'learn'
		faka-ako	(VT) 'teach, learn, teach yourself'
Pn:	Samoan	*aʔo*	'learn, teach, train'
Pn:	Tikopia	*ako*	'learn'
Pn:	W Futunan	*ako*	'learn, try, attempt'
Pn:	Mangareva	*ako*	'prove, try, exercise, practise'
Pn:	Hawaiian	*aʔo*	'learn, teach'
Pn:	Maori	*ako*	'learn, teach'

The primary meaning of POc **[ña]ñau* appears to have been 'teach', perhaps centring on parents or seniors instructing children orally about their responsibilities (cf Lukep, Sursurunga and Kwaio glosses) and/or showing them how to perform traditional practices (cf Gela and Lau glosses).

The form of **[ña]ñau* is open to question. If the Nyindrou term is indeed a reflex, then the POc consonant was **ñ*. But if the Nyindrou term is not a reflex, and the Titan term listed under 'cf. also' is a proper reflex, then the form was **[na]nau*.

POc **[ña]ñau* 'teach, learn'; **pa[ka]-[ña]ñau* 'teach'

Adm:	Nyindrou	*ñowoña*	'reveal, point out'
NNG:	Kairiru	*-nanou-i*	'teach'
NNG:	Lukep (Pono)	*-nōnō*	'teach about traditional responsibilities'
NNG:	Sio	*(pa)nana*	'teach'
MM:	Sursurunga	*(i)nau*	'instruct, charge (as parent to child)'
SES:	Gela	*naunau*	'teach a craft, teach a dance; try, practise; imitate'
SES:	Longgu	*nau-a*	'show s.o., teach s.o.'
SES:	Lau	*(fā)nanau*	'train, teach by practice' [†*nanau* not recorded]
SES:	'Are'are	*nao*	'turn, point, aim towards'
		naohi-	'point at, to aim at'
SES:	Kwaio	*nanau*	'learn about, learn'
		(faʔa)nanau-a	'teach, lecture'
SES:	Sa'a	*(sae)nanau*	'be taught, be wise' (*sae* 'liver')
NCV:	Mota	*(vata)nau*	'learn, teach, by practice'

cf. also:

Adm:	Titan	*ananowe, anano-ani* 'show, teach'

10.12 Conclusion

For many cognition frames no POc term be reconstructed. Apparently because their meanings are abstract, their lexical replacement rate is considerably higher than for items with less abstract meanings (§9.6). As we have noted, abstract states and activities tend to be encoded metaphorically as complex lexemes.

At the same time, it is reasonable to infer that, for example, the 'think + find' SVC pattern for 'remember' in §10.5 is quite probably of POc antiquity, as it occurs in widely distributed languages. However, the data do not allow us to reconstruct the forms that occurred in this and other complex lexemes, and so the possibility of independent parallel innovation cannot be excluded. Thus for remembering (§10.5), forgetting (§10.6) and being of one mind (§10.9) no forms are reconstructed, but complex lexemes are described, as they give us some insight into how POc speakers conceived these cognitive activities. For deciding (§10.7) not even a consistent pattern of complex lexemes is found, and the same is true of hoping and expecting, which are omitted here.