Topics in Polynesian language and culture history

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Mosel, La'i Ulrike and Ainslie So'o, 1997, *Say it in Samoan.*

Ross, Malcolm, Andrew Pawley and Meredith Osmond, eds, 1998, *The lexicon of Proto Oceanic: the culture and environment of ancestral Oceanic society Vol. 1: Material culture.*

van Klinken, Catherina, 1999, *A grammar of the Fehan dialect of Tetun, an Austronesian language of West Timor.*

Pacific Linguistics 504

Topics in Polynesian language and culture history

Jeff Marck

For my father,
who died while I was away,
and my mother,
who welcomed me when I got home.

Oh,
Te Rangi Hiroa!

Architect of the Bishop Museum ethnographies!

My report to Bruce Biggs

Contents overview

Chapter contents in detail

Tables, figures and maps

Tables

Figures

Maps

Preface

This book is a revised version of a doctoral thesis submitted to the Department of Linguistics, Research School of Pacific and Asian Studies, The Australian National University, under the title *Polynesian language and culture history*. The thesis was developed over a five-year period, 1992 to 1996. During the first year I settled upon a topic and began studying East Polynesian reconstructions in Biggs' *Pollex*. By about mid 1993 (Marck 1996a) I was impressed with the extent of sporadic sound changes among the established East Polynesian subgroups. I became interested in the idea that the older, higher order subgroups of Polynesian could be reexamined with an eye towards uniquely shared sporadic sound changes to see if any refinements in the standard subgrouping might be achieved. During the year to mid 1994 I found that the Ellicean Outliers shared sporadic sound changes with East Polynesian and Samoan that other Polynesian languages did not share (Marck 1999), a stunning bit of support for Wilson's (1985) suggestion of "Ellicean", composed of those same languages, on the basis of the pronoun prehistory. I then turned to a year of work on cosmogony (Marck 1996b, 1996c) and then a year on kin terms (Marck 1996d). I consolidated those and other materials into the submitted thesis in late 1997.

Acknowledgments

To those Polynesian people who have helped me along the way or were simply just friends, I would like to say what a great honour it was to work under the people mentioned above and to have had the help of so many others, such as Peter Bellwood and Jack Golson. I hope I have been able to say something useful about how Polynesians have traditionally answered the questions "Who is my family?" and "How did we get here?"

I *like* to do such things because they are possible, interesting and of value to Polynesian cultural survival. I am *able* to do such things because my family brought me back to health. It took them many years. *Tak for det* Mor, Janice, Sonja, Eric, Karen, Neil.

Jeff Marck
September 2000
Des Moines, Iowa, USA

1 Introduction

1.1 Overview

Consider the words from a few Polynesian (Pn) languages given in Table 1.1.

Table 1.1: Some agreements between a few Polynesian languages

	'eye, face'	'child'	'taro'	'whale'	PPn[1] 'expert, adroit' PTa[2] 'priest'	chief
Proto Pn	*mata	*tama	*talo	*tafuraqa	*tufunga	*qariki
Tongan	mata	tama	talo	tofua'a	tufunga	'eiki
Samoan	mata	tama	talo	tafolaa	tufunga	ali'i
Rapanui	mata	tama[3]	taro	taoraha		
Marquesan	mata		ta'o	toho'aa	tuhuka	(hak)a'iki
Hawaiian	maka	kama	kalo	koholaa	kahuna	ali'i
Tahitian	mata	tama	taro	tohoraa	tahu'a	ariki
Maori	mata	tama	taro	tohoraa	tohunga	ariki

Notes: 1. Proto Polynesian. 2. Proto Tahitic. 3. Sugar cane sprout.

Notice in the first two examples that only one language has a sound which is not the same as all the others: Hawaiian has *k* where the others have *t*. In fact, the *k* of Hawaiian nearly always corresponds to the *t* of the others (see examples 3–5). The fourth and fifth examples provide cases where the vowels do not agree as we would expect. The *tafuraqa* of Proto Polynesian irregularly became *taforaqa* in some descendant languages and *tohoraa* in others. Similarly, the *tufunga* of Proto Polynesian irregularly became *tafunga* in some languages. The initial chapters of this work consider which sound changes are regular, which are not, and what kind of subgrouping of Polynesian languages results when we define subgroups based upon shared irregular sound changes. Later chapters examine two Polynesian culture history topics: cosmogony and kin terms.

Figure 1.1 gives the generally accepted subgrouping of Polynesian languages and Figure 1.2 gives the slightly revised subgrouping resulting from the present work and Wilson (1985). In the revised subgrouping, Tongic (Tongan and Niuean) remains the first group to have diverged from the other languages (Nuclear Polynesian). But the Samoic-Outlier group is abandoned and the Ellicean Outlier languages are placed in a Nuclear Polynesian subgroup (Ellicean) whose members also include Samoan and East Polynesian, as Wilson (1985) suggested some years ago. Other Nuclear Polynesian languages (East Uvean, East Futunan,

Proto
Tongic
(PTO) —————————————————————— Tongan
(Ton)
—————————————————————— Niuean
(Niu)

Proto
Polynesian
(PPN)

Proto
Samoic-Outlier
(PSO) —————————————————————— Samoan
(Sam)
East Uvean
(EUv)
East Futunan
(EFu)
PN Outliers
(various)

Proto
Nuclear
Polynesian
(PNP)

Proto
Eastern
Polynesian
(PEP) —————————————————————— Rapanui
(Easter Is.)
(Eas)

Proto
Marquesic
(PMQ) —————————————————————— Hawai'ian
(Haw)
Marquesan
(Mqa)
Mangarevan
(Mva)

Proto
Central
Eastern
(PCE)

Proto
Tahitic
(PTA) —————————————————————— Tahitian
(Tah)
Tuamotuan
(Tua)
Cook Is.
Maori
(various)
N.Z. Maori
(Mao)

Pawley (1966, 1967), Green (1966, 1988)

Figure 1.1: The standard subgrouping of Polynesian languages
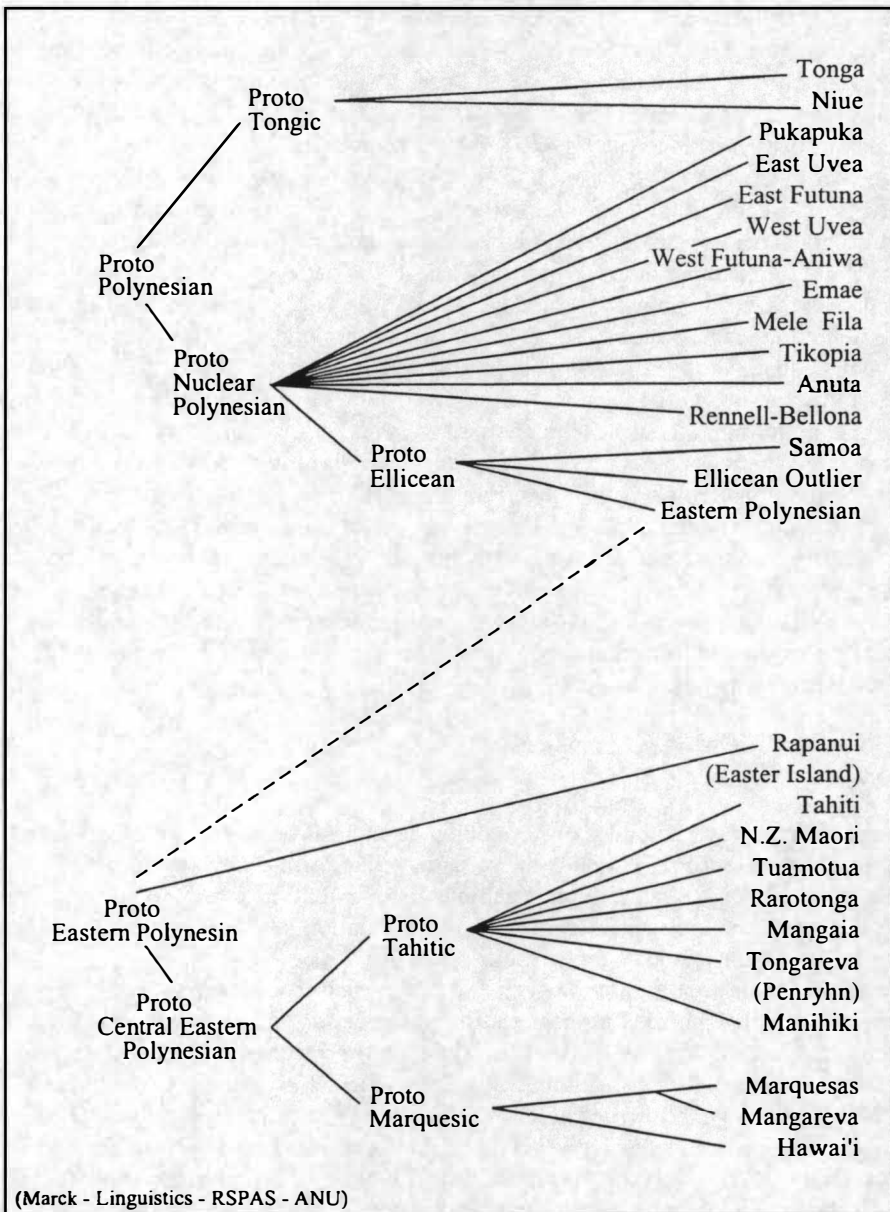
Figure 1.2: The standard subgrouping of Polynesian languages revised
Source: Figure 1.1 revised per Wilson (1985) and Marck (1996a, 1999 and present volume).
Tokelauan may have shared or borrowed innovations more or less continuously through its history
from Samoan

Pukapukan and the individual "Futunic" Outliers) remain unclassified within Nuclear Polynesian. Small groups of two or three "Futunic" Outlier languages (Pawley 1967, Clark 1978) are the only exception.

There is also a revision to the previous representation of Marquesic where it consisted of three coordinate members (Marquesan, Mangarevan and Hawaiian) or where Hawaiian appears in a subgroup with Southern Marquesan that does not include Northern Marquesan or Mangarevan. There is now clear evidence of a period of developments in the vowels common to Marquesan and Mangarevan but not including Hawaiian (Marck 1996a and §5.12 below). I call this Marquesan-Mangarevan group "Nuclear Marquesic".

As the work here came to a close I had begun to notice evidence to suggest that NZ Maori diverged from other Tahitic languages before any other split occurred in Tahitic. Although the figures given here do not show it, I now believe there may be a "Nuclear Tahitic" which consists of all Tahitic other than NZ Maori (see §5.13 below).

Results of the cosmogony work are based upon a distributional method (explained in Chapter 7) and indicate what *might* have been where the linguistic and kin term results are based upon the comparative method of linguistics and indicate more strongly what *must* have been. Still, the cultures of the linguistic subgroups tend to have exclusively shared features in cosmogonic notions and the distributional method is taken to be highly indicative. There are also substantial sharings of cosmogonic traditions through most of the cultures which seem to be shared retentions from Proto Polynesian times (Marck 1996b, 1996c and Chapter 7 below). The central finding of the kin terms study is that the ancestral system was similar to modern East Polynesian and Tongan, in which more relationships were named, than in Samoan and many of the Outliers today (Marck 1996d and Chapter 8 below). Chapter 9 relates the results of the previous chapters to current issues in archaeology and makes a few observations on how Polynesian language historians might benefit by turning their eye towards the demographics of ancient Polynesian linguistic communities.

1.2 Purpose

I began this work with the idea of developing a synthesis between comparative linguistics and archaeology. However, I soon came to believe that even though synthesis of results is possible, synthesis of methods is not. Each has its own materials, methods, and traditions. Synthesis seemed possible only from a clear enunciation of results from the individual disciplines and a comparison of those results.

I had been aware that anthropologists and archaeologists can take a rather mechanical view of language, exemplified in the great interest in lexicostatistics about thirty years ago; and that linguists and archaeologists can take a rather mechanical view of culture, each hoping to find some central insight that will lead them to some core theory and method of the other discipline that can be applied across a large number of research problems. Of course no discipline can be reduced to such a concise set of insights and here I present an exposition of why we cannot for language (pre)history in Polynesia. The main subgrouping results, however, are based on shared sporadic sound changes, a linguistic method which can be readily understood by people from other disciplines.

1.3 Background

Polynesian languages are members of the Austronesian language family which extends from Taiwan through Insular Southeast Asia, much of north, northeast and southeast coastal New Guinea, island Melanesia, all of Micronesia and all of Polynesia. Austronesian languages are also found on Hainan, the Malay peninsula, in parts of Vietnam and Cambodia, in the Mergui Archipelago off the coast of Burma, and throughout Madagascar (Bellwood et al. 1995:1). Polynesian languages are most closely related to Rotuman and Fijian languages and altogether they are known as "Central Pacific" languages.[1] Any period of highly unified Central Pacific development apart from other Austronesian languages seems to have been rather brief. The relationship is marked by an early drift into Fijian and Polynesian dialect centres, Polynesian last sharing innovations with and borrowing from the eastern (Lau or Tokalau) portion of the dialect chain in Fiji. The most comprehensive statement on the relationship of Polynesian to Fijian is Geraghty (1983:348–367) which has recently been updated (Geraghty 1996).

More broadly, Polynesian is part of a subgroup of Austronesian called Oceanic which includes all the Austronesian languages of Polynesia, Island Melanesia, coastal New Guinea east of 136 degrees east longitude, and Micronesian languages other than two Western Micronesian languages: Chamorro (Mariana Islands) and Belauan (Belau, formerly Palau).

Little reference is made to external evidence through much of this work because it is clear that Proto Polynesian speech and culture (ca. 1–300 AD) was a product of something like one thousand years of development in fair isolation from the outside world. "Polynesian" language and culture did not arrive fully formed in Polynesia. The language and culture of the early Oceanic Austronesian-speaking settlers, who gave rise to the modern cultures we observe in Polynesia, were greatly transformed in Polynesia itself before internal diversification became pronounced. "Polynesian" language and culture "came from" the west as most people have long imagined, but it was not Polynesian when it arrived. It became Polynesian *in situ*, differentiating from a linguistic and cultural base originating in Insular Southeast Asia and initially transformed as it spread across Melanesia towards Polynesia over a period of hundreds of years.

Work summarised by and expanded upon by Green (1981) and Pawley (1996) indicates that the Proto Polynesian speech community resided in the Tonga, Samoa, East Futuna and East Uvea area. From *circa* 900 BC (Chapter 9) to the early first millennium AD, Polynesian language and culture developed in a more or less cohesive way in those Western Polynesian islands. By the end of the period in question, one common Polynesian cosmogonic tradition was apparently autochthonous (creation was envisaged as having occurred locally) (Marck 1996b and Chapter 7 below, but see Geraghty 1993), many of the kin terms were distinct from those of Fiji (but clearly derived from a common ancestor) (Marck 1996d and Chapter 8 below), and the language and its dialects were full of innovations not shared with the outside world.

The internal diversification of Polynesian languages began only after many centuries of highly unified and uniquely Polynesian phonological, morphological, lexical and grammatical developments had occurred. There were then dispersals to Pukapuka, the "Futunic" Outliers, Tuvalu and the Ellicean Outliers, and East Polynesia. There are no linguistic substrata

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[1]   The Central Pacific subgroup was first proposed (1959) and named (1967) by George Grace.

hypotheses involving pre-Polynesian peoples and languages in Triangle Polynesia. If such substrata exist they have yet to be detected.[2]

A massive database of cognate sets called *"Pollex"* (*Comparative Polynesian Lexicon Project*) now exists for the Polynesian languages (Biggs[3] 1990, 1991, 1992, 1993, 1994a, Biggs & Clark 1996). Organised by reconstructed word, the various versions contain more than four thousand reconstructions with supporting data including over two thousand reconstructions attributed to Proto Polynesian itself. I report here on patterns of agreements apparent in the 1993 and 1994 versions in a study focused on a very small number of unexpected sound changes (Chapters 2 and 3).

The numbers of reconstructions for the various protolanguages in the *Pollex* versions utilised are given in Table 1.2.

Table 1.2: Occurrences of forms in some *Pollex* versions utilised

	1990	1992	1993	1994
Proto Austronesian (PAn)	174	172	174	170
Proto Malayo-Polynesian (PMP)	119	126	130	145
Proto Oceanic (POc)	155	163	175	175
Proto Eastern Oceanic[1] (PEO)	92	114	115	114
Proto Central Pacific (PCP)	65	90	93	95
Proto Fijian[2] (PFj)	189	224	235	238
Proto Polynesian (PPn)	1407	1387	1392	1390
Proto Tongic (PTo)	35	34	34	34
Proto Nuclear Polynesian (PNP)	437	440	440	430
Proto Samoic-Outlier[3] (PSO)	108	98	105	109
Proto Ellicean[4] (PEc)	–	–	–	–
Proto Ellicean Outlier[5] (PEcO)	?	?	?	12
Proto East Polynesian (PEP)	108	112	115	111
Proto Central East Polynesian (PCE)	373	437	451	450
Proto Marquesic (PMq)	29	30	31	31
Proto Nuclear Marquesic[6] (PNM)	–	–	–	–
Proto Tahitic (PTa)	109	130	137	141
Total	3400	3557	3627	3633

Notes: *Pollex* reconstructions are tagged according to the highest level to which they can be reconstructed. Forms known from a higher level protolanguage than PPn are tagged for that language, but the reconstruction given in the head of the entry is the index form and given in rough PPn phonological representation. Parentheses are not used in index forms but occur with the formal reconstruction lower in the entry. Higher level reconstructions are also given in other parts of the entry. For languages below PPn, reconstructions are given in the phonological form of the protolanguage for which the entry is tagged: PTo, PNP, etc.

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[2] There are some *Post* Proto Polynesian linguistic and cultural *borrowings* from South America but there are no contemporary linguistic *sub-strata* hypotheses.

[3] The research reported in this work was conducted from the early months of 1992 to the final months of 1996. Four versions of *Pollex* were used: the first was obtained in late 1990, the second was obtained in mid 1992, the third in late 1993 and the fourth in November of 1994. Each version was about five per cent larger than the previous version during those years and the 1994 version stood at about 2.4 Mb. Then in late 1996 I obtained a version from Ross Clark. At that time the contributions of Clark to the overall work had become quite substantial, Biggs refers to Clark as his principal collaborator in the accompanying explanatory file, and I refer to that version in this and other work as "Biggs and Clark (1996)".

Numbered Notes: 1. Reconstructions based upon knowledge of cognates only from Nuclear Micronesian, Polynesian and Oceanic Melanesian from the Southeast Solomons east and south. 2. Reconstructions based upon Fijian languages that are compared to Polynesian data in *Pollex*. 3. Reconstructions which are based upon evidence from Samoan, Ellicean and "Futunic" Outliers, only. No longer, here, considered a possible subgroup. See next note. 4. Suggested by Wilson (1985) and supported by Marck (1999 and §5.6 below}. Consists of Samoan, Ellicean Outlier and East Polynesian. Supersedes Proto Samoic-Outlier. 5. Ellicean as earlier defined, e.g. Howard (1981). 6. Marquesan and Mangarevan, see Marck (1996a and §5.12).

We can consider two extremes in the entries. Table 1.3 gives an entry with numerous agreements while Table 1.4 gives an entry with minimal agreements. *Pollex* entries give the languages in alphabetical order (see Table 1.3). In this table there are twenty-nine entries, including Bauan (Fij), which are known to have cognate forms. Language abbreviations are given in Tables 1.5, 1.6 and 1.7 in a later section of the present chapter. The note immediately following Table 1.2 explains how *Pollex* entries are tagged and indexed.

Table 1.3: A *Pollex* entry with numerous agreements

```
.Pn     MA-TAGI
*Pn*    :Wind, breeze.
Anu     Matangi.  :Wind.
Eas     Matagi.   :Wind, air, breeze, squall, tempest (Chl).
Tuv     Matagi.   :Wind, blow (of wind) (Rby).
EFu     Matagi.   :Wind n.
EUv     Matagi.   :Vent, brise (Ren).
Fij     Cagi.     :Wind.
Haw     Makani.   :Wind n.
Kap     Matangi.  :Wind (Ebt).
Kap1    Madangi.  :Wind (Lbr).
Mae     Matagi.   :Wind.
Mao     Matangi.  :Wind.
MFa     Matagi.   :Wind.
Mqa     Metaki.   :Wind.
Mqa1    Metani.   :Wind.
Mva     Matagi.   :Wind.
Niu     Matagi.   :Wind.
Nuk     Madangi.  :Wind, gas, flatus.
Lua     Makangi.  :Wind.
Pen     Matangi.  :Wind.
Puk     Matangi.  :Wind (Bge).
Rar     Matangi.  :Wind, air (Bse).
Ren     Matangi.  :Wind n, weather, position of wind, eastern (Ebt).
Sam     Matagi.   :Wind n.
Sik     Matani.   :Wind.
Tah     Mata`i.   :Wind n.
Tak     Matani.   :Wind, air (Hwd).
Tik     Matagi.   :Wind (Fth).
Ton     Matangi.  :Wind.
Tua     Ma-ta9i.  :Wind n.
WFu     Matagi.   :Wind (Dty).
WUv     Matagi.   :Wind.
```

The agreements in Table 1.3 involve a rather basic word and an etymology whose geographical spread has been roughly known for some years. In contrast, the forms in Table 1.4 represent one of many agreements which Biggs has noticed but perhaps not researched fully or for which he has exhausted the sources without finding further agreements.

Table 1.4: A *Pollex* item with minimal agreements

??	PAA-KATI
??	:A fish.
Mao	Paakati. :A fish, Spotty = paakarikari (Bgs).
Rar	Pakati. :Kinds of parrotfish (Scaridae), small, light-blue in colour (Bse).

The 1994 *Pollex* version used had 4,263 entries of which 3,633 are accounted for in Table 1.2. The 630 entries not accounted for are mainly marked "??", as is the form in Table 1.4, and are entries for which Biggs apparently believes so little relevant data is presently drawn together that assignment to a particular protolanguage is not very meaningful.

The primary tool that comparative linguistics employs has to do with the regularity of sound change over time in linguistic communities. As the study of Indo-European and, later on, other language families has shown, the pronunciations of words in living and interstage languages have profoundly regular relationships amongst themselves and, by implication, to the pronunciations of those words in earlier ancestral languages. Called "laws" or "rules", these mappings of sound change anchor all else that is done in comparative linguistics. The sound changes of living Polynesian languages during their descent from Proto Polynesian and the various interstage protolanguages are rarely complex. More commonly we are faced with transparent agreements among simple sound systems which allow two or three thousand years of linguistic (pre)history to be discussed without frequent reference to obscure sound changes.

Nevertheless, historical and comparative linguistics demand rigorous proofs that are rarely understood in full by people not trained or well read in the discipline. The results are sometimes understood to mean something they do not, or not to imply something they do in fact imply. The field of Polynesian culture history includes instances of published studies[4] which present linguistic data and misinterpret their significance. Therefore, the first chapters of the present work discuss the method of comparative linguistics as applied to some issues concerning Polynesian sound correspondences and subgrouping (Chapters 2 to 6).

Culture history topics are taken up in Chapters 7 and 8. Culture history is here defined as: reconstruction of those elements of culture reflected in the broad range of interests in the lifeways that pervaded the classic ethnographic works on Africa and the Pacific in the first half of the twentieth century. Here I will simply mention the genre of ethnographies issued by the Bishop Museum from about the time of World War I and the topics they generally covered: the tribal identity, the family, larger social institutions, material culture, procurement, recreation, the arts and religion. These and similar works are cited extensively in the culture history chapters. The topics of a typical Bishop Museum ethnography are mentioned because comparative work, by its nature, is limited to those aspects of culture and society for which there is consistent reporting. Those and other works allowed explorations of cosmogony (Chapter 7) and kin terms (Chapter 8).

The motives for investigating culture history problems through linguistic data are easy to explain. Such conclusions as emerge are often not recoverable from other fields of inquiry. Indeed, significant advances in Polynesian comparative linguistics have been made by ethnologists and archaeologists who did the comparative linguistics themselves (e.g. Emory 1946, 1963 and Green 1966, 1971, 1981, 1988).

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[4]   Cf. Langdon (1989) and Fischer (1992:187, 1994:187 and fn. 1) and comments on those works by Marck (1996a:509 and 1996e).

1.4 Method

Linguists define "comparative linguistics" variously. Hock (1991:556) makes a parsimonious general definition of its goals by reference to:

> accounting for similarities which cannot be attributed to chance, by the assumption that they are the result of descendancy from a common ancestor, i.e., of genetic relationship.

This is the definition of comparative linguistic objectives employed in the present work. We shall specifically not be concerned with "typology", the comparative study of the ways in which elements of languages are organised. Typological studies are comparative and linguistic but not always directed at problems in reconstructing past stages of (a) language.

In the chapters on sound correspondences and subgrouping the comparative method is applied in the main to Biggs's *Pollex*. The emphasis in the subgrouping presentation is upon shared sporadic (unexpected) sound changes. These represent convincing evidence for subgrouping to linguists and their significance is easily communicated to people in other disciplines. Shared sporadic sound changes are an extremely subtle indicator of ancient linguistic groups, and are diagnostic measures of affiliation even where only small differences in dialects may have been involved. The method employed in the chapter on cosmogony is distributional, with an eye towards motifs that occur exclusively within any one of the linguistic subgroups. The method employed in the chapter on kin terms is again the comparative method of linguistics.

1.5 Polynesian geography

> The traditional story of the discovery of Rakahanga and Manihiki is a blend of historical narrative and myth. The human discoverer, Huku, is stated to have sailed from Rarotonga on a fishing expedition. When he came to a part of the ocean referred to as "te tukuanga I Whaka-hotu" he noticed an upgrowth of rock or land (tapua whenua) projecting from the sea bottom but not rising above the water, an image evidently culled from the experience of an atoll-dwelling people to whom coral upgrowths on an encircling reef were familiar... Huku returned to his home with the idea that the upgrowth would eventually reach the surface and become land (Hiroa 1932a:14).

We cannot assume that the prehistoric geography of the islands, especially the atolls, was always what we encounter today. There was a period of higher world sea levels (Nunn 1994) at the time early Polynesian was developing in unity. There was also a good deal of isolation around Western Polynesia during the first millennium BC. Many of the atolls present on the landscape today may have lain sub-surface during that millennium; and even when the sea reached something close to its present level, not all atolls present today would necessarily have emerged, since they may have still been reef formations growing upward from below the sea's surface (Nunn 1994). Island geography was different in the past for one or both of those reasons, and sometimes also because of subsidence or uplift, whereby certain islands' surfaces have come to be some metres or fractions of a metre closer to or further from the centre of the earth.

Map 1.1 includes the Polynesian Triangle. At the time of earliest European contact only Polynesian languages were spoken within the bounded area. The Polynesian "Outliers" are found in Melanesia and Micronesia and are thus called as they are found outside Triangle

Polynesia. Their locations and names are given in Map 1.2. The Outliers from Sikaiana west and north are atolls. Rennell, Bellona, Pileni, Aniwa and West Uvea are raised coral islands, and the others from Taumako south are small but of volcanic origin protruding from the sea as small peaks (Bayard 1976:3).

The Outlier languages do not comprise a unified linguistic subgroup:

1. Those from Sikaiana west and north form a linguistic group with Tuvaluan (Bayard 1966, 1976, Pawley 1967, Howard 1981), Tokelauan, Samoan and East Polynesian (Wilson 1985, Marck 1999 and §5.6 below) called "Ellicean".

2. Those from Rennell and Bellona east and south are unclassified Nuclear Polynesian languages in the present analysis because they share no sporadic sound changes or other innovations through all members. Although there are overlapping isoglosses of reasonably clear replacement innovations (Bayard 1966, 1976, Pawley 1967), none define the group as a whole, which I refer to as "Futunic" through this work. I might add that although some members of this group have been shown to have many similarities with East Futunan, East Uvea seems more commonly mentioned in oral traditions; and the actual relationship of its language to "Futunic" Outlier languages may be obscured by massive borrowings from Tongan.

3. Taumako was classified as a possible Ellicean member by Bayard (1976:81), but the present work (Marck 1996d and Chapter 8 below) shows that the kin terms of Taumako are relatively numerous and archaic, compared to Outlier Ellicean (non-Triangle Ellicean) languages which show many common simplifications where such matters are known.

The Taumako/Pileni area is geographically intermediate between the Ellicean Outliers and the "Futunic" Outliers and this seems true of their languages to some extent. "Futunic" will continue to be presented in quotation marks through this work to mark it as a subgroup suggested on the basis of lexicostatistical evidence which has not been supported or refuted by subsequent work. In general the Outliers seem to have had a great deal of contact with each other, their Melanesian neighbours and Western Polynesia (Bayard 1976:84), and this has confounded attempts at subgrouping (Pawley 1967:292, Howard 1981:102, Marck 1999 and §5.5–6 below).

Map 1.3 shows Western Polynesia. Map 1.4 shows central East Polynesia. The circles around the various islands give the limits of an overnight voyage under average conditions. As in Micronesia (Marck 1986) such distances have, over long periods of time, come to define the limits over which languages, or at least highly unified dialects, are maintained. Map 1.5 shows the isoglosses for the subgroups supported by or argued for the first time in the present work. Map 1.6 shows the detail of Western Polynesian isoglosses.
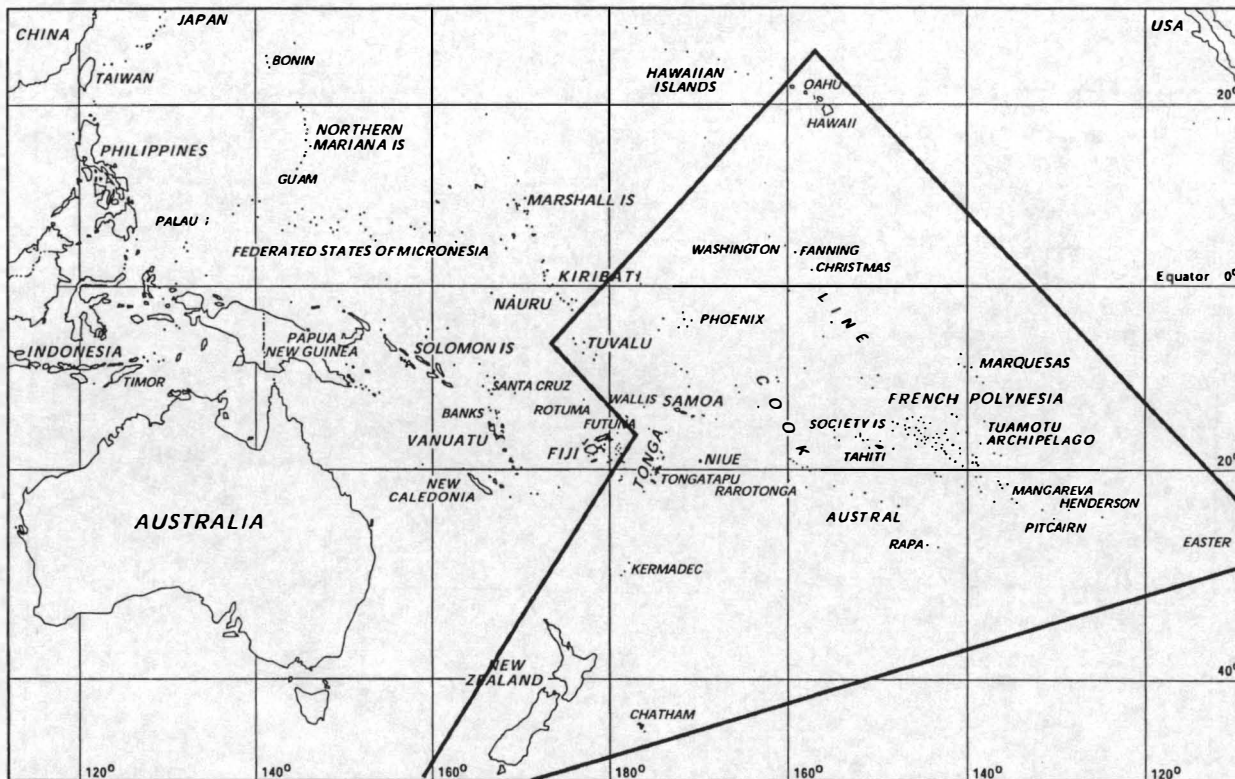
Map 1.1: Polynesia in the Pacific
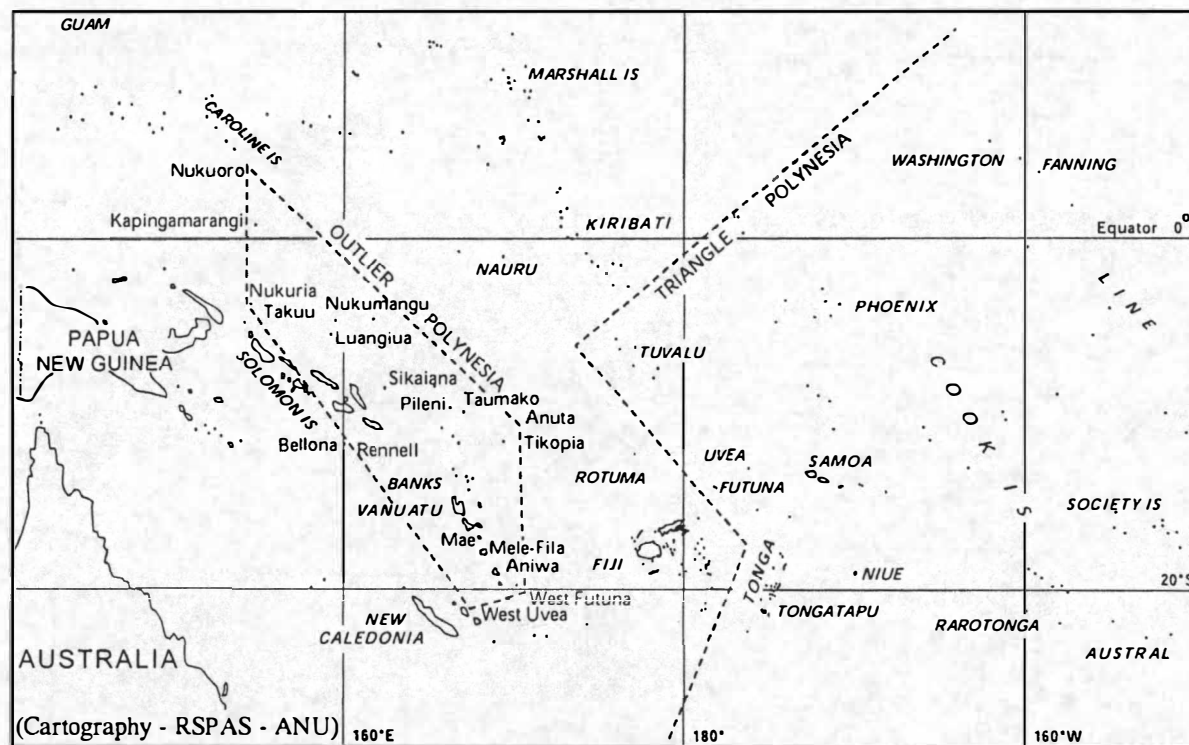
Map 1.2: The Polynesian Outliers
Source: After Pawley (1967)
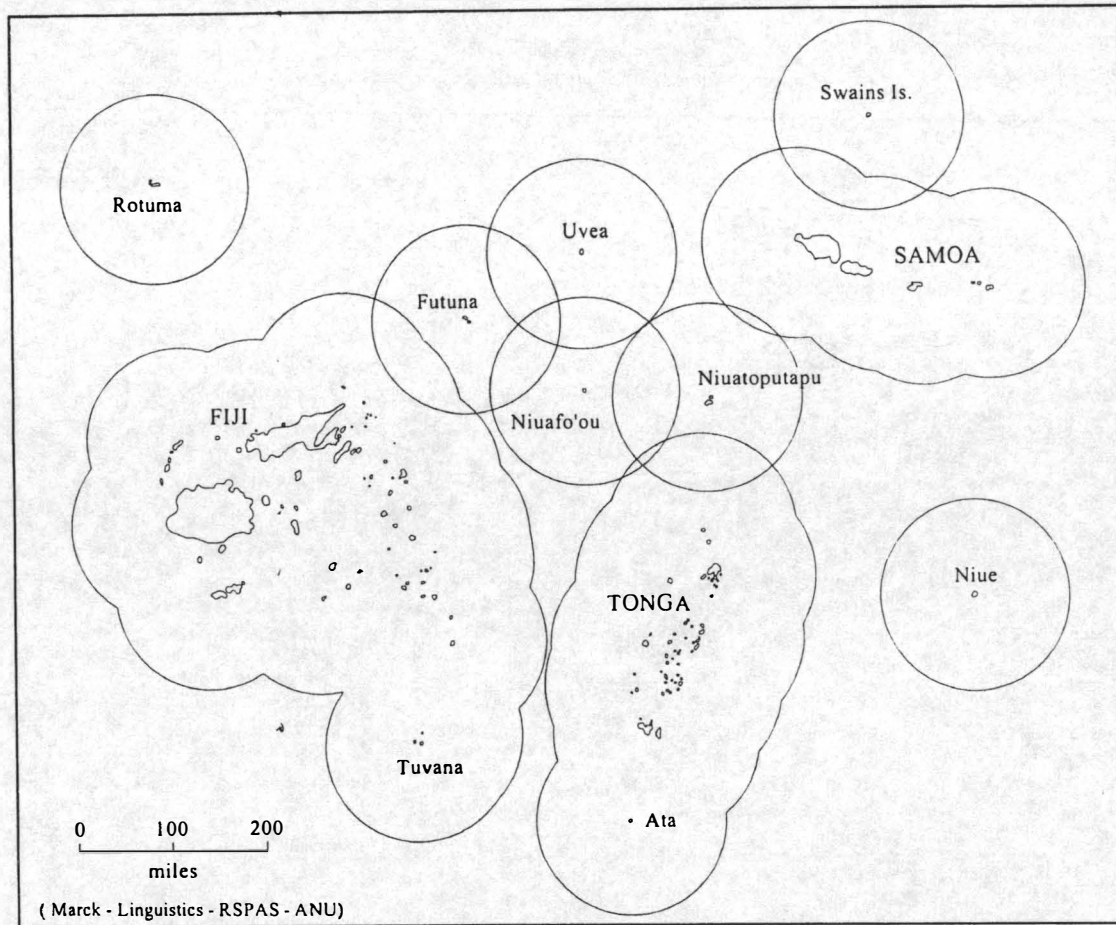
Map 1.3: Western Polynesia
Source: Author

Rotuma

Swains Is.

Uvea

Futuna

SAMOA

FIJI

Niuatoputapu

Niuafo'ou

Niue

TONGA

Tuvana

Ata

0   100   200

miles

(Marck - Linguistics - RSPAS - ANU)

Tongareva
Rakahanga
Vostok   Caroline
Marquesas
Pukapuka
Flint
Suwarrow
Tuamotu
0   100   200
miles
Palmerson
Society Islands
Islands
Southern
Cook
Tahiti
Islands
Australs
Mangareva
Rapa
Pitcairn
(Marck - Linguistics - RSPAS - ANU)
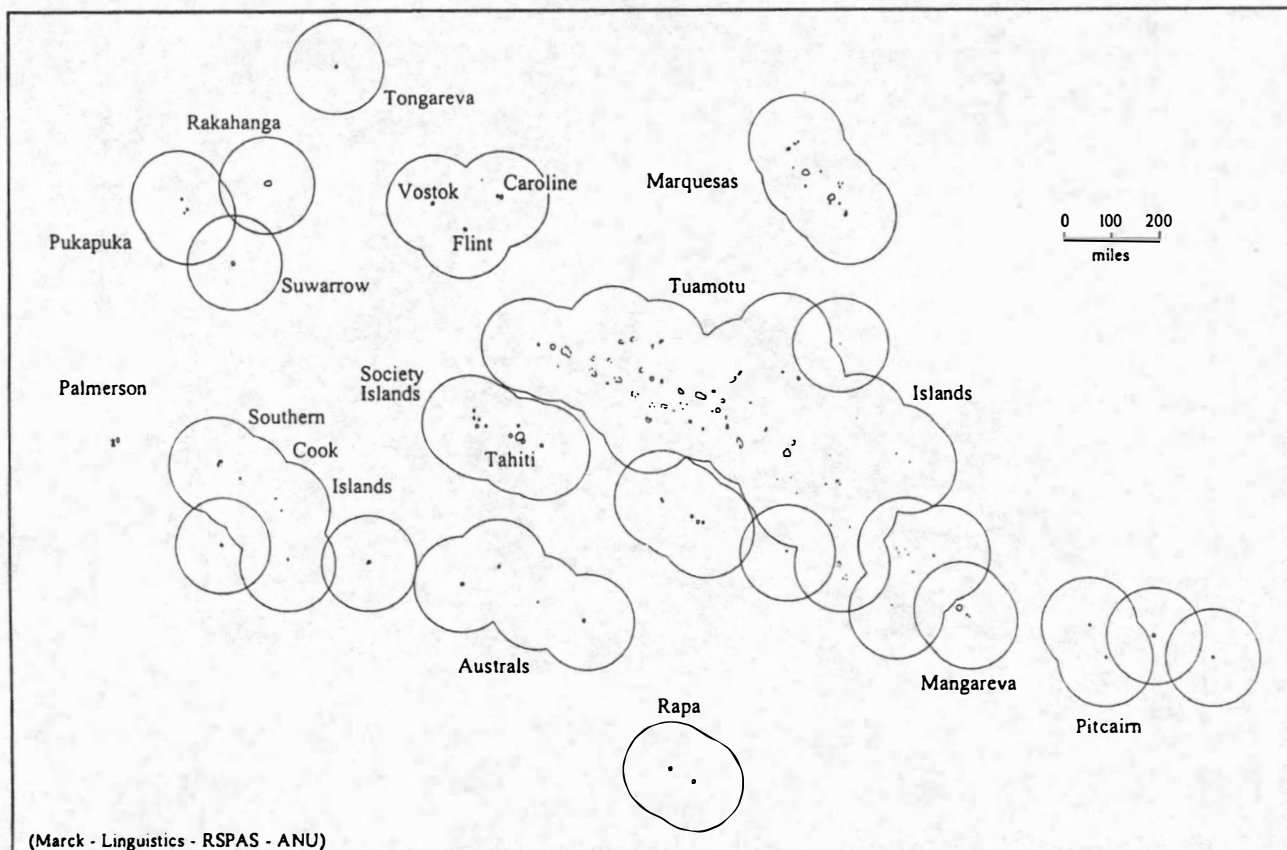
Map 1.4: Geographical Central East Polynesia
Source: Author
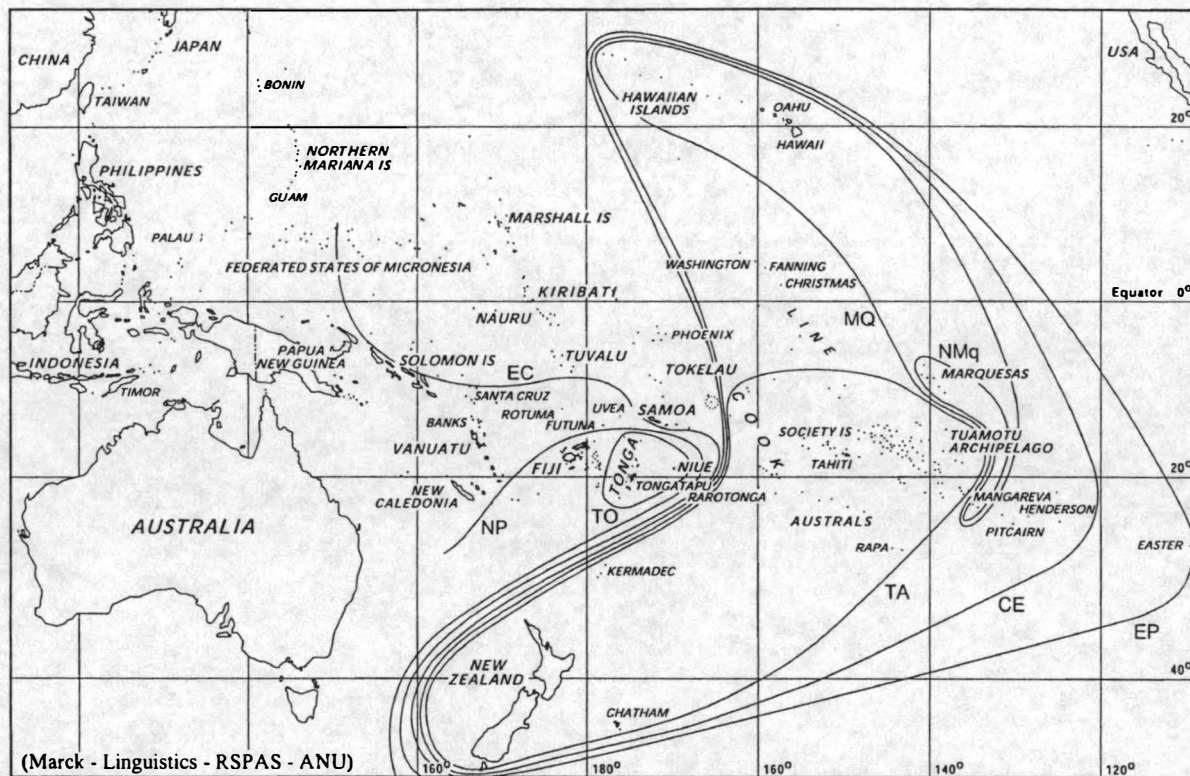
Map 1.5: Subgroups supported by or first argued in the present work
Source: Chapters 5 and 6

Proto Ellicean Outlier

foanga	'whetstone'
mafu	'heal'
iwi	'bone'
taforaa	'whale'
kiwi	'bird sp.'
kiwi	'blind'

Proto Eastern Polynesian

foanga	'whetstone'
mafu	'to heal'
iwi	'bone'
taforaqa	'whale'
kiwi	'bird sp.'
kiwi	'blind'

Tuvalu

---
mafu
ivi
tafolaa
---
kivi

Tokelau

foa
mafu
ivi

---
kivi

Samoa

foanga
mafu
ivi
tafolaa

'ivi

East Futuna

fuanga
mafo
ivi
tafola'a
kiu
kiwi

*kiwi *iwi *tafo-raqa

East Uvea

fu'anga
mafo
hui
tafola'a
---
kiwi

*kiwi *mafu *foanga

*kiu *mafo *fuanga

*kui *hui *tafu-raqa

Tonga

fu'anga
---
hui
tofua'a
kiu
kui

Proto Polynesian

fuqanga	'whetstone'
mafo	'to heal'
hui	'bone'
tafuraqa	'whale'
kiu	'bird sp.'
kui	'blind'

(Marck - Linguistics - RSPAS - ANU)

Map 1.6: Detail of Western Polynesian isoglosses
Source: Chapters 5 and 6. Revision of Marck (1999: Map 2).

"Western Polynesia" generally refers to the islands of Tonga, Samoa, East Uvea, East Futuna and the small islands of Niuatoputapu and Niuafo'ou between Tonga and Samoa.[5] I generally exclude Niue from my use of the term, unless specified, and generally include Tuvalu and the Tokelaus (and specify their inclusion in most instances). If there is a lack of complete consistency it generally revolves around differences in the cultural situation of the first millennium BC compared to that of the millennia AD. In the former it is convenient to speak of Western Polynesia as excluding Niue, Tuvalu and the Tokelaus since it is not clear that they were settled yet. In the latter it is convenient to speak of Western Polynesia as excluding Niue but including Tuvalu and the Tokelaus—Tuvalu and the Tokelaus seem part of a general area through which culture diffused and language was to some extent borrowed, but Niue was not.

It is an accident of history that we speak of "Western Polynesia" and "East Polynesia" rather than "West Polynesia" or "Eastern Polynesia". "Western Polynesia" and "East Polynesia" have been the fixed terms in the literature for many generations.

"Western Polynesia" is a geographical term. There is no linguistic group within Polynesian by that name, although one can speak of a Western Polynesian area in which linguistic and other cultural sharing and borrowing occurred throughout prehistory, and I often refer to "Western Polynesian" languages when enumerating various Polynesian languages by geographical area. "East Polynesia", on the other hand, has a corresponding linguistic subgroup, "East Polynesian". The geographical group includes all the Triangle islands other than those in greater Western Polynesia (counting Niuean, Tuvaluan and Tokelauan). All the languages present in East Polynesia, other than Pukapukan, show evidence of a period of common development apart from Western and Outlier Polynesian languages. New Zealand is generally included in "East Polynesia", the geographic term. Although New Zealand lies west of Tonga and Samoa, it is more conveniently lumped as part of East Polynesia due to its cultural affiliations (and NZ Maori is an East Polynesian language).

"Central East Polynesian" is a linguistic subgroup that includes all East Polynesian languages other than Rapanui but "central East Polynesia" has no fixed geographical definition. It is convenient to define it here as "East Polynesia less Hawai'i, Rapanui and New Zealand" and a lower case "central" will be employed because it is not a fixed term in the literature. Central East Polynesian, the linguistic group, is composed of "Marquesic" languages (Hawaiian, Marquesan and Mangarevan) and "Tahitic" languages (Tahitian, NZ Maori, Southern Cook Islands languages and dialects—Rarotongan, Mangaian, Aitutaki and others, all Tuamotuan languages and dialects, Rapan and other Austral Islands dialects, and Northern Cook Islands languages and dialects (Tongareva [Penrhyn] and Manahiki/Rakahangan other than Pukapukan)).

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[5]   Burrows' (1938:5) usage was with a lower case "western" and was "defined vaguely for the present as the region centring in Samoa and Tonga", a definition which is more or less followed in the present work but normally including Tuvalu and Tokelau. He also defined "central Polynesia" as the area centring in Tahiti and "marginal Polynesia" as Hawai'i, the Marquesas, Easter Island, Mangareva, and New Zealand. These definitions have been used less commonly in subsequent work by other scholars and are not used here. See below in main text.

1.6 Language names and abbreviations

The number of Polynesian languages and dialects is about thirty, a number of them largely undescribed such as for some of the Outliers, Tuamotus (Paumotus), Australs, and Cooks. As Biggs puts it, the Polynesian languages:

> have variously been said to number from one to as many as thirty-five. Here I recognise twenty-eight, several of which are dialectally somewhat diversified, though not to the extent that any of the dialects are mutually unintelligible (Biggs 1978:693).

There are at least fifty regional and local dialects if one includes Northern versus Southern Marquesan, the various New Zealand (NZ) Maori dialects, individual dialects of the Southern Cooks, Tuamotus and so on.

It is customary to abbreviate Austronesian dialects and languages with three-letter designations, and to abbreviate subgroups with two-letter designations that are preceded by "P" to indicate the protolanguage. A protolanguage is a theoretically reconstructed immediate ancestor of a particular group of languages. Thus, the immediate ancestor of all Polynesian (Pn) languages is Proto Polynesian (PPn), the immediate ancestor of the subgroup called Tahitic (Ta) is Proto Tahitic (PTa) and so on. Reasons for believing there are groups composed of some languages and not others will be defended presently. For the moment it is desirable simply to mention the abbreviations used in the present work. Following Biggs (1978, 1990, 1991, 1992, 1993, 1994a) but using Reid's (1992) lower case conventions, the abbreviations are as in Tables 1.5, 1.6 and 1.7.

Table 1.5: Polynesian protolanguage and subgroup abbreviations

CE	Central East Polynesian	Pn	Polynesian
Ec	Ellicean	PNM	Proto Nuclear Marquesic
EcO	Ellicean Outlier	PNP	Proto Nuclear Polynesian
EP	East Polynesian	PPn	Proto Polynesian
Fu	"Futunic" Outlier	PSO	Proto "Samoic-Outlier"
Mq	Marquesic	PTa	Proto Tahitic
NM	Nuclear Marquesic	PTo	Proto Tongic
NP	Nuclear Polynesian	SO	"Samoic-Outlier"
PCE	Proto Central East Polynesian	Ta	Tahitic
PEc	Proto Ellicean	To	Tongic
PEcO	Proto Ellicean Outlier		
PEP	Proto East Polynesian		
PMq	Proto Marquesic		

Note: Quotation marks are used for previously suggested subgroups not supported by the present study.

While the preferred usage for Easter Island is "Rapanui" or "Rapa Nui", the name in the language of the Rapanui people, linguists continue to use "Eas" as the abbreviation for the language because "Rap" has long been used for the language of Rapa in the Australs south of Tahiti.

Table 1.6: Polynesian language and dialect abbreviations

Aki	**Aitutaki** (Cooks)
Ani	**Aniwa** (Outlier, Southern Vanuatu)
Anu	**Anuta** (Outlier, Solomon Islands, Santa Cruz area)
Atu	**Atiu** (Cooks)
CkM	Cook Islands **Maori** (East Polynesia) (Dialects: Rakahanga, Manihiki, Aitutaki, Mitiaro, Atiu, Ma'uke, Rarotonga, Mangaia) (cf. esp. Rar, Mia and Aki)
EFu	East **Futuna** (Western Polynesia)
EUv	East **Uvea** (Western Polynesia)
Eas	Rapanui (**Easter** Island) (East Polynesia)
	Ellice (See Tuvalu)
Haw	**Hawaiian** (East Polynesia)
Kap	**Kapingamarangi** (Outlier, Micronesia)
Lua	Luangiua (**Ongtong Java**) (Outlier, Solomon Islands, some distance north of the centre of the chain)
MaB	New Zealand **Maori** (Bay of Plenty)
Mae	**Mae** (Outlier, Central Vanuatu)
Man	**Manihiki-Rakahanga** (East Polynesia, Northern Cooks)
MaN	New Zealand **Maori** (North Auckland)
Mao	New Zealand **Maori** (general) (East Polynesia)
MaS	New Zealand **Maori** (South Island)
MTW	New Zealand **Maori** (Taranaki-Wanganui)
MFa	**Mele-Fila** (Outlier, Central Vanuatu)
Mia	**Mangaia** (East Polynesia, Cook Islands)
Mit	**Mitiaro** (East Polynesia, Cook Islands)
Mke	**Mauke** (East Polynesia, Cook Islands)
Mor	**Mooriori** (Chatham Islands, East Polynesia off New Zealand)
Mqa	**Marquesas** (general, East Polynesia)
MqN	**Marquesas** (Northern dialect, East Polynesia)
MqS	**Marquesas** (Southern dialect, East Polynesia)
Mva	**Mangareva** (East Polynesia)
Nan	**Nanumea** (Tuvalu, Western Polynesia)
Nfu	**Niuafo'ou** (Western Polynesia)
Niu	**Niue** (Western Polynesia)
Nkr	**Nukuria** (Outlier, Solomon Islands, north of Bougainville)
Nkm	**Nukumanu** (Outlier, Solomon Islands, some distance north of the centre of the Solomon chain)
Nuk	**Nukuoro** (Outlier, Micronesia)
Ntu	**Niuatoputapu** (Western Polynesia)
	Paumotu (See **Tuamotu**)
Pen	**Penrhyn** ([**Tongareva**] East Polynesia, Northern Cooks)
Pil	**Pileni** (general, Outlier, Santa Cruz, Santa Cruz area, also Tau [Taumako], esp. in kinship chapter)
Puk	**Pukapuka** (East Polynesia, Northern Cooks)
Rap	**Rapa** (East Polynesia, Australs)
	Rapanui (See **Easter Is.**)
Rar	**Rarotonga** (East Polynesia, Southern Cook Islands)
Ren	**Rennellese** and Bellona (Outlier, Solomon Islands)
Rng	**Rangiroa** (Northern Tuamotus)
Rur	**Rurutu** (East Polynesia, Australs)
SaC	Colloquial **Samoan** (Western Polynesia)
Sam	**Samoa** (Western Polynesia)

Table 1.6 (continued): Polynesian language and dialect abbreviations

Sik	**Sikaiana** (Outlier, Solomon Islands, some distance north of the southeastern tip of the chain)
Tah	**Tahiti** (East Polynesia)
Tak	**Takuu** (Outlier, Solomon Islands, some distance north of the main northwestern islands of the chain)
Tau	**Taumako** (Outlier, Solomon Islands, Santa Cruz area)
Tik	**Tikopia** (Outlier, Santa Cruz area)
Tok	**Tokelau** (Western Polynesia)
Ton	**Tonga** (Western Polynesia)
	Tongareva (See Pen)
Tua	**Tuamotua** (numerous dialects) (East Polynesia)
Tub	**Tubuai** (East Polynesia, Australs)
Tuv	**Tuvalu** (Islands) (Western Polynesia) (Dialects: Tuvalu [general], Nanumea, Vaitapu)
Vai	**Vaitupu** (Tuvalu, Western Polynesia)
	Wallis Island (See **East Uvea**)
WFu	**West Futuna** (Outlier, Southern Vanuatu)
WUv	**West Uvea** (Outlier, New Caledonia, Loyalty Islands)

Table 1.7: Abbreviations of some non-Polynesian languages and protolanguages

Fij or Bau	Bauan (Eastern Fijian)	PMc	Proto Nuclear Micronesian
Kir	Kiribatese (Gilbert Islands, Micronesia)	POc	Proto Oceanic
		Rot	Rotuman
Lau	Lau (Eastern Fijian)	Saa	Sa'a (S.E. Solomons)
Mot	Mota (Banks Islands)	Way	Wayan (Western Fijian)
Ngg	Nggela (S.E. Solomons)		
PAn	Proto Austronesian		Note: 1. Not an established group. Used to tag reconstructions made from Oceanic languages that do not include amongst them any West Melanesian Oceanic language.
PCP	Proto Central Pacific		
PEO	Proto Eastern Oceanic[1]		
PFj	Proto Fijian		

1.7 On the history of language description in Polynesia

European observers of varying linguistic ability began recording the languages from the onset of contact, and the first small dictionaries were produced towards the end of the eighteenth century (e.g. Crook 1799).

Wordlists for individual islands were often first compiled in the eighteenth century during expeditions which sometimes had scientists amongst their entourage, e.g. Forster (1778). The nineteenth century saw most of the islands missionised then drawn into the various colonial orbits. During the nineteenth and early twentieth centuries, European missionaries and administrators resident in the islands dominated dictionary-making. The first "dictionary" of NZ Maori (Williams 1844) appeared before the middle of the century, and larger and smaller works for some of the other languages began to appear regularly after that. Andrews (1864) for Hawaiian; Baker (1897) for Tongan; Davies (1851) for Tahitian; Grezel (1878) for East Futunan; Hale (1848) for Nukuhiva; Marist Mission (1890) for Tongan; Tregear (1899) for Mangarevan, and Pratt (1862) and Violette (1879) for Samoan fall into this category. Twentieth century Polynesian dictionaries have mainly been compiled by anthropologists and

linguists along with the initial major dictionaries produced by Polynesian native speakers such as Simona (1986) for Tokelauan and Ngata (1993) for NZ Maori. By about World War II, dictionaries for most of the languages with large numbers of speakers had become available. Since World War II, dictionaries have been published for languages of many Outliers and some of the smaller islands of Triangle Polynesia. Few of them document more than five thousand words. The larger and smaller dictionaries available for Polynesian languages now number something over seventy.[6]

A considerable body of ethnographic work, much of it from the first half of the present century, constitutes an additional resource on social vocabularies. In many Polynesian societies comprehensive ethnographic description postdates the period in which much belief and ceremony was abandoned under mission or administrative pressure. Much is unknown about traditional vocabulary due to lack of timely and comprehensive linguistic description. Traditional vocabulary may be preserved in the modern languages more than we suspect, but the dictionaries commonly do not elaborate on the meanings of some important terms as much as the ethnographies or anthropological literature in general.

The quality of linguistic description in even the earliest published materials was often reasonable. Polynesian languages have sounds which were all known from most European languages and there is rarely any uncertainty about what consonant the early transcriptions are meant to represent.[7] The main exception is the glottal stop which was not recorded in some early works or not perceived by Europeans documenting the language when it occurred at the beginning of a word. Even when the glottal stop was known to be a significant sound, the Europeans sometimes ignored it in their spellings and this situation has become embedded in casual and even standard spellings as employed by some of the Islanders. In most Polynesian languages there are no consonant clusters,[8] there are no complex sounds except for affricates in Niuean and a few "Futunic" Outliers. There are always only five vowels (phonologically).

A problem of the earliest works that continues in some instances to the present is the failure to represent or consistently represent vowel length. There is a difference, in all Polynesian languages, between a short and a long vowel. For instance, *maui* and *mauii* have distinct meanings in numerous Polynesian languages and some representations of Polynesian words do not make a distinction (both are spelt *maui*).

While even the worst work of the earliest explorers is useful for some purposes, their transcriptions are not generally cited in modern comparative work. In the first instance, it is not always clear what vowel they were representing or if they had indicated all the vowels or indicated diphthongs correctly. Polynesian languages have vowels of the Latin type: five simple vowels *a*, *e*, *i*, *o* and *u*. Spaniards recorded vowels according to the Spanish/Latin model, but the native English and French speakers recorded them more variously: "*oo*" for "*u*", "*oh*" for "*o*" and the like. Representations of diphthongs were also sometimes problematic. In the second instance, most of the vocabulary recorded in early contacts with the Polynesians eventually came to be recorded with more consistent spellings and less uncertainty associated with the actual meaning of the word in the subject language.

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[6] See author's Polynesian Culture History Bibliography: http://coombs.anu.edu.au/~marck/biblio10.htm.

[7] They may have transcribed voiced for voiceless stops, especially in word-initial position, but the actual consonant in question is generally obvious.

[8] Other than in some Outliers where certain clusters occur.

2 *Consonant correspondences*

This chapter lays out the regular, sporadic and diffused consonant correspondences presently known for Polynesian languages by way of an examination of *Pollex* (Biggs 1993). The consonants reconstructed for Proto Polynesian are given in Table 2.1.

Table 2.1: Point and manner of articulation of the Proto Polynesian consonants

	labial	apical	velar	glottal
stops	*p*	*t*	*k*	*q*
nasals	*m*	*n*	*ng*	
fricatives	*f*	*s*		*h*
trill/flap		*r*		
liquid		*l*		
glide	*w*			

2.1 Regular consonant correspondences

The regularity of sound change is the anchor of comparative linguistics. The tendency of a sound to change in each word in which it occurs, or to change in each word in a particular class through similar environments, gives us a place to begin sorting through what overall linguistic change has occurred between an earlier language and its daughters.

Early work comparing Polynesian languages was not generally done within the framework of the comparative method of linguistics. A rare exception in the nineteenth century was Hale (1846). More commonly, early scholars simply noted the transparent agreements of sounds and words in the context of arguing culture history questions rather than directly linguistic questions. Hiroa's (1938a) "*Hawaiki*" is an example (which we now reconstruct as Proto East Polynesian "**Sawaiki*" due to maturation of theories of subgrouping and sound change).[1]

Since about the beginning of the twentieth century, and especially since World War II, there have been intermittent attempts to define the sound correspondences that link the various daughters of Proto Polynesian to that language by regular sound changes. Dempwolff (1929) was the earliest work to attempt reconstruction and the next major work on reconstructing the sound system was not until that of Elbert (1953). Such work was much more complete in Biggs (1978) which gives a succinct theory of how the consonant system of Proto Polynesian descended into the various living Polynesian languages (see also Krupa

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[1]   PEP **Sawaiki* 'homeland or point of origin in the west; place to which spirits/souls of people go upon death'.

1982 and Biggs 1971). The differences between the Proto Polynesian phonological system and those of the modern languages "are occasioned by the process of sound change which, as has been known for a couple of centuries, is characterised by extraordinary regularity" (Biggs 1978:710).

Table 2.2: Reflexes of Proto Polynesian consonants in selected daughters

PPn	*p	*t	*k	*m	*n	*ng	*q[1]	*f	*s	*h	*w	*l	*r
PTo	*p	*t	*k	*m	*n	*ng	*q	*f	*h	*h	*w	*l	*ø/l[3]
Ton	p	t[2]	k	m	n	ng	'	f	h[4]	h	v	l	ø/l[3]
Niu	p	t[2]	k	m	n	ng	ø	f	h	h	v	l	ø/l[3]
PNP	*p	*t	*k	*m	*n	*ng	*q	*f	*s	ø/*h[5]	*w	*l	*l
Ani[6]	p	t[7]	k	m	n	ng	ø	f	s	ø/s[5]	v	r	r
Anu[8]	p	t	k	m	n	ng	ø	p	ø	ø/s[5]	v	r	r
Bel	p	t	k	m	n	ng	'	h	s	ø/s[5]	b	ng	ng
Mae	p	t	k	m	n	ng	ø	f	s	ø/s[5]	v	r	r
Mfa	p	t	k	m	n	ng	ø	f	s	ø/s[5]	v	r	r
EUv	p	t[7]	k	m	n	ng	'	f	h	ø/h[5]	v	l	l
EFu	p	t	k	m	n	ng	'	f	s	ø/s[5]	v	l	l
Pla	p	t	k	m	n	ng	ø	f	h	ø/h[5]	v	l	l
Puk	p	t	k	m	n	ng	ø	w	thy	ø/thy[5]	w	l	l
Ren	p	t	k	m	n	ng	'	h	s	ø/s[5]	b	ng	ng
Tik	p	t	k	m	n	ng	ø	f	s	ø/s[5]	v	r	r
WFu[6]	p	t[7]	k	m	n	ng	ø	f	s	ø/s[5]	v	r	r
WUv	p	t	k	m	n	ng	ø	f	s	ø/s[5]	v	l~r	l~r
PEc	*p	*t	*k	*m	*n	*ng	*q	*f	*s	ø/*h[5]	*w	*l	*l
Sam	p	t	'	m	n	g	ø	f	s	ø/s[5]	v	l	l
PEcO	*p	*t	*k	*m	*n	*ng	ø	*f	*s	ø/*h[5]	*v	*l	*l
Kap[9]	p	t	k	m	n	ng		h	h	ø/h[5]	w	l	l
Nan[9]	p	t	k	m	n	ng		f	h	ø/h[5]	v	l	l
Nkr	p	t	k	m	n	ng		h	s	ø/s[5]	v	l/r	l/r
Nuk[9]	p	t	k	m	n	ng		h	s	ø/s[5]	v	r	r
Lua[9]	p	k	q	m	ng	ng		h	s	ø/s[5]	v	l	l
Sik[9]	p	t	k	m	n	ng		h	s	ø/s[5]	v	l	l
Tak[9]	p	t	k	m	n	ng		h~f	h	ø/h[5]	v	l	l
Tok	p	t	k	m	n	ng		f	h	ø/h[5]	v	l	l
Tuv[9]	p	t	k	m	n	ng		f	h	ø/h[5]	v	l	l
Vai[9]	p	t	k	m	n	ng		f	h	ø/h[5]	v	l	l
PEP	*p	*t	*k	*m	*n	*ng	*q[10]	*f	*s	ø/h[5]	*w	*r	*r

Source: After Biggs (1978:Figure 5) with refinements in accord with the present work and works mentioned in the materials on borrowing (§4.3), diffused consonant changes (§2.3) or cited below. Direct quotes from Biggs's (1978:Figure 5) footnotes are given in quotation marks:

1. The glottal stop is "*q" in protolanguages and the apostrophe (') in living languages.
2. [s] before *i* in Ton and [ts] or [s] before *e* and *i* in Niu.
3. Retained as *l* in borrowings from Nuclear Polynesian or an earlier Tongic dialect that retained *r* as *l*. See §5.2.1.
4. Rensch (1987:577) shows some forms with *s*. See §2.3.2.

Table 2.2 (continued): Reflexes of Proto Polynesian consonants in selected daughters

	*p	*t	*k	*m	*n	*ng	*q[10]	*f	*s[11]	*w	*r
PEP	*p	*t	*k	*m	*n	*ng	*q[10]	*f	*s[11]	*w	*r
Eas	p	t	k	m	n	ng	ʼ[10]	h	h	v	r
PCE	*p	*t	*k	*m	*n	*ng	ø	*f	*s	*w	*r
PMq	*p	*t	*k	*m	*n	*ng		*f	*h	*w	*r
Haw	p	k	ʼ	m	n	n		h[16]	h	w	l
PNM	*p	*t	*k	*m	*n	*ng		*f	*h	*w	*r
MqS[18]	p	t	ʼ	m	n	n		f[12]	h	v	ʼ
MqN[18]	p	t	k	m	n	k		h[12]	h	v	ʼ
Mva	p	t	k	m	n	ng		ʼ[17]	ʼ	v	r
PTa	*p	*t	*k	*m	*n	*ng		*f	*s	*w	*r
Aki	p	t	k	m	n	ng		ʼ[12]	ʼ	v	r
MaB	p	t	k	m	n	n		ø	h	w	r
Mao	p	t	k	m	n	ng		wh/h[13]	h	w	r
MaN	p	t	k	m	n	ng		hw	hy	w	r
MaS	p	t	k	m	n	k		h[12]	h	w	r
Mia	p	t	k	m	n	ng		ʼ[12]	ʼ	v	r
Mor	p	t	k	m	n	ng		hw[12]	hy	w	r
Pen	p	t	k	m	n	ng		h[12]	s	v	r
Rap	p	t	k	m	n	ng		ø[12]	ʼ	v	r
Rar	p	t	k	m	n	ng		ʼ[12]	ʼ	v	r
Rur	p	t	ʼ	m	n	ng		ʼ[12]	ʼ	v	r
Tub	p	t	ʼ	m	n	ng	ʼ,ng[13]	h	h	v	r
Tah	p	t	ʼ	m	n	ʼ		f/h[14]	h	v	r
Tua	p	t	k	m	n	ng		f/h[15]	h	v	r

5. PPn *h is retained as *s* or *h* in a few words in Sam and some Outlier languages by the traditional analysis and possibly Mqa and Mao as well. This work follows Biggs (1992, 1993, 1994a) and Biggs and Clark (1996) and the general tradition of Pn comparative linguistics in assuming there *was* a difference between PPn *s and *h. But Tongic does not give evidence of such and Nuclear Polynesian differences may only be the difference between fortis and lenis reflexes of PPn *s. See §2.3.4.
6. "Loss of unstressed vowels has resulted in some non-identical consonant clusters."
7. "Palatalised before *i*."
8. Biggs (1980).
9. "Loss of unstressed vowel between identical consonants occurs in all of these languages. The results may always be treated as long consonants though the phonetic facts may vary."
10. Only Eas regularly retains the glottal stop in EP and it is lost between *(-)a_a(-)*. The Eas glottal stop in word-initial position is not recorded in the major sources but Bergmann (1963) notes that it exists and regularly reflects the PPn word-initial glottal stop. Mqa has a small residue of PEP *q.
11. There may have been some residue of PPn *h as PEP *h. See §2.3.6–7.
12. "*v* initially before *af*." See §2.3.1.

13. "In some place names only. Elsewhere ' (glottal stop)."
14. "*w* initially before *af*; *h* medially and before round vowels." See §2.3.1.
15. "*v* initially before *af*. *h* before round vowels."
16. *w* initially before *af*.
17. *v* initially before *af* but there are exceptions. See §2.3.1.
18. Mqa may have some residue of the PPn glottals if such forms are not late insertions. See §2.3.6.

Table 2.2 gives the regular consonant correspondences of living languages to Proto Polynesian. There it can be seen that some consonants are more susceptible to regular change than others. Proto Polynesian *p, *m and *n are particularly stable, almost never regularly changing to other sounds during their descent into the living languages. Such cannot be said about the other consonants which have all changed in at least one language. The glottal stop

is the least stable, being regularly lost in all but five[2] of the many languages and dialects of Polynesia.

The primary split in Polynesian is between Tongic and Nuclear Polynesian. This split is attested by certain changes in the consonant system characterising each subgroup, as well as by grammatical and lexical innovations and, as will be seen, uniquely shared sporadic sound changes. In the Tongic branch, PPn *s and *h fell together as PTo *h[3] and PPn *r was lost. In Nuclear Polynesian, PPn *r merged with PPn *l as PNP *l and PPn *h was lost (Biggs 1978:710).

Proto East Polynesian continued the Proto Nuclear Polynesian consonants with one purely phonetic change: *l became *r. There were no "structural" changes in the consonant phonology (losses, mergers, splits or additions). The first internal split in East Polynesian was the divergence of Rapanui and Central East Polynesian from each other. Central East Polynesian lost *q in all environments (but see §2.3.6 for possible Mqa retentions), "PEP *f merges with *s medially and before round vowels as PCE *h" and "PEP *f merges with *w initially before PCE *a(a)h" (Biggs 1978:711). The following forms illustrate the last change:

Table 2.3: PPn *faf- to PCE *wah- correspondences

PPn	PNP	PCE	
*fafa	*fafa	*waha	'carry on back'
*fafie	*fafie	*wahie	'firewood'
*fafine	*fafine	*wahine	'woman'
*fafo	*fafo	*waho	'outside (etc.)'

Source: Bergmann (1963), Pawley (1966:59, fn. 29), Grace (1985) and Biggs (1993).

Biggs (1978:711) continues: "It seems likely that the CE [Central Eastern] rules were innovated in the order given above. Any other order would require the merging of *f and *s to take place in several environments rather than just two". As Biggs notes, Proto Tahitic and Proto Marquesic are not marked by any regular consonant (or vowel) changes from Proto Central East Polynesian. Such occurred later and only individually or in small groups within Marquesic or Tahitic, with the possible phonetic exception of PCE *s becoming PMq *h.

2.2 Sporadic consonant changes

By the detailed observation of sporadic sound changes given in this section, I justify the consonant portion of the evidence for the sporadic sound change isoglosses in Maps 1.5 and 1.6. Sporadic sound changes are here defined as those that are known to have occurred in a language or protolanguage only once or twice. That is too narrow a definition to claim a standard usage of that term but it is useful to distinguish between:

1. *regular* change which affected all or nearly all occurrences of a sound under phonologically specifiable conditions;

2. *diffused* change or loss which affected multiple forms under conditions that I cannot always state, as well as *residue* of such changes that were never complete; and

---

[2]   Ton, EFu, EUv, Ren/Bel, and Eas.

[3]   There is a residue of PPn *s which is still s in Ton. See §2.3.2.

3.   *sporadic* change which affected only one or two forms.

The purpose of the present section is to lay out just how very rare sporadic consonant change seems to be. In the conclusion of the chapter, rates of sporadic consonant change are estimated for selected Polynesian languages. The result is that only one sporadic change for about every four hundred to eight hundred consonants compared can presently be shown. We may think of these as something like genetic mutations and their central place in cladistics. The following sections identity thirty-eight irregularities in the consonants which are distributed as in Table 2.4.

These forms, in the instance of the consonants, were identified by reference to Biggs (1993) where all forms "Not Counted as Cognate" were culled for possible failures of regular agreements. A few others were noticed over the course of the work amongst *Pollex* forms counted as cognate. Biggs's forms "Not Counted as Cognate" have distinctive markings. By searching for these I reduced *Pollex* to seven files, one each for Tongan, Samoan, Rapanui, Hawaiian, Marquesan, Tahitian and NZ Maori. The seven resulting files have all forms for the respective languages from Biggs (1993) which were "Not Counted as Cognate" in *Pollex*. Each cognate set for each language was then tagged for possible reasons why Biggs may not have counted them cognate. Such reasons as semantic distance, compounds whose phonology and semantics did not allow a clear judgement of cognate status and irregular consonant correspondences were identified. These are very large files and could not be included in the appendices to the present work for that reason.[4]

Table 2.4: Sporadic changes by reconstructed sound

*p	3	1 place, 1 manner, 1 loss
*t	2	1 place, 1 loss
*k	3	1 place, 1 insertion, 1 indeterminate between insert/loss
*q		all glottal stop losses counted as diffused
*m	1	1 place
*n	2	2 place
*ng	6	4 place, 2 manner
*f	3	1 place, 2 manner
*s	7	6 loss (all of *s which had otherwise become *h*), 1 insertion
*h	1	1 loss
*w	5	1 syllabification, 2 coalescence, 1 insertion, 1 loss
*l	5	2 place, 2 manner, 1 loss
*r		not calculated, complicated by borrowing or residual retention in Tongic

To one side of each line in Map 1.6 are pronunciations that regularly follow a Proto Polynesian or other protolanguage pronunciation for the words in question; while on the other side of each line uniquely and sporadically changed consonants or vowels are found. Sporadic consonant changes are given by protolanguage in Table 2.32 and sporadic vowel changes in Table 3.30. Some isoglosses are marked by numerous such changes in pronunciation. Nuclear Marquesic (NM), however, is marked by only one.

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[4]   They are, however, available through the Department of Linguistics, Research School of Pacific and Asian Studies website at http://rspas.anu.edu.au/linguistics/archives.

The subgrouping chapter (Chapter 5) is a reiteration of the sporadic consonant and vowel changes from the perspective of the individual languages and protolanguages. In this chapter we look at the same data from the perspective of the individual reconstructed consonants.

The plan of this chapter is to review the reconstructed Proto Polynesian consonants one by one. Examples of regular correspondences are given and then the known exceptions from seven languages (Tongan, Samoan, Rapanui, Marquesan, Hawaiian, Tahitian and NZ Maori) are given. This group of languages is the subject of special attention, since there are so many Polynesian languages that we must limit examples in some manner. The seven were chosen because:

1. they are representative of Polynesian in general (other than the Outliers);

2. they stand in critical subgrouping relation to one another; and

3. they are the languages of major cultural groups around which revolve some of the most basic culture history questions.

Good potential cases of sporadic (one or two of a kind) consonant irregularities for the seven languages in Biggs (1993) number at least fifty-eight. Irregular losses account for twenty-eight of the fifty-eight. Of those irregular losses, twenty-one are of the Proto Polynesian glottal stop or of Proto Polynesian sounds that regularly became glottal stop in one or more of the seven languages. All changes identified and accepted as sporadic changes are discussed below in the following sections on the individual reconstructed consonants.

2.2.1 Proto Polynesian *p

Table 2.5: Proto Polynesian *p

	'fence'	'ocean wave'	'sprinkle water'	'night'	'coral rock'
PPn	*paa	*peau	*pii	*poo	*punga
PTo	*paa	*peau	*pii	poo	*punga
Niu	paa	peau	pii	poo	punga
Ton	paa	peau	pii	poo	punga
PNP	*paa	*peau	*pii-pii	*poo	*punga
EFu	–	peau	–	poo('uli)	puga
EUv	–	peau	pii-pii	poo	puga
PEc	*paa	*peau	*pii-pii	*poo	*punga
Tuv	–	peau	–	poo	puga
Lua	–	peau	–	–	–
Sam	paa	peau	–	poo	puga
PEP	*paa	*peau	*pii-pii	*poo	*punga
Eas	paa	peau	pi-pi	poo	punga
PCE	*paa	*peau	*pii-pii	*poo	*punga
PMq	*paa	*peau	*pii-pii	*poo	*punga
Haw	paa	–	pii-pii	poo	puna
Mqa	pa	peau	pii-pii	poo	puka
Mva	paa	peau	pii	poo	puga
PTa	*paa	*peau	*pii-pii	*poo	*punga
Mao	paa	–	pii-pii	poo	punga-punga
Rar	paa	–	pii-pii	poo	punga
Tah	paa	–	pii-pii	poo	pu'a
Tua	paa	peau	pii-pii	poo	punga

Proto Polynesian *p regularly remained [p] in all Polynesian languages but for Nukuoro. The regular reflexes in Nukuoro and Kapingamarangi are spelt "b" but Lieber and Dikepa (1974:375) note that the Kapingamarangi sound is voiceless while Carroll (1965) describes the Nukuoro stops as variable with respect to voicing. In Biggs (1993), I find the three potential irregular reflexes of reconstructed *p from the seven languages in Table 2.6.

Table 2.6: Possible irregularities of Pn *p from the seven languages

PPn *qepo	Sam eto	'lick'
PPn *palu	Haw walu	'fish sp.'
PNP *tapa-tuu	Haw kaakuu	'barracuda'

The evidence for the first irregular agreement, which occurs in Samoan, is part of the following unabridged cognate set:

```
(2.1)    QEPO
         *Pn*     :Lick.
         Anu      Epo/epo.          :Lick (Fbg).
         EFu      'Epo.             :Lick (Bgs).
         EUv      'Epo.             :Lecher (Rch).
         Niu      Epo, /epo/epo.    :Lick, taste.
         Ren      Epo.              :Lick (Ebt).
         Sam-     <Eto.             :Lick (Mnr)>.
         Tok-     <Eto.             :Lick (Sma)>.
```

Note: In *Pollex*, the hyphens after a language abbreviation and angle brackets surrounding data from a language indicate a "word not counted as cognate" (but worth noting as it for some reason resembles the rest of the group).

If this is not a fortuitous resemblance, we can note that the irregular change had not occurred by Proto Nuclear Polynesian times but is not entirely recent, since it is shared by Samoan with Tokelauan.

The abbreviated evidence for the second irregular agreement, from Hawaiian, is:

```
(2.2)    PALU.1
         *Pn*     :A fish (Ruvettus pretiosus).
         Tuv      Palu.    :Fish (Ruvettus sp.).
         Haw-     <Walu.   :Oilfish (Ruvettus pretiosus) (Hpr)>.
         Mao      Paru/u.  :An unidentified fish.
         Niu      Palu.    :Oilfish (Ruvettus pretiosus) (Hpr).
         Rar      Paru.    :Snapper sp.
         Sam      Palu.    :Aphareus sp. (Mnr), fish sp. (Prt).
         Tah      Paru.    :A fish.
         Tua      Paru.    :A fish, generic term for fish.
```

Since other Marquesic cognates are not clearly present, it is uncertain if the change is recent in Hawaiian or had occurred at the Proto Marquesic level. Marquesan has *vau* "gros poisson (lg. fish)" which is regularly cognate but for the absence of a glottal stop corresponding to PPn *r. If cognate, it shares the irregular change of PPn *p to *v* or *w* with Hawaiian; so possibly this was a change that had occurred by Proto Marquesic times.

The abbreviated evidence for the third irregular agreement is:

```
(2.3)    TAPATUU.*
         *7       Cf.PPn *sapatuu "a fish (Sphyraena sp.)".
         *NP*     :Fish (Sphyraena sp.) (Hpr).
         Tuv      Tapatuu. :Barracuda sp. (Hwd) (Ablennes hians) (Bsr).
         Haw-     <Kaakuu.  :(Sphyraena barracuda)>.
         Mqa      Tapatu.   :(Sphyraena sp.).
```

```
Mva      Tapatu.  :Name of a fish (Tgr).
Tok      Tapatuu. :Sea-pike barracuda (S. forsteri) when young.
```

Here it is clear that an irregular loss occurred and that it occurred locally in Hawaiian and not by Proto Marquesan times.

2.2.2 *Proto Polynesian* *t

Table 2.7: Proto Polynesian *t*

	'year, season'	'circumcise'	'gardenia'	'south'	'to light'
PPn	*taqu	*tefe	*tiale	*tonga	*tungi
PTo	*taqu	*tefe	*tiale	*tonga	*tungi
Niu	tau	–	tiale	tonga	tungi
Ton	ta'u	tefe	siale	tonga	tungia
PNP	*taqu	*tefe	*tiale	*tonga	*tungi
EFu	ta'u	tefe	tiale	toga	tugia
EUv	ta'u	–	siale	toga	–
PEc	*taqu	*tefe	*tiale	*tonga	*tungi
Tuv	tau-naga	tefe	tiale	toga	tugia
Lua	he-kau	–	kiale	–	kungi
Sam	tau	tefe	tiale	toga	–
PEP	*taqu	*tehe	*tiare	*tonga	*tungi
Eas	ta'u	tehe	tiare	tonga	–
PCE	*tau	*tehe	*tiare	*tonga	*tungi
PMq	*tau	*tehe	*tiare	*tonga	*tungi
Haw	kau	kahe	–	kona	kuni
Mqa	tau	tehe	tia'e	tua-toka	–
Mva	tau	te'e	tiare	toga	–
PTa	*tau	*tehe	*tiare	*tonga	*tungi
Mao	tau	tehe	tiiare	tonga	tungi
Rar	tau	te'e	tiare	tonga	tungi
Tah	tau	tehe	tiare	to'a	tu'i
Tua	tau	tehe	tiiare	tonga	tungi

Proto Polynesian *t* has regularly changed to *k* in all environments in Hawaiian and Colloquial Samoan. It remains *t* in formal Samoan, and Elbert (1982:503) reports *t* as a free variant of Haw *k* in some Hawaiian dialects. The sound is palatalised before *i* in Ton [s] and Niu [ts] or [s] so we might suspect that such could have been true in Proto Tongic. However, McEwen (1970:xi) states that the palatalisation in Niuean occurred within the historic period and I have found no early transcriptions of Niuean using "*s*". Modern Niuean also palatalises to [ts] or [s] before *e* and Biggs (1978:Figure 5) marks Taumako, Pileni, West Futunan and Aniwa as palatalising before [i]. From the seven languages surveyed in Biggs (1993), two irregular developments associated with reconstructed *t* seem apparent.

Table 2.8: Possible irregularities of Pn *t* from the seven languages

PTo *kamata	PCE *tamata	'taste'
PTa *taumafa	Tah aumaha	'heavy'

The first occurs in the following unabridged cognate set for which we would also reconstruct PCE *tamata* 'taste something':

```
(2.4)      KAMATA.2
           *To*     :Taste.
           EUv-     <Kamata.        :Gouter B. (Btn)>.
           Mqa-     <Taamata.       :Taste>.
           Niu      Kamata.         :Taste, begin, tempt (McE)>
           Tah-     <Tamata.        :Try a thing, taste>.
           Ton      Kamata/hake.    :Taste.
```

The correspondence of PCE *k* to PTo *t* seems a loan or irregularity. We would reconstruct PCE *tamata* 'taste' in contrast to Biggs PTo *kamata* 'taste'. No loan hypothesis is appealing unless there was a PEc *tamata* which became Sam *kamata* and was borrowed lately by Tongic. Early Ellicean or Central East Polynesian would not borrow early To *kamata* as *tamata*, and early Tongic would not borrow PEc or PCE *tamata* as *kamata*. Given the regular change of PPn *t* to *k* in some languages and the absence of regular changes of PPn *k* to *t*, we might be inclined to suggest that there was PPn **tamata*[5] and that Proto Tongic changed irregularly. But this is only conjecture. Other processes could be at work such as a tendency for some languages to change a sequence of unlike stops, *t...k* or *k...t*, to a sequence of like stops. An example is the change of Proto Nuclear Micronesian *kuita* 'octopus' to Kiribati *kiika*; or the change could be the result of the initial syllable being interpreted as a prefix and being replaced by another. Such morphological replacement may also have happened in a homophonous form in Kapingamarangi, both *ta-* and *ka-* being causative prefixes in some Polynesian languages:

```
(2.5)      KAMATA.1
           *Pn*     PPn *ka(a)mata.  :Begin.
           EFu      Kamata.          :Commencer.
           Haw-     <Ho'omaka.       :Begin>.
           Kap      Taa/mata/.       :Begin (Ebt).
           Kap1     Daa/mada/.       :Begin, start (Lbr).
           Mao      Tii/mata/.       :Begin.
           Mqa      Ha'a/mata/.      :Begin.
           Niu      Kamata.          :To begin, to try, to tempt.
           Puk      Ka(a)mata.       :To begin (Bge).
           Sam      'Aamata.         :Begin (Mnr).
           Tah      Ha/'a mata/.     :Begin.
           Tik      Kaamata.         :Beginning (Fth).
           Tok      Kaamata.         :Begin, start, commence (Sma).
           Ton      Kamata.          :Begin.
           Tua      Koo/mata.        :Begin.
```

It is possible the "taste" sense developed out of the "begin" sense (with an intermediate sense of "try, test") and we are dealing with the same historical form, having a "taste" of something being a common "beginning".

The second irregularity of *t* from amongst the seven languages is the unexpected loss in Tahitian in the following set:

```
(2.6)      TAU-MAFA.*
           *CE*     :Heavy.
           Haw      Kaumaha.         :Heavy, weight.
           Kap-     <Taamaha.        :Weight, weigh>.
           Mae-     <Taumafa/ina.    :Intimidate, overawe (Clk)>.
           Mao      Taumaha.         :Heavy, weight.
```

---

[5]   Double asterisks, "**", are used in this work to mark protoforms that cannot be properly defended. They are also used to mark the expected reflex in a living language when such forms are not actually known to exist.

```
Rar-    <Tauma'a.       :Curse, threat, accusation (Sve)>.
Tah-    <Aumaha.        :Sultry, close, warm (Dvs)>.
```

Two sources agree that there is no word-initial consonant in the Tahitian form so this seems an irregular loss of PCE > PTa *t in Tahitian. It is possible that it became a glottal stop as Davies (1851) rarely marked them, but Andrews and Andrews (1944) normally did and loss seems the main possibility. The semantic fit of the irregular Tahitian agreement is not good but Biggs's source is Davies; while Andrews gives the Davies form and definition along with a homonym with the more clearly cognate meaning of "heavy".

There are also the cases of PPn *te > Sam *le* 'the' and PPn *taqe > Sam *lee* 'not' but I have avoided using articles, negatives, pronouns and other such morphemes as examples. They may have changed by analogy or other processes that did not affect the common nouns and verbs from which the majority of my examples are represented.

2.2.3 *Proto Polynesian* *k

Table 2.9: Proto Polynesian *k

	'sennit'	'reddish (of hair)'	'outrigger boom'	'belly, stomach'	'grasp'
PPn	**kafa*	**kefu*	**kiato*	**koopuu*	**kuku*
PTo	**kafa*	**kefu*	**kiato*	**koopuu*	**kuku*
Niu	*kafa*	*kefu*	*kiato*	*koupu*	*kuku*
Ton	*kafa*	*kefu*	*kiato*	*koopuu*	*kuku*
PNP	**kafa*	**kefu*	**kiato*	**koopuu*	**kuku*
EFu	*kafa*	*kefu*	*ki'ato*	*koopuu*	*kuku*
EUv	*kafa*	*kefu*	*kiato*	–	*kuku*
PEc	**kafa*	**kefu*	**kiato*	**koopuu*	**kuku*
Tuv	*kafa*	*kefu*	–	*koopuu*	–
Lua	*'aha*	*'ehu*	*'iako*	–	–
Sam	*'afa*	*'efu*	*'iato*	–	*'u'u*
PEP	**ka(f,h)a*	**kehu*	**kiato*	**koopuu*	**kuku*
Eas	–	–	*kiato*	*kopu*	*kuku*
PCE	**kaha*	**kehu*	**kiato*	**koopuu*	**kuku*
PMq	**kaha*	**kehu*	**kiato*	**koopuu*	**kuku*
Haw	*'aha*	*'ehu*	*'iako*	*'oopuu*	*'u'u*
Mqa	*kaha*	*kehu*	*kiato*	*kopu*	*kuku*
Mva	*kaha*	*ke'u*	*kiato*	*koopuu*	–
PTa	**kaha*	**kehu*	**kiato*	**koopuu*	**kuku*
Mao	*kaha*	*kehu*	*kiato*	*koopuu*	*kuku-a*
Rar	*ka'a*	*ke'u*	*kiato*	*koopuu*	*kuku*
Tah	*'aha*	*'ehu*	*'iato*	*'oopuu*	–
Tua	*kaha*	*kehu*	*kiato*	*koopuu*	*kuku*

Proto Polynesian *k regularly changed to other sounds, always to glottal stop and always independently, in more languages than Proto Polynesian *p or *t. It is now glottal stop in Samoan, Luangiua, Tahitian, the Australs, Hawaiian and Southern Marquesan. The change in Hawaiian and Southern Marquesan may be related (Green 1966) but the others are probably not. Elbert (1982:503–504) notes that the dominant PCE *k reflex in Northern Marquesan is *k*, while there are also forms showing a glottal stop reflex; and that the dominant PCE *k reflex in Southern Marquesan is glottal stop while there are also forms showing a *k* reflex. This is a case of the two dialects occasionally borrowing the dominant

reflex of the other (Tryon 1987). Such cases of dialect borrowing are not considered in the following discussion of irregular developments of *k.

There are numerous cases of loss amongst languages that regularly changed *k (and/or *ng) to the glottal stop; and these are certainly most often losses of the resulting glottal stop and not direct losses of *k. Those will be discussed in the following subsection after the other unexpected changes. Otherwise, from the seven languages, there are the irregular agreements in Table 2.10 where a Polynesian *k seems sporadically lost or changed to another sound. There is also a good case for insertion in one instance.

Table 2.10: Possible irregularities of Pn *k from the seven languages

PTo *kamata	Mqa *taamata*, Tah *tamata*	'taste, attempt, try'
PPn *ki	Mqa *i*	'preposition "to"'
PPn *komo	Eas *omo-omo*	'suck'
PTa *taa-tea	Eas *takatea*	'semen'
PMq *hakali	PNMq *erehi*	'mature coconut'
PEP *ope	Haw *kope*	'scoop up, shovel'

The first set was discussed in the previous section and it is not certain whether a *k changed to *t* or vice versa.

The second set is best dismissed as a possible case of phonological erosion. Prepositions generally exhibit more sound change than the common nouns and verbs which are the main focus of the present study. Such erosion is sometimes motivated by reinterpretation of a morphologically complex word, by phonological redundancy, or by the effect of phonetic factors on a frequently uttered item.

In the following cognate set the Rapanui form is irregular:

```
(2.7)   KOMO.2
        *Pn*    :Suck.
        Eas-    <Omo/omo. :Sip, suck B.>.
        EUv     Komo.     :To suck on (as a cigarette) (Bgs).
        MFa     Koom/ia.  :Suck on something in the mouth (Clk).
        Mta-    <'Om.     :Hold liquid in the mouth>.
        Mqa     'Omo.     :Suck (Bgs).
        Ton     Komo.     :Suck in/up.
        Tua     Komo.     :Drink.
```

This Rapanui irregularity is what we would expect from a Tahitian loan. PPn *k has become glottal stop in Tahitian and initial glottal stop is recorded imperfectly by the Rapanui sources. I cannot, however, demonstrate that the word was available for borrowing from Tahitian, since a Tahitian cognate for this group is not presently known to me.

The next irregular agreement involves a *k* in Rapanui which is not present in a very similar Proto Tahitic reconstruction:

```
(2.8)   TAA-TEA
        *CE*    :Semen.
        Eas-    <Takatea. :Semen (Fts)>.
        Mao     Taatea.   :Semen (Wms).
        Rar     Taate'a.  :Semen (Mka).
        Tah     Taatea.   :Sperme (Mte).
```

Note: As Biggs discounts the Eas form, the level of reconstruction would normally be PTa, because the only completely regular agreements occur within that group.

There is no reason to posit borrowing in any of these forms. Seemingly Rapanui has inserted a consonant or Proto Tahitic (or Proto Central East Polynesian) lost one. Given the rarity of insertion compared to loss, PEP **taka-tea* seems more likely than a PEP **taa-tea* but we cannot be certain of this. As Biggs indicates in his reconstruction, the form is morphologically complex. PPn *tea* 'white' is certainly the source of the second morpheme. We might ask if the *taa-* and *taka-* have different sources. Biggs (1994a) reconstructs a number of homonyms for *taa* such as "strike" and "bunch of fruit, hand of bananas"; and PPn *taka* also seems to have had various meanings including "unmarried", "revolve" and "sandal". Because no *taka-* senses suggest an origin for a morphological replacement, I have counted this among the more likely cases of sporadic change.

Several changes happened to *sakali* in the period between Proto Marquesic (which seems to have had *hakari*) and Proto Nuclear Marquesic (which clearly had *erehi*). There were vowel assimilations, there was metathesis and *k* was lost.

```
(2.9)    SAKALI
         *EP*   :Flesh of mature coconut@.
         *7     Cp. *erehi "coconut".
         Eas    Hakari.    :Body (human or animal) (Fts) (Egt).
         Haw-   <Haa'ali.  :Fish gills (Pki)>@
         Mao    Haakari.   :Feast, roe of fish, yolk of egg (Wms)@
         Mki    Hakari.    :Coconut when flesh is maximally thick (Bck)@
         Mqa    E'ehi.     :Coconut (Bgs)@
         Mva    Erehi.     :Coconut palm (Tgr)@
         Mval   Ere'i.     :Coco (Rch).
         Pen    Sakari.    :Coconut when absolutely mature (Bck)@
         Puk-   <Yakali.   :Mature coconut in niu papaku stage (Bge)>.
         Rar    Akari.     :Mature or dry coconut, feast (Etn)@
         Tah    Ha'ari.    :Coco (Mte)@
         Tak    Sakare.    :Edible shoot at top of coconut palm (Hwd)@
         Tik    Sakare.    :Shoot of plant (e.g. coconut) (Fth)@
         Tua    Hakaari.   :Coconut palm (Stn)@
         Tual   Rehi.      :The coconut in its fifth growth stage (Stn).
```

Consonant insertion is often hard to demonstrate but a clear case seems to be that of Hawaiian in the following cognate set:

```
(2.10)   OPE.1
         *EP*   :Scoop up, shovel.
         Eas    Ope.    :To shovel, throw shovelsful of something (Fts).
         Haw-   <Kope.  :Shovel>.
         Mao    Ope.    :Scoop up, scrape together.
         Rar    Ope-a.  :Sweep/scoop up, wash s.t. up (of waves) (Bse).
         Tah    Ope.    :To go and collect, shovel, spade, to shovel.
         Tua    Ope.    :Scoop, gather up in the hands.
```

2.2.3.1 Losses of *k that regularly became glottal stop

Among the seven languages, PPn *k* regularly became glottal stop in Colloquial Samoan, Tahitian and Hawaiian. In these languages, like every Polynesian language or protolanguage that has or had the glottal stop, this sound is diffusely lost more freely than any other consonant. The cases presently identified for these three languages are:

Table 2.11: Possible losses of reconstructed Pn *k which came to be glottal stop in Samoan, Hawaiian and Tahitian

PNP *kawa-kawa-qatua	Sam *'avaava aitu*[1]	'shrub or vine'
PPn *keke-keke	Sam *'e'ee*	'type of noise'
PCE *kuka	Sam *u'a*	Sam 'sheet of bast fibre'
PNP *kalo-kalo	Haw *aloalo*[2]	'flower sp.'
PPn *ki	Haw *i*	'preposition "to(wards)"'
PNP *kusa	Haw *uhaa-uhaa*	'pant, froth from mouth'
PPn *kete-kete	Tah *eteete*	Tah 'shocked'
PNP *koo-tole	Tah *otore*	Tah 'disembowel'
PCE *koo-mene	Tah *omenemene*	'contract, roll up'
PCE *pokea	Tah *poea*	PCE 'Purslane'

Notes: 1. Pawley (pers. comm.) suspects a misspelling, since loss in one morpheme of a reduplicated form is not otherwise known to be matched by retention in the other. Neither of the Samoan dictionaries (Pratt 1984, Milner 1993) have the form (or one with the missing glottal stop). The form is taken from *Pollex* where there is no note as to the source. 2. Possibly a fortuitous resemblance. Not otherwise known in EP.

Biggs (1993) also shows Marquesan as having no consonant in its reflex of *ki* 'to(wards)' but Dordillon (1931) shows it as beginning with a glottal stop.

2.2.4 *Proto Polynesian glottal stop*

Table 2.12: Proto Polynesian glottal stop

	'personal article'	'at, from'	'yam'	'mountain'	'sun'	'tie'
PPn	*qa	*qi	*qufi	*maqunga	*laqaa	*faqu
PTo	*qa	*qi	*qufi	*maqunga	*laqaa	*faqu
Niu	a	i	ufi	mounga	laa	fau
Ton	'a	'i	'ufi	mo'unga	la'aa	fa'u
PNP	*qa	*qi	*qufi	*maqunga	*laqaa	*faqu
EUv	'a	'i	'ufi	mo'uga	la'aa	–
EFu	a	'i	ufi	ma'uga	la'aa	fa'u
PEc	*(q)a	*(q)i	*qufi	*maqunga	*laqaa	*faqu
Tuv	a	–	ufi	mauga	laa	fafau
Lua	a	i	–	mounga	laa	hau
Sam	a	i	ufi	mauga	laa	fau
PEP	*(q)a	*(q)i	*(q)ufi	*maqunga	*raa	*faqu
Eas	a	i	uhi	ma'unga	raa	haha'u
PCE	*a	*i	*ufi	*maunga	*raa	*fau
PMq	*(i)a	*i	*ufi	*maunga	*raa	*fau
Haw	–	i	uhi	mauna	laa	–
Mqa	ia	i	pua-uhi	mouka	'aa	hau
Mva	-	i	u'i	maga	raa	–
PTa	*a	*i	*ufi	*maunga	*raa	*fau
Mao	a	i	uwhi	maunga	raa	whawhau
Rar	a	i	u'i	maunga	raa	–
Tah	ia	i	ufi	mau'a	raa	–
Tua	a	i	uhi	maaunga	raa	fau

PPn *q is retained in only Tongan, East Uvean, East Futunan Rennellese/Bellona, and Rapanui. Orthographically the glottal stop is always "q" in the protolanguages and " ' " in the living languages. Rapanui is the only Ellicean or East Polynesian language that retains PPn >

PNP > PEc > PEP glottal stop, except for possible residue in Marquesan (§2.3.6), and the reconstruction of the Proto Ellicean and Proto East Polynesian glottal stop depends entirely upon Rapanui agreeing with Tongan, Rennellese, East Uvean and/or East Futunan. It was long thought that Rapanui lost the PPn > PNP glottal stop in word-initial position, but Bergmann (1963) found that the old glottal stop is retained in that position as well (and that the compilers of the Rapanui dictionaries had failed to record it). In the absence of reliable descriptive materials, we therefore reconstruct *(q)- for Proto East Polynesian in word-initial position where Proto Polynesian and/or Proto Nuclear Polynesian are known to have had one. In those few instances where Bergmann or others have recorded a word-initial glottal stop for Rapanui, PEP *q- is reconstructed.

Rapanui normally loses PPn and PNP *q word medially between two occurrences of the low vowel (*a_a). Thus, for instance, the PPn *laqaa > EAS *raa* 'sun' correspondence can now be understood as regular rather than irregular or a borrowing. Rapanui dictionaries have a number of (-)a'a(-) sequences, and two or three do go back to glottal stops in Proto Polynesian and/or Proto Nuclear Polynesian. They are best understood as residue of diffused loss. PPn and/or PNP *q are also known to be lost in Rapanui in a few instances between other vowel combinations but these losses seem less common and associated with a preceding low vowel. Whether the losses occurred by Proto East Polynesian times is indeterminate so, for instance, PEP *ra(q)aa 'sun' should be reconstructed.

Of the seven languages under special scrutiny here, only Tongan and Rapanui retain PPn *q. The irregular agreements of Tongan and Rapanui with a reconstructed glottal stop are given below. Some Tongan forms disagree with Proto Nuclear Polynesian or "Proto Samoic-Outlier"[6] and the situation for Proto Polynesian is indeterminate. In other cases the situation in Proto Polynesian is clear and Tongan has irregularly lost the glottal stop. The Rapanui cases exhibit loss in the first three cases and insertion in the fourth.

Table 2.13: Possible irregularities of Proto Polynesian *q in Tongan and Rapanui

PNP *faqi	Ton *fai*	'rite, perform ritual'
PPn *mata-qi-talinga	Ton *matai*	'hammer head shark'
"PSO" *qau-kau	Ton *au*	'pus'
PPn *saqa	Ton *haa-sia*[1]	'forbidden, wrong, taboo'
PPn *saqele	Eas *haere*	'go on foot, walk'
PPn *faqo	Eas *hao*	'put into, pack in'
PNP *laqu	Eas *rau*	'piece of yam for propagation'
PNP *kai	Eas *ka'ika'i*	'sharp'

Note: 1. "(food) spoilt by the smell of something".

2.2.5 Proto Polynesian *m

Table 2.14: Proto Polynesian *m

	'ashamed'	'red'	'rub, massage'	'fowl'	'fish sp.'
PPn	*maa	*mea	*mili	*moa	*muu
PTo	*maa	*mea	*mili	*moa	*muu
Niu	maa	mea	mili	moa	–
Ton	maa	mea	mili	moa	muu

---

[6] Samoic-Outlier, a group abandoned in Wilson (1985), Marck (1999) and the present work.

Table 2.14 (continued): Proto Polynesian *m*

PNP	*maa	*mea	*mili	*moa	*muu
EFu	maa	mea	mili	moa	muu
EUv	maa	mea	mili	moa	muu
PEc	*maa	*mea	*mili	*moa	*muu
Tuv	maa	mea-mea	mili	–	muu
Lua	–	mea	mili	moa	muu
Sam	maa	-mea	mili	moa	mu
PEP	*haka-maa	*mea	*miri	*moa	*muu
Eas	haa-maa	mea	–	moa	–
PCE	*haka-maa	*mea	*miri	*moa	*muu
PMq	*haka-maa	*mea	*miri	*moa	*muu
Haw	–	mea	mili	moa	muu
Mqa	–	–	–	moa	mu
Mva	'aka-maa	–	mi'i	moa	muu
PTa	*haka-maa	*mea	*miri	*moa	*muu
Mao	whaka-maa	mea	miri	moa	muu
Rar	–	–	miri	moa	muu
Tah	ha'a-maa	tara-mea	miri-miri	moa	muu
Tua	haka-maa	mea	miri	moa	muu

PPn *m* is regularly retained as *m* in every Polynesian language. Two possible irregular reflexes of Pn *m* were encountered in the seven languages:

Table 2.15: Possible irregularities of Pn *m* from the seven languages

PNP *sume	Mqa *hune*	'put on, as loincloth'
PPn *rima	Mao *ringa*	'hand, five'

Marquesan shows an irregular change in the following:

```
(2.11)   SUME
         *NP*    :Put on, as a loincloth.
         Haw     Hume.    :Put on, as a loincloth.
         Mao     Hume.    :Put on, as a loincloth.
         Mqa-    <Hune.   :Put on loincloth>.
         Puk     Yume.    :Clasp s.t. between thighs, put on s.t.
         Rar     'Ume.    :Put on, as a loincloth.
         Tah     Hume.    :Put on, as a loincloth.
         Tua     Hume.    :Put on, as a loincloth.
```

but there is an item noted in Dordillon (1931:75) where corresponding forms in the North and South Marquesan groups differ similarly:

```
(2.12)   MqN    peemo 'slippery'
         MqS    peeno 'slippery'
```

So this may be part of some larger pattern of alternations and cannot be counted as a single sporadic event.

The other change is in NZ Maori and has no parallel of which I am presently aware. Here PPn *m* has gone to Mao *ng*:

```
(2.13)   LIMA
         *Pn*    five, hand
         Anu     Rima.    :Hand-arm (2.Yen).
         Anul    <Nima.   :Five, hand-arm (Fbg) B.>.
         Ece     Lima.    :Five, hand-arm.
```

```
EFu    Lima.    :Five, hand.
EUv-   <Nima.   :Main, bras, cinq (Rch)>.
Fij    Lima.    :Five.
Haw    Lima.    :Five, hand.
Kap    Rima.    :Five, hand n (Ebt).
Kap1   Lima.    :Hand, arm, five (Lbr).
Mae    Rima.    :Five, hand-arm.
Mao    Rima.    :Five.
Mao2   <Ringa.  :Hand>.
MFa    Rima.    :Five, hand-arm.
Mqa    'Ima.    :Five, hand.
Mva    Rima.    :Five, hand-arm.
Niu    Lima.    :Five, hand.
Nkr    Lima.    :Hand, arm.
Oja    Lima.    :Five, hand-arm.
Pen    Rima.    :Five, hand-arm.
Rar    Rima.    :Five, hand.
Ren    Gima.    :Hand, arm, five (Ebt).
Rot    Lima.    :Five, hand-arm.
Sam    Lima.    :Five, hand.
Sik    Lima.    :Five, hand-arm.
Tah    Rima.    :Five, hand.
Tak    Rima.    :Five, hand-arm.
Tik    Rima.    :Five, hand, arm, wrist (Fth).
Ton    Nima.    :Five, hand.
Tau    Rima.    :Five, hand.
WFu    Rima.    :Five, hand-arm.
WEv    Lima.    :Five, hand-arm.
```

2.2.6 Proto Polynesian *n

Table 2.16: Proto Polynesian *n

	'mosquito'	'orgasm'	'tooth'	'common, worthless, ordinary'	'earth, country'
PPn	*namu	*nene	*nifo	*noa	*nuku
PTo	*namu	*nene	*nifo	*noa	*nuku
Ton	namu	–	nifo	noa	nuku
Niu	namu	nene	nifo	noa	nuku
PNP	*namu	*nene	*nifo	*noa	*nuku
EUv	namu	–	nifo	noa	–
EFu	namu	ma-nene	nifo	noa	nuku
PEc	*numu	*nene	*nifo	*noa	*nuku
Sam	namu	–	nifo	noa	nu'u
Lua	ngamu	–	ngiho	–	–
Tuv	namu	nene	nifo	–	nuku
PEP	*namu	*nene	*niho	*noa	*nuku
Eas	–	nene	niho	noa	–
PCE	*namu	*nene	*niho	*noa	*nuku
PTa	*namu	*nene	*niho	*noa	*nuku
Tah	namu	nenene	niho	noa	nu'u
Tua	namu	nene	niho	noa	nuku
Mao	namu	whaka-nene	niho	noa	nuku
Rar	namu	nene	ni'o	noa	nuku

Table 2.16 (continued): Proto Polynesian **n*

PMq	**namu*	**nene*	**niho*	**noa*	**nuku*
Mqa	*namu*	*nene*	*niho*	*noa*	*nuku-*
Mva	–	–	*ni'o*	*noa*	*nuku*
Haw	–	*nene*	*niho*	*noa*	*nu'u*

PPn **n* is retained as *n* in most Polynesian languages. All possible cases of sporadic irregular change of PPn **n* known to me have explanations readily at hand. For instance, consider the three changes below:

Table 2.17: Possible irregularities of Pn **n* from the seven languages

PCE **kanapa*	Mqa *ke'apa*	'flash, glitter, sparkle'
PPn **qahawana*	PNP **qaawa(n,ng)a*	'spouse'
PNP **taafuna*, PTo **tafuna*	Ton *tafunga*	'shoal or submarine reef'

The first case exhibits an irregular change. Hawaiian and Mangarevan agree on PMq **kanapa* while Marquesan has a glottal stop.[7] The change of the first vowel in Marquesan is expected:

```
(2.14)   KANAPA
         *CE*    :Flash, glitter, sparkle.
         Haw     'Anapa.           :Shine, gleam, glitter, sparkle (Pki).
         Mao     Kanapa.           :Bright, gleaming (Wms).
         Mqa-    <Ke'apa.          :Flash, gleam>.
         Mva     Kanapa.           :Bright, shining (Tgr).
         Pen     Kanapa.           :Flash (reflection as a signal) (Yda).
         Puk     Ka(a)napa(napa).  :Shine, flash (Bge).
         Rar     Kanapa.           :Flash, glitter (Sve).


         Tah     'Anapa.           :Scintiller, lacer des eclairs (Mte).
         Tua     Kaanapa.          :Glitter, gleam, flash once (Stn).
```

Dordillon (1931:3) notes that Marquesan *k*, *n*, *r* and *t* sometimes have doublets with the glottal stop but gives no examples for *n* or *r* (1931:74–76). This is the single instance of an **n* reflex I noted in *Pollex* that changed according to that pattern. I have not counted it as a sporadic change because it may be part of a larger pattern of such alternations.

The second possibility is the change of PPn **qahawana* 'spouse' to PNP **qaawa(n,ng)a*. The Proto Nuclear Polynesian form may represent a morphological reinterpretation of the final syllable (**-na* 'possessive' to **-nga* 'nominaliser') and is not counted here as a sporadic sound change:

```
(2.15)   QAHAWANA
         *7      Cf. PNP *'aawanga (Ebt.1975).
         *Pn*    *qahawa(n,9)a. :Marry, elope, spouse.
         Anu     Aavanga.       :Marry.
         Ece     Aavaga.        :Marry, spouse, intended spouse.
         EFu     'Aavaga.       :Spouse, marry (Bgs).
         EUv     'Aavaga.       :Mariage, epouse, union, hysterie (Rch).
         Kap     Awanga.        :Wife.
         MFa     Avaga.         :Married.
         Mqa     'Ahana.        :Mari, epoux (Dln)>.
         Mva     Ahana.         :Mari (Jnu).
```

---

[7]   Normally reflecting a former liquid (PCE **r*) although it relects PCE **k* in one dialect. PMq **n* is regularly reflected as glottal stop in neither of the Mqa dialects.

```
Niu    Hoana.        :Wife, marry (of a man).
Ren    'Aabanga.     :Marry, elope, spouse.
Sam    Aavaga.       :Elope (Mnr).
Sik    Aavana.       :Spouse, marry (Sps).
Tak    Avana.        :Spouse (Hwd).
Tik    Aavaga.       :Marry.
Tok    Aavaga.       :Spouse, be married (Sma).
Ton    'Ohoana.      :Spouse, husband, wife (Cwd).
WFu    Ava9a.        :Marry.
WEv    Avanga.       :Marry.
```

In the last example it is only Tongan that disagrees. Niuean is marked "not counted as cognate" as well but that marking appears only to concern semantic distance and not the consonant irregularity seen in Tongan:

```
(2.16)  TAAFUNA
        *NP*    :A shoal or submarine reef.
        Mao    Taahuna.       :Shoal, sandbank (Wms).
        Niu-   <Tafuna.       :A mound (McE)>.
        Mqa    Tahuna.        :Rivage de la mer couvert de pierres (Dln).
        Mva    Tahuna/huna.   :Shallows, shoals, sandbanks etc. (Tgr).
        Rar    Taa'una.       :A pile, bank, ridge, reef (Bse).
        Sam    Taafuna.       :A rocky place in the sea (Prt).
        Tah-   <Tahuna.       :Hide or conceal (Dvs)>.
        Ton-   <Tafunga.      :Convex, in the form of a mound (Cwd)>.
```

This may be a case of morphological replacement since PPn *-na* was a possessive and PPn *-nga* a nominaliser, as mentioned above, and I have not counted the present case as one of sporadic change.

2.2.7 *Proto Polynesian* *ng

Table 2.18: Proto Polynesian *ng*

	'disappeared, forgotten'	'famine'	'blow (of wind)'	'snore'	'hum, grunt, groan'
PPn	*ngalo	*honge	*angi	*ngolo	*nguu
PTo	*ngalo	*honge	*angi	*ngolo	*nguu
Niu	ngalo	honge	angi	nguu	
Ton	ngalo	honge	angi	ngolo	nguu
PNP	*ngalo	*onge	*angi	*ngolo	*nguu
EFu	galo	oge	agi	(tuu)golo	guu
EUv	galo	–	(agi)agi	–	guu
PEc	*ngalo	*onge	*angi	*ngolo	–
Tuv	galo	oge	agi	–	–
Lua	–	(e)onge	–	–	–
Sam	galo	oge	agi	(go)golo	guu
PEP	*ngaro	*onge	*angi	*ngoro	*nguu
Eas	ngaro	onge	–	(ngoro)ngoro	nguu
PMq	*ngaro	*onge	*angi	*ngoro	–
Haw	nalo	–	ani	–	nuu
MqN	ka'o	oke	–	ko'o	–
MqS	–	one	–	–	–
Mva	–	–	(agi)agi	goro	–
PTa	*ngaro	*onge	*angi	*ngoro	–

Table 2.18 (continued): Proto Polynesian *ng*

Mao	ngaro	onge	(a)angi	(ngo)ngoro	nguu
Rar	ngaro	(o)onge	angi	ngoro	nguu
Tah	'aro	o'e	–	–	('uu) 'uu
Tua	ngaro	onge	angi	(ngo)ngoro	nguu

The differences between the Northern and Southern dialects of Marquesan are consistent. (See Elbert 1982:Table 2):

```
(2.17)  PCE *ingoa >  MqN ikoa   MqS inoa 'name'
        PCE *rangi >  MqN 'aki   MqS 'ani 'sky'
        PCE *moenga > MqN moeka  MqS moena 'mat'
        PCE *tango >  MqN tako   MqS tano 'dark'
```
Note: See also Dordillon (1931:72–74).

PPn *ng* changes regularly to other sounds (*n*, *k* or glottal stop [via *k*]) in several Polynesian languages where *m* made no regular changes and *n* made relatively few. Similarly, the irregular changes of reconstructed *ng* outnumber the irregular changes of reconstructed *m* and *n*. Loss of reconstructed Pn *ng* occurs in some languages where *ng* regularly became glottal stop. Examples are given at the end of the present section. Otherwise, the possible irregular developments of *ng* which are most convincing number six, of which I accept three as most likely resulting from sporadic sound change.

Table 2.19: Possible irregularities of Pn *ng* from the seven languages

PPn *manga-wai*	PEP *mana-wai*	'tributary water course'
PPn *ngaa*	Tah *naa*	'a plural marker'
PPn *nguu-feke*	PCE and Outlier *muu-feke*	'squid'
PPn *palangi*	Mao *paraki*	PPn 'surgeonfish'
PPn *qafinga*	PTo *qafine*	'armpit'
PPn *singano*	Tah *hinano*	'pandanus flower'

In the cognate set below, Rapanui and Tuamotuan both show an *n* where PPn *ng* is reconstructed on the basis of Niuean, Samoan and East Futunan. If it is from the Southern dialect, the Marquesan form would be consistent with either *n* or *ng*. The simplest (fewest changes) explanation for these East Polynesian reflexes is that PPn *manga-wai* irregularly became PEP *mana-wai*.

```
(2.18)  MAGA-WAI
        *Pn*   :Tributary water-course.
        Eas-   <Manabai. :Big holes in which plants were planted(Fts).
        EFu    Magaavai. :Outlet in an irrigation ditch (Bgs).
        Mqa    Manavai.  :Ruisseau, vallee, vallon(Dln).
        Niu    Mangavai. :Fresh water (McE).
        Sam    Magavai.  :Tributary stream (Mnr).
        Tua-   <Manavai. :Hollow, depression, trough.
```

The second likely case of irregular change from a reconstructed Pn *ng* occurs in Tahitian in the following abbreviated cognate set:

```
(2.19)  GAA.2A
        *Pn*   :Plural marker preposed to definite or specific nouns.
        Anu    Nga.   :Definite article plural (Fbg).
        Eas    9a.    :Prefix used to indicate plurality (Fts).
        Haw    Naa.   :Plural definite article.
        Mao    Ngaa.  :Definite article plural.
        Mqa    Na.    :Paucal plural definite article.
```

```
Rar     Ngaa.       :Two, pair, couple, a few (Bse).
Tah-    <Naa.       :Dual or paucal number marker of nouns>.
Ton     Ngaa/hi.    :The commonest of the plural signs (Cwd).
Tua     9aa.        :Prtcl of limited plurality, several, few.
```

Clearly PPn *ngaa* > Tah *naa*. But change in such grammatical markers is generally viewed as possibly due to factors which affect common nouns and verbs less frequently and, as elsewhere, I apply a different standard, not counting it as a clear case of sporadic change.

The third case involves a set of distributions that do not correspond neatly to the subgrouping hypotheses. The data from Biggs (1993) occur in two related cognate sets and are given below:

(2.20) GUU-FEKE
```
        *Pn*    :Squid.
        EFu     Guufeke.     :Squid (I).
        EUv     Gufeke.      :Seiche, poulpe, pieuvre (Rch).
        Mae     Guufeke.     :Squid, cuttlefish (Clk).
        Ren     Nguuheke.    :Squid, decapoda (Ebt).
        Sam     Guu/fe'e.    :Mollusc sp., squid (Mnr).
        Tok     Guufeke.     :Cuttlefish (Sim)
        Ton     Guu/feke.    :Squid sp.
```

(2.21) MUU-FEKE
```
        *NP*    :Squid, cuttlefish.
        Tuv     Muufeke.        :Squid (Bsr).
        EFu     Muufeke.        :Squid (Bgs).
        Haw     Muuhe'e.        :Cuttlefish, (Sepioteuthus artipinnis).
        Mao     Muheke.         :Paper Nautilus (Argonauta tuberculata).
        Mia     Mu'eke.         :Squid (Teuthoid sp.) (Cek).
        Mqa     Muheke.         :Espece de poisson (Dln).
        Puk     Muuweke.        :Squid (Bge).
        Rar     Muu'eke.        :Kind of squid (Bse).
        Tik     Mufeko (sic).   :Squid (Fth).
        Tua     Muheke.         :Squid.
```

Jackson (1994) gives *gufeke* (*ngufeke*) 'squid' for Vaitupu and cross references to *mufeke*, but I did not find such an entry. Kapingamarangi and Nukuoro have simply *nguu* 'squid' as does NZ Maori. There are several standard explanations for this kind of distribution. One is that phonetic pressure caused convergent developments. POc *nusa* 'squid' evidently became PCP *nuu* by final syllable loss and *nguufeke* was the Proto Polynesian form. The second consonant (labiodental *f*), in concert with the long round vowel, would be seen to have created a situation where *muufeke* (which begins with a bilabial) was easier to pronounce than *nguufeke* (which begins with a velar).

It is also possible that there were competing forms in Proto Polynesian or Proto Nuclear Polynesia as there may be in East Futunan and Vaitupu today. But I do not find the competing forms solution very satisfying. It is not certain that East Futunan has competing forms since the different forms were recorded at different times. Since we have no clear evidence for competing forms in a living language, it seems possible that change normally occurred quickly when it happened. Overall this seems a case of sporadic change that has occurred in several languages and protolanguages through natural articulatory and auditory processes.

The fourth possible example involves an irregular reflex in NZ Maori:

```
(2.22)   PALAGI.1
         *Pn*   :A surgeonfish (Acanthurus sp.).
         EFu    Palagi.  :Fish sp.
         Haw    Palani.  :A surgeonfish (Acanthurus dussumieri) (Pki).
         Mao-   <Paraki.  :A freshwater fish, (Retropinna retropinna).
         Mqa    Pe'aki.  :Fish species (= Tahitian para'i).
         Puk    Palangi.  :A fish (Acanthurus bleekeri) (Hpr).
         Rar    Parangi.  :A surgeonfish (A. xanthopterus) (Hpr).
         Sam    Palagi.  :A surgeonfish sp. when one foot long (Mnr).
         Tah    Para'i.  :A surgeonfish (Acan. xanthopterus) (Hpr).
         Ton    Palangi.  :A fish (Acanthurus sp.) (Hpr).
```

This case is weakened by distinctive semantics in that language, but the New Zealand physical environment is different from that in tropical Polynesia, and Proto Tahitic plant and fish names were often assigned to new species encountered in New Zealand. The agreement is problematic but it is an extremely common East Polynesian word, and if Maori has it, it appears to be the form given below. It is consistent with Harlow's (1994:118) suggestion of Northern Marquesan influence in some Maori dialects, like Northern Marquesan has *k* as the regular reflex of PCE **ng*; so borrowing or substratum is a possible explanation for the form. It is also possible that it is a local regular development or dialect borrowing, since South Island Maori had *k* as the regular reflex of PCE **ng* (cf. Biggs 1978:Figure 5, Harlow 1994:107). Though worth mentioning, it has too many other possible explanations to be counted as a likely sporadic change.

The fifth possible case involves an irregular shift to **n* in Proto Tongic:

```
(2.23)   QAFI-GA
         *Pn*   :Armpit.
         Eas    Hai9a.        :Armpit (Fts).
         Ece    Afiga.        :Armpit (Rby).
         EFu    'Afiga.       :Armpit (Bgs).
         EUv    'Afiga.       :Armpit (Btn).
         Mae    Afiga.        :Armpit (Clk).
         Niu    Afine.        :Armpit (McE).
         Nkr    Ahinga.       :Armpit (Crl).
         Lua    Ahi9a.        :Armpit (Tpe).
         Ren    'Ahinga.      :Armpit (Ebt).
         Tak    Afina.        :Armpit (Hwd).
         Tik    Afiga.        :Armpit (Fth).
         Ton    Faa/'efine/.  :Armpit (Cwd).
         WFu    Afiga.        :Armpit (Dty).
```

This is a possible replacement of the **-nga* nominaliser with the **-na* possessive and is not counted here as a sporadic sound change of the sort presently being tabulated.

The sixth possible irregular development of reconstructed Pn **ng* follows and occurs in Tahitian. Given that 1) the irregularity is shared in the only other Tahitic cognate (Rar) known but not Marquesic (the two Marquesan forms below are regular but from different dialects) and 2) **ng* became *n* before the regular change of PTa **ng* to glottal stop; this change may have occurred by Proto Tahitic times. Note that the second Marquesan form has metathesis of the second and third consonants, a matter which is indeterminate for Tahitian, Rarotongan and the first Marquesan form:

```
(2.24)   SIGANO
         *Pn*   :Pandanus flower, pandanus sp.
         Mqa    Hiinano. :Pandanus flower.
         Mqa1   Hinako.  :Pandanus flower.
         Rar    'inano.  :Pandanus flower.
```

```
Tah-    <Hinano.  :Blossom of the pandanus b.>.
Ton     Hingano.  :Pandanus sp. and its flower.
WFu     Sigano.   :Sheath of banana flower (Dty).
```

2.2.7.1 Losses of *ng that had become glottal stop

I am presently aware of two possible cases from the seven languages where an *ng that became glottal stop was lost, both from Tahitian:

Table 2.20: Possible losses of reconstructed Pn *ng by way of glottal stop from Tah

PPn *angi	Tah aiai	PPn 'unencumbered', Tah 'clear, white'
PCE *tenga	Tah teaai	'satiated'

The agreements are reasonable on semantic grounds[8] but may not involve loss at all, since glottal stops are not recorded accurately in some of the Tahitian sources.

2.2.8 Proto Polynesian *f

Table 2.21: Proto Polynesian *f

	'four'	'star'	'desire'	'paddle'	'fruit'
PPn	*faa	*fetuqu	*fia-	*fohe	*fua
PTo	*faa	*fetuqu	*fia	*fohe	*fua
Niu	faa	fetuu	fia	fohe	fua
Ton	faa	fetu'u	fie	fohe	fua
PNP	*faa	*fetuqu	*fia-	*foe	*fua
EFu	faa	fetu'u	fia-	foe	fua
EUv	faa	fetu'u	fia-	foe	fua
PEc	*faa	*fetuqu	*fia-	*foe	*fua
Tuv	faa	–	fia	foe	fua
Lua	–	–	hia	hoe	hua
Sam	faa	fetuu	fia-	foe	fua
PEP	*faa	*fetuqu	*fia-	*foe	*fua
Eas	haa	hetu'u	hia(hia)	hoe	hua
PCE	*faa	*fetuu	*fia	*foe	*fua
PMq	*faa	*fetuu	*fia	*hoe	*fua
Haw	haa	hokuu	hia	hoe	hua
MqN	haa	hetuu	hia-	hoe	hua
MqS	faa	fetuu	–	–	–
Mva	'a	'etu	–	'oe	'ua
PTa	*faa	*fetuu	*fia-	*hoe	*fua
Mao	whaa	whetuu	whia	hoe	hua
Rar	'aa	'eetuu	'ia	'oe	'ua
Tah	faa	fetuu	hia-	hoe	hua
Tua	faa	fetuu	hia	hoe	hua

---

[8]   Reduplication and compounding often result in very distinct meanings whose connection to the original meanings of the components is not obvious.

Pn *f* has been unstable in *faf-* and *fas-* forms and this matter is considered in §2.3.1. Otherwise, I have found the following possible sporadic irregularities of Pn *f* among the protolanguages and the seven languages:

Table 2.22: Possible irregularities of Pn *f* from the seven languages

PPn *fai-ngaofie*	Mao *wai-ngoohia*	'easy, not difficult'
PPn *fala-fala*	Sam *sala-sala*	'plant sp.'
PPn *faa-kule*	Post Ec-WP *vaa-kule*	'search for head lice'

The evidence for the first is found in the following cognate set:

```
(2.25)   FAI-GAOFIE
         *Pn*    Easy, not difficult.
         Anu-    <Paingapua (Fbg) B.>.
         Tuv     Faingofie (Rby).
         EFu     Faigofie (Rch).
         EUv-    <Faigafua (Rch) B.>.
         Mao     <Waingoohia (Wms).
         Nkr     Haingaohie (Crl).
         Lua     Haingahie (Tpe).
         Ren     Haingaohie (Ebt).
         Sam     Faigoofie (Mln).
         Sik     Hainaohie (Dnr).
         Tok     Faigoofie (Sma).
         Ton     Faingofua (Cwd).
```

The regular NZ Maori word-initial correspondence to PPn *f* is *wh*, except for those dialects where it is *h*. But I have not counted this as a probable irregularity, since the word is morphologically complex and *fai-* may have been reinterpreted as *wai-*.

In the second case, Samoan has an unusual agreement of *s* with PPn *f*. The semantic and morphological agreements are excellent, and Samoan seems sporadically to have changed *f* to *s*:

```
(2.26)   FALA-FALA.1
         *Pn*    :Plant sp.
         EFu     Falafala.    :Yam sp. (Bgs).
         EUv     Falafala.    :Espece d'igname (Rch).
         Fij     Varavara.    :Several plants (Phm)@.
         Mao     Wharawhara.  :(Collospermum sp.).
         Sam-    <Salasala.   :(Collospermum sp.) (Mnr)>.
         Tah     Farafara.    :Species of mountain plantain (Dvs).
         Ton     Falafala.    :Yam sp.
```

The evidence for the third irregularity is found in the following cognate set:

```
(2.27)   FAA-KULE
         *Pn*    :Search head for lice@
         EFu     Faakule.     :Search head for nits or lice (Bgs)@)@
         Haw     Haa'uke.     :Search head for lice@
         Hawl    Naa'uke.     :Search head for lice@
         Mae     Faakure.     :Search head for lice (Clk)@
         Mael    Faakuru.     :Search head for lice (Clk)@
         Mao     Whaakure.    :Search head for lice (Wms)@
         Rar     'Aaruke.     :Search head for lice@
         Tik     Faakure.     :Forage for headlice, delouse (Fth)@
         WEv     Faalukia.    :Chercher (les poux) (Hmn).
         WEvl    Faaliki(a).  :Chercher (les poux) (Hmn).
```

```
MFa    Vaakure.    :Search head for lice (Clk)@
MFal   Vakure/a.   :Search head for lice (Clk)@
Sam    Vaa'ule.    :Seek lice in head
Sik    Vaakule.    :Search for lice@
Tok    Vaakili.    :Inspect, look for (e.g.lice) (Sma)@
Ton    Vaakule.    :Rummage about in (Cwd)@
```

This change (*f > v*) appears to have occurred more than once. Tongan, Samoan and Tokelauan are contiguous and may have borrowed the change in Post Proto Polynesian times. Sikaiana and Mele Fila may have made the change independently. It may be a morphological change rather than a sporadic sound change.

2.2.9 *Proto Polynesian* *s

Table 2.23: Proto Polynesian *s*

	'tear, torn'	'err'	'fish with line'	'smell, rub noses'	'turn over, lever up, weed, root'
PPn	*sae	*see	*sii	*songi	*sua
PTo	*hae	*heehee	*hii	*hongi	*hua
Niu	hee	heehee	hii	hongi	huo
Ton	hae	heehee	hii('atu)	hongi	hua
PNP	*sae	*see	*sii	*songi	*sua(a(ki))
EFu	sae	(se)see	(sii)sii	sogi	–
EUv	hae	(hee)hee	hii	hogi	hua aki
PEc	*sae	*see	*sii	*songi	*sua(aki)
Tuv	(ha)hae	(he)hee	hii	hongi	hua
Lua	sae	–	sii	(vei)songi	–
Sam	sae	see	–	sogi	–
PEP	*sae	*see	*sii	*songi	*sua(ki)
Eas	–	–	hii	hongi	–
PCE	*sae	*see	*sii	*songi	*suaki
PMq	*hae	*hee	*hii	*hongi	–
Haw	hae	–	hii	honi	hua'i
Mqa	(ka)hae	hee	(ika)hii	hoki	huai
Mva	('ae)'ae	–	'ii	'ogi	–
PTa	*sae	*see	*sii	*songi	*suaki
Mao	hae	hee	hii	hongi	hua
Pen	sae-sae		sii-sii		
Rar	('ae)'ae	'ee	'ii	'ongi	'uaki
Tah	(hae)hae	hee	hii	ho'o	hua'i
Tua	hae	hee	–	hongi	huaki

Tongan has a residue of PPn *s* which it retains as [s], rather than changing to *h* (§2.3.2). Otherwise the most common irregular outcome is loss. This is seen in six cases involving several languages and there is also a case of insertion:

Table 2.24: Possible irregularities of Pn *s from the seven languages

PPn *safu	Sam aafu	'fall (of water)'
PPn *kisi-kisi	Sam 'ii	'Oxalis sp., herb'
PPn *kosi	Mqa koi	'scrape, scratch'
PCE *nohi-nohi	Tah noi-noi	'small, short'
PEP *paasua	Haw paapaua	PEP 'Tridacna sp.'
PEP *paasua	Mao paaua	PEP 'Tridacna sp.'
PPn *ngau	PCE *ngasu	'bite'

In the cognate set that follows, Samoan (and Tokelauan) have irregularly lost PPn *s. The distribution is consistent with Samoan having lost the sound and a doublet later developing in Tokelauan under Samoan influence (one retaining the old local pronunciation and one taking up the innovative Samoan pronunciation).

```
(2.28)   SAFU.1
         *Pn*   :To run off, fall (of water).
         EFu    Safu.  :Flow, small conduit from leaf.
         EUv    Hafu.  :Drip, trickle.
         Fij    Savu.  :Waterfall.
         Haw    Hahu.  :Purge, as the bowels.
         Ren    Sahu.  :Drip, flow, as water or blood (Ebt).
         Rot-   <Safu. :Stream running down hillside (Cwd) b.>.
         Sam-   <Aafu. :Waterfall (Mnr) b.>.
         Tok    Safu.  :To pour off (as water from a roof)(Sma).
         Tok-   <Aafu. :Waterfall, cascade, cataract (Sma) b.>.
         Ton    Hafu.  :Trickle down, small waterfall.
```

The semantic and morphological agreements are excellent in the following cognate set (although Samoan does not show the reduplication of the others), and there is reason to suspect that *s was irregularly lost in Samoan.

```
(2.29)   KISIKISI
         *Pn*   :Oxalis sp.
         Haw    'Ihi('ihi). :Oxalis sp.
         Sam-   <'Ii.       :(Oxalis corniculata) (Whr) B.>.
         Ton    Kihikihi.   :Herbs (Desmodium triflorum and O.c.)(Ykr).
```

Loss of PPn *s can be seen below in Anutan, Ellicean Outlier, Tokelauan and Marquesan. Tikopian, Samoan and Tuamotuan retain the sound in good cognates suggesting loss may have happened independently in the others. See §2.3.4 on the lenition of PPn *s.

```
(2.30)   KOSI
         *Pn*   :Scrape, scratch.
         Anu    Koii.     :To scratch with one's fingernail (Fbg).
         EUv    Kohi.     :Couper legerement, egratigner (Btn).
         EUv1   Kohi'i.   :Coupes legerement, egratigner (Btn).
         Kap    Koi.      :Metal grater for grating coconut flesh(Lbr).
         Mqa-   <Koi.     :Inflammation aux cuisses (Dln)>.
         Ngg    Kohi.     :Scrape.
         Nkr    Goi.      :Scrape (Crl).
         Puk    Koyi.     :Stripe, streak, crease (Bge).
         Rot-   <'Oi.     :Scrape. :scrape, grate (Cwd)>.
         Sam    'O/'osi/. :Scratch, scrape (Prt).
         Tik-   <Kosi.    :Pinch out (as a bud, powder etc.) (Fth)>.
         Tok-   <Ko/koi/. :Scorching heat of the sun (Sma).
         Ton    Kohi.     :Scratch with a sharp point (Cwd).
         Tua-   <Kohi/hi. :Tear, strip off (Stn)>.
```

The cognate set below is discussed more extensively in §2.3.1 and the unabridged data will not be repeated here. Our interest here is the irregular loss of PCE *h* in NZ Maori and Hawaiian. Reference to the data in §2.3.1 makes it clear that these are independent losses in Maori and Hawaiian and had not occurred by Proto Tahitic or Proto Marquesic times.

```
(2.31)   PAAHUA
         *CE*    :Tridacna clam sp.
         Haw-    <(Paa)paua. :Bivalve shellfish (Isognomen) (Pki)>.
         Mao-    <Paaua.      :Haliotis sp.>.
```

Note: PCE *paasua* by the theory of PCE sounds proposed in the present work.

In the following instance it seems certain that Tahitian has irregularly lost PCE > PTa *s* or *f*.

```
(2.32)   NOFINOFI
         *CE*    :Small, short.
         Mao     Nohinohi. :Small (MAN) (Bgs).
         Mqa     Nohinohi. :Short stature (Tgr).
         Tah-    <Noinoi.   :Small, diminutive (Dvs)>.
```

Finally, the case of insertion appears to have occurred at the Proto Central Eastern Polynesian level. Besides the regular reflex of PPn *ngau* 'chew' (PCE *ngau* 'chew'), there was also PCE *ngasu* 'bite', which had an irregular insertion that, in this instance, created a new word with a slightly different meaning:

```
(2.33)   GAU
         *Pn*    :Chew in order to extract juice, as sugar-cane).
         EFu     Gau.         :Chew (as sugar-cane).
         Haw     Nau.         :Chew.
         Kap     Ngau.        :Chew (Ebt),(Lbr).
         Mao     Ngau-a.      :Gnaw, bite (Bgs).
         Niu     Gau.         :Chew, as sugar cane.
         Nuk     Ngau.        :Chew.
         Puk     Ngau/ngau.   :Chew (Bge).
         Rar     Ngau-a, -'ia. :Chew.
         Ren     Ngau.        :Chew, as sugar-cane, bite (Ebt).
         Sam     Gau.         :Chew (e.g. sugar-cane) (Mnr).
         Tah     Au/au.       :Chew food.
         Tak     Nau.         :Chew so as to suck juice (Hwd).
         Tik     Ngau.        :Bite, chew, take in teeth (Fth).
         Ton     Ngau.        :Gnaw, chew to extract juice (Cwd).
         Tua     Ngau.        :Gnaw.

(2.34)   GAHU.1
         *CE*    :Bite.
         Haw     Nahu.              :Bite, sting, pain (Pki).
         Mao     Whakanga/ngahu/. :To hunt with dogs (Wms).
         Mao1    Kakahu.            :Bite (SMA).
         Mqa     Kakahu.            :Bite.
         Mqa1    Nennahhu.          :To bite (Crk).
         Mqa2    Nahu.              :Mordre (Dln).
         Tah     'A'ahu.            :Bite or nip, gnash the teeth (Dvs).
         Tua     Ngahu.             :Bark in rage (Stn).
         Tua1    Nga/ngahu/.        :Fight, as dogs (Stn).
```

Note: By the current theory of PCE sounds: PCE *ngasu* or, by the *Pollex* orthography, *gasu*. Biggs (1994a) and Biggs and Clark (1996) continues to use *h* for PEP, PCE and PTa *s* which is inconsistent with Biggs's (1978:Figure 5) postulation of PEP *s* for these correspondences and what can now be seen as the clear position of Tongarevan as Tahitic (Biggs 1978:Figure 5 places Tongarevan as an unclassified EP language).

2.2.10 Proto Polynesian *h

Table 2.25: Proto Polynesian *h

	'span (measure)'	'mount, go on board'	'name'	'famine'	'enter'
PPn	*hanga	*heke	*hingoa	*honge	*huru
PTo	*hanga	*heke	*hingoa	*honge	*huu
Niu	–	heke	hinga	honge	huu
Ton	hanga	heke(nga)	hingoa	honge	huu
PNP	*anga	*eke	*ingoa	*onge	*ulu
EFu	–	eke	igoa	oge	ilu
EUv	–	–	–	–	ulu
PEc	*anga	*eke	*ingoa	*onge	*ulu
Tuv	aga	–	igoa	oge	ulu
Lua	–	–	igoa	(e)oge	ulu
Sam	aga	e'e	igoa	oge	ulu
PEP	*anga	*eke	*ingoa	*onge	*uru
Eas	–	eke	ingoa	onge	uru
PCE	*anga	*eke	*ingoa	*onge	*uru
PMq	*anga	*eke	*ingoa	*onge	*uru
Haw	ana	e'e	inoa	–	–
Mqa	(')aka	eke	ikoa	oke	u'u
Mva	aga	eke(ga)	igoa	–	(aka)uru
PTa	*anga	*eke	*ingoa	*onge	*uru
Mao	–	eke	ingoa	onge	uru
Rar	–	'eke	ingoa	(o)onge	uru
Tah	aa	e'e	i'oa	o'e	uru
Tua	anga	eke	ingoa	onge	uru

PPn *h is regularly retained only in Tongic. In Samoan and some Outlier languages PPn *h is lost in most environments but falls, together with *s in Samoan, between like vowels where a long vowel would have been the result of loss (Biggs 1994a:*moho* entry[9]). I offer a different interpretation here (§2.3.4). Aside from that question, I found only one case of irregular developments associated with PPn *h:

Table 2.26: Possible irregularities of Pn *h from the seven languages

PPn *kaho-kaho	Ton *kaokao*	'side of canoe'

In this instance there is the loss of *h in Tongan where the semantic and morphological agreements with the reconstruction are excellent. Niuean retains the sound, so this was not a Proto Tongic development. Possibly the Tongan form is a borrowing from Nuclear Polynesian. Rensch (1987) has noted that PPn *h is lost in some other words in Tongan but that these cases are generally doublets with forms that retain the sound. Semantic doublets are a hallmark of borrowing, so there is reason to believe the forms with losses involve borrowing from Nuclear Polynesian (§5.2) and this may simply be a retention of the old loan,

---

9   "Note. At some point all non-Tongic languages lost *h initially and between unlike vowels, but (? some) SO languages retained *h, as s, between like vowels (most) of the time. If *moho was innovated from *ma-oha, then, to account for the retention of the h in SO languages, the assimilation of the final vowel must have occurred first. But our subgrouping theory would not allow for this unless we suppose that h was lost twice (totally in EP and partially in SO)."

while the regularly agreeing form was lost or not included in the dictionary and other sources. The Tongan form is considered here a probable borrowing.

2.2.11 *Proto Polynesian* *w

Table 2.27: Proto Polynesian *w

	'canoe'	'hot'	'mango'
PPn	*waka	*wela	*wii
PTo	*vaka	*vela	*vii
Niu	vaka	vela	vii
Ton	vaka	vela	vii
PNP	*waka	*wela	*wii
EFu	vaka	vela	vii
EUv	vaka	vela	vii
PEc	*vaka	*vela	*vii
Tuv	vaka	vela	–
Lua	va'a	vela	–
Sam	va'a	vela	vii
PEP	*waka	*wera	*wii
Eas	vaka	vera	–
PCE	*waka	*wera	*wii
PMq	*waka	*wera	*wii
Haw	wa'a	wela	wii
Mqa	vaka	ve'a	–
Mva	vaka	vera	vii
PTa	*waka	*wera	*wii
Mao	waka	wera	–
Rar	vaka	vera	vii
Tah	va'a	vera	–
Tua	vaka	vera	–

Where Proto Polynesian *w is not still w it is v. It did not occur before the back vowels, *u and *o, with the possible exception of some onomatopoetic words. I presently know of only three irregularities for reconstructed PPn *w from the seven languages, one from Proto Tongic and one from Proto East Polynesian.

Table 2.28: Possible irregularities of Pn *w from the seven languages

PPn *mamawa	PTo *mamao	'yawn'
PPn *raqa	Ton va'a	'branch (of tree)'
PPn *qaoa	Ton 'ovava	'banyan tree'
PPn *watuke	PEP *fatuke	'sea urchin sp.'
PCE *hungowai	PMq *hungoai	'parent-in-law'
PPn *qawa	Mao aua	'fish sp.'

The first is seen in the correspondence of PPn *mamawa > PTo *mamao > Ton, Niu *mamao* 'yawn'. There were both PNP *mamawa and *mawawa, as is evident in the following data set. But only *mamawa can be reconstructed to Proto Polynesian (Ton, Niu, Mae, Ren), and the point here is that of coalescence in Tongan and Niuean:

```
(2.35)   MA-MAWA
         *Pn*    :Yawn (Clk).
         Tuv     Maavava.    :Yawn (Bsr).
         Ecel    Maavaava.   :Yawn (Rby).
         EFu     Maavava.    :Yawn.
         EUv-    <Mamaao.    :Bfillement (Rch) B.>.
         Mae     Mamava.     :Yawn.
         Niu     Mamao.      :Yawn.
         Nkr     Maava.      :Yawn.
         Ren     Mababa.     :Yawn.
         Ren1    Mamaba.     :Yawn.
         Sam     Maavava.    :Yawn.
         Tik     Mava.       :Yawn (Fth).
         Tok     Maavava.    :Yawn.
         Ton     Mamao.      :Yawn.
         WFu     (H)mava.    :Yawn, pull in breath (Dty).
```

The following two forms show (2.36) possible replacement of *l* or *r* with *v* in Tongan and (2.37) coalescence with a vowel to *v* in Tongan:

```
(2.36)   RAQA
         *Pn*    :Branch (of tree).
         Anu     Rara.          :Small branch (Fbg).
         Ece     Laalaa.        :Small branch (Bsn).
         EFu     La'ala'a.      :Small branch.
         Fij-    <Va'a.         :Branch (Rch) B.>.
         Fij     Dradra/i.      :Suckers from yam tubers.
         Haw     Laalaa.        :Branch, limb, bough.
         Mao     Raaraa.        :Small branch.
         Mqa     'A'a.          :Petites branches (Dln).
         Mva     Rara.          :Branch (Tgr), Branches d'arbres (Jnu).
         Niu-    <Laa.          :Small branch (McE).>.
         Nkr     Laa.           :Branch.
         Lua     Laalaa.        :Branch.
         Pil     La.            :Branch.
         Pen     Raaraa.        :Small branch.
         Puk     Laa.           :Branch (Bge).
         Rar     Raaraa.        :Branch, twig, off-shoot.
         Ren     Ga'a.          :Branch.
         Rot     Raaraa.        :Having branches.
         Sam     Laalaa.        :Branch (Mnr).
         Sik     Laa.           :Branch (of a tree).
         Tah     Rara.          :Branch (Dvs).
         Tak     Raa.           :Branch (Hwd).
         Tik     Raa.           :Stem, twig, minor branch of tree (Fth).
         Tok     Laalaa.        :Side branches.
         Ton     Va'a.          :Branch (Cwd).
         Ton1    Va'a(va'a).    :Having branches.
         WEv     Laalaa.        :Branch.
```

The Tongan form above agrees with a dialect of Fijian not specified by Biggs and may be a borrowing. But it is Fijian which has a doublet, not Tongan, so if it *is* a loan perhaps it is Fijian that has borrowed. Then there is the following case in Tongic where PPn *qaoa* may have gone to Pre Proto Tongic *qaowa(wa)*, then to PTo *qovava* (EUv is taken to be a Ton loan):

```
(2.37)   QAOA
         *Pn*    :Banyan tree (Ficus sp.).
         EFu     'Aoa.       :Banyan tree.
         EUv     'Oovava.    :Nom d'un arbre (Ficus prolixa) (Rch).
```

```
Haw     Ao/aoa/.    :Small seaside shrub, (Wikstroemia sp.).
Mae     R/aoa.      :Banyan (Clk).
MFa     Aoa.        :Banyan.
Mqa     Ao'a.       :Baobas, figuier des bananiens (Dln).
Niu     Ovava.      :Banyan tree (Ficus prolixa) (McE).
Nkr     Aoa.        :Ficus prolixa, banyan.
Rar     Aoa.        :Banyan tree (F. prolicxa) on outer islands.
Rarl    Ava.        :Pacific Banyan (F. prolixa) (McC).
Ren     'Aoa.       :Banyan-like tree, (F. benjamini) [l.] (Ebt).
Sam     A/aoa/.     :Banyan tree.
Tah     Aoa.        :Tree sp.
Tik     Aoa.        :Banyan tree (Ficus sp.)(Fth).
Ton     'Ovava.     :Banyan tree (Ficus sp.) (Cwd) ..
WFu     Aoa.        :Banyan.
```

The fourth case is the change of PPn *watuke* 'slate-pencil urchin' to *fatuke* in Proto East Polynesian:

```
(2.38)  WATUKE
*Pn*    :Slate-pencil urchins (2.Heterocentrotus sp.).
        EUv     Vatuke.     :Nom d'un oursin de mer (Btn).
        Kap     Maduge.     :Slate Pencil Urchin (Heterocentotus sp.).
        Mae     Vatuke.     :Sea urchin sp. with blunt spines (Clk).
        Mia     Atuke.      :Slate-pencil Urchins, (H. sp.) (Cek).
        Ren     Patuke.     :A brownish sea-urchin commonly eaten (Ebt).
        Sam     Vatu'e.     :Large, edible sea-egg, (H. sp.) (Mnr).
        Tik     Vatuke.     :Slate-pencil sea urchin (H. sp.) (Fth).
        Ton     Vatuke.     :Kind of sea-egg w. long, thick spikes (Cwd).
        WFu     Vatuke.     :Sea-urchin.

        Eas     Hatuke.     :Sea-urchin (Mtx).
        Easl    Hetuke.     :Sea-urchin (Chl).
        Haw     Haaku'e.    :Slate-pencil Sea-urchin, (H. mam.)(Pki).
        Hawl    Haa'uke.    :Slate-pencil Sea-urchin, (H. mam.)(Pki).
        Mqa     Hatuke.     :Oursin a gros aiguillons (Dln).
        Mva     Etuke.      :The sea porcupine (Tgr).
        Pen     Hetuke.     :Slate-pencil Urchin (Rsn).
        Rar     'Aatuki.    :Sea-egg, echninus (Sve).
        Tah     Fetu'e.     :Oursin-crayon, (H. mammaillatus) (Mte).
        Tua     Fatuke.     :Edible variety of sea-urchin (Stn).
```

The next cognate set exhibits loss of PCE *w* in Proto Marquesic:

```
(2.39)  FUGOWAI.*
        *7      Cf. PPN *fungawai "parent-in-law".
        *8      Note rule PCE *u(C)o > MAO u(C)a.
        *CE*    :Parent-in-law.
        HAW     Makua/huunooai/. :Parent-in-law (Pki).
        MAO     Hungawai.        :Parent-in-law (Bgs).
        MQA     Mot/ukoai/.      :Beau-pere, belle-mere (Dln).
        MQA1    Mot/u'oai/.      :Beau-pere, belle-mere (Dln).
        MQA2    Mot/unoai/.      :Beau-pere, belle-mere (Dln).
        RAR     'Ongovai.        :Parent-in-law (Sve).
        TAH     Ho'ovai.         :Beau-pere (Mte).
        TUA     Hungovae.        :Great-grandparent-in-law (Stn).
```

Note: Biggs (1994) gives Haw *makua/huunoowai* but this is described by his source as a "rare variant" of the form I have given above, which I take to be more basic, the form showing *w* being a Tah loan or case of insertion.

The last exhibits PTA *w becoming syllabic *u* in NZ Maori. This is a "natural" change, in that it occurs in many language families, but is rare with the very stable, very "consonantal" *w of Polynesian:

```
(2.40)   QAWA
         *Pn*      :Milkfish or Salmon Herring (Chanos chanos).
         EFu       'Ava.  :Fish like mullet but bigger (Bgs).
         EUv       'Ava.  :A freshwater fish (Mugil cephalus) [L.] (Rch).
         Haw       Awa.   :Milkfish (Chanos chanos) (Pki).
         Mao-      <Aua.  :Herring, Yellow-eyed Mullet>.
         Mqa       Ava.   :Petit poisson d'eau douce (Dln).
         Rar       Ava.   :(Chanos chanos).
         Sam       Ava.   :(Chanos sp.) (Mnr).
         Tah       Ava.   :Fish called white salmon (Dvs).
         Ton       'Ava.  :Fish sp.
```

2.2.12 *Proto Polynesian* *l

Table 2.29: Proto Polynesian *l

	'sky'	'whale tooth/ivory'	'angry'	'squeeze'	'shake'
PPn	*langi	*lei	*lili	*lomi	*luuluu
PTo	*langi	*lei	*lili	*lomi	*luuluu
Ton	langi	lei	lili	lomi	lulu
Niu	langi	lei	–	lomi	luuluu
PNP	*langi	*lei	*lili	*lomi	*luuluu
EUv	lagi	lei	lili	(lo)lomi	lulu
EFu	lagi	lei	lili	(lo)lomi	luluu
PEc	*langi	*lei	*lili	*lomi	*luuluu
Sam	lagi	lei	lili	lomi	luuluu
Lua	-langi	–	–	lomi	–
Tuv	lagi	lei	lili	lomi	luu
PEP	*rangi	*rei	*riri	*romi	*ruuruu
Eas	rangi	rei	riri	–	ruru('u)
PCE	*rangi	*rei	*riri	*romi	*ruuruu
PTa	*rangi	*rei	*riri	*romi	*ruu
Tah	ra'i	rei	riri	(tau)romi	ruuruu
Tua	rangi	rei	riri	(romi)romi	ruu
Mao	rangi	rei	riri	romi	ruuruu
Rar	rangi	rei	riri	romi	ruuruu
PMq	*rangi	*rei	*riri	*romi	*ruuruu
Mqa	'aki	'ei	'i'i	'omi	'uu
Mva	ragi	rei	riri	(romi)romi	ruuruu
Haw	lani	lei	lili	lomi	luuluu

Proto Polynesian *l is generally found as *l* in Western and Outlier languages and as *r* in East Polynesian languages. Irregularities associated with Pn *l known to me consist of the forms in Table 2.30. Because PPn *r and *l fell together as PNP *l, all *r* and *l* sounds of Nuclear Polynesian are considered in the present section.

Table 2.30: Possible irregularities of Pn *l* from the seven languages

Pta *areare*	Tah *aneane*	'clear'
PCE *manufiri*	Tah *manihini*	'guest, visitor'
PPn *lunga*	Tah *ni'a*	'above, on top'
PNP *ka-itoa*	Haw *'aikola*	'expression of satisfaction'
PPn *saakule*	Haw *haa'uke*	'search for head lice'
PPn *pulu*	Ton *punu*	'plug'
PPn *lima*	Ton *nima*	'hand'
PPn *taka-milo*	Mao *takaamio*	'go round'
PNP *ngaawali*	Sam *vaaivai*	'weak'
PPn *maqoli*	Sam/Efu *maoki*	'common, genuine'
PPn *maqoli*	Post Ec-WP *maqoni*	'common, genuine'

Evidence for the first irregularity which is in Tahitian comes from:

```
(2.41)  AREARE
        *Ta*    :Clear, open.
        Haw-    <Aniani. :Mirror, glass, clear, transparent (Pki)>.
        Mao     Areare.  :Open, clear of obstruction.
        Puk-    <Aleale. :Clear, pure (Mta) B.>.
        Rar     Areare.  :Transparent, clear, as of water.
        Tah     Aneane.  :Clear, as fine, cloudless day (Dvs).
```

The evidence for the second, also involving Tahitian, follows. A doublet at the Proto Tahitic level seems possible:

```
(2.42)  MANU-FIRI
        *CE*    :Visitor, guest, stranger.
        Fij-    <Manu ciri. :Wandering bird (Mythological)>.
        Haw     Malihini.   :Stranger, newcomer, guest.
        Mao     Manuwhiri.  :Visitor, guest.
        Mqa     Manihi'i.   :Hote, etranger, convives.
        Rar     Manu'iri.   :Stranger, visitor from distant parts.
        Tah     Manuhiri.   :Guest, visitor.
        Tah1    Manihini.   :Guest, visitor.
        Tua     Marihini.   :Guest, visitor.
        Tua1    Manihini.   :Guest, visitor.
```

Note: The Haw case is counted as metathesis of the second and fourth consonants.

The evidence for the third, again from Tahitian, is:

```
(2.43)  LUGA
        *Pn*    :Above, top (locative noun).
        Eas     Runga.    :Above (Fts).
        Ece     Luga.     :Up.
        EFu     'A/luga/. :Above.
        Haw     Luna.     :Above.
        Mao     Runga.    :Above.
        MFa     Ruga.     :Top, above (Clk).
        Mqa     'Uka.     :Above (NKH) (I).
        Mva     Ruga.     :Above.
        Niu     Lunga.    :Above.
        Nkr     Lunga.    :Up, above.
        Oja     Lunga.    :Above (Fts).
        Puk     Lunga.    :Top, upper part (Bge).
        Rar     Runga.    :Above.
        Sam     Luga.     :Above.
        Tah     Ni'a.     :Above.
        Tak     A/runa.   :Top, summit, above (Hwd).
```

```
Ton    Luga.       :Above (Fts).
Tok    'O/lunga/.  :Above (Locative).
Tua    Runga.      :Above.
```

The abbreviated data set below for the fourth sporadic change shows an irregular insertion of *l* in Hawaiian:

```
(2.44)  KA-ITOA
        *NP*   :Expression of satisfaction at misfortune of others.
        Tuv    Kaitoa.    :Serves you right.
        Haw-   <'Aikola.  :Expr. of satisf. at misfortune of others>.
        Mao    Kaitoa.    :Expr. of satisf. at misfortune of others.
        Lua    'Aikoa.    :That's good! (sarcastic) (Tpe).
        Rar-   <'Aitoa.   :Serve somebody right (Bse) B.>.
```

Hawaiian also has an irregular correspondence to one or the other of the following reconstructions:

```
(2.45)  SAAKULE
        *Pn*   :Search head for lice, examine carefully.
        Eas    Aruke.       :Remove lice (Fts).
        EUv    Hakule.      :Chercher en fouillant (Btn).
        Fij    Cakule.      :Part hair to find lice.
        Haw-   <Haa'uke.    :Examine, s. head for lice (Pki)>.
        Mao    Haakure.     :Search head for lice.
        Mva    'Akure/kure. :Search head for lice (Bck).
        Nkr    Saagule.     :Pick head lice.
        Pen-   <Aakure.     :Pick up B.>.
        Rar    'Aaruke.     :Search head for lice (Mka).
        Rot    Sa'ule.      :Separate hair and pick out lice.
        Tak    Sakure.      :Search for lice (Hwd).
        Ton    Hakule.      :Rummage about, examine carefully.
        Tua    Raruke.      :Delouse (Stn).
        Tua1   Aaruke.      :Delouse (Stn).
        YAS    Caakule.     :Part the hair to look for lice (Ply).

(2.46)  FAA-KULE
        *Pn*   :Search head for lice.
        EFu    Faakule.     :Search head for nits or lice (Bgs)@).
        Haw    Haa'uke.     :Search head for lice.
        Haw1   Naa'uke.     :Search head for lice.
        Mae    Faakure.     :Search head for lice (Clk).
        Mae1   Faakuru.     :Search head for lice (Clk).
        Mao    Whaakure.    :Search head for lice (Wms).
        MFa    Vaakure.     :Search head for lice (Clk).
        MFa1   Vakure/a.    :Search head for lice (Clk).
        Pen-   <Aakure.     :To search head for lice B.>.
        Rar    'Aaruke.     :Search head for lice.
        Sam    Vaa'ili.     :Search for, look for.
        Sik    Vaakule.     :Search for lice.
        Tik    Faakure.     :Forage for headlice, delouse (Fth).
        Tok    Vaakili.     :Inspect, look for (e.g.lice) (Sma).
        Ton    Vaakule.     :Rummage about in (Cwd).
        WUv    Faalukia.    :Chercher (les poux) (Hmn).
        WUv1   Faaliki(a).  :Chercher (les poux) (Hmn).
```

Cognate sets 2.45 and 2.46 seem an old doublet or series of doublets based upon alternate prefixes. Since both PPn *s* and *f* > Haw *h*, the Hawaiian forms may have come from either or both of the reconstructions. Our present interest lies mainly with the *l* to Haw *k*

correspondence. Haw *k* is irregular and seems to be a sporadic change from *l*, because the Hawaiian glottal stop is a regular correspondence to *k*.

The irregularity shown below involves excellent semantic agreement between Proto Nuclear Polynesian and Tongan which correspond irregularly in one of the consonants. In the absence of Niuean or external evidence Biggs has not made a Proto Polynesian reconstruction, but there is Wayan (Fijian) *bulu* 'patched, sealed' and we can reconstruct the following form to Proto Polynesian and note Tongan as sporadically irregular:

```
(2.47)   PULU.1B
         *NP*    :Plug of fibrous material.
         Eas     Puru.       :Plug, cover, to close (Fts).
         Tuv     Tau/pulu.   :To plug holes in a canoe.
         Haw     Pulu.       :Material used to stuff corpses, etc.
         Mao     Puru.       :Plug.
         Rar     Puru.       :Plug.
         Ton-    <Punu.      :Plug>.
         Tua     Puru.       :Plug.
```

A similar change is PPn *lima* > Ton *nima* 'hand, five'.

The next irregularity associated with Pn *l* is a case of loss in NZ Maori where the semantic and morphological agreements with other Polynesian are excellent:

```
(2.48)   TAKA-MILO
         *Pn*    :Turn round.
         Efu     Takamilo.   :Tournoyer, passer autour (Rch).
         Mao-    <Takaamio.  :To go round about>.
         Sam     Ta'amilo.   :Go round about (Prt).
         Ren-    <Laghamigo. :Be riled (as the sea), twisted(Ebt)>.
         Ton     Takamilo.   :Turn round and round (Cwd).
```

Another possible irregularity is a loss in Samoan:

```
(2.49)   GAAWARI
         *Pn*    :Weak, pliable, easily persuaded.
         Haw     Naawali.       :Weak, feeble, infirm.
         Mao     Ngaawari.      :Soft, accommodating, obedient.
         Mqa     Navai.         :Delicate, slender, pliable.
         Nkr     Ngaavali.      :Bent slightly.
         Puk     Ngavali.       :Bend, be curved (Bge).
         Rar     Ngaavari.      :Pliable, easily persuaded.
         Sam-    <Vaaivai.      :Weak (of body)>.
         Tik     Ngavari/vari.  :Slack, of man.
         Ton     Ngaavai/vai.   :Feeble, infirm.
         Tua     Ngaavari.      :Weak, feeble.
```

The semantics of Samoan are consistent with the rest of the group. Loss of *r* suggests a Tongan loan and Samoan shares the Tongan reduplication of the second morpheme. But the loss of the first morpheme of Samoan is not matched in Tongan and there is no semantic argument for a loan. Since it is not clear whether borrowing or irregular loss has occurred, this has not been counted amongst the likely cases of sporadic change.

Finally, PPn *maqoli* 'true, right, genuine' is irregular throughout Western Polynesia. It is replaced by a reflex of *maqoki* in East Futunan and Samoan and by a reflex of *moqoni* in Tongan and other languages. Samoan has both *mo'i* from *maqoki* and a borrowing, *moni*, from the Post Proto Tongic Tongan pronunciation (PTo was still *maqoli* on the evidence of Niu). East Uvean, Tokelauan, Tuvalu (Ece), and Sikaiana have only what I suggest to be the late Tongan pronunciation. Having said that, it should be noted that Nukuoro has a regular reflex of the Proto Polynesian reconstruction and Proto Ellicean Outlier was still *ma(a)oli*.

Sikaiana may, then, be a late influence from Tuvalu or some other source. In any event, there seems to have been some kind of Post Proto Tongic and Post Proto Ellicean tabooing reaction within Western Polynesia to the regularly reflected pronunciations of the Proto Polynesian reconstruction. Perhaps a high chief or king had a name with the reconstructed pronunciation (see Chapter 6).

```
(2.50)    MAAQOLI
          *Pn*    :True, right, genuine.
          Eas     Ma'ori.        :Skilled, old.
          Ece     Faka/maoni.    :Reliable (Rby).
          Efu-    <Maa'oki.      :True (Bgs)>.
          Euv     Ma'oni/'oni.   :Juste, vrai (Rch).
          Euv-    <Mo'oni.       :Vrai, s-r, certain (Rch) B.>.
          Haw     Maoli.         :Native, indigenous, true, real (Pki).
          Mao     Maaori.        :Indigenous, ordinary, natural (Bgs).
          Mfa     Maori.         :True, real.
          Mva     Maori.         :Right (not left) (Jnu).
          Niu     Mooli.         :True.
          Nkr     Maoli.         :Suspicion which proves true.
          Ren     Maa'oli.       :Right, true, real (Ebt).
          Sam     Fa'a/maoni/.   :True, loyal.
          Sam1    Moni.          :True (Prt).
          Sam2    <Mo'i.         :True (Prt)>.
          Sam3    <Maao'i.       :Real, genuine (Mnr)>.
          Sik     Maaoni.        :True, genuine.
          Tah     Maaoni.        :True, genuine, indigenous.
          Tik     Maori.         :True, truth, feel sure of.
          Tok     Moni.          :True, sincere, honest.
          Ton     Mo'oni.        :True, genuine, intrinsic.
          Tua     Maori.         :Indigenous.
          WUv     Maaoli.        :Vrai, verite (Hmn).
```

2.2.13 Proto Polynesian *r

Table 2.31: Proto Polynesian *r

	'torch'	'turmeric'	'chief'	'go'	'fish sp.'
PPn	*rama	*renga	*qariki	*roo	*rufi
Pto	*ama	*enga	*q(a,e)iki	*oo	*ufi
Ton	ama	enga	'eiki	oo	ufi
Niu	ama	enga	iki	o	–
PNP	*lama	*lenga	*qaliki	*loo	*lufi
Euv	lama	lega	'aliki	–	–
Efu	lama	lega	'aliki	–	lufi
Pec	*lama	*lenga	*qaliki	*lo(o)	*lufi
Sam	lama	lega	ali'i	–	lufi
Lua	lama	–	'ali'i	–	–
Tuv	lama	lega	aliki	–	–
PEP	*rama	*renga	*(q)ariki	*roo	*ruhi
Eas	rama	–	ariki	–	ruhi
PCE	*rama	*renga	*ariki	*roo	*ruhi
Pta	*rama	*renga	*ariki	*roo	*ruhi
Tah	rama	re'a	ariki	–	ruhi
Tua	rama	renga	ariki	–	ruhi
Mao	rama	renga	ariki	roo	–

Table 2.31 (continued): Proto Polynesian **r*

Rar	rama	renga	ariki	roo	ru'i
PMq	*rama	*renga	*ariki	–	*ruhi
Mqa	'ama	'eka	(hak)a'iki	–	'uhi
Mva	rama	rega	(ak)ariki	–	ru'i
Haw	lama	lena	ali'i	–	lufi(a)

The regular reflexes of Proto Polynesian **r* are the same as those for **l* in Nuclear Polynesian while loss is the regular pattern in Tongic. Irregular reflexes of PPn **r* can only be suggested through reference to Tongic which lost PPn **r*, where Proto Nuclear Polynesian did not. One pattern is loss, one is retention and a third is a situation where there are doublets, one from each pattern. This pattern seems to be a result of borrowing from Nuclear Polynesian or, less certainly, an old dialect difference internal to the Tongan archipelago (see §5.2). There are no apparent cases of PPn **r* becoming something other than *l* (or being lost) in Tongic.

2.2.14 Overall consonant irregularities of the seven languages

Table 2.32: Reasonably certain cases of sporadic consonantal irregularity in seven languages (not including sporadic loss of glottal stop)

PNP *tamata	Pto *kamata	'taste, attempt, try'
PPn *mamawa	Pto *mamao	'yawn'
PNP *pulu	Ton punu	'plug'
PTo *lima	Ton nima	'hand, five'
PPn *raqa	Ton va'a	'branch'
PPn *qaoa	Ton 'ovava	'banyan tree'
PPn *maqoli	Post Ec WP[1] *maqoni	'true, right, genuine'
PPn *faa-kule	Post Ec WP *vaa-kule	'search for head lice'
PEc *fala-fala	Sam sala-sala	'plant sp.'
PEc *kisi-kisi	Sam 'ii	'Oxalis sp.'
PNP *qepo	Sam eto	'lick'
PEc *safu	Sam aafu	'fall (of water)'
PPn *maqoli	Sam maao'i	'true, right, genuine'
PEc *manga-wai	PEP *mana-wai	'tributary water course'
PPn *watuke	PEP *fatuke	'sea urchin'
PTa *taa-tea	Eas takatea	'semen'
PEP *komo	Eas omo-omo	'suck'
PPn *nguu-feke	PCE *muu-feke	'squid'
PPn *ngau 'chew'	PCE *ngau 'chew'	PCE *ngasu 'bite'
PEc *faasua	PCE *paasua	'Tridacna (giant clam)'
PCE *hungowai	PMq *hungoai	'parent-in-law'
PEP *ka-itoa	Haw 'aikola	'express satisfaction'
PCE *ope	Haw kope	'scoop up, shovel'
PCE *palu	Haw walu	'fish sp.'
PCE *paasua	Haw paapaua	PCE 'Tridacna (giant clam)'
PMq *haakule	Haw haa'uke	'search for head lice'
PMq *tapatuu	Haw kaakuu	'fish sp.'
PMq *hakali	PNMq *erehi	'mature coconut'
PCE *kosi	Mqa koi	'scrape, scratch'

Table 2.32 (continued): Reasonably certain cases of sporadic consonantal irregularity in seven languages (not including sporadic loss of glottal stop)

PCE *singano	PTa *hinano*	'pandanus flower'
PPn *paasua	Mao *paaua*	PCE 'Tridacna (giant clam)'
PTa *awa	Mao *aua*	'milkfish or salmon herring'
PPn *taka-milo	Mao *takaamio*	'go round'
PPn *manufiri	Mao *manifini*	'guest, visitor'
PTa *lima	Mao *ringa*	'hand'
PPn *runga	Tah *ni'a*	'above, on top'
PTa *no(f,h)i-no(f,h)i	Tah *noi-noi*	'small, short'
PTa *areare	Tah *aneane*	'clear'
PTa *tau-ma(f,h)a	Tah *aumaha*	'heavy'

Note: "Post Ec WP": Post Proto Ellicean Western Polynesian languages.

Table 2.33 gives the most likely cases of sporadic sound changes in the data from Biggs (1993). They number thirty-nine. There are also twenty losses of glottal stop or sounds that regularly became glottal stop which are not included. These more closely resemble diffused loss (there are multiple instances of loss in all languages that regularly retain the Proto Polynesian glottal stop or that have sounds which regularly became the glottal stop). Eleven forms in Table 2.32 involve simple loss while others involve change in manner or place; but changes of both manner and place occur only in PPn *maqoni > *maqoki 'true, genuine' (Sam/EFu) and PMq *haakule > Haw haa'uke[10] 'search for head lice'. Obstruents, especially sibilants, are lost more often than nasals which are never lost. Sonorants become obstruents, but there are no cases of obstruents becoming sonorants. Since these are patterns of *regular* sound change for human languages in general, it would seem that these thirty-nine cases are mostly real cases of irregular change rather than fortuitous resemblances.

The extreme regularity of Polynesian consonant agreements has long been recognised. Due to the breadth of Biggs's (1993) work we are now in a position to evaluate just how little irregularity seems to exist, even when we make extraordinary efforts to identify it. It is difficult to express, precisely, what percentage of the consonants of the seven languages above is the result of sporadic changes. So far we have been counting words, not consonants.

Average consonants per Biggs (1993) ".PN" reconstruction was 2.27 in a ten percent sample which distributed as found in Table 2.33. There are Proto Polynesian reconstructions with no consonants but none were encountered in the sample. Words with more than about three consonants tended to be compounds and many words with three, two and even one consonant were also compounds.

Table 2.33: Consonants per word in a ten percent sample of Biggs's (1993) ".PN" reconstructions

Consonants Per Word		0	1	2	3	4	5	6
Number of Such Words	0	19	160	90	20	15	12	
Percent of Forms Sampled	0	6	51	28	6	5	4	
Average Consonants Per Word: 2.27								

Not counting diffused loss of glottal stops, the reasonably certain sporadic irregular changes number three for Tongan, five for Samoan, two for Rapanui, one for Marquesan, six for Hawaiian, five for NZ Maori and four for Tahitian. There were also two for Proto Tongic,

---

[10]   The first and second consonants have regular correspondences. There is a change of *l to *k* in the third.

two for Post Proto Ellicean Western Polynesian languages, two for Proto East Polynesian, three for Proto Central East Polynesian, one for Proto Tahitic and one for Proto Nuclear Marquesic.

Table 2.34 estimates the number of consonants compared (2.27 x words counted as cognate) and calculates the rate of irregularity for each language. The number of cases for each language in the Table includes those for their ancestral languages, such as the addition of two for Proto East Polynesian and three for Proto Central East Polynesian to Marquesan, Hawaiian, Tahitian and NZ Maori.

Table 2.34: Minimal irregular consonants as a ratio of estimated regular consonants in the seven major languages (other than irregular losses of glottal stop)

	Words counted as cognate	Estimated consonants compared	Secure cases of sporadic change	Estimated rate of sporadic change
Ton	2149	4878	8	1:609
Sam	2048	4648	6	1:774
Eas	829	1882	4	1:470
Mqa	1572	3568	8	1:446
Haw	1816	4122	12	1:345
Tah	1917	4352	10	1:435
Mao	2716	6166	11	1:560

Note: "Secure cases" includes all changes back to PPn, i.e., those unique to the individual language plus those of any ancestral inter-stage back to PPn.

Here we can see the basis of Polynesianists' reluctance to accept consonant agreements that are not perfect. In only one case per about four to eight hundred does any consonant of the seven major languages fail to follow its regular correspondence. The relatively more frequent changes of East Polynesian languages are mainly a reflection of their common history in Proto East Polynesian and especially Proto Central East Polynesian which had two and three sporadic changes respectively, large numbers for their apparent periods of development (Chapters 6 and 9).

These best cases for possible irregular sporadic consonant change can be characterised as follows:

1. The number per language is very small and those argued to date constitute about one in four hundred to eight hundred comparisons to reconstructed consonants. East Polynesian languages generally experienced more changes, perhaps due to a founder effect during times when populations were small upon the initial settlement of new islands.

2. The sonorants have fewer changes than the obstruents except in the instances of *ng and *l.

3. Obstruents never become sonorants, while sonorants that change sporadically remain sonorants in all but two instances.

4. Irregular changes may be of manner (thirteen examples) or place (eight examples) but there are no examples of both having changed in a single sound, except the Samoan and East Futunan change of *maqoli to maao'i and maa'oki respectively and the change of Hawaiian changing *l to k in *haakule becoming haa'uke.

5. Irregular insertion is sometimes difficult to demonstrate. Only three examples seem fairly certain and not part of some wider epenthesis process using the consonant inserted. This contrasts with eleven reasonably certain irregular losses of sounds other than glottal stop.

Since these are characteristics of regular sound change, it seems that as a group most instances are indeed sporadic changes and not due to morphological replacement, borrowing, conflation or chance.

2.3 Diffused consonant changes

Section 2.1 gave the regular consonant correspondences of Polynesian languages and §2.2 gave evidence for sporadic (one or two of a kind) consonant agreements. The present section gives correspondences which are neither and are diffused. By "diffused" sound change I refer to changes to related forms that occur word by word over time. By "residue" I refer to groups of apparently eligible forms that have not been affected by diffused change that has otherwise run its course through other eligible forms. This terminology comes from the "lexical diffusion" literature of Wang (1969, 1979), Labov (1981) and others. It refers to such changes as those occurring to some "-oo-" words in dialects of English. Where all of a certain class were once pronounced [u], many have come to be pronounced with a lax vowel and some currently have alternate pronunciations. Examples are given in Table 2.35. With diffused sound change, change happens singly or in small groups over time.

Table 2.35: An example of lexical diffusion in English

· word	unchanged	variable	changed
'book'			bʊk
'cook'			kʊk
'foot'			fʊt
'soot'		sut~sʊt	
'root'		rut~rʊt	
'boot'	but		
'fool'	ful		
'doom'	dum		

Note: Adapted from Wang (1979:362) and Phillips (1984:320).

We see evidence for lexical diffusion in two main situations in Polynesia. The first is in the instability of *faf-, *fas- and *fes- forms and their diffused change of one or more of their sounds. The second is in residues of PPn *s and the glottals (PPn *h and *q) that were otherwise lost in several languages and the residue of some PPn *s as [s] in Tongan (rather than having changed to [h]).

Elbert (1982) considered several topics in Marquesic sound change and wondered if they fell within the range of phenomena being considered by Wang (1969) and Labov (1981). Elbert described alternations of consonants in Marquesan and Hawaiian dialects. There may be some kind of stylistic alternation common to the two groups going back to their common history in Proto Marquesic. But this seems not to have permanently affected much common vocabulary descended from that time. In neither language do we fail to find the regular correspondence, except in those rare instances mentioned in the previous section. People may have had styles of speech which involved some alternate pronunciations, but they did not, at the Proto Marquesic level, fail to assign the "historically correct" form its place as the most basic form of the word. I am not certain that most of the examples given by Elbert fall within the range of phenomena normally discussed as "lexical diffusion". In the following sections are cases which I believe may do so.

2.3.1 *The instability of* *faf- *and* *f(a,ε)s- *forms*

An unusual sound change occurred between Proto East and Proto Central East Polynesian whereby PEP *faf- sequences commonly became PCE *wah-. Some examples are given in Table 2.3. Grace (1985:60–61) noted that while this is a well-known feature of Central East Polynesian languages, it also occurs in East Futunan and Northern Outliers with *fas- forms, and Biggs (1994a) notes that PPn *fes- regularly becomes wes- in East Futunan. I will first consider the outcome of PPn *faf- in Central East Polynesian. In addition to those examples where all Central East Polynesian languages made the change (Table 2.3), there are cases where the agreements are imperfect or where no language has made the change at all.

The case below can be provisionally reconstructed to Proto Central East and Proto East Polynesian. This evidence indicates that the sound change rule had not become a Proto Central East Polynesian morpheme structure rule but was only a morpheme structure tendency.

```
(2.51)   FAFI
         *??*    :Packet (of fish) wrapped in leaves.
         Eas     Hahi(hi). :Packet of fish wrapped up in leaves (Chl).
         Mqa     Fafi.    :Small packet in leaves, to wrap up (Chl).
         Mqa1    Hahi.    :Small packet in leaves, to wrap up (Chl).
         Mva     Hahi.    :Packet of fish wrapped in leaves (Tgr).
```

In the second example neither Marquesan nor Mangarevan make the change where Hawaiian and NZ Maori have:

```
(2.52)   FAFA.2
         *Pn*    :Mouth.
         Eas     Haha.    :Mouth.
         Haw     Waha.    :Mouth.
         Mao     Waha.    :Mouth.
         Mqa-    <Fafa.   :Mouth (Crk)>.
         Mqa-    <Haha.   :Bouche, geule, ouverture (Dln)>.
         Mqa-    <Fafa.   :Bouche, geule, ouverture (Dln)>.
         Mva-    <'A'a.   :Mouth B.>.
```

In the third example there is a Mangarevan doublet, one which has made the change and one which has not:

```
(2.53)   FAFINE
         *Pn*    :Woman, female.
         Eas-    <Bahine.  :Woman B.>.
         Eas-    <Hahine.  :Near, next (to), close to, at hand (Fts)>.
         Haw     Wahine.   :Woman.
         Mao     Wahine.   :Woman.
         Mqa     Vehine.   :Woman (Dln).
         Mqa1    Viene.    :Woman (Rbt).
         Mva2    'A'ine.   :Femme, femelle de tous les tres animés (Rch).
         Mva3    <Ve'ine.  :Femme mari, (Rch) B.>.
         Rar     Va'ine.   :Woman.
         Tah     Vahine.   :Woman.
         Tua     Vahiine.  :Woman.
```

In the above form, Rapanui also has a doublet if we can accept the second form on semantic grounds. But the point is that Mangarevan, a member of Central East Polynesian, has retained the older form, suggesting alternate pronunciations as the word changed in the other languages as well. Substratum is another possibility but it is not otherwise suggested for Mangarevan and this seems a result of diffused change.

A related kind of change is exhibited in Samoan, East Futunan and some East Polynesian languages where former *fVs-* became *(w,v)Vs-*. An example is:

```
(2.54)   FESI.2
         *Pn*     :To hate, dislike.
         Note. PPn *fes > SAM, EFU /ves/. The EP reflexes require PPn *fes
               > PCE *wes.  There are no other cases, but PPn
               *fa(q)(a)s/f > PCE *was regularly.
         EFu   Vesi/a.      :Hate, dislike (Bgs).
         EUv   Fesi/a.      :Haine (Btn).
         Fij   Bese.        :Dislike, refuse (Cpl).
         Haw   Hehi.        :Loathe, repudiate, deny, desecrate (Pki).
         Mao   Wehi.        :Be afraid, fear, awe (Bgs).
         Mva   Vehi.        :Etre embarass, (Jnu).
         Mqa   Vehivehi.    :Embarass, (Dln).
         Niu   Vihi/a.      :Hate, hateful.
         Rotx  <Fesi'a.     :Dislike, hate (Cwd) B.>.
         Sam   Ve/vesi/.    :Be disturbed, confused, disoriented (Prt).
         Tokx  <Ve/vehi/.   :Be confused, disturbed (Sma) B.>.
         Ton   Fehi/'a.     :Hate or dislike (Cwd).
         Tua   Vehi.        :Terrible, awe-inspiring, imposing (Stn).
```

Pawley (pers. comm.) gives a likely Wayan cognate *weci-a* 'affect someone badly, have ill effects on someone'. So possibly *wesi* would be a better reconstruction, but the data suggest the alternation of such forms over time and in more languages than just Central East Polynesian.

Two forms in which only East Futunan is known to have changed are:

```
(2.55)   FESI.1
         *Pn*   :Tree sp. (Intsia bijuga).
         EFu   Vesi. :Large tree, probably Intsia bijuga (Bgs).
         EUv   Fesi. :Tree, probably Intsia bijuga.
         Tik   Fesi. :Tree sp. (Fth).
         Ton   Fehi. :Hardwood tree (Intsia bijuga).

(2.56)   FESIQI
         *Pn*   :Burst out, be expelled, under pressure.
         EFu   Vesi'i. :Sortir, couler (Gzl) as pus from a boil (Bgs).
         EUv   Fehi'i. :Coconut from which cream has been expressed
         Ton   Fehi'i. :Burst out, as toothpaste from a tube (Cwd).
```

Biggs (1993) makes the reconstructions PPn *faasua* 'Tridacna clam' and PCE *paasua* 'Tridacna clam' and his evidence is given below. The external evidence (Ngg *paapasua*, Fij *vaasua*) is consistent with PPn *faasua* as is Polynesian evidence outside of Central East Polynesian and Tongic. If we posit, as Biggs has, PPn *faasua* and PCE *paasua* the result is the minimal possible number of irregular changes between interstages: one that occurred between Proto Ellicean and Proto Central East Polynesian where *f > *p.

```
(2.57)   FAASUA
         *7      Cf. PCE *paasua "Tridacna".
         *Pn*    :Tridacna clam sp.
         Tuv   Faahua.   :(Tridacnus elongata) [Lamarck].
         Fij   Vaasua.   :Tridacna clam sp.
         Mae   Faasua.   :Giant clam (Tridacna) (Clk).
         Ren   Haasua.   :General name for giant clams (Ebt).
         Sam   Faaisua.  :Tridacna clam sp.
         Tok   Faahua.   :Clam (Sma).
         WUv   Faasua.   :Bénitier (Hmn).
```

```
        WUvl   Fasua.    :Bénitier (WUH) (Hmn).
        WFu    Fasua.    :Fish sp.
(2.58)  PAASUA
        *Pn*      :Tridacna clam sp.
        Haw-   <(Paa)paua. :Bivalve shellfish (Isognomen) (Pki)>.
        Mao-   <Paaua.     :Haliotis sp.>.
        Mqa    Pahua.      :Oyster species.
        Mva    Pa'ua.      :Clam sp., oyster (I).
        Niu    Pahua.      :A large bivalve.
        Nuk    Baasua.     :T. maxima.
        Pen    Paasua.     :T. shell.
        Rar    Paa'ua.     :T. maximus and other clams (Bse).
        Tah    Paahua.     :T. elonga (Mte).
        Tua    Pahuua.     :T. clam sp.
```

Culled from the above *Pollex* entries are:

```
(2.59)  EFu    Vaasua.      :Tridacna clam.
        MFa-   <Vasuvaasua. :Mollusc sp.>.
        Lua    Vaasua.      :Sand-clam.
        Tak    Vaasua.      :Clam sp. (Hwd).
        Ton-   <Vaasua.     :Tridacna clam sp. B.>.
```

The third group exhibits sporadic change of the *fVs- > vVs-* type while Niuean falls together with the East Polynesian group and may be a loan. The forms immediately above may also be loans to some extent. The giant clam was a common raw material for tools and one can imagine that pronunciations might be borrowed in the context of trade. Tongan, for instance, may have borrowed from Fijian *vasua*. But Tongan shows the distinctive Polynesian long first vowel for this form and I am inclined to think of the third group above as being changed due to phonological processes.

The next form is similar in its Marquesan outcome to the Central East Polynesian outcome in the last group of forms considered. Other Central East Polynesian cognates are not presently known.

```
(2.60)  FASU (Marck 1996d:207-208)
        *Pn*   :Rights of a man's sister's child to his property.
        Ton    Fahu. :Rights of a man's s.'s child to his property.
        EUv    Fahu. :Rights of a man's s.'s child to his property.
        Mqa    Pahu(pahu). :Cross-sex siblings' children.
```

By "similar in its outcome" I mean that yet another language can be shown to have divested itself of a PPn *f(a,e)(f,s)-* sequence through change of the initial sound to a bilabial (stop or semivowel) rather than retaining the labiodental. Where this, therefore, seems a sporadic tendency of many Polynesian languages, it is only in the *faf-* forms and their Central East Polynesian outcomes, and *fes-* forms and their East Futunan outcomes which we might describe as diffused and regular, respectively. The other cases occur only once or twice in any particular language or protolanguage and PPn *faasua* > PCE *paasua* was counted as sporadic in the previous accounting of changes made only once or twice.

2.3.2 *Proto Polynesian* *s *in Tongan*

Some Tongan *s* sounds are borrowings from English and other languages and some are allophones of /t/. But some are clearly PPn *s* forms where the sound has yet to change to Tongan *h*, like it has in most other words (Rensch 1987). Some examples are given in the

following entries from Biggs (1994a). On the whole, they often occur where the following vowel is high and there may have been some confusion with the regular retention of *ti as si and a diffused shift of *s to h, "intersecting sound changes" as they are called in the lexical diffusion literature. An example is:

```
(2.61)   KALAQAPUSI
         *Pn*    :A shrub sp. (Acalypha grandis).
         Anu     Karakarapui.        :Acalypha grandis (Fbg).
         Ece     Kalakalaapuhi.      :Acalypha grandis (Rby).
         EFu     Kala'apusi.         :Acalypha grandis (Bgs).
         EUv     Kalaapuhi.          :Acalypha grandis (Rch).
         Fij     Kalabuci.           :A. insulana, A. g., A. wilk. (Cpl).
         Mae     Karabusi.           :Tree or bush sp. (Clk).
         Mfa-    <Koopisi.           :Acalypha grandis (Clk)>.
         Tik     Karaapusi.          :A. hispida and Macaranga sp. (Fth).
         Ton     Kalakala'apusi.     :(Acalypha wilkesiana) (Ykr).
```

Borrowing by Tongan seems unlikely in the form above since it retains the Proto Polynesian glottal stop. The same is true of the following form:

```
(2.62)   QASI
         *Pn*    :Visit.
         Ece     Ahi.           :Visit (Rby).
         Ece1    A/ahi/.        :Visit (Pl.) (Rby).
         EFu     'Asi/'asi.     :Visit (Bgs).
         EUv     'Ahi/'ahi.     :Visite, visiter.
         Mae     A/asi/a.       :Visit (Clk).
         Mqa     Ahi.           :Entrer (Dln).
         Niu     A/ahi/.        :To visit (McE).
         Niu1    Ahi/ahi.       :Visit frequently (McE).
         Ren     'Asi/'asi.     :Visit, inspect.
         Rot     Asi.           :Go to see, visit, inspect (Cwd).
         Rot1    As/asi/.       :By way of trial or probation (qual.) (Cwd).
         Sam     Asi.           :Visit.
         Sik     A/asi/.        :Inspect a fish-trap (Sps).
         Tak     Asi.           :Inspect, visit (Hwd).
         Tik     A/asi/.        :Taste, test (Fth).
         Tok     A/asi/.        :Visit, call on, inspect (Sma).
         Ton     'Asi.          :Turn up, appear on scene (Cwd).
         Ton1    'A/'asi/.      :Visit (Cwd).
         Ton2    'Asi/'asi.     :Try, test by experiment, tempt (Cwd).
```

The following form was discussed for other reasons in the preceding section and the full cognate set is not repeated here. There are two Tongan irregularities (the first and second consonants) but, as above, I question whether it is a loan.

```
(2.63)   FAASUA
         *Pn*    :Tridacna clam sp.
         Fij     Vasua.     :Tridacna clam sp.
         Ton-    <Vaasua.   :Tridacna clam sp. B.>.
```

The next example is a plant name and the next is a material culture item. In both instances Tongan may have adopted the Fijian or Nuclear Polynesian pronunciation where it did so less frequently with more basic vocabulary.

(2.64)   SALATO
         ??   :Tree nettle (Laportea harveyi).
         Fij   Salato.   :Laportea harveyi, urticaceae (nettle plant).
         Mae -   <Salato.   :Nettle tree (Clk) B.>.
         Sam   Salato.   :Tree nettle (Laportea harveyi).
         Sik   Salato.   :Tree sp.
         Tah-   <Haratoo.   :Acrid, exciting pain (Dvs)>.
         Tak   Sarato.   :Plant sp. (Hwd).
         Tik-   <Silato.   :Tree nettle (Dendroniche harveyi) (Fth)>.
         Ton-   <Salato.   :A tree (Laportea harveyana)>.

(2.65)   SEI
         Pn   :Wreath, garland.
         Eas   Hei.   :Crown (Fts).
         Fij   Sei.   :Flower of the pandanus.
         Mqa   Hei.   :Collier, fleuron, couronne (Dln).
         Mva   Hei.   :Couronne (Jnu).
         Niu   Hei.   :Floral decoration for bride (McE).
         Rar   'ei.   :Wreath, garland, necklace, noose, snare.
         Sam   Sei.   :Flower worn as ornament.
         Tah   Hei.   :Wreath or garland of flowers.
         Tik   Sei.   :Flower, especially as ear decoration (Fth).
         Tok   Hei.   :Ear or hair ornament of flower, leaf (Sma).
         Ton   Sei.   :Ornamentation placed behind the ear (B?).
         Tua   Hei.   :Wreath, decorated headband.

The following form may have retained *s* due to onomatopoeic pressures, reinterpretation as an old *ti* form, or both.

(2.66)   SI-SII
         Pn   :Hiss, spurt with a hiss.
         Ece   Hihii.   :Spurt from several pipes or holes (Rby).
         EFu   Sisii.   :Hiss to shoo away (Bgs).
         Fij   Ci.   :Break wind.
         Haw   Hii(hii).   :Hiss, flow, purge, diarrhoea (Pki).
         Mae   Sisii.   :Hiss (Clk).
         Mao   Hihii.   :Hiss, be affected with diarrhoea (Wms).
         MFa   Siisii.   :Hiss.
         Niu   Hihii.   :Diarrhoea (McE).
         Nkr   Ssii.   :Hissing sound.
         Ren   Sii.   :Make hissing or spurting sound (Ebt).
         Rot   Si.   :Pass wind quietly (Cwd).
         Sam   Sisii.   :Hiss (of green wood in fire).
         Tak-   <Ssii.   :Ejaculate semen (Hwd)>.
         Tik   Siisii.   :Hiss, make sibilant sound (Fth).
         Tok   Hihii.   :Soft sound for demanding silence (Sma).
         Ton-   <Hii.   :Semen (Cwd)>.
         Ton-   <Sisii.   :Make a hissing or wheezing sound (Cwd)>.
         WFu-   <Si.   :Hiss (Dty).
         WUv   Siisi.   :Hiss.

There is also the following example in which Tongan seems to have borrowed the Fijian pronunciation and meaning:

(2.67)   SONI.A
         Pn   :Incise, cut into.
         Eas   Honi/honi. :Pare, peel.
         Fij   Soni.   :Make small incision, as when piercing boil.
         Mao   Ho(ho)ni.   :Nibble, graze v.

```
Rar      'Oni.        :Nibble, gnaw v.
Ren-     <Soni.       :Cut (Ebt).
Sam      Soni.        :Chop, cut up (Mnr).
Tah      Ho(ho)ni.    :Nibble, bite (Dvs).
Tok      Honi.        :Chop with a knife or a spade.
Ton      Soni.        :Make a small incision, lance (Cwd).
Tua      Honi.        :Nibble, bite, scrape out with teeth (Stn).
```

More generally, such forms in Churchward (1959) lack semantic doublets, lack clear sources of borrowing from Fijian or Samoan and sometimes have free variants (e.g. *salulu = halulu* 'annoyed'). These are typical conditions when lexical diffusion is operating or has operated in the past.

2.3.3 *Proto Polynesian* *q *in Niuean*

Proto Polynesian *q seems to have a residue found as *h* in Niuean in the following abbreviated[11] cognate groups from Biggs (1993).

```
(2.68)   MOQI
         *NP*    :Small part or unit.
         EFu     Mo'i/mo'i. :Mettre ou couper par petite morceaux (Bgs).
         EUv     Mo'i.      :Noun classifier, small portion or unit.
         Niu-    <Mohimohi. :Small, tiny (McE)>.

(2.69)   PU-QAKI
         *Pn*    :Spit out, belch, vomit.
         EUv     Pu'aki.    :Spit out.
         Niu-    <Puhaki. :A sigh (McE)>.
         Ren     Pu'aki.    :Feed with food from mouth (Ebt).
         Ton     Pu'aki.    :Eject from mouth, utter.

(2.70)   QAGO
         *NP*    :Thin.
         Niu-    <Hangohango. :Of suitable proportions>.
         Ren     'Ango/'ango. :To be low tide (Ebt).
         Ton     'Ango/'ango. :Empty, dry, poor (Cwd).

(2.71)   QUNA
         *Pn*    :Fish scale, turtle-shell.
         EFu     'Una/fi. :Fish scale (Bgs).
         EUv     'Uno.      :Ecaille (Rch).
         Niu     Ina/fi.    :To scale a fish (Motu dial).
         Niu1    Hina/fi.   :Fish scale, to scale a fish.
         Niu2    Una.       :Turtle shell.
         Ren     'Unahi.    :Scale v fish, scales (Ebt).
         Ton     'Uno.      :Fish scale, turtle shell.
```

Niuean has occasionally borrowed from Rarotongan and Tahitian (§4.3.4) but neither retain the glottal stop and no other language retains the glottal stop as *h*. I therefore offer the above forms as evidence of a residue of PPn *q as *h* in Niuean. The progression of change could have been along various routes. Perhaps some PPn *q changed to *h* before *q was lost but I am more inclined to wonder if residue of the more generally lost *q simply fell together with

---

[11] Only data from Pn languages that normally retain glottal stop as glottal stop are shown here.

h, **q* being nearly extinct and *h* being the only other laryngeal. Then we could say that *h* and the residue of **q* fell together as a single phone whose most basic contrast with the other consonants was [+ laryngeal] and that its surface realisation was [h].

2.3.4 Samoan: Residues of PPn **s* or **h?*

East Uvean, East Futunan, Tuvalu, Tokelauan, some Outlier languages, and, particularly, Samoan present a problem with respect to what has been reconstructed as Proto Polynesian **h* when any Nuclear Polynesian shows loss. As Biggs presently interprets the situation (Biggs 1992, 1993, 1994a, Biggs & Clark 1996[12]), some PPn **h* are retained in Samoan and these other languages, normally as [s]. This constitutes a problem since few linguists would allow that [h] would ever change to [s] (cf. Ferguson 1990) and they would be especially suspicious where the origin of the purported **h* was an earlier **s*, as is the case with the Proto Oceanic origin of Proto Polynesian **h*. Examples of retention of Biggs's PPn "**h*" as /s/ ([s]) can be seen in the following data groups and, as Biggs notes, always occur between like vowels.

```
(2.72)   KAHA
         *Pn*    :To burn (intransitive).
         Anu     Kakaa/ti.   :Burnt (of food) (Yen).
         Eas     Kaa.        :Light fire for the earth oven (Fts).
         EFu     Kaa.        :Allumer, allume.
         EFul    Kakaa.      :Brulant, ardent; rougi par le feu (Gzl).
         Euv-    <Kakaha.    :Brulant, enflamme (Btn) B.>.
         Fij-    <Kata/kata. :Hot (Bgs)>.
         Haw     'Aa ^ 'a'aa. :Burn, burning.
         Kap     Kaa.        :Glow, gleam.
         Mae     Kakaa.      :Burn (of fire) (Clk).
         Mao     Kaa.        :Burn intrans. (Bgs).
         Maol    Kakaa.      :Glow, be red hot (Wms).
         MFa     Kaa.        :Burn, blaze.
         Mia     (Ka)kaa.    :Shine, glow, be brilliant (Chn).
         Mqa     Kaka/te ahi. :Said when war is declared.
         Mva     Kaa.        :Bruler (Jnu).
         Niu-    <Kakaa.     :When the fire takes hold B.>.
         Nkr     Gaagaa.     :Easily ignited.
         Nkrl    Gaa.        :Catch fire, aflame.
         Oja     'Aa.        :Burn.
         Pen     Kaa.        :Burn.
         Rar     Kaa.        :Burn, burning.
         Rarl    Kakaa.      :Shine (?).
         Ren     Kaa.        :Burn v, as a light or flame (Ebt).
         Sam     'A'asa.     :Glowing hot.
         Sik     Kkaa.       :Burning without flame (Sps).
         Tah     'Aa.        :Burn, burning.
         Tak     Kaa.        :Hot, alight (Hwd).
         Tik     Kaa.        :Burn (Fth).
         Tikl    Kakaa.      :Hot (Fth).
         Ton     Kakaha.     :To glow with heat, be red hot (Cwd).
         Tua     Kaa.        :Burn, burning.
         Tual    Kakaa.      :Very hot.
         WFu     Kaa.        :To burn (Dty).
```

---

[12] Cf. **moho* entry.

As can be seen in the above group, the only Nuclear Polynesian language which retains "*h*"
is Samoan (except for East Uvean which is marked as "Not Counted as Cognate" and
presumably taken by Biggs to be a Tongan loan). At the opposite extreme are the following
two reconstructions where Nuclear Polynesian languages, other than Ellicean Outlier and
East Polynesian, commonly retain "*h*" and Biggs makes two reconstructions, one with PPn
s and the other with PPn *h*:

```
(2.73)   KESE
         *8        Note. ? combine this with PPN *kehe.
         *PN*      :Different.
         Ece    Kehe.       :Different, be different (Rby).
         EFu    Kese.       :Different.
         EUv    Kehe.       :Different.
         Fij-   <Kece.      :All>.
         Lau    'Ete.       :To be different, various (Ivs).
         Mae    Kese.       :Different (Cpl).
         Mao-   <Kehe.      :Odd number>.
         Mta    Gese.       :That and nothing else.
         Ngg    Keha.       :Different.
         Niu    Kehe.       :Different, foreign, other; away (Mce).
         Ren    Kese.       :Varied, strange, unprincipled (Ebt).
         Ren1   Kesekese.   :Different, opposite (Ebt).
         Sam    'Ese.       :Different.
         Tik    Kese.       :Different, away, apart (Fth).
         Tok    Kese.       :Be different, changed, unusual, other (Sma).
         Ton    Kehe.       :Different.

(2.74)   KEHE
         *??*      :Different, be different, other.
         Fij-   <Kece. :All>.
         Haw    'Ee.        :Different.
         Kap    Kee.        :Different (Ebt).
         Kap1   Gee/gee.    :Different (Lbr).
         Mao    Kee.        :Otherness.
         Mfa    Kee.        :To be different from.
         Mqa    Kee.        :Autre, différent (Nkh) (Bgs).
         Mqa1   'Ee.        :Autre, différent (Dln).
         Mva    Kee.        :Autre, différent (Rnh).
         Ngg    Keha.       :Different.
         Niu    Kehe.       :Different.
         Nkr    Gee.        :Different.
         Oja    'Ee.        :Different.
         Puk    Ke.         :Unrelated (Mta); strange, foreign (Bge).
         Rar    Kee.        :Different, other, wrong (Bse
         Sik    Kee.        :Different.
         Tah    'Ee.        :Different, strange, foreign, peculiar.
         Tak    Kee.        :Different (Hwd).
         Tik    Kee.        :Different (Fth).
         Tua    Kee.        :Different.
         WFu    Ke.         :Become different.
```

We might wonder if such distributions have anything to do with Blust's (1976) suggestion
of a third palatal reflex in Polynesian languages. But there is no consistent relationship
between such forms as above and sounds in cognate forms in Fijian, and the answer to the
problem must be sought through developments internal to Polynesian. Our understanding of
Oceanic palatal reflexes is based upon Blust (1976, 1978), Geraghty (1986) and especially
Ross (1988:71–95) where POc *c*, *j* and *s*, but no nasal grade of *s*, are reconstructed.

Previous attempts to reconstruct a nasal grade of POc *s were subsumed under POc *s itself and differences in the outcome of POc *s attributed to fortis and lenis reflexes of that sound (Ross 1988:83–86).

The suggestion of lenition works well in the Central Pacific and Polynesian situations. PPn *s and *h have no completely consistent relationship to modern Fijian sounds and it is apparent that lenition continued through the Pre Proto Central Pacific period, the Pre Proto Polynesian period and, by the evidence cited above, to a limited extent into the Post Proto Nuclear Polynesian period. By this analysis, forms that have "mixed" outcomes in Nuclear Polynesian languages should be reconstructed as cases of PPn and PNP *s, which experienced lenition in some Proto Nuclear Polynesian daughters. Since we can assign a particular environment where this tended to occur (intervocalically between like vowels), this seems a more plausible solution than reconstructing PPn *h just in those instances and claiming that some languages occasionally reverted to [s].

This interpretation, developed in the present work, is of significance for a limited set of data and is not central to subgrouping or other arguments made here. For those reasons, Biggs's reconstructions have not been amended to reflect this interpretation. Other instances of Samoan retaining PPn *h as [s] are given in Table 2.36 and are taken to be borrowings from Tongan.

Table 2.36: Possible borrowings of PPn *h from Tongan in Samoan

PPn *qahu	Sam asu	'smoke'
PPn *hali	Sam sali	'scoop out'
PPn *hoka	Sam so'a	'house rafter'
PPn *huqa	Sam sua	'rise of tide'

2.3.5 Conditioned loss of glottal stop in Rapanui

As mentioned in §2.2.4, the Proto Polynesian glottal stop is regularly retained in Rapanui except for regular loss between low vowels. Some words showing such losses may be borrowings in the historical period from Tahitian, but the examples in Table 2.37 show that in cases of PPn or PNP *-aqa- loss is *always* the outcome. Because it is doubtful that Tahitian pronunciations would be adopted in every such instance, loss seems the regular correspondence in that environment. These examples are given here since it is characteristic of diffused change to begin in a limited environment and then to encroach outwards.

Table 2.37: Loss of PNP glottal stop in Rapanui in the *a_a environment

PNP *faqaki 'disclose'	Eas haaki 'accuse'
PPn *laqaa 'sun'	Eas raaa 'sun'
PPn *raqa-kau 'wood tree'	Eas raakau 'castor oil plant'
PPn *maqa 'clean, light-coloured'	Eas maa 'clean, clear'
PPn *maqa 'for'	Eas maa 'for'
PPn *maqala 'garden'	Eas maara 'seashore flat'
PNP *taqane 'male'	Eas tane 'male'

2.3.6 *Residues of Proto Polynesian glottals in Marquesan?*

Marquesan commonly inserts a glottal stop between the vowels of a word-final diphthong as can be seen in Table 2.38.

Table 2.38: Epenthethic Marquesan insertions of glottal stop

PPn/PNP/etc.	Mqa	gloss
*nga-sae	kaha'e	'torn, rent'
*mauii	mau'i	'left (not right)'
*nau	na'u	'plant sp.'
*piingao	pina'o	'dragonfly'
*tia	ti'a	'lower abdomen'
*tutua	tutu'a	'beating board for tapa'

The glottal stop in Marquesan regularly reflects the Proto East Polynesian liquid (PEP *r), and Marquesan *h* regularly reflects PPn *s. In a small number of cases, glottals in Marquesan may reflect PPn *h or the PEP glottal stop. These can most readily be identified in word-initial position, because Proto Polynesian reconstructions with word-initial vowels never show word-initial insertion of a glottal stop in Marquesan. The only exceptions are seen in the correspondence of Mqa 'apu 'puiser (draw (out)) (Dln)' to PNP apu 'seize' and in the correspondence of the Marqesan doublet omol'omo 'suck' to PEP *omo 'suck' (which itself is an irregular reflex of PPn *komo, the Mqa glottal stop being a possible retention of PEP *k rather than an insertion). In examples given below, Proto Nuclear Polynesian, Proto Ellicean, Proto East Polynesian, Proto Central East Polynesian, Proto Marquesan and Proto Nuclear Marquesic may have retained residues of PPn *h; and Proto Central East Polynesian and Proto Nuclear Marquesic may have retained residues of the glottal stop.

Forms which have been identified to date in support of the retention hypothesis are given in Table 2.39.

Table 2.39: Forms with apparent glottal residues in Marquesan

PPn	Mqa	gloss
*h		
*hanga	'aka	'span (measure)'
*hangafulu	'okohu'u	'ten'
*hapi	'api'api	'fish sp.'
*holo	ho'o	'grate, grind'
*qahawana	'ahana	'spouse'
*q		
*qolongaa	hoka	'Pipturus sp.'
*qutu	'utu	'fill with water'

If more such agreements become apparent, some modification of the theory of the history of the glottals may become necessary. In the case of PPn *h we would posit a residue continuing from Proto Polynesian through the various interstages to Marquesan. With respect to the glottal stop, a model of residue from Proto East Polynesian to Central East Polynesian and into Marquesan is appealing since we are already aware that *q tends to be diffusely lost in any language that has the sound. So possibly loss was common along a lexical diffusion pattern. Were such residue to be the proper explanation for these forms in Marquesan, we would modify Table 2.2 to read:

Table 2.40: Chart of glottal residues into Marquesan

PPn	*h	*q
PNP	-,*h[1]	*q
PEc	-,*h[1]	*q
PEP	-,*h[1]	*q
PCE	-,*h[1]	-,*q[2]
PMq	-,*h[1]	-,*q[2]
PNM	-,*h[1]	-,*q[2]
Mqa	-,h,'[3]	-,',h[3]

Notes: 1. Residual retention between like vowels and, in a few instances, word initially. 2. A very few instances of residual word-initial retention. 3. Retentions reflect PNM retentions.

We might speculate that these are Tongic loans, as such are otherwise known for Marquesan (§4.3.9), but these words never have doublets and occur only in limited environments so residue seems the more plausible explanation.

2.3.7 *Proto Polynesian* *h *in NZ Maori*

In the three words below, NZ Maori appears to retain PPn *h as *h*. Only the third case shows a doublet. Biggs's (1994a) entries are abbreviated below (some languages are omitted which have forms consistent with the reconstruction):

```
(2.75)  HAKU
        *Pn*    :Garfish (Belonidae).
        Eas     Aku.    :Fish (Chrysophrys aurata) (Fts).
        Haw     A'u.    :Swordfish, garfish.
        Mao-    <Haku.  :Kingfish (Seriola grandis) (Wms)>.
        Mqa     Aku.    :Garfish (I).
        Niu     Haku.   :Swordfish (McE).
        Ton     Haku.   :Young hakulaa.
        Tua     Aku.    :Swordfish, garfish.

(2.76)  HAGAFULU
        *Pn*        :Ten.
        Eas     Angahuru.       :Ten.
        Haw     Anahulu.        :Ten days.
        Mao     Hangahuru.      :Ten (Best).
        Mqa     'Onohu'u.       :Ten.
        Niu     Hongofulu.      :Ten.
        Rar     Nga'uru.        :Ten.
        Ren     Angahugu.       :Ten.
        Sam     'Au/agafulu/.   :Ten baskets of fish (Prt).
        Tok     -angafulu.      :Ten of a kind (Sma).
        Ton     Hongofulu.      :Ten.
        Tua     9nghuru.        :Ten.

(2.77)  HUQI.1
        NT      Note: EFU VqV > qVV is a regular change.
        *Pn*    :Take off a garment, take something off a hook or peg,
                 pick pandanus fruit, pay for something.
        Anu     Uui.        :Gather Pandanus fruit or Betel Nuts (Fbg).
        Ece     Ui.         :Take something off, undress oneself.
        EFu     'Ui.        :Pay a debt, settle an account(Bgs).
        Mao     Ui.         :Disentangle, disengage, unravel (Wms).
        Maol    Hui-a.      :Take off (e.g. a shirt) (Bgs).
```

```
Mqa      Ui.           :Cueillir des fruits (Dln).
Mva      Ui.           :Cueillir des legumes ou des fruits (Jnu).
Niu      Faka/hui/.    :Unloose, abrogate.
Nkr      Ui.           :Pick Pandanus.
Lua      Ui.           :Shed, throw off clothes.
Ren      'Ui.          :Take canoe out to sea, take off shirt.
Sam      Ui.           :Take down, take off (something hanging).
Tok      Ui.           :Lift off (s.t. hanging), take off clothes.
Ton      Hu'i.         :Detach, take off, slip off(Cwd).
Tua      Ui.           :Detach, disentangle, unloosen (Stn).
```

Otherwise, I find only the correspondence of Mao *hane* 'rotten' to PPn **ane* 'white ant, termite' where *h* was inserted before a word-initial vowel, so insertion does not seem a likely explanation for the cases above. Harlow (1994) has pointed to evidence suggesting multiple inputs into the initial centuries of language and dialect development in NZ Maori. If the NZ Maori terms in 2.75–2.77 reflect borrowings, they must be from Tongic. If they are not borrowings they can be considered residue of PPn **h*, as in Marquesan, and in one instance (PPn **hangafulu* 'ten' reflexes) such potential residue occurs in the same word.

2.3.8 Free and dialect variants in Marquesan and Hawaiian

Dordillon (1931:72–76) gives many pairs of Marquesan words, most being cases where the Northern dialect differs from the Southern dialect. Most of the differences in consonants are explained by the differences between the historical changes of the two dialects (see Table 2.2). Some which are not include the equivalence of Northern *m* to Southern *n* and *p*; Northern *n* to Southern *t*; Northern *p* to Southern *t*; Northern *t* to Southern *n*; Northern *v* to Southern glottal stop; and Northern glottal stop to Southern *k* and *t* (Dordillon 1931:75). While Tryon (1987) speaks to the confusion of **k* and **r*, the other irregularities are not addressed in the literature and mainly seem to be some kind of reaction of one dialect to the other. There seem to be no doublets in either dialect and, because the pronunciations are different, these are not dialect borrowings.

Elbert (1982) wondered if these irregular agreements were cases of lexical diffusion where sounds were changing one at a time, and related those observations to certain doublets in Hawaiian where sonorants, especially, seemed to have various pronunciations in certain words such as both *'ele'ele* and *'ene'ene* 'black', *nalu* and *nanu* 'wave', and *ani* and *ali* 'beckon'. But the Marquesan cases are dialect variants where the regular correspondences to Proto Nuclear Marquesan are upset in one or the other dialect. The Hawaiian cases are free variants whose stylistic usages remain undescribed and in few instances are the regular correspondence to the reconstruction absent. So I am inclined to think of the Marquesan and Hawaiian situations as being similar but not, with any certainty, related.

3 *Vowel correspondences*

3.1 Overview

The story of the vowels in the living languages is mostly one of unremarkable continuity from Proto Polynesian. About sixty-five per cent of the *Pollex* 1992 reconstructed lexemes showed no differences at all in any of the vowels[1], not counting length, between any of the living languages and the reconstruction.[2] The cases in which at least one language changed a vowel were dominated by assimilations of low to higher vowels in Tongic and Nuclear Marquesic and by word-final vowel changes in Kapingamarangi. Regular vowel correspondences are tabulated on the following page and discussed in the following section. Diffused change is then considered, followed by sections on low vowel raising and lengthening. Finally, sporadic changes are considered.

There are five Polynesian vowels of the Latin type. Two characteristics are sufficient to speak of the contrasts in Polynesian vowels: height and backness. The Polynesian vowels come in three heights: low, mid and high and three degrees of backness: front, central and back.

In some cases sporadic changes, especially assimilations, can be traced to an interstage, but no regular changes affecting large numbers of similar forms simultaneously can be attributed to any of the interstages other than Proto Tongic and Proto Nuclear Marquesic. Vowels that change are almost always unstressed or only secondarily stressed. Polynesian languages usually have penultimate stress which was certainly a feature of Proto Polynesian. Thus PPn *mata* 'face' and *tama* 'child' were pronounced *máta* and *táma*. The main formal exception was word-final long vowels or double morae where the long vowel or double morae as a whole was stressed.

---

[1] All vowel changes apparent in *Pollex* (Biggs 1992) were organised by first copying *Pollex* (Biggs 1992) and deleting all entries in which no vowel had changed in any language.

[2] Based upon the crude file size of *Pollex* 1992 and a file extracted from it which contained cognate sets having at least one vowel change in one language.

Table 3.1: Polynesian vowel correspondences

	*a	*e	*o	*i	*u
PPn	*a	*e	*o	*i	*u
PTo	*a, *e[1], *o[1,2], -[3]	*e	*o	*i, u[4]	*u, i[4]
Ton	a, e[5,6,7], o[2,6,7,-3]	e	o	i	u
Niu	a, e[8], o[8]	e, i[9]	o	i	u
PNP	*a	*e	*o	*i	*u
Most Outliers	a	e	o	i	u
Kap	a, e[10], o[10] e[11,12], o[11], i[11]	e, a[13,14]	o, u[15], a[16]	i	u
Sam	a	e	o	i	u
PEP	*a, oo	*e	*o	*i	*u
Eas	a	e	o	i	u
PCE	*a	*e	*o	*i	*u
Eas	a	e	o	i	u
PMq	*a	*e	*o	*i	*u
Haw	a, oo[17], e[18], o[18],	e	o	i	u
PNM	*a, *e[19,20], *o[19]	*e	*o	*i	*u
Mqa	*a, *e[19,20], *o[19]	e	o	i	u
Mva	a	e	o	i	u
PTa	*a	*e	*o	*i	*u
Tah	a, e[21], o[21]	e	o	i	u
Mao	a, e[21], o[21]	e	o	i	u
Rar	a, e[21], o[21]	e	o	i	u
Tua	a, e[21], o[21]	e	o	i	u

These notes refer only to changes that happened generally or commonly. These and all other vowel changes for each language are given in the present chapter or Appendix B.

Numbered notes: 1. When unstressed, preceded by a front consonant and followed by a stressed high vowel of similar backness. 2. In a few instances where there was *-ua. 3. Sometimes lost before *o in a diphthong. 4. Backness is sometimes reordered where *i and *u occur in sequence with a consonant between them. 5. When unstressed, preceded by a back consonant and followed by a stressed high vowel of similar backness. When secondarily stressed and followed by an unstressed high vowel of similar backness. 6. In a few instances with primary stress and followed by an unstressed *i . 7. In most instances before a following stressed mid vowel of similar backness. 8. Where stressed and followed by a mid vowel of similar backness. 9. Where unstressed and followed by (stressed) *i. 10. Numerous instances in both stressed and unstressed position before high vowels of similar backness. 11. In word-final position there are multiple examples of assimilating completely to a preceding *e, *o or *u. 12. In word-final position there are three examples of assimilation in height to a mid vowel with a following *i and one with a following *u. 13. In two cases where *a followed. 14. In word-final position where *i preceded. 15. In a few instances in word-final position. 16. In word-final position where *a or *i preceded. 17. *(C)a(a)(C)V(C)V forms go to *(C)oo(C)V(C)V in a few cases and are due to morphological reanalysis. 18. A few cases of assimilation to mid vowel when followed by a high vowel of similar backness (but not the general pattern). 19. Unstressed, secondarily stressed and, occasionally, stressed become mid when followed by a high vowel of similar backness. Numerous such changes between PMq and PNM and more between PNM and Mqa. 20. "Low vowel raising" *((C)aCa(C)V > (C)eCa(C)V)*. A few such changes between PMq and PNM and a regular occurrence between PNM and Mqa. 21. Assimilation to mid vowels with following high vowels is common in all Ta but are largely sporadic developments in individual languages. None can be attributed to PTa.

The stress patterns of quadrisyllabic and longer words took their stress placement from the disyllabic model, stress occurring on every second vowel counting back from the penultimate vowel. Trisyllabic words had a single locus of stress on the penultimate vowel. Monosyllabic words had short (and unstressed) vowels only in the case of articles, location markers and other grammatical lexemes that never occurred by themselves in an utterance. Other Polynesian monosyllabic words require a long vowel. Being universal features in the languages, such features are attributed to Proto Polynesian and lower order interstages.

Bickmore (1995) has recently produced a detailed treatment of stress in a Polynesian language (Tahitian), Hovdhaugen (1992) has done phonetic work on Samoan, and Condax (1989, 1990) has produced detailed treatments of certain phonetic phenomena in two Polynesian languages (Tongan and Samoan). Many of the newer and older Polynesian grammars comment on stress to some extent as well. If we assert that 1) vocalic morae with primary or secondary stress resisted assimilation, and 2) that vocalic morae with primary stress often did not assimilate while morae with secondary stress did, we can infer a general model of Polynesian stress that is very much the same as Bickmore's conclusions concerning modern Tahitian. Judging by the history of the vowels, I construct Table 3.2.

Table 3.2: Generalised PPn word stress patterns

(C)a	*(C)á:*	*(C)á(C)a*	*(C)a(C)á(C)a*	*(C)à(C)a(C)á(C)a*
		(C)a(C)á:	*(C)a(C)á:(C)a*	
		(C)á:(C)a	*(C)à:(C)á(C)a*	

Notes: *a* is used to represent "any vowel", *a:* represents a long vowel, *C* is used to represent "any consonant" and *(C)* is used to show that presence or absence of a consonant does not interrupt the pattern. *á* indicates a vowel with primary stress. *à* indicates a vowel with secondary stress.

As mentioned in a previous footnote, *Pollex* 1992 was copied and from it were deleted forms which showed no vowel change, other than length, in any language. The resulting file was then about thirty-five per cent the size of the original. Copies of the resulting file were then made for each language, deleting entries for which no vowel had changed in that language. After attribution of certain vowel changes to certain protolanguages, the number of words indicated in Table 3.3 were found with a vowel change for the Polynesian languages and protolanguages.

Those languages that show regular vowel change (Proto Tongic, Tongan, Niuean, Kapingamarangi) or diffused change (Proto Nuclear Marquesic and Marquesan) have the highest number of overall changes because large numbers of words were affected by *regular* kinds of changes. Otherwise, less than about twenty vowel changes are presently known for any of the other languages, except for particularly well described languages such as Hawaiian and New Zealand Maori. Most of the changes in those languages defy generalisation in the form of invariable or even diffused rules. The majority of those vowel changes are sporadic or occur amongst a small group of similar words. I know of very few sporadic changes for the protolanguages and they are given in Table 3.30. The following sections present the most regular changes (3.2), diffused changes (3.3) and sporadic changes (3.4).

Table 3.3: Number of words for individual languages which show a change in vowel quality compared to reconstructed forms

Proto Tongic	32–34	Sikaiana	11
Tongan	57–59	Takuu	21
Niuean	25–27	Tokelauan	20
Proto Nuclear Polynesian	3	Tuvalu	13
Anutan	6	**Proto East Polynesian**	1
East Uvean	13	Rapanui	10
Mae	11	**Proto Central East**	
		Polynesian	4
Mele-Fila	19	**Proto Marquesic**	5
Pileni	1	Hawaiian	33
Pukapuka	7	**Proto Nuclear Marquesic**	42
Rennellese	11	Marquesan	36
Tikopia	7	Mangarevan	6
West Futunan	14	**Proto Tahitic**	9[1]
West Uvean	9	Maori	39
Proto Ellicean	3	Mooriori	5
Samoan	22	Rarotongan	22
Proto Ellicean Outlier	none known	Tahitian	21
Kapingamarangi	66	Tongareva	11
Nukuoru	20	Tuamotuan	17
Ongtong Java	1		

1. Some are weak cases in the sense that cognates are known from only two or three Ta languages.

3.2 Regular vowel changes

Since all the Polynesian vowel changes apparent in *Pollex* 1992 were gathered in one place and organised in the present work, they are presented by language in Appendix B where they do not repeat material in the following sections. In this section I give an overview of regular change for those languages that had such.

3.2.1 *Proto Tongic, Tongan and Niuean*

Numerous words were affected by regular vowel changes between Proto Polynesian and Proto Tongic and are attested in both Tongic daughter languages. All but two or three exhibit assimilations of unstressed low vowels in trisyllables towards the height and backness of the following stressed high vowels:

Table 3.4: Proto Polynesian to Proto Tongic vowel change types

PPn *fafine >	PTo *fefine >	Ton *fefine*, Niu *fifine* 'woman'
PPn *talinga >	PTo *telinga >	Ton, Niu *telinga* 'ear'
PPn *mauku >	PTo *mouku >	Ton, Niu *mouku* 'grass'
PPn *maqunga >	PTo *moqunga >	Ton *mo'unga*, Niu *mounga* 'mountain'

All examples of these assimilations are words beginning with Proto Polynesian anterior consonants (*p-, *m-, *f-, and *t-) although I found no examples beginning in PPn *s- or *n-. Tongan, but not Niuean, later expanded this rule to include similar forms beginning with other consonants, e.g.:

Table 3.5: Some Proto Polynesian vowels that had not assimilated in Proto Tongic

PTo *kafika >	Ton *fekika* (metathesis), Niu *kafika* 'Malay apple'
PTo *qafinga >	Ton *faa-'efine*, Niu *afine* 'armpit'
PTo *qaitu >	Ton *'eitu-*, Niu *aiti* 'ghost, spirit'

Otherwise, expansion of this rule in Tongan is limited to forms for which I could find no Niuean cognate and in these cases it is not certain whether change took place by Proto Tongic times. Such assimilations are seen in unstressed vowels and secondarily stressed initial vowels of quadrasyllables, e.g.:

Table 3.6: Some Tongan assimilations that are indeterminate for Proto Tongic

PPn *saputu >	Ton *hoputu* 'fish sp.' (Niu cognate not known)
PPn *tafuti >	Ton *tofusi* 'run (away)' (Niu cognate not known)
PPn *kalu-kalu >	Ton *kolukalu* 'jellyfish' (Niu cognate not known)

The Proto Tongic rule experienced no similar expansion or generalisation in Niuean.

Proto Tongic also raised and backed the low vowel before stressed *-o-. This happened regardless of the quality of the initial consonant and may not have regularly occurred when a consonant other than the glottal stop intervened, e.g.:

Table 3.7: Some additional kinds of Proto Tongic vowel assimilations

PPn *maoha >	PTo *moho >	Ton, Niu *moho* 'cooked'
PPn *maqoli >	PTo *moqoli >	Ton *mo'oni*[1], Niu *mooli* 'true, genuine'
PPn *ta(a)qona		Ton *to'onga* 'treasured possession', Niu *taonga*[2] 'goods'
PPn *ngaofie >	PTo *ngofua >	Ton, Niu *ngofua* 'easily'
PPn *taqu-fufu >	PTo *toqu-fufu >	Ton *to'ufuu*, Niu *toufufu* 'ridgepole'

1. Irregular Post-PPn Western Polynesian consonant development. 2. This may be a borrowing from East Polynesian. Niu *toonga* 'Samoan mats' is clearly a borrowing from a WP language such as Sam.

Other regular vowel changes occurred in Tongan and Niuean, usually assimilations of the low to higher vowels, but are distinct between the two languages and had not occurred by PTo times. Tongan had a regular assimilation of final -a to -o when preceded by *-u(C)-, e.g.:

Table 3.8: *Cu(C)a > Cu(C)o in Tongan

PTo *kua >	Ton *kuo* 'perfect aspect' (Niu *kua*)
PTo *puka >	Ton *puko* 'tree sp.' (Niu *puka*)

Vowel changes other than those mentioned above seem sporadic in Tongan and are listed in the vowel appendix. In Niuean, the rule affecting the most new forms was one that raised stressed *-a- where it was followed by a non-low vowel, e.g.:

Table 3.9: Examples of primarily stressed *a* raising in Niuean

PTo *malaqe* >	Niu *malee* 'meeting place' (Ton *mala'e* 'open place')
PTo *tau* >	Niu *totou* 'count' (Ton *tatau* 'to be equal')
PTo *waqe* >	Niu *vee* 'leg' (Ton *va'e*)
PTo *wahe* >	Niu *wehe* 'divide' (Ton *vahe*)

Otherwise, the only change known to me that applied to more than one word in Niuean was a change of **-mo* to **-mu* in two forms:

Table 3.10: Examples of **-mo* > *-mu* in Niuean

PPn *amo* >	Niu *amu* 'prepare fibres for string making' (Ton cognate not known)
PTo *malemo* >	Niu *malemu* 'drown' (Ton *melemo*)

3.2.2 Kapingamarangi

The only Nuclear Polynesian language which had regular vowel changes other than Proto Nuclear Marquesan and its daughters is Kapingamarangi. The sixty-six vowel changes I found for Kapingamarangi consist mainly of cases in which **-a* assimilated completely to any preceding vowel other than **-u*-:

Table 3.11: Examples of assimilations of final **-a* to preceding vowels in Kapingamarangi

PPn *fia-* >	Kap *hii-* 'desirative prefix'
POc *kimoa* >	Kap *gimoo* 'rat'
PPn *meqa* >	Kap *mea* (Ebt), *mee* (Lbr) 'thing'

This seems a diffused sort of change since there are examples of where such change did not occur (e.g., PPn *malia* > Kap *maria* 'good') and there were alternate pronunciations at the time of Elbert's work (e.g., PPn *soa* > Kap *hoa* ~ *hoo* 'friend'). Similarly, final **-o* regularly became *-a* when preceded by **-a*-, e.g.:

Table 3.12: Examples of **-a(C)o* > **-a(C)a* in Kapingamarangi

PNP *ao* >	Kap *aa* 'fleshless coconut'
PPn *fano* >	Kap *hana* 'go', *hani* 'come'
PPn *malo* >	Kap *mala* 'loin garment'

A change of the present century has been the shift of **-o* to **-a* when preceded by **-i*-. The change may have been completed between Elbert's work after World War II and Lieber's work in the late 1960s and early 1970s:

Table 3.13: Examples of recent **-ito* > *-ita* in Kapingamarangi

PPn *pito* >	Kap *pito* (Ebt) ~ *pita* (Ebt) ~ *bida* (Lbr[1]) 'navel'
PPn *hifo* >	Kap *iho* (Ebt) ~ *iha* (Lbr) 'downward'

1. The difference in the consonants of Elbert and Leiber's presentations are differences of orthography and not differences of pronunciation.

Kapingamarangi has other changes to final vowels and some assimilations of unstressed penultimate vowels which are given in the vowel appendix.

3.2.3 *Proto Nuclear Marquesic and Marquesan*

Marquesan and Mangarevan have many regular or diffused vowel changes in common that are shared with no other languages. Here I count the Nuclear Marquesan rules as diffused because, in most instances, of residue.

3.3 Diffused vowel changes

Simple assimilations that occur in two or three words in any given language are simply listed in Appendix B. They may represent the beginnings of diffused change but may simply be sporadic assimilations. The main example of a diffused vowel change that has affected multiple forms is an assimilation that began by Proto Nuclear Marquesan times, was not complete, continued in Marquesan but was arrested in the independent development of Mangarevan.

3.3.1 *Nuclear Marquesan*

Nuclear Marquesan is defined by at least the agreements between Marquesan and Mangarevan given below. They are the result of an assimilation that applied to unstressed and secondarily stressed low vowels before high and mid vowels, but had not applied to all eligible forms at the time of the disintegration of Proto Nuclear Marquesic. The assimilation also applied in a single instance to a penultimate vowel (in the first form given below) but this is in a preposition and the assimilating vowel was not stressed in its normal use. The assimilation's application is an example of lexical diffusion, did not apply to all possible forms and seems to have ceased applying altogether in Mangarevan after its divergence from Marquesan. In Marquesan it continued to spread to further forms and some further forms are yet in free or dialect variation.

Table 3.14: Diffused assimilations of the low vowel to higher vowels in Proto Nuclear Marquesan

---

PPn **mai* > PNM **mei* > Mqa, Mva *mei* 'from'

PPn **fafie* > Mqa, Mva *vehie* 'firewood'
PPn **fafine* > PCE **wahine* > PNM **vehine* > Mqa, Mva[3] *vehine* 'woman'
PPn **kafika* > PNM **kehika* > Mqa *kehika*, Mva *ke'ika* 'Malay apple'
PCE **karere* > Mqa *ke'e'e*, Mva *kerere* 'messenger'
PNP **kau-ru* > Mqa *kou'u*, Mva *kouru* 'head of a tree'
PPn **kaute* > Mqa *koutei*, Mva *koute* 'flowering shrub'
PNP **maika* > PNM **meika* > Mqa, Mva *meika* 'banana'
PPn **malino* > PNM **melino* > Mqa *menino*, Mva *merino* 'calm (of sea)'
PPn **matofi* > PNM **motohi* > Mqa, Mva *motohi* 'night of the moon'
PPn **mauku* > PNM **mouku* > Mqa, Mva *mouku* 'grass'
PCE **mauri* > Mqa *moui(hahaka)*, Mva *mouri* 'twenty-ninth night of the moon'

---

[3] There is also Mva *'a'ine* 'wife' which follows neither the PCE consonant changes nor the PNM vowel change and is tentatively here explained as non-CE substratum.

Table 3.14 (continued): Diffused assimilations of the low vowel to higher vowels in Proto Nuclear Marquesan

PNP *sakali > PNM *erehi[4] > Mqa e'ehi, Mva erehi 'flesh of mature coconut'	
PPn *saqele > Mqa he'e, Mva here 'go, walk'	
PPn *tahina > PNM *teina > Mqa, Mva teina 'younger same-sex sibling'	
PNP *tafito > PNM *tehito > Mqa tehito, Mva te'ito 'base, origin'	
PPn *takele > PNM *tekere > Mqa teke'e, Mva tekere 'keel of canoe'	
PPn *taqonga > PNM *tonga > Mqa tona, Mva tonga 'treasured possession'	
PPn *taume > PNM > *toume > Mqa, Mva toume 'spathe of coconut palm'	
PPn *tauqa > PNM *touqa > Mqa, Mva toua 'war'	
PPn *taura > PNM *toura > Mqa tou'a, Mva toura 'rope'	
PPn *fai-manu > PNM *(hei)heimanu > Mqa (he)heimanu, Mva 'ei'eimanu 'eagle ray'	
PCE *kaunati > PNM *kounati > Mqa, Mva kounati 'fire-bed with fire-plough'	
PCE *kau-rima > PNM > Mqa kou'i'ima, Mva kourima 'fire-plough'	
PPn *kausanga > PNM *kouhanga > Mqa koihaka, Mva kou'anga 'groin, crotch'	
PCE *maitaki > PNM *meitaki > Mqa meita'i, Mva meitetaki 'good, pleasant'	
PEP *tapairu > PNM *tepeiru > Mqa tepei'u, Mva tepeiru 'woman of high rank'	
PPn *taqu-fufu > PNM *too-huhu > Mqa tohuhu, Mva too'u'u 'ridgepole'	
PPn *tua-hine > PNM *tue-hine > Mqa tuehine, Mva tueine 'sister of a male'	

Mangarevan has a number of additional forms showing assimilations of this kind:

Table 3.15: Other assimilations of low vowels in Mangarevan

PNP *ngangie > Mva gegie 'tree sp.'	
PPn *qalili > Mva eriri 'univalve mollusc'	
PPn *talinga > Mva teriga 'ear'	
PCE *kaufau > kouhau 'ordered list'	
PCE *tai-mafa > Mva teimaha 'heavy'	
PNP *kau-matua > Mva koumatua 'elderly man'	

Marquesan cognates are unknown for this group so none can be shown to be an independent development in Mangarevan. More generally there are no cases where Mangarevan has made an assimilation that Marquesan did not when cognates from both are available for comparison. The assimilated Marquesan forms for which Mangarevan cognates are not known are:

Table 3.16: Other assimilations of low vowels in Marquesan

PPn *malingi > Mqa me'iki 'split'	
PPn *maluu > Mqa mo'u 'soft'	
PCE *makere > Mqa meke'e 'fall'	
PEP *kauvaqe > Mqa kouva'e 'cheek, chin'	
PPn *tau-raki > Mqa tou'aki 'dry in sun'	

The following assimilations in Marquesan clearly occurred after the divergence of Mangarevan, because there are Mangarevan cognates that do not show the assimilation:

---

[4]   Metathesis and loss of *k.

Table 3.17: Marquesan assimilations after the divergence of Mangarevan

PPn *maalie* > *me'ie* 'good, worthy' (Mva *marie*)
PPn *manini* > *menini* 'convict fish' (Mva *manini*)
PPn *matike* > Mqa *metike* 'stand up' (Mva *matike*)
PPn *tafuti* > *tohuti* 'run (away)' (Mva *tahuti*)
PPn *maqunga* > *mouka* 'mountain' (Mva maga)

PPn *maa-unu* > *mounu* 'bait' (Mva maunu)
PNP *sawaiki* > Mqa *havieke* 'traditional homeland' (Probably *sawaiki* > PNMq *haveiki* > Mqa *havieke* (metathesis)) (Mva *avaiki*).

The following forms show the assimilation continues to apply in Marquesan (free variants are found) or has affected dialects differently (see also Dordillion (1931:72)):

Table 3.18: Free or dialect variants in Marquesan

PPn *taiko* > *tai'o* ~ *tei'o* 'sea bird sp.'
PPn *makulu* > *maku'u* ~ *moku'u* 'to fall (of fruit)'

3.3.2 Low vowel raising

Low vowels tend to raise under certain conditions in many Polynesian languages and this may have been a process which affected some forms in some of the Polynesian protolanguages. Low vowel raising occurs in two kinds of situations. In the first, an ante-penultimate low vowel may raise and front when followed by one or more low vowels. In the second, there is the tendency of low vowels to raise and front when a *u followed. These are different processes, the first, perhaps, being an attempt to shed some of the vowel's sonorancy (*a* being the most sonorous vowel, see below) and the second being a combination of that and a partial assimilation to the height of the following *u.

Not all Polynesian languages exhibit low vowel raising but some members of most major and minor subgroups do. There is little overlap between languages in the words that show low vowel raising, indicating it has to a large extent operated independently in each language in which it has occurred. Such is the choicest of grist for generalisations about "naturalness" in language, the observation that the same thing has happened independently in more than one instance. Low vowel raising is also known from nearby Nuclear Micronesian (Sohn 1971, Rehg & Marck 1991). There it has been thought of as an attempt by an unstressed vowel to shed some of its sonorance (Rehg pers. comm.). Amongst the vowels, there is a hierarchy of sonorancy. The vowels *i* and *u* are very close to the semivowels or semiconsonants *y* and *w*. The vowels *i* and *u* are "minimally" sonorant in the hierarchy, the next closest thing to not being vowels at all, while *a* is "maximally" sonorant and *e* and *o* fall in between.

It is observed that raising always occurs in unstressed vowels and a stressed low vowel commonly follows (a maximally sonorant segment). The high sonorancy of the unstressed *a* comes under attack by the phonological system (K. Rehg pers. comm.). It is already unstressed (but highly sonorant). Raising seems a way of reducing its sonorancy and thereby reducing ambiguity as to whether it is stressed or unstressed, which also seems to be the motive for the lengthening of low vowels (§3.3.4). Geraghty (1983:68) describes a similar situation for some Fijian dialects.

In some cases PPn *$(C_1)a$- seems to have become $(C_1)aa$-, $(C_1)oo$-, $(C_2)aa$- or $(C_2)oo$- where it occurred as the initial vowel in a trisyllabic root. Commonly the second vowel was also PPn *-a-. While it is prudent to suspect morphological reanalysis under such circumstances (e.g that *koo- $((C_2)aa$-) was a prefix in the language concerned at the time), this is not always possible to demonstrate in each language which shows such changes, and a phonological explanation may be required. The following table lists forms where low vowel raising has been observed:

Table 3.19: Low vowel raising in Polynesian languages

PPn *ka(a)tafa	Niu kootaa 'frigate bird'
PPn *maqa	EFu meqaa 'clean'
PNP *pakakau	MFa pekkau 'wing'
PPn *mamafa	WFu[1] momafa 'heavy'
PNP *mamae	WFu mumae 'pain'
PPn *mamaqo	WFu mumao 'distant'
PPn *fa(a)tai	Sam fetai 'plant sp.'
PPn *maa-sanga	Sam maehanga 'twin'
PPn *fa(a)tai	Ece fetai 'plant sp.'
PPn *kakala-luu	Haw 'eleluu 'roach'
PNP *katafa	Haw 'aakaha ~ 'eekaha 'bird's nest fern'
PPn *masame	Haw mehame 'tree sp.'
PCE *hakamata	Haw ho'omaka 'begin'
PPn *tafa-nga	Haw kohana 'naked'
PCE *takao	Mqa tekao 'speech'
PNP *makawe	Mqa mekave 'hair (of head)'
PNP *mamae	Mqa mamae ~ memae 'pain'
PNP *manawa	Mqa menava 'breathe'
PNP *takafi	Mqa tekahi 'tread'
PPn *kafa	Mqa keha 'strong'
PPn *kalaa	Mqa ke'aa 'volcanic stone'
PPn *ma(a)taqu	Mqa metau 'fishhook'
PPn *malanga	Mqa meaka 'rise up'
PPn *malaqe	Mqa me'ae 'meeting place'
PPn *mamaqo	Mqa mama'o ~ mema'o 'distant'
PPn *mataku	Mqa meta'u 'afraid'
PPn *mataku	Mqa meta'u 'afraid'
PPn *matala	Mqa meta'a 'untied'
PPn *matala	Mqa meta'a 'untied'
PPn *palau	Mqa pe'au 'boast'
PPn *palau	Mqa pe'au 'boast'
PPn *takafi	Mqa Mqa tekahi 'tread on'
PPn *tamanu	Mqa temanu 'tree sp.'
PPn *tamanu	Mqa temanu 'tree sp.'
PPn *ka(a)tafa	PTA *kootaha > TAH 'ootaha, TUA kootaha, RAR koota'a, MIA kota'a 'frigate bird'
PNP *katafa	PTA *kootaha > TAH 'ootaha, TUA kookaha, RAR kota'a 'bird's nest fern'
PPn *tangaqu	Tah to'au 'fish sp.'
PNP *falau	Tua foorau ~ hoorau 'canoe house'
PPn *kakala-luu	Mao kekereruu 'roach'

Table 3.19 (continued): Low vowel raising in Polynesian languages

PNP **anake*	Mor *enaki* 'alone'
PNP **falau*	Rar *'oorau* 'canoe house'

1. Note that all of these WFu changes are to round vowels and occur between **m_m-* in reduplicated initial syllables of disyllabic roots (the reduplicated vowel is unstressed) (Biggs 1994a, Biggs & Clark 1996).

3.3.3 **(Ca)CaCu(C)(a,e) changes*

There is another set of sounds that changes under conditions resembling those under which low vowel raising occurs. These are trisyllabic roots of the form **(C)a(C)u(C)(a,e)* where the first low vowel raises and fronts. Thus there is the question of whether it has assimilated towards the height of the following *u* or whether it might more properly be thought of as following the low vowel raising pattern, i.e. the raising is a case of reduction in sonorancy rather an assimilatory process.

An initial example is a word whose history has been difficult to reconstruct precisely in Polynesian languages. There is commonly change and the agreements between Polynesian languages are inconsistent with the subgroups as they are otherwise defined. The word is known with the same vowel configuration from Western Austronesian languages as we would reconstruct for Proto Polynesian on the basis of evidence internal to Polynesian, and there is little doubt that those were the vowels as the word came into Pre Polynesian. Yet we find the following vowel situation in modern Polynesia:

Table 3.20: Polynesian language reflexes of PPn **fanua* 'land, placenta'

PPn	**fanua*	
PTo	**fanua*	**fonua*
Ton	*fanua*[4]	*fonua*
Niu		*fonua*
PNP	**fanua*	**fenua*
Puk		*wenua*
EFu		*fenua*
EUv		*fenua*
Anu		*penua*
Mae		*fenua*
MFa		*fenua*
Ren		*henua*
Tik		*fenua*
WFu	*fanua*	
WUv		*fenua*
PEC	**fanua*	**fenua*
Sam	*fanua*	
Ece	*fanua*	*fenua*
Kap		*henua*
Lua		*hengua*
Nan	*fanua*[2]	*fenua*[3]
Nkr		*henua*
Sik		*henua*
PEP		**fenua*
Eas		*henua*

Table 3.20 (continued): Polynesian language reflexes of PPn **fanua* 'land, placenta'

Haw	*honua*
MqN	*henua*
MqS	*fenua*
Mva	*'enua*[1]
Pen	*henua*
Rar	*`enua*
Tah	*fenua*
Tua	*fenua*

Source: Biggs (1992) and: 1. (Ren). 2. 'placenta' (Rby). 3. 'land' (Rby). 4. 'old form of *fonua*, as still used occ. in poetry' (Cwd).

Clearly, the old **fanua* word became *fonua* in Tongic and commonly became *fenua* in Nuclear Polynesian. Still, the word remains *fanua* in a few Polynesian languages (at least Samoan and West Futunan) and *fanua* plus a doublet in others (Vaitapu, Nanumean and Tongan). Only in Tuvalu (Ece and Nan) are there said to be differences in the meanings of the doublets. For Vaitapu (Ece) Biggs (1992) has *fanua* 'land, placenta' and *fenua* 'land, country' and for Nanumea Ranby (1980) has *fanua* 'placenta' and *fenua* 'land'. The "placenta" sense is an apparent Proto Polynesian innovation whereby one Proto Oceanic word for "fresh water" had become synonymous with "amniotic fluid" and "land" had become synonymous with "placenta" (cf. Biggs 1993). The two senses of PPn **fanua* ("land" and "placenta") occur through all the subgroups and most of the individual languages. In Tongan there is a relic of **fanua* without the vowel change. The Tongan dictionary (Churchward 1959) notes *fanua* to be an old form of *fonua* preserved in poetry.

Other **CaCu(C)(a,e)* forms show similar drift towards **CoCu(C)(a,e)* in Tongic and **CeCu(C)(a,e)* in Nuclear Polynesian. The Tongic case could be dismissed on the basis of observations made earlier that PPn **Ca(C)u(C)V* forms commonly occur as *Co(C)u(C)V* in Tongic, but the tendency towards *CeCu(C)a* from PPn **CaCu(C)a* in Nuclear Polynesian is unique as follows:

Table 3.21: Proto Polynesian **CaCu(C)a* sporadically going to *CoCu(C)a* in Tongic and *CeCu(C)a* in Nuclear Polynesian

Eng	'parent'	'deity'	'sea urchin'	'fish sp.'	'fish sp.'
PPn	**matuqa*	**qatua*	**watuke*		**qatule*
PTo	**motuqa*	**qatua*	**vatuke*		**qatule*
Ton	*motu'a*	*'otua*	*vatuke*		*'otule*
Niu	*motua*	*atua*			*atule*
PNP	**matuqa*	**qatua*	**watuke*	**nanue*	**qatule*
Sam	*matua*	*atua*	*vatu'e*	*nanue*	*atule*
EFu	*matu'a*	*'atua*		*nanue*	*'atule*
EUv	*matu'a*	*'atua*	*vatuke*		*'atule*
PEP	**matuqa*	**(q)atua*	**fatuke*[1]	**nanue*	**(q)atule*
Eas	*matu'a*	*atua*	*hatuke*	*nanue*	*ature*
PCE	**matua*	*atua*	**fatuke*	**nanue*	**ature*
PMq	**matua*	**atua*	**hatuke*	**nanue*	**ature*
Haw	*matua*	*akua*	*haa`uke*	*nanue*	*akule*
Mqa	*motua*	*atua*	*hatuke*	*nenue*	*etu'e*
Mva	*motua*	*etua*	*etuke*	*nanue*	
PTa	**matua*	**atua*	**fatuke*	**nanue*	**ature*

Table 3.21 (continued): Proto Polynesian *CaCu(C)a* sporadically going to *CoCu(C)a* in Tongic and *CeCu(C)a* in Nuclear Polynesian

Rar	metua	atua	`atuke	nanue	aature
Mao	matua	atua			
Pen	matua	atua	hetuke		
Tah	metua	atua	fetu`e	nanue	ature
Tua	metua	atua	fatuke	nanue	ature

Notes: 1. PNP *w- > PEP *f-, a rare kind of development for PNP *w.

The change also occurs in Nuclear Polynesian in quadri-syllabic forms where unstressed *a* is followed by stressed *u*:

Table 3.22: Proto Polynesian *(C)aCaCu(C)a* sporadically > *(C)aCeCu(C)a*

Eng	'legendary mother'	'sneeze'
PPn		*mafatua
PTo		*mafatua
Ton		mafatua
PNP	*apakula	*mafatua
Sam	apa'ula	mafatua
Aan		mapetua
MFa		mafetue
Nkr		mahedua
Ren		mahetua
Sik		mahetua
Tik		mafatua
PEP	*apakura	*mahatua[1]
Eas		mahatua[1]
PMq	*ap(a,e)ku(r)a	
Mqa	apekua	
PTa	*apakura	
Mao	apakura	
Mor	apukura	
Rar	apakura	

Notes: 1. Known only from a placename and may not be related. "Sneeze" sense unknown from EP.

There are at least three similar cases involving stressed *a* before unstressed *u*:

Table 3.23: Proto Polynesian *CaCu* sporadically > *CeCu*

Eng	'blow nose'	'mutter'	'scrape, comb'
PPn	*fangu	*nanu	*salu
PTo	*fangu	*n(a,e)nu	*halu
Ton	fangu	nenu	halu
Niu	fangu		halu
PNP	*fangu	*nanu	*salu
Sam	fogi	nani	salu
EFu	fengu	nanu	
EUv	fagu	nanu	halu
Ece		nanu	halu
Puk			yalu
PEP	*hangu	*nanu	*heru

Table 3.23 (continued): Proto Polynesian *CaCu* sporadically > *CeCu*

Eas	hangu		heru-
PMq	*hangu	*nanu	*heru
Haw	hanu		helu
Mqa			he`u
Mva		nanu	`eru
PTa	*fengu	*nanu	*heru
Tah	fengu-	-nanu	heru
Tua	hengu-		heru
Mao	whengu	nanu	heru
Pen		nanu	heru-
Rar	'engu	nanu	`eru

3.3.4 Low vowel lengthening

Certain sources for contemporary languages do not always indicate vowel length consistently (or at all), but it is clear that Proto Polynesian had many words with long vowels. A further problem in reconstructing vowel length in certain contexts in Proto Polynesian and its daughter interstages is a diffused phonological process that has affected ante-penultimate low vowel length in most Polynesian languages continuously since Pre Polynesian times, namely lengthening the unstressed first vowel of a trisyllable *((C)V(C)V(C)V)*. Such lengthening has also occurred with vowels *e*, *i* and *o* (but not, apparently, *u*) in some languages but these are quite rare. Reconstruction of long vowels in other positions of words is less problematic, since the sources more commonly record vowel length properly in those positions. For instance, note the final low vowel in:

Some typical secure reconstructions for length in the ante-penultimate position in Proto Polynesian are:

```
(3.1)  KALAA
       *Pn*    :Hard, black, volcanic stone
       Ece     (Fatu)/kalaa/.  :Hard, black stone
       EFu     Fatu/kala/.     :Stone, black, with holes, from Uvea
       Haw     'Alaa.          :Volcanic stone
       Mao     Karaa.          :Dark basaltic stone
       Mqa     Ke'aa.          :General word for stone
       Niu     Fatu/kalaa/.    :Black stone
       Pen     Kara/ea.        :Kind of coral
       Puk     Kala.           :Imported volcanic stone (Bge)
       Rar     Kara.           :Black basaltic stone
       Sam     'Alaa.          :Volcanic stone (Mnr)
       Tah     'Araa.          :Loose volcanic stone rubble
       Ton     Fatu/kala/.     :Hard black stone
       Tua     Karaa.          :Hard round stone
```

Table 3.24: Some long low vowel reconstructions for Proto Polynesian

	'parents'[1]	'twins'	'culture hero'	'kava bowl'
PPn	*maatuqa*	*maahanga*	*Maaui*	*taanoqa*
Anu		mataanga		
Ece	maatua	maahaga		taanoa
EFu		maasaga	Maui(alonga)	taano'a
EUv	maatu'a	maahaga		taano'a
Haw	maatua	maahana	Maaui	kaanoa
Kap		maehanga		
Mao	maatua	maahanga	Maaui	
MFa		maasanga	Mau(-tikitiki)[2]	
Mqa		maahaka	Maui(-tikitiki)[2]	tanoa
Mva		maa'aga		taanoa
Niu		mahanga	Maaui	
Nuk		maasanga	maaui 'give birth'[3]	
Pen		maasanga		
Rar		maa'anga	Maaui	
Ren	maatu'a	maasanga	Maaui	
Sam	maatua	maasanga	Maui	taanoa
Tah		maeha'a	Maaui	
Tak		maasana		
Tik	maatua	maasaga		taanoa
Tok	maatua			
Ton	maatu'a	maahanga	Maui	taano'a
Tua	matuua	mahanga	Maaui	
WFu		maasanga		

Notes: 1. The short vowel form, PPn *matuqa*, was the singular. 2. Note the short form for the vowel when it is not in ante-penultimate position. 3. The birth of Maaui is often a focus of myths and generally concerns a difficult birth or ill-formed child when present.

The first example in Table 3.24 shows a Proto Polynesian plural noun made by lengthening the first vowel of the singular (cf. Pawley 1985). This was not the usual mode of making plural nouns in Proto Polynesian although the plural of at least one other common noun was made in the same manner, PPn *fafine* 'woman' versus PPn *faafine* 'women'. Mosel and Hovdhaugen (1992:237–238) present a list of Samoan plurals formed with vowel lengthening but they are mostly verbs.

Other Proto Polynesian long vowels in Table 3.24 represent the more common kind of situation with which we will now deal: one in which lengthening, in Proto Polynesian and many of its daughters, was due to phonological processes or a combination of phonological processes and reinterpretation of the morphology. The change occurred where an initial short low vowel of a trisyllable lengthened. This may have been due to the acoustics of such sounds where it was natural over time for the low vowel (which is not high pitched but is a loud, sonorant vowel) to be interpreted as long (and stressed) because of its amplitude (cf. Price 1980).

Lengthening had occurred in some words by Proto Polynesian times but this process *seems* everywhere to be more advanced in Nuclear Polynesian than in Tongic languages. There is an abundance of cognate sets in Biggs (1994a) for which lengthening is common or universal amongst Nuclear Polynesian languages, but not apparent in Tongic. However, this may represent a reversal of the process in Tongic. Consider the data in the following table:

Table 3.25: Low vowel lengthening in Nuclear Polynesian but not Tongic

PNP *faafine* 'women'	Ton *fafine* 'id.'
PNP *faaliki* 'cover floor with mats'	Ton *faliki* 'floor', Niu *faliki* 'spread on ground'
PNP *faalolo* 'stretch, tighten'	Ton *faloo* 'id.', Niu *faloo* 'lashed strake'
PNP *kaanoni* 'mix by adding'	Ton *kanoni* 'id.', Niu *kanoni(a)* 'full'

In the first example above, there is internal evidence from Tongan that the first vowel used to be long. While PPn *fafine* 'woman (sg.)' became Tongan *fefine* 'id.', there has been no height assimilation in the first vowel of the plural, suggesting it was long at one time. It is also mysterious that no assimilation has occurred in the second form above, because the first (low) vowel of Tongan and Niuean normally becomes *e* where the next vowel is *i* with primary stress. Perhaps those sounds still are long and were recorded improperly.

Within Nuclear Polynesian, Rapanui, Sikaiana and Tikopian seem amongst the most likely to show short *a* where other Nuclear Polynesian have *aa*. This may be due to deficiencies in some sources but there is at least: PNP *faaliki* 'cover floor' > Eas *heriki* 'floor covering' that suggests reversal of the change, since Rapanui rarely shows assimilations and would presumably do so only if the vowel was short. It is possible that there are reconstructable morphophonemic alternates (possibly a verb with a long vowel and a noun with a short vowel) but the matter was not found to be critical to other aspects of the present work and was not pursued.

Samoan has a few unique low vowel lengthenings. Some examples are:

Table 3.26: Low vowel lengthenings in Samoan

PPn *faliu* 'turn round' > Sam *faaliu* 'look back'
PPn *fanake* 'ascend' > Sam *faana'e* 'rise (of moon/tide)'
PPn *masani* 'know well' > Sam *maasani* 'accustomed to'

NZ Maori and Hawaiian are languages that: 1) have good lexical description with 2) reliable representations of vowel length and 3) seem to have more of these lengthenings than most other languages. Examples from NZ Maori are:

Table 3.27: Low vowel lengthenings in NZ Maori

PEP *ae* 'yes' > Mao, Rar *aae* 'id.'
PCE *auta* 'tired, restless' > Mao *aauta* 'id.'
PPn *faqele* 'mother of newborn' > Mao *whaaere(ere)* 'dam'
PPn *laqoa* 'to be choked' > Mao *raaoa* 'id.'
PNP *mangio* 'itch(y)' > Mao, Rar *maangio(ngio)* 'nettle-like weed'
PPn *manifi* 'thin' > Mao, Ren *maanihi* 'id.'
PPn *masalo* 'think about' > Mao *maaharo* 'wonder about'
PPn *qafato* 'grub sp.' > *aawhato* 'larva sp.'

Hawaiian has a fair number of similar but independent developments. Lengthening seems to be less common than in NZ Maori but more common than in other languages. The impression that NZ Maori and Hawaiian have a particular abundance of these forms may simply be due to their larger dictionaries. Some Hawaiian examples are:

Table 3.28: Low vowel lengthenings in Hawaiian

PPn *falala* 'lean, stoop' > Haw *haalala* 'bend low', Nkr *haalala* 'stand leaning'
PEP *fatuke* 'slate-pencil sea urchin' > Haw *haaku'e* 'id.'
PPn *kalaka* 'tree sp.' > Haw *'aala'a* 'id.'
PPn *katafa* 'bird's nest fern' > Haw *'aakaha, 'eekaha* 'id.', PTa *kootaha* 'id.'
PCE *katau* 'right (not left)' > Haw *'aakau* 'id.'
PPn *katea* 'side opposite outrigger' > Haw *'aakea* 'outer hull of double canoe'
PPn *mafola* 'spread out flat' > Haw, Sik *maahola* 'id.'
PPn *mafole* 'peeled' > Haw *maahole* 'scrape'
PPn *mai-kuku* 'fingernail' > Haw *maai-'u'u* 'id.'
PPn *malanga* 'rise up' > Haw *maalana* 'bouyant', Tik *maaranga* 'to rise'
PNP *palafa* 'flat' > Haw *paalaha* 'broad'
PPn *tamole* 'plant sp.' > Haw *kaamole* 'id.'

A few Hawaiian forms have changed to *'oo-* rather than *'aa-*, possibly by reanalysis as, or analogy to, *'oo-* 'similitude prefix ("-ish")')' or some other *koo-* prefix:

Table 3.29: Possible analogical lengthenings in Hawaiian

PPn *kafika* 'Malay apple' > Haw *'oohia('ai)* 'id.'
PEc *kapuqa* 'cloud' > Haw *'oopua* 'id.'
PPn *taqe-tuli* 'ear wax' Haw *koo-kuli* 'id.'

Other vowels, or at least PPn *i*, *e* and, more rarely, *o*, lengthen but not generally under the same conditions as *a*, and most examples discovered come from languages whose vowel representations in the sources are sometimes suspicious, most commonly Stimson and Marshall's (1964) Tuamotuan. Since there were no issues with respect to these forms in the subgrouping and cultural chapters, I did not look further at the forms concerned.

3.4 Sporadic vowel changes

Nearly all the Polynesian languages have a few sporadic vowel changes that are not part of some larger regular or diffused set of changes. These are listed in Appendix B except for those instances when the sporadic change can be attributed to one of the protolanguages, i.e. where it is shared by members of a subgroup. Those changes attributable to one or another of the protolanguages are listed in Table 3.30 below and the evidence for each is given in the following sub-sections.

Table 3.30: Sporadic vowel changes of the protolanguages

PPn *sinu	PTo *huni	'1. oil 2. shrub'
PPn *hui	PNP *iwi	'bone'
PPn *kui	PNP *kiwi	'blind'
PPn *tafu-raqa	PNP *tafo-laqa	'whale'
PNP *fuqanga	PEc *foqanga	'whetstone'
PNP *kiu*	PEc *kiwi	'bird sp.'
PNP *mafo	PEc *mafu	'heal'
PEc *kumi	PEP *kimi	'seek'
PEc *salu	PEP *seru	'scrape'
PEP *hungawai	PCE *hungowai	'parent-in-law'
PEP *kai	PCE *koi	'sharp'
PEc *kumi	PCE *kumu	'strangle'
PEc *kau-natu	PCE *kau-nati	'fire-plough'
PEP *tafo-raqa	PCE *tofo-raa	'whale'
PCE *taiti	PMq *teiti	'child'
PCE *tao-kete	PMq *tokete	'ego's same-sex sibling-in-law'
PCE *toke-lau	PMq *toko-lau	'north'
PCE *tua-ngaqane	PMq *tu-ngaane	'woman's brother'
PPn *hulufe	PTa *aruhe	'fern sp.'
PCE *k(a)tafa	PTa *kootaha	'bird's nest fern'
PCE *mutie	PTa *matie	'grass'
PCE *nonu	PTa *nono	'plant sp.'
PCE *rimu	PTa *remu	'seaweed'
PCE *tanga-a-mimi	PTa *tonga-a-mimi	'bladder'
PCE *toko-mauru	PTa *toko-mauri	'hiccough'
PCE *tufunga[1]	PTa *tahunga[2]	'1. expert 2. priest'

3.4.1 Proto Tongic

I found only one sporadic change for Proto Tongic and this occurred in the following homophonous forms where PPn *sinu* became PTo *huni*:

```
(3.2)   SINU.1
        *Pn*    :Oil, grease.

        Niu     Huni.           :Greasy.
        Ton     Huni.           :Having grease/oil floating on surface.

        Ece     Hinu.           :Oil, grease.
        EFu     Sinu/sinu.      :Oil.
        EUv     Huni.           :Huile cuite avec des pierres rougie au feu (Btn).
        Fij     Sinu.           :Residue of unscented coconut oil after boiling.
        Haw     Hinu.           :Oil, grease, ointment.
        Kap     Hunu.           :Anoint, oil the body.
        Mao     Hinu.           :Oil, grease.
        Mqa     Hinu `ama.      :Huile noiratre qui decoule de lama (Dln).
        Mva     Hinu.           :Oil, grease.
```

```
         Nkr    Sunu.          :Oil slick.
         Oja    Su9u.          :Grease.
         Pen    Sunu.          :Fat, grease.
         Puk    Yinu.          :Oil.
         Rar    `inu.          :Oil, fat.
         Ren    Sinu/sinu.     :Greasy, fat, rich.
         Sik    Sinu(Sinu).    :Greasy, fat, rich.
         Tah    Hinu.          :Oil, grease, fat.
         Tak    Sunu.          :Grease, fat (Hwd).
         Tik    Sinu.          :Oil, cooked coconut cream.

(3.3)  SINU.2
         *3     PEO *sinu "shore tree with scented, white flowers" (Gty.1983).
         *7     Cf. PTO *suni.* "shrub sp.".
         *Pn*   :A shrub (Phaleria sp.).

         Niu    Huni.          :A tree (Hernandia moerenhoutiana) (McE).
         Ton    Huni.          :Flowering bush sp (Phaleria disperma) (Ykr).

         EFu    Sinu.          :A flowering shrub (Hoya bicarinata).
         EUv-   <Huni.         :A shrub (Drymispermum burnett) (Rch)>.
         Fij    Sinu.          :Several trees whose sap is irritating (Phaleria).
         Mae    Sinu.          :A tree sp. (Clk).
         MFa    Sinu.          :A tree with irritating sap (Clk).
         Sam-   <Suni.         :(Cestrum sp.), (Phaleria sp.) (Mnr). (Prt)>.
         WUv    Sinu.          :A tree.
         WFu    Sinu.          :A tree whose sap said to cause blindness.
```

Here, as R. Clark (pers. comm.) would put it, rounding was reassigned between the vowels. The change is taken to have occurred in Proto Tongic, and the East Uvean forms in both groups are taken to be borrowings from Tongan, like the Samoan form in the second group.

3.4.2 Proto Nuclear Polynesian

I have identified three sporadic changes for Proto Nuclear Polynesian. The first was mentioned by Pawley (1966), the third by Marck (1999) and the second is reported for the first time here. In the first, PPn *hui* became PNP *iwi*:

```
(3.4)  HUI.1
         *3     PEO *zuri "bone" (Gty. 1983).
         *4     POC *suri "bone" (Ltk. 1985).
         *41    PCEMP *zuRi "bone" (Bst. 1993a).
         *Pn*   :Bone.

         Niu    Hui.           :Fishbone (Mce).
         Niu-   <Ivi.          :Fishbone B.>.
         Ton    Hui.           :Bone.

         Anu-   <Ui.           :Bone (Yen) B.>.
         Eas    Ibi.           :Bone; needle (Fts).
         Ece    Ivi.           :Bone; energy; strong (of people) (Rby).
         EFu    Ivi.           :Bone.
         EUv-   <Hui.          :Os (Btn) B.>.
         Fij    Sui.           :Bone.
         Haw    Iwi.           :Bone.
         Kap    Iwi.           :Bone.
         Mae-   <Sui.          :Bone (Cpl) B.>.
         Mao    Iwi.           :Bone.
         MFa    Ivi.           :Bone.
```

```
Mqa      Ivi.    :Bone (Bgs).
Mva      Ivi.    :Bone.
Nkr      Ivi.    :Bone.
Oja      Ivi.    :Bone.
Pen      Ivi.    :Bone.
Rar      Ivi.    :Bone.
Ren      Ibi.    :Bone.
Rot      Sui.    :Bone, skeleton.
Sam      Ivi.    :Bone (Mnr).
Sik      Ivi.    :Bone.
Tah      Ivi.    :Bone.
Tak      Ivi.    :Bone (Hwd).
Tik      Ivi.    :Bone (Fth).
Tok      Ivi.    :Bone (Sma).
Tua      Ivi.    :Bone.
WFu      Ivi.    :Bone.
WFul     Iui.    :Bone (ANI) (Dty).
WUv      Ivi.    :Bone.
```

Only Tongan and Niuean (Tongic), amongst Polynesian languages, reflect the Proto Oceanic vowels regularly. The change is taken to have occurred at the Proto Nuclear Polynesian level. The East Uvean form is taken to be a borrowing from Tongan, the Anutan form a borrowing from East Uvean or Tongan, the second Niuean form a borrowing from East Polynesian and the Mae form a borrowing from Melanesian Oceanic.

The second change is of the same type, PPn *kui* 'blind' became PNP *kiwi*:

```
(3.5)  KUI.A
       *3       PEO *kuR(iu) "blind" (Gty. 1990:63).
       *Pn*     :Blind.

       Niu      Kui/a.           :To fail (of sight).
       Niu1     Faka/kivi/kivi.  :Close the eyes.
       Ton      Kui.             :To be blind, shut one's eyes.
       Ton1     Kivi.            :Sunken and sightless, of eyes.

       EFu      Kivi.            :Blind.
       Kap      Giwi.            :Squint v (used only in compounds) (Lbr).
       Ren      Kibi.            :Blind, see imperfectly, blind in one eye (Ebt).
       Sam      `Ivi.            :Blind in one eye, wink.
       Tik      Kivi.            :Grimace, screw up the face (Fth).
       Tok      Kivi.            :Blind (in one eye).
```

Here the second Tongan and Niuean forms are taken to be borrowings from Nuclear Polynesian.

By the definition of "sporadic" taken here, these related forms qualify because only one or two words make the change. Similar forms that did not make the change include the following:

Table 3.31: PPn *(#,-)ui(-,#)* forms which did not change in Proto Nuclear Polynesia

PPn *kui*	PNP *kui*	'old woman'
PPn *puipui*	PNP *puipui*	'shut off'
PPn *tui*	PNP *tui*	'thread, sew'

The third sporadic vowel change of Proto Nuclear Polynesian consists of the change of *a* to *o* in PPn *tafu-raqa* to PNP *tafo-laqa*. I divide the cognate set into three groups because there was also a change of PEP *tafo-raqa* to PCE *toho-raa*:

```
(3.6)   TAFU-RAQA
        *7       Cf. PNP *tafolaqa "whale".
        *Pn*     :Whale.
        Fij      Tavu/to.     :Sperm Whale.
        Niu      Tafuaa.      :Whale.
        Ton      Tofua`a.     :Whale.
        Yas      Tavuto.      :Sperm Whale (Ply).

        Anu      Taporaa.     :Whales, dolphins (Fbg).

        Eas      Taoraha.     :Whale (Fts).
        Ece      Tafolaa.     :Whale.
        EFu      Tafola`a.    :Whale.
        EUv      Tafola`a.    :Whale.
        Kap      Tohoraa.     :Whale.
        Mae      Tafuraa.     :Whale (Clk).
        MFa      Tafuraa.     :Whale (Clk).
        Nkr      Daholaa.     :Whale.
        Puk      Tawola.      :Right whale (Bge).
        Ren      Tahoga`a.    :Whale.
        Sam      Tafolaa.     :Whale (Mnr).
        Sik      Taholaa.     :Whale.
        Tak      Taforaa.     :Whale (Hwd).
        Tik      Taforaa.     :Whale (Fth).
        WFu      Tafora.      :Whale.
        WUv      Tafolaa.     :Baleine.

        Haw      Koholaa.     :Whale.
        Mao      Tohoraa.     :Whale (Wms).
        Mqa      Toho`aa.     :Whale.
        Mva      Tohora.      :Whale (Tgr).
        Rar      To`oraa.     :Whale.
        Tah      Tohora.      :Whale.
        Tua      Tohoraa.     :Whale.
```

The change of the first vowel in Tongan is regular while the change of the first vowel in Kapingamarangi is taken to be an independent sporadic development.

3.4.3 *Proto Ellicean*

While investigating the hypothesis of an Ellicean Outlier group (Bayard 1966, 1976, Pawley 1967, Howard 1981) I found that all sporadic changes (all amongst the vowels) shared by Tuvalu and other Ellicean Outliers were also shared with Samoan, Tokelauan and East Polynesian (Marck 1999)—an observation that supported Wilson's (1985) suggestion of a group composed of Samoan, Ellicean Outlier and East Polynesian exclusive of other Nuclear Polynesian languages. There are three such changes.

The first is the change of **fuqanga* to **foqanga*:

```
(3.7)   FUQAGA
        *8       Note: EAS hu`a (Fts), which is not in (Egt) or (Chl), is considered
                 to be borrowed from TAH hu`a < PNP *funga.2 "crumb, grain, or scrap
                 from crumbling or scraping".
        *Pn*     :Whetstone, grindstone.
        Anu      Puanga.      :Sharpening stone (Fbg).
        Eas-     <Hu`a.       :To grind very finely (Fts) B.>.
        EFu      Fuaga.       :Meule a aiguiser.
        EUv      Fu`aga.      :Pierre ponce; Pierre a aiguiser (Rch.
        Tak      Fuana.       :Kind of rock used for a rubbing stone; pumice.
        Tik      Fuanga.      :Whetstone (Fth).
```

```
        Tok     Fuaga.              :Grinding stone, whetstone (Sma).
        Ton     Fu`o/fu`anga/.  :Pumice (Cwd).
        WFu     Fuaga.              :Grindstone.
        WEv     Fuanga.             :Meule.
```

```
(3.8)   FOQAGA.*
        *7      Cf. PPN *fuqanga "whetstone, grindstone".
        *NP*    *fo(o)(q)anga.  :Abrasive stone, grindstone.
        Haw     Hoana.          :Hone, whetstone, grindstone.
        Kap     Hooanga.        :Pumice stone (found as driftwood).
        Mao     Hooanga.        :Kind of sandstone used in cutting and grinding.
        MFa     Foaga.          :Pumice.
        Mqa     Hoaka.          :Espece de petrin pour battre la popoi (Dln).
        Mva     Hoaga.          :Volcanic stone used as sharpener; grindstone (Tgr).
        Nkr     Hoohanga.       :Pumice stone (found as driftwood).
        Sam     Foaga.          :Grindstone.
        Rar     `Oanga.         :Grindstone.
        Tah     Hoa`a.          :A fine polish on wood, pearl-shell (Dvs).
        Tak     Foana.          :Pumice stone used for fine sanding (Hwd).
        Tok     Foa.            :Make, carve or shape s.t. out of rock, coral (Sma).
```

Here the agreement is imperfect in the sense that Tokelau and Takuu have doublets and Mele-Fila would be seen as having made the change independently.

In the second case, the agreements are clearer and PNP *kiu* became PEc *kiwi*:

```
(3.9)   KIU.1
        *5      PMP *kiuk "peep, cheep" (Bst.1980).
        *7      PNP *kiwi.1 "probably the Bristle-thighed Curlew.
        *Pn*    :Plover or other wading bird.
        Anu     Kiu/i.  :A small bird which comes during monsoon season (Fbg).
        EUv     Kiu.    :Oiseau, sorte de b,cassine, pluvier (Rch).
        Mae     Kiu.    :Shore bird sp.
        Niu     Kiu.    :Plover.
        Puk     Kiu.    :A variety of Plover (Bge).
        Tik     Kiu.    :Bristle-thighed Curlew (Numenius tahitiensis) (Fth).
        Ton     Kiu.    :(Pluvialis dominica) and other waders.
        WFu     Keo.    :A bird (Dty).
```

```
(3.10)  KIWI.1*
        *7      Cf. PPN *kiu "plover or other wading bird".
        *NP*    :Probably the Bristle-thighed Curlew (Numenius tahitiensis).
        Haw     `Iwi.           :Scarlet Hawaiian Creeper, (Vestiaria coccinea)
        Mao     Kiwi.           :Apteryx.
        Mao1    Tutu/kiwi.      :Snares Island Snipe (Wms).
        Mki     Kihi.           :Bristle-thighed Curlew (N. tahitensis) (Hlk).
        Mqa     Kivi.           :Shorebird which cries "kivi".
        Mva     Kivi(kivi).     :Bristle-thighed Curlew (N. tahitensis) (Rch).
        Oja     `Ivi.           :A bird.
        Pen     Kiwi.           :Bristle-thighed Curlew (Numenius tahitiensis).
        Nkr     Givi/givi.      :Ruddy turnstone (Arenaria interpres).
        Rar-    <`Uru/kivi/.    :Feathers marked with grey and white (Bse)>.
        Sik     Kivi/aitu.      :A bird.
        Tak     Kivi.           :A bird.
        Tua     Kivi.           :Curlew.
```

The third is the change of PNP *mafo* to PEc *mafu*:

```
(3.11)  MAFO
        *2      PCP *mapo "healed, as a sore or wound".
        *4      POC *mabo "to heal" (Mke.1968).
        *4      POC *mapo "heal (of a wound or sore); poultice" (Gce).
        *Pn*    :Healed, as a sore or wound.
        EFu     Mafo.   :Plaie ferm,e, blessure cicatris,e (Gzl).
        EUv     Mafo.   :Plaie ferm,e, blessure cicatris,e (Btn).
```

```
Fij    Mavo.       :Healed, of a sore.
MFa    Mafo.       :Healed, as a sore (Clk).
Ren    Mafu.       :Freshly healed and scarred (Ebt).
Tik    Mafu.       :Become healed, get well (Fth).
WFu    Mafo.       :Healed, well (Dty).
WUv    Mafu.       :Plaie guerie (Hmn).

Mao    Mahu.       :Healed, cicatrised (Wms).
Nkr    Mahu.       :Healed, of sore.
Tah    Mahu.       :Cease, stop flowing (e.g. of blood) (Mte).
Tak-   <Mafo/ra.   :Recovered from sickness (Hwd)>.
Sam    Mafu.       :Heal, of wound or ulcer.
Tok    Mafu.       :Heal, dry up (of wounds) (Sma).
```

Here the Takuu form is taken to be irregular (as Biggs has marked it) and the Rennellese, Tikopian and West Uvean changes are taken to be developments independent of Ellicean (and probably each other).

3.4.4 *Proto East Polynesian*

I have found only two sporadic vowel changes specific to Proto East Polynesian. The first is the assimilation of the first vowel to the second in the reflexes of PPn *kumi*:

```
(3.12) KUMI.2
       *Pn*    :Seek.
       ANU    Kumi.        :Seek (Yen).
       EUV    Kumi/kumi.   :chercher, rechercher.
       NIU    Kumi.        :To seek.
       TON    Kumi.        :Seek.

(3.13) KIMI.*
       *7     Cf. PPN *kumi "seek".
       *EP*    :Seek.
       EAS    Kimi.  :Seek.
       HAW    `Imi.  :Seek.
       MAO    Kimi.  :Look for something, seek (Wms).
       PEN    Kimi.  :Seek.
       RAR    Kimi.  :Seek.
       TAH    `Imi.  :Seek.
       TUA    Kimi.  :Seek.
```

The second is the change of PEc *salu* to PEP *selu*:

```
(3.14) SALU
       *Pn*    :Scrape aside, clear, smooth by scraping or planing.
       Ece    Halu.        :Comb.
       Ece1   Halu/halu.   :Scrape, rub hand over face.
       EUv    Halu.        :Racler, peigner.
       Fij    Saru.        :Strike grass and weeds with a heavy stick.
       Kap    Haru.        :Scrape off smooth with a knife (Ebt).
       Kap1   Halu.        :Plane, scrape (Lbr).
       Mot    Sal.         :Cut with a slashing cut.
       Niu    Halu.        :Scrape, peel.
       Nkr    Salu.        :Scrape, plane, peel.
       Puk    Yalu.        :Straighten out a pandanus leaf before coiling (Mta).
       Ren    Sagu.        :Chop, as branches with axe or knife (Ebt).
       Rot    Saru.        :Till, dig, break up finely.
       Sam    Salu.        :Scrape out, brush up (as rubbish).
       Tik    Saaru.       :To clear, e.g. undergrowth (Fth).
       Tok    Salu.        :Scratch, scrape.
       Ton    Halu.        :Scarify (of soil); slit, shred (Cwd).
```

```
Eas    Heru/heru.  :Scrape or scratch (of fowls).
Haw    Helu.       :Scratch the earth, as a hen.
Mqa    He`u.       :Gratter, racler, frotter (Dln).
Mva    `Eru.       :Throw aside with hands or feet (Jnu).
Pen    Heru/heru.  :Dig, rake, scrape.
Rar    `Eru.       :Scrape (Aside), slash.
Tah    Heru.       :Dig.
Tua    Heru.       :Scratch the earth, scrape, dig out.
```

3.4.5 Proto Central East Polynesian

I have identified four sporadic vowel changes that can be attributed to Proto Central East Polynesian. The first, PEP *hungawai* > PCE *hungwoai*, is odd at first glance since NZ Maori has the Proto East Polynesian vowel pattern, but notice Biggs's note on the second line of the second entry indicating a regular source for the "reversal" in NZ Maori.

```
(3.15) FUGAWAI
       *Pn*   :Parent-in-law.
       Eas    Hugavai.  :Parent-in-law (Chl).
       Niu    Fungavai. :Parent-in-law (McE).
       Ren    Hungabai. :Parent-in-law (Ebt).
```

Note: Level of reconstruction from Chapter 8.

```
(3.16) HUGOWAI.*
       *8     Note rule PCE *u(C)o > MAO u(C)a.
       *CE*   :Parent-in-law.
       Haw    Makua/huunoowai/. :Parent-in-law (Pki).
       Mao    Hungawai.         :Parent-in-law (Bgs).
       Mqa    Mot/ukoai/.       :Beau-pere, belle-mere (Dln).
       Mqa1   Mot/u`oai/.       :Beau-pere, belle-mere (Dln).
       Mqa2   Mot/unoai/.       :Beau-pere, belle-mere (Dln).
       Rar    `Ongovai.         :Parent-in-law (Sve).
       Tah    Ho`ovai.          :Beau-pere (Mte).
       Tua    Hu9ovae.          :Great-grandparent-in-law (Stn).
```

Note: Biggs reconstructs "*fungowai*".

The second is the change of PEP *kai* to PCE *koi*:

```
(3.17) KAI.7
       *NP*   :Sharp.
       Anu    Kakai.       :Sharp (as a knife) (Fbg).
       Eas    Ka`ika`i.    :Sharp.
       Ece    Kai.         :Sharp (Rby).
       EFu    Kakai.       :Affile, aiguise, tranchant (Gzl).
       EFu1   Fakakaa.     :Sharpen.
       Kap    Gaa.         :Sharp (Knife).
       Mae    Ma/kakai/.   :Sharp.
       MFa    Maji/kai/.   :Sharp (Clk).
       Nkr    Ha/kaa.      :To sharpen (a knife).
       Oja    `Aa.         :Sharp.
       Pil    Mda/khaa/.   :Sharp (Try).
       Ren    Kakai.       :To be sharp.
       Ren1   Hakakaa.     :Sharpen.
       Sam    Ma/`ai.      :Sharp.
       Sik    Kaa.         :Sharp (Sps).
       Tak    Kaa.         :Sharp (of an edge only).
       Tik    Mata/kai/.   :Sharp (of blade, of claw) (Fth).
       Tok-   <Kakaha.     :Sharpness, keenness (Sma)>.
```

```
Haw    `Oi.           :Sharp.
Mao    Koi.           :Sharp.
Mqa    Koi.           :Sharp.
Rar    Koi.           :Sharp.
Tah    `Oi.           :Sharp.
Tua    Koi.           :Sharp.
```

The third is the change of PEc *kumi* to PCE *kumu*:

```
(3.18) KUMI.3A
       *Pn*    :Squeeze in the hand.
       Anu     Kukumi.       :Squeeze or compress s.t. between the hands (Fbg).
       Ece     Kukumi.       :Squeeze, strangle (Rby).
       EFu     Kukumi.       :Squeeze with hands, grasp (Bgs).
       EUv     Kukumi.       :Strangle, squeeze strongly.
       Fij     Qumi/a.       :Clench, grasp in fist.
       Haw     `U(`)umi.     :Strangle, choke.
       Kap     Khumi.        :Grasp (Ebt).
       Kap1    Kumi.         :Grab, grasp, handle, obtain (Lbr).
       Mae     Kumi/a.       :To grasp (Cpl).
       MFa     Kumi/a.       :Strangle.
       Mqa     Kukumi.       :Kill.
       Mva     Kukumi.       :Strangle (I).
       Nkr     Kumi.         :Squeeze by grabbing.
       Oja     `Umi.         :Squeeze.
       Pen     Kumu.         :Wring out.
       Rar     Ku/kumi-`ia.  :Wrestle, assault (esp. a woman), rape (Bse).
       Rar2    Kuumia.       :A passive form of kukumi (Bse).
       Ren     Kukumi.       :Clench, squeeze, shut, as scissors (Ebt).
       Rot     `Umi.         :Be caught in a trap, on a hook, nail etc. (Cwd).
       Sam     `Uumia.       :Passive of `u`u "hold, grip, clutch".
       Sik     K/kumi/.      :Squeeze.
       Tah     `U`umi.       :Squeeze, strangle.
       Tak     Kumi.         :Squeeze, pinch (Hwd).
       Tik     Kumi/a.       :Strangled.
       Ton     Kuumi/a.      :Clench, grasp in fist.
       Tua     Kukumi.       :Strangle.
       Wfu     Kumi/a.       :Seize, grasp.
       WUv     Kukumi.       :Squeeze.
       WUvl    Kumi/a.       :Grasp.
```

```
(3.19) KUMU.1*
       *CE*    :Express, wring out.
       Mao     Kumu-a, -tia. :Clench, close (as hand) (Wms).
       Mqa     Kumu(kumu).   :Mettre en petis paquets; petit paquet (Dln).
       Mval    Kumu.         :Fist, closed hand.
       Mva2    Kumukumu.     :Prepare food pressed with the hand (Tgr).
       Pen     Kumu.         :Wring out.
       Rar     Kumu-a, -`ia. :Express, wring out (Sve); clench (fist) (Bse)..
       Tah     `Umu.         :Express, wring out (I).
       Tua     Kumu.         :Express, wring out.
```

Note: Biggs's semantic reconstruction seems more appropriate to some Post Proto Tahitic interstage than Proto Central East Polynesian.

The fourth sporadic change I know of for Proto Central East Polynesia is found in the correspondence of PEc *kau-natu* to PCE *kau-nati*:

```
(3.20) KAU-NATU
       *Pn*    :Fire-plough.
       EFu     Kaunatu.  :Fire-plough.
       EUv     Kaunatu.  :Fire-plough.
       Mae     Kaunatu.  :Fire-plough (Clk).
       Sam     Natu.     :Fire-plough (Mnr).
       Tik     Kaunatu.  :Fire-stick.
```

```
Tok    Kaunatu. :The fire-plough (Sma).
Ton    Kaunatu. :Fire-plough (Cwd).
```

(3.21) KAU-NATI.*
```
*CE*   :Fire-bed used with fire-plough to produce fire by friction.
Haw    `Aunaki.  :Firestick (Pki).
Mao    Kaunoti.  :Fire-bed (Bst).
Maol   Kauati.   :Fire-bed (Wms).
Mao2   Kaueti.   :Fire-bed (Wms).
Mao3   <Kauahi.  :Fire-bed (Bst)>.
Mor    Kahunaki. :Fire-bed (Shd).
Mki    Kaunati.  :Bed for fire-plough (Bck).
Mqa    Kounati.  :Lower firestick (Dln).
Mva    Kounati.  :Lower firestick(Bck).
Puk-   <Kaunati. :Rubbing stick in making fire (Bge) B.>.
Tah    Aunati.   :A piece of wood used for friction (Dvs).
Tua    Kaunati.  :Lower frictioning stick of fire-plough (Stn).
Tual   Kauati.   :Lower frictioning stick of fire-plough.
```

Finally, PEP *tafo-raqa* became PCE *tofo-raa* 'whale'. There had been a previous sporadic change to this word and the data can be viewed in data group 3.6.

3.4.6 Proto Marquesic

I know of four sporadic changes in the Proto Marquesic vowels. The first is the following case of low vowel assimilation:

(3.22) TAITI
```
*CE*   :Young male child.
Rar    Taiti.   :Fellow, person, term of endearment for child (Sve).
Tua    Taaiti.  :Young boy or girl.
Haw    Keiki.   :Child, offspring, boy, son (Pki).
Mva    Teiti.   :Child.
```

The second involves loss of the first vowel, probably through assimilation (making a long vowel) with later shortening of the long vowel:

(3.23) TAQOKETE.B
```
*8     Note. EAS accepted as directly cognate although glottal-stop
       missing. PUK considered, on distributional grounds, to be borrowed
       from another Cook Islands dialect.
EP     :Sibling-in-law of the same sex.
Eas    Taokete.          :Brother-in-law, sister-in-law (Fts).
Mao    Taokete.          :B.-in-law of a m., s.-in-law of a f. (Wms).
Pen    Tookete.          :Brother-in-law.
Puk-   <Taokete.         :Sibling-in-law>.
Rar    Taokete-taane.    :Brother-in-law.
Rarl   Taokete-va`ine.   :Sister-in-law.
Tah    Tao`ete.          :Wife`s brother, husband`s sister.
Tua    Taokete.          :Wife's brother, husband's sister.

Haw    Kai/ko`eke.       :B.-in-law of a m., s.-in-law of a f.(Pki).
Mqa    Tokete.           :B.-in-law of a male, s.-in-law of a female.
Mva    Tokete.           :Brother-in-law, sister-in-law.
```

The third change is the rounding of the second vowel in the following abbreviated set of cognates:

(3.24) TOKE-LAU
```
*Pn*   :Northerly quarter and wind from that quarter.
Eas    Tokerau. :Wind.
```

```
Mao     Tokerau. :Eastern (WD5); northern (WD6); north-eastern ? (Bgs).
Rap     Tokerau. :West wind (Green J.L.).
Rar     Tokerau. :North-west wind (Sve).
Tah     To`erau. :Westerly or north-westerly wind (Dvs).
Tua     Tokerau. :Winds from north-east to north-west (Stn).

Haw     Ko`olau. :Toponym; windward (NE) sides of Hawai`ian islands.
Mqa     Toko`au. :North or north-west wind (Dln).
Mva     Tokorau. :North, northerly wind (Jnu)
```

Lastly, the final vowel of the first morpheme was lost in a compound as seen in the following abbreviated group of cognates, possibly through assimilation and then shortening the resulting long vowel:

```
(3.25) TUA-GAQANE.A
       *Pn*    :Brother of a woman.
       Man     Tuangane. :Brother of a woman.
       Mao     Tungaane. :Brother or male cousin of a female (Wms).
       Pen     Tuangane. :Brother of a woman.
       Rar     Tungaane. :Brother or male cousin of a female.
       Rng     Tua'ane. :Brother of a woman.
       Tah     Tua'aane. :Brother of a woman.
       Tah1    Tu'aane. :Brother of a woman.
       Tua     Tu9aane. :Brother of a woman (Stn).

       Haw     Kunaane. :Brother or male cousin of a woman (Pki).
       Mqa     Tukane. :Brother of a woman.
       Mqa1    Tunane. :Brother of a woman.
       Mva     Tugane. :Brother of a woman.
```

Note: 1. Data from Chapter 8.

We can note that this is also a common loss amongst Tahitic languages and that there is a doublet in Tahitian, but that these certainly occurred independently or are the result of a doublet in Proto Tahitic.

3.4.7 Proto Tahitic

I know of eight cases of sporadic vowel change for Proto Tahitic. The first is the irregular lowering of the first vowel in the following groups of cognates:

```
(3.26) HULUFE
       *PN*    :A fern (Dicranopteris linearis).
       EFu-    <Sulufe.    :Kind of fern B.>.
       EUv-    <Hulufe.    :Nom de plusieurs fougeres (Nephrodium) B.>.
       Haw     Uluhe.      :(Dicranopteris), (Hicriopteris, (Sticherus).
       Haw1    Unuhe.      :(Dicranopteris), (Hicriopteris), (Sticherus).
       Mqa     U`uhe.      :(Dryopteris nukuhivensis), (Diplazium polyanthos).
       Nkr     Luhe.       :Swordfern (Crl).
       Ton     Hulufe.     :(Asplenium nidus) (Ykr).
       Ton1    Hulufe uhi. :(Pteris ensiformis) (Ykr).
       Ton2    Holufe.     :(Dennstaedtia parksii) (Ykr).

(3.27) ARUHE.*
       *7      Cf. PPN *hulufe "a fern".
       *Ta*    :A fern.
       Mao     Aruhe.      :The edible rhizome of Bracken (P. esculentum)(Bgs).
       Mao1    Rau/aruhe/. :Bracken (Pteridium esculentum).
       Mao2    Rarauhe.    :Bracken (Pteridium esculentum) (Tuuhoe) (Bgs).
       Mor     Aruhe.      :(Pteridium esculentum).
       Rar     Tuanu`e.    :The False Staghorn Fern (D. linearis) (Whr).
```

```
Tah    Anuhe.         :(Gleichenia dichotoma).

Tah    Anuhe.         :(Dicranopteris linearis) (Whr).
Tua    Anuhe.         :Mountain fern variety.
```

The second is the change of the first vowel in the following group of cognates:

```
(3.28) KATAFA.B
       *5     PMP *katapang "name eines baumes" (Dpf. 1938).
       *Pn*   :Bird's Nest Fern, (Asplenium nidus).
       Anu    Katapa.        :A kind of plant (Fbg).
       Anul   Rau katapa.    :(Asplenium nidus) (Fbg).
       Ece    Lau  katafa.   :Bird's Nest Fern.
       EFu    Katafa.        :Une plante a longues feuilles.
       EUv    Katafa.        :(Asplenium nidus) (Btn).
       Haw    `Aakaha.       :Bird's nest Fern (Pki).
       Hawl   `Eekaha.       :Bird's nest Fern (Pki).
       Mqa    `Au ketaha.    :Plante a longues feuilles (Dln).
       Nkr    Lau gadaha.    :Bird's Nest Fern, (Asplenium nidus).
       Puk-   <Lau /kotawa/. :Bird's Nest Fern (Asplenium nidum) (Whr) B.>.
       Ren    Kataha.        :Bird's Nest Fern, (Asplenium nidus) (Ebt).
       Tik    Katafa.        :Bird's Nest Fern,(Asplenium nidus)(Fth).
       WUv    Katafa.        :(Asplenium nidus) (Hmn).

       Rar    Kota`a.        :Bird's Nest Fern (Asplenium nidum) (Whr).
       Tah    `Ootaha.       :Bird's Nest Fern (Mte).
       Tua    Kookaha.       :Tree fern, (Asplenium nidus) (Stn).
```

The third change is the unexpected change of the first vowel in:

```
(3.29) MUTIE
       *Pn*   :Grass.
       EFu    Mutie.         :Pelouse, gazon.
       EUv    Musie.         :Pelouse, gazon, herbe trainante (Btn).
       Mqa    Mutie.         :Herbe, gazon, foin (Dln).
       Mva    Mutie.         :Grass (Bck 1938:240).
       Ren    Mutie.         :General name for grasses (Ebt).
       Rot-   <Mutia.        :Lawn-grass (Cwd)>.
       Sam    Mutia.         :Grass.
       Tok    Mutia.         :Grass (Sma).
       Ton    Musie.         :Grass, especially lawngrass (Cwd).

       Mao    Maatie.        :A seaside plant (Wms).
       Rar    Matie(e).      :Green; grass (Bse)
       Tah    Matie.         :A species of matted grass (Dvs).
```

The fourth is the lowering of the final vowel in the following abbreviated cognate set:

```
(3.30) NONU
       *Pn*   :Tree sp. (Morinda citrifolia).
       Ece    Nonu.          :(Morinda citrifolia).
       EFu    Nonu.          :Tree sp. (Morinda citrifolia).
       EUv    Nonu.          :(Morinda citrifolia).
       Fij    Noni.          :Tree sp. (Morinda citrifolia).
       Haw    Noni.          :Tree sp. (Morinda citrifolia).
       Mae    Nonu.          :(Morinda citrifolia).
       MFa    Nunu.          :(Morinda citrifolia).
       Mia    Nonu.          :(Morinda citrifolia).
       Mqa    Nono.          :Tree species.
       Mqal   Noni.          :Espece d'arbuste (Dln).
       Mva    Nonu.          :(Morinda citrifolia).
       Niu    Nonu.          :Tree sp. (Morinda citrifolia) .
       Puk    Nonu.          :(Morinda citrifolia) (Bge).
       Sam    Nonu.          :Tree sp. (Morinda citrifolia).
```

```
Tik    Nonu.        :Morinda citrifolia (Fth).
Ton    Nonu.        :Tree sp. (Morinda citrifolia).
WUv    Nonu.        :(Morinda citrifolia).

Ait    Nano.        :(Morinda citrifolia) (Whr).
Mao    Nono/kia.    :Shrub sp. (Pomaderris apatela).
Rar    Nono.        :Indian Mulberry (Morinda citrifolia) Whr).
Tah    Nono.        :Tree sp. (morinda citrifolia) (Jsn).
Tua    Nono.        :Tree sp. (morinda citrifolia).
```

One of the Marquesan doublets shows the same change. Possibly it is a Tahitic loan (the plant was introduced aboriginally).

The fifth change affected the first vowel of the following group where a second common pronunciation seems to have developed by Proto Tahitic times and may have been used to distinguish the sense of the word:

```
(3.31) LIMU
     *Pn*    :Moss, seaweed.
     Anu    Rimu.        :Seaweed, algae, moss (Fbg).
     Eas    Rimu.        :Kind of seaweed (Dried).
     Ece    Limu.        :Seaweed, moss, fungus on trees.
     EFu    Limu.        :Seaweed, moss, freshwater algae (i).
     EUv    Limu.        :Seaweed, moss, freshwater algae (i).
     Fij    Lumi.        :Seaweed, moss.
     Haw    Limu.        :Seaweed, moss.
     Mae    Rimu.        :Seaweed (Clk).
     Mqa    `imu.        :Seaweed, moss.
     Niu    Limu.        :Seaweed, moss.
     Oja    Limu.        :Seaweed.
     Ren    Gimu.        :Kinds of seaweed (Ebt).
     Sam    Limu.        :Seaweed, moss.
     Sik    Limu.        :Seaweed, moss.
     Tik    Rimu.        :Coralline growth on reef(Fth).
     Tok    Limu.        :Mosses, lichens, algae, seaweed (Sma).
     Ton    Limu.        :Seaweed, moss.
     WFu    Rim/rimu/.   :Moss.
     WUv    Limu.        :Seaweed, moss, freshwater algae (i).
     Yas    Lumi.        :Edible seaweed.

     Mao    Rimu.        :Seaweed, moss.
     Rar    Rimu.        :Moss, seaweed.
     Tah    Rimu.        :Seaweed, moss, lichen.
     Tua    Rimu.        :Seaweed, moss.


(3.32) LEMU.2
     *7      Cf. PPN *limu "moss, seaweed".
     *Ta*    :Moss.
     Mao    Remu/remu.   :Plant sp.
     Pen    Remu.        :Moss, seaweed.
     Rar    Remu.        :Moss, seaweed.
     Tah    Remu.        :Moss, seaweed, lichen.
     Tua    Remu.        :Moss.
```

The sixth change is seen in the first vowel of the following compound:

```
(3.33) TAGA-A-MIMI
     *Pn*    :Bladder.
     Eas    Tagamimi.    :Bladder (Chl).
     EFu    Taga mimi.   :Bladder (Bgs).
     EUv    Taga mimi.   :Bladder.
     Mqa    Tuumimi.     :Bladder.
     Sam    Tagaamimi.   :Bladder (Mnr).
     Ton    Tangamimi.   :Bladder (Cwd).
```

```
Mao      Toongaamimi.  :Bladder (Wms).
Rar      Toongaamimi.  :Bladder (of animals) (I).
Tua      Tongaamimi.   :Bladder (Stn).
```

The seventh is the change of the *final* vowel in:

(3.34) TOKO-MAHURU

```
*Pn*     *toko-mahuru.         :Hiccough.
EFu      Tokamoulu.            :Hoquet (Gzl).
Haw-     <Mauli-`awa.          :Hiccough>.
Kap      Dogomounu.            :Hiccough (Lbr).
Niu      Mohuu.                :Hiccough (McE).
Nkr      Leia /togo mouli/.    :Hiccough (Crl).
Ren      Tokamaugu.            :To have hiccoughs (Ebt).
Sam      To`omaunu.            :Hiccough (Mnr).
Tik      Tokomauri.            :Hiccup (Fth).
Tok      Tokomaunu.            :Hiccough.
Ton      Tokomohuu.            :Hiccough.

Mao      Tokomauri.            :Hiccough.
Rar      Tokomauri.            :Hiccough.
```

Tahitic forms for the above are minimal and PTa *toko-mauri* is taken to be only a preliminary reconstruction. Note also that Nukuria, Tikopian and Hawaiian have also made the change, possibly by reinterpretation of the base as coming from *mauri* 'life'.

Finally the first vowel changes in the Tahitic reflexes of PPn *tufunga* 'priest':

(3.35) TUFUGA

```
*Pn*     :Expert, priest.
Anu      Tipunga.   :Carpenter (Fbg).
Ece      Tufuga.    :Expert (Rby).
EFu      Tufuga.    :Carpenter (Bgs).
Mqa      Tuhuka.    :Wise man (I).
Mva      Tuhuga.    :Adroit, wise, instructed (Tgr).
Niu      Tufuga.    :One clever in any kind of work (McE).
Puk      Tuwunga.   :Expert (Bge).
Sam      Tufuga.    :Craftsman, expert, specialist (Mnr), carpenter (Prt).
Tik      Tufunga.   :Expert, master craftsman (male only) (Fth).
Tak      Tifuna.    :Craftsman, skilled person (Hwd).
Tok      Tufuga.    :Craftsman (Sma).
Ton      Tufunga.   :Skilled workman, artisan (Cwd).

Haw      Kahuna.    :Priest, sorcerer, expert in any profession (Pki).
Mao      Tohunga.   :Priest, expert, artisan (Bgs).
Rar      Ta`unga.   :Priest, accomplished craftsman (Sve).
Tah      Tahu`a.    :Skilled person.
Tua      Tahuunga.  :Expert, priest (Stn).
Tual     Tohuunga.  :Priest.
```

I take the Proto Tahitic form to be *tahunga* and assume the NZ Maori and second Tuamotuan pronunciations came about through assimilation. I take the Hawaiian form to be a borrowing from Tahitic because it has both the changed pronunciation and the specific Tahitic meaning of "priest".

4 Confounding factors:
morphological replacement, conflation and borrowing

Changes in words through replacement of their morphological components, conflation and introduction of vocabulary through borrowing can provide important subgrouping evidence. But the particular focus of the present study has been sporadic sound change, and when some other sort of change was the likely source of change in a word I moved on to other materials. Examples of the kinds of change that were considered, before accepting a change as constituting a sporadic change, are given in the materials that follow.

4.1 Morphological replacement

The most common sort of morphological replacement seen in considering the *Pollex* data was the replacement of final *-na* with *-nga*. The former was the third person possessive marker and the latter the main nominaliser. Examples can be found in §2.2.6–§2.2.7. These were not counted amongst the cases of sporadic sound change.

Another example of the kind of change excluded can be seen in the words for "right" and "left" amongst Central East Polynesian languages. Changes to these words were certainly related but happened to some extent due to diffusion and analogy, so the level of protolanguage in which change first occurred is elusive.

Minimally, a change of PTa *ma-uii* 'left' to a widely reflected Post Proto Tahitic *ka-uii* seems to have followed a change in Post Proto Central East Polynesian *ma-tau* 'right' to PTa *ka-tau*. Biggs (1993) marks the changed forms as PTa and PCE respectively. I would agree that the second changed first and that the change of the first was modelled on the second but it would seem that the changes are more recent than Biggs's (1993) levels of reconstruction suggest.

In the case of PPn *ma-taqu*, Biggs's (1993) evidence is:

```
(4.1) MA-TAQU.1
      *7      Cf. PCE *ka-tau.* "right (not left)".
      *Pn*    :Right (not left).
      Eas     Mata'u.    :Right (not left).
      Tuv     Matau.     :Right (not left).
      EUv     Mata'u.    :Right (not left).
      Fij     Matau.     :Right (not left).
      Kap-    <Tau tonu. :Right (not left)>.
      Mae     Matau.     :Right (not left) (Clk).
      Mao     Matau.     :Right (not left).
      MFa     Matau.     :Right (not left).
```

103

```
Mva-   <Matau.    :To be easy>.
Niu    Matau.     :Right (not left).
Nkr    Madau.     :Right (side).
Puk    Maatau.    :Right (not left) (Bge).
Rar    Matau.     :Right (not left) (Mka).
Rot    Mafau.     :Right (not left).
Sam    Matau.     :Right (not left).
Tik    Matau.     :Right-hand (Fth).
Ton    Mata'u.    :Right (not left).
WFu    Matau.     :Right (not left).
WUv    Matau.     :Right (not left).
```

For the PCE *ka-tau* reconstruction, Biggs's (1993) entry is:

```
(4.2) KA-TAU.*
      *7     Cf. PPn *mataqu "right, not left".
      *CE*   :Right (not left).
      Aki    Katau.   :Right (not left).
      Haw    'Aakau.  :Right (not left) (Pki).
      Mao    Katau.   :Right (not left).
      Mor    Katau.   :Right (not left) (GNZMMSS18).
      Rar    Katau.   :Right, not left (Sve).
      Tah    'Atau.   :Right (not left).
      Tua    Katau.   :Right (not left).
```

For the PPn *ma-uii* reconstruction, Biggs's (1993) entry is:

```
(4.3) MA-UII
      *3     PEO *mau(i)Ri "left-hand" (Gty. 1990:65).
      *7     Cf. *ka-uii "left".
      *Pn*   :Left (not right).
      Aki    Mauii.       :Left (not right) (Bse).
      Tuv    Maui.        :Left (not right).
      Fij    Mawii.       :Left (not right).
      Lau    Mou(mou)li.  :Left hand, be left-handed (Fox).
      Laul   Ma(ma)uli.   :Left hand (Fox).
      Mao    Mauii.       :Left (not right).
      Mqa    Mau'i.       :Left (not right) (Dln).
      Ngg    Mauli.       :Left (not right).
      Rar    Mauii.       :Left (not right) (Sve) (Etn).
      Ren    Mavi.        :Right (Ebt).
      Saa    Meuli.       :Left (not right).
      Tak    Maauii.      :Left (not right) (Hwd).
      Tua    Maaui.       :Left (not right).
      MFa-   <Masui.      :Left (not right)>.
      Nkr-   <Masui.      :Left (not right)>.
      WFu-   <Masui.      :Left (not right)>.
```

Notes: The second consonants of the final three languages' forms are mysterious and an explanation was not pursued. The Mqa form is taken to represent a case of glottal stop insertion rather than retention of the PEO consonant *R, which was regularly lost in PPn.

The Biggs (1993) entry for *ka-uii* is:

```
(4.4) KA-UII.*
      *1     PPn *ma-uii "left, not right".
      *Ta*   :Left (not right).
      Pen    Kauii.  :Left.
      Rar    Kauii.  :Left (Bse).
      Tah    'Aui.   :Left (Mte).
      Tua    Kaaui.  :Left.
```

Marquesic evidence other than Hawaiian is absent for the *ka-tau* group while a Marquesic cognate exists for *ma-tau* (Mva). Because Hawaiian has otherwise borrowed from Tahitic (§4.3.11 below) we must question if the Hawaiian in the *ka-tau* group is a borrowing. This cannot be determined through a comparison of sounds for this etymological group. Both Tahitic and Hawaiian had phonological systems much more like Proto Central East Polynesian at the time Hawaiian borrowed from Tahitic, and either a directly inherited PMq *ka-tau* or an indirectly inherited early Ta *ka-tau* would be 'a(a)kau in modern Hawaiian. Mangarevan *ma-tau* means "to be easy", as Biggs indicates, but also has the senses of "adroit, expert" (Rensch 1991) which are common extensions of the "righthandedness" notion in Polynesian and other languages. Since the Mangarevan cognate is good, reconstruction of *ka-tau* to Proto Tahitic rather than Proto Central East Polynesian seems the more cautious interpretation at this time. It is also possible that there was PMq **ma-tau* 'adroit' and PMq **ka-tau* 'right (not left)'. If such was the case, Hawaiian need not be a Tahitic loan and *ka-tau* 'right (not left)' would be reconstructed to Proto Central East Polynesian. The matter is indeterminate and reconstruction to the Proto Tahitic level is the more cautious assertion.

The reconstruction of *ka-uii* to the Proto Tahitic level is inconsistent with the regular NZ Maori reflex of PPn *ma-uii*, Mao *ma-uii*. Unless NZ Maori has borrowed from other Polynesian or reverted to *ma-*, our simplest explanation for these distributions is that Proto Tahitic retained *ma-uii*, which NZ Maori inherited directly and regularly, and that *ma-uii* later changed to *ka-uii* in the Tahitic homeland area by analogy to *ka-tau*. M. Ross (pers. comm.) notes that:

> There is reasonable evidence that Proto Oceanic had both *ma-* and *ka-* as stative derivatives, with competing forms occurring sporadically in daughter languages.

Since two stative derivational morphemes were probably competing we should not classify these as irregular sound change. Other potential cases of morphological replacement were similarly excluded from the counting of sporadic sound changes.

4.2 Conflation

Conflation is an historical process whereby similar words get confused with each other over time. We are concerned with it here because it confounds the search for sporadic sound change. An example is what may be a confusion of fish names, PPn *(s,t)apatuu* 'barracuda' and *saputu* 'Lutjanus sp.', names which differed in at least their medial vowel and the length of the final vowel. Whether they also differed in their initial consonants is not certain. It is clear that there was Proto Ellicean *tapatuu* 'barracuda'. All Ellicean Outlier and East Polynesian languages which have the word pronounce it with word initial *t*:

```
(4.5) TAPATUU.*
      *NP*      :Fish (Sphyraena sp.) (Hpr).
      Ece     Tapatuu.  :Barracuda sp. (Hwd) (Ablennes hians) (Bsr).
      Haw-    <Kaakuu.  :(Sphyraena barracuda)>.
      Kap     Dabaduu.  :(Sphyraena sp.).
      Mqa     Tapatu.   :(Sphyraena sp.).
      Mva     Tapatu.   :Name of a fish (Tgr).
      Nkr     Dabaduu.  :Fish sp..
      Lua     Kapaku.   :Barracuda (Sphyraena sp.).
      Sik     Tapatu.   :Barracuda sp. (Hwd).
```

```
Tak    Tapatuu. :Barracuda sp. (Hwd).
Tok    Tapatuu. :Sea-pike barracuda (Sphyraena f.) when young.
```

The core Western Polynesian languages have this same word for barracuda but it begins with reflexes of *s-* rather than *t-*:

```
(4.6) SAPATUU
    *Pn*     :Fish (Sphyraena sp.).
    EFu    Sapatuu. :Fish sp. (Bgs).
    EUv    Hapatuu. :Fish sp. Barracudas (Sphyraenidae) (Rch).
    Sam1   Sapatuu. :Barracuda (Sphyraena sp.) (Mnr).
    Ton    Hapatuu. :Sphyraena sp. (Hpr); kind of Parrotfish (Cwd).
```

"Futunic" Outliers do not seem to have the word and non-Polynesian cognates are known. Our knowledge that pronunciations have changed locally around Western Polynesia after the divergence of the Outliers and East Polynesian (§4.3.1) means that we cannot reconstruct the initial Proto Polynesian consonant with any certainty, since we do not know the direction of change.

The similar fish name, PPn *saputu* 'Lutjanus sp.', has an external cognate in at least Fijian and is found in "Futunic" Outlier, Ellicean Outlier, East Polynesian and in Tongan but is not reported for any other Western Polynesian language:

```
(4.7) SAPUTU
    *Pn*     :Fish sp. (Lutjanus sp.).
    Fij    Sabutu. :Lathrinus spp. Like a Bream (Cpl).
    Mae    Saaputu. :A snapper (Lethrinus lentjan) (Clk).
    Nkr    Saabudu. :Fish sp..
    Rar    'Aputu. :Deep-sea fish, dark grey (Bse).
    Rot-   <Saputu. :A fish B.>.
    Sik    Saaputu. :A fish.
    Tah    Haaputu. :Name of a fish that is often poisonous (Dvs).
    Tah1   Haputu. :Lutjanus rivulatus (Rdl).
    Tak    Saaputu. :Fish sp. (Hwd).
    Tik    Saputu. :(L. rivulatus or Lethrinus kallopterus) (Fth).
    Tok    Saaputu. :Maori snapper (lutjanus rivulatus) (Hpr).
    Ton    Hoputu. :Snapper sp (lethrinus miniat).
    Tua    Haputu. :Blue cod (cephalopholis argus).
```

If there was Proto Polynesian **tapatuu* 'barracuda', we could venture that Western Polynesian languages (Ton, Sam, EFu and EUv) changed the first consonant to *s-* as a result of confusion with Proto Polynesian *saputu* 'Lutjanus sp.' or as part of a reinterpretation of the two words properly differing only in their vowels. This would be or resemble conflation. If there was Proto Polynesian **sapatuu* 'barracuda', we might venture that Ellicean other than Samoan changed the initial consonant to *t-* to expand the differences in pronunciation beyond just the vowels. In any event, it is better understood as conflation than a possible sporadic sound change (which I earlier suggested for this word (Marck 1999)).

4.3 Borrowing

Biggs (1993, 1994a) contains abundant evidence for the following instances of borrowing, many of which have previously been reported in the literature, often by Biggs, Ross Clark or the archaeologist Roger Green:

1. A drift away from active sharing of innovations to a period of occasional borrowings, some clearly marked, between Tongan and Samoan during and after the disintegration of Proto Nuclear Polynesian.

2. Massive borrowings from Tongan by East Uvean (Biggs 1980).

3. Abundant borrowings from East Uvean and Tongan in Anutan (Green 1971, Ranby 1982, Feinberg 1989) and, to a lesser extent, Tikopian.

4. Borrowings from Eastern Polynesian in Pukapukan (Clark 1980).

5. Borrowings from Eastern Polynesian in Niuean (McEwen 1970).

6. A history of Post Proto Nuclear Polynesian and Post Proto Ellicean sharings between Samoan and Tokelauan which I prefer to think of as genetic unity (§5.7).

7. A very few demonstrable borrowings from Tongic in Proto East Polynesian or Proto Central East Polynesian, one of which can be shown to come specifically from Niuean.

8. Borrowings from Tahitian by Rapanui in the historical period.

9. A difficult situation in Hawaiian where loans from ancient Tahitic are demonstrable but probably few in number relative to those that cannot be detected.

10. A situation in NZ Maori where there may have been multiple inputs from disparate sources as the language first became established (Harlow 1994).

4.3.1 Post Proto Nuclear Polynesian and Post Proto Tongic distributions in Western Polynesia

Casting about for metropolitan Western Polynesian vocabulary which may constitute Post Proto Tongic and/or Post Proto Nuclear Polynesian borrowings around Western Polynesia, I find 123 forms in Biggs (1994a) that occur in Tongan and Samoan, East Uvean or East Futunan which do not occur in Niuean, the Outliers (other than Tuvalu or Tokelau) or East Polynesian when including only regularly corresponding words. Many of these are simply shared retentions. The number falls to ninety-nine if we exclude forms with known external cognates. We must assume that these are retentions from Proto Polynesian unless other evidence can be developed to demonstrate borrowing. There is an absence of rich loan phonology opportunities (cf. Hovdhaugen 1992) and there is normally no logical basis on which to distinguish an exclusively shared retention from a borrowing, so the examination of such vocabulary is often foregone because it is inherently indeterminate. The ninety-nine words in question were identified in reference to Tongan. We should note that any relatively well-described language, which Tongan is, may appear to share many words exclusively with other groups in comparison to its nearest relative(s). Hawaiian, for instance, shares thirty-four words with Western Polynesian and Outlier languages that no other East Polynesian language is known to share. Similarly, NZ Maori shares 235 words with Western Polynesian and Outlier languages that other East Polynesian languages are not presently known to share. The best explanation for the many words they uniquely share with Western Polynesian and the Outliers compared to other East Polynesian languages is the breadth and quality of available descriptions. In the instance of NZ Maori, there is the additional factor of Biggs's intimate knowledge of the language and his exceptional efforts to account for its vocabulary relative to other Polynesian languages (e.g. Biggs 1994b).

Since the ninety-nine cases are indeterminate in status as shared retentions or loans, I turn again to shared sporadic sound changes. The data groups below represent the best evidence I have been able to develop from *Pollex* that Western Polynesian languages were still sharing sporadic sound changes after the disintegration of Proto Tongic, Proto Nuclear Polynesian and/or Proto Ellicean.

Data group 4.8 clearly shows a sporadic change shared around Western Polynesia after the divergence of "Futunic" Outliers, Ellicean Outlier and East Polynesian. By the evidence of Ellicean Outliers, Rennellese and East Polynesian, the Proto Nuclear Polynesian form was **fai-ngaofie* 'easy'. Western Polynesian languages that retain the form reduced the second diphthong and reflect **fai-ngofie*. Tongic shows a further change in the final two vowels (possibly through morphological replacement), reflecting **fai-ngofua*, a change in pronunciation borrowed by East Uvean and then Anutan.

```
(4.8) FAI-GAOFIE
      *Pn*    Easy, not difficult.

      Anu-    <Paingapua. :(Fbg) B.>.
      EUv-    <Faigafua.  :(Rch) B.>.
      Mao     Waingoohia. :(Wms).¹
      Nkr     Haingaohie. :(Crl).
      Lua     Haingahie.  :(Tpe).
      Ren     Haingaohie. :(Ebt).
      Sik     Hainaohie.  :(Dnr).

      Ece     Faingofie.  :(Rby).
      EFu     Faigofie.   :(Rch).
      Sam     Faigofie.   :To be obedient (Prt).
      Tok     Faigoofie.  :(Sma).
      Ton     Fai9ofua.   :(Cwd).
      Niu     Ngofua.     :Be allowed, free to do s.t. (Spl).
```

Data group 4.9 is another clear case of Post Proto Ellicean change in Western Polynesia. By the evidence of Niuean, "Futunic" Outliers, Ellicean Outliers and East Polynesian, the Proto Polynesian form was **maaqoli* 'true, genuine' while the final consonant changed irregularly to **maaqoni* around Western Polynesia. Anutan, Sikaiana and Takuu follow the innovative pronunciation of the Western Polynesian languages. Samoan reflects both **maaqoni* and **maaqoki*. The second is shared with East Futunan. With two sporadic changes associated with a single word, neither with phonological motivations, I suspect that the Proto Polynesian pronunciation (with **l*) became taboo or otherwise came to be socially unacceptable. The evidence for these changes is found in the following *Pollex* entries:

```
(4.9) MAAQOLI
      *Pn*    :True, right, genuine.
      Anu     Maori.     :Indigenous, true, close of kin (Fbg).
      Eas     Ma'ori.    :Skilled, old.
      EFu-    <Maa'oki.  :True (Bgs)>.
      Haw     Maoli.     :Native, indigenous, native, true, real (Pki).
      Kap     Maori.     :Well.
      Mao     Maaori.    :Indigenous, ordinary, natural(Bgs).
      MFa     Maori.     :True, real.
      Mqa     Mao'i.     :Indigenous.
      Mor     Mooriori.  :Indig. people of the Chatham Islands (Bgs).
```

---

¹   Excluded as this is a common change in Mao.

```
       Mva     Maori.        :Right (not left) (Jnu).
       Niu     Mooli.        :True.
       Nkr     Maoli.        :Suspicion which proves true.
       Rar     Maori.        :Indigenous; native origin.
       Rar1    Moori.        :Indigenous.
       Ren     Maa'oli.      :Right, true, real (Ebt).
       Tah     Maaori.       :True, genuine, indigenous.
       Tik     Maori.        :True, truth; feel sure of.
       Tok     Moni.         :True, sincere, honest.
       Tua     Maori.        :Indigenous.
       WUv     Maaoli.       :Vrai, vérité (Hmn).

(4.10)        MAQONI.*
       *Pn*    :True, genuine.

       Ece     Faka/maoni.   :Reliable (Rby).
       EUv     Ma'oni/'oni.  :Juste, vrai, sincère, sans défaut (Rch).
       Sam-    <Moni.        :True, speak truth (Prt). Be true (Mnr)>.
       Sam-    <Fa'a/moni.   :Tell the truth, be certain (Prt)>.
       Sam     Fa'a/maoni/.  :True, loyal.
       Sam1    Moni.         :True (Prt).
       Sam2    <Mo'i.        :True (Prt)>.
       Sam3    <Maao'i.      :Real, genuine (Mnr)>.
       Tok-    <Moni.        :True, sincere, honest (Sma)>.
       Ton     Mo'oni.       :True, genuine, real (Cwd).

       Anu-    <Mooni.       :True, as opposed to a lie (Fbg) B.>.
       Sik     Maaoni.       :True, genuine (Sps).
       Tak     Maoni.        :True, real (Hwd).
```

Note that Biggs gives Sam "*moni*" twice, marking it "- <" ("Not Counted as Cognate") in one instance but allowing that it might be regular in the other.

Data group 4.11 shows that by the evidence of Niuean, Rennellese, Tikopian, Ellicean Outliers and Rarotongan, there was PNP or PPn *takua* 'fish sp.'. Western Polynesian languages reflect an innovative *takuo*.

```
(4.11) TAKUA
       *Pn*    :A pelagic fish sp.

       Kap     Taku(w)a.     :Tuna fish, Yellowfin (Ebt).
       Kap1    Dagua.        :Yellowfin Tuna (Neothynnus macropterus) (Lbr).
       Niu     Takua.        :Bonito (McE).
       Nkr     Dagua.        :Yellowfin tuna (Crl).
       Rar     Takua.        :A kind of goatfish (Bse).
       Ren     Takua.        :Kind of very rare porpoise or fish (Ebt).
       Tak     Takua.        :Tuna sp. (Hwd).
       Tik     Takua.        :Swordfish spp.(Fth).

       Ece-    <Takuo.       :Tuna fish (Nks) B.>.
       Sam-    <Ta'uo.       :Fish sp. (Prt) B.>.
       Tok-    <Takuo.       :Very lg Y. Tuna (Thunnus albacares) B.>.
       Ton     Takuoo.       :Fish sp.

       Tua     <Taakuo.      :Fish sp.B.>.
```

Data group 4.12 may have experienced some historic or late prehistoric adjustments to becoming the common word for "cotton" (Langdon 1982), but the form goes back to PPn

wawai 'plant producing cotton-like flowers' while a latter change shared around West Polynesia was *wawae*.

```
(4.12) WAWAI
      cf       Cf.PTO *vavae "plant producing cotton".
      *Pn*     :Plant sp., perhaps (Gossypium sp.); cotton.

      Eas      Babai.       :Cotton (Fts).
      EFu      Vavai.       :Cotton (Gzl).
      Mva      Vavai.       :Nom d'une herbe (Jnu).
      Pen      Vavai.       :Cotton (Rmn).
      Puk      Vavai.       :A creeper (Triumfetta procumbens) (Bge).
      Rar      Vavai.       :Cotton Plant (Bombax malabaricum) (Cmb).
      Tah      Vavai.       :(Gossypium religiosum) or (G. hirsutum) (Mte).
      Tua      Vava(a)i.    :Vine (Triumfetta procumbens) (Stn).

      Ece      Vavae.       :Milkweed (Asclepius curassavica).
      EFu-     <Vavae.      :Mantle of pressure-lamp B. (Bgs)>.
      EUv-     <Vavae.      :Coton (Gossypium) (Btn) B.>.
      Niu      Vavae.       :Kapok tree (Ceiba pent.); cotton, wick (McE).
      Sam      Vavae.       :(Gossypium sp.) (Mnr); lamp wick (Prt).
      Ton      Vavae.       :Cotton plant; wick of a lamp (Cwd).
```

See also *saputu* versus *sapatuu* and *tapatuu* (§4.2).

4.3.2 East Uvean borrowings from Tongan

East Uvean and Tongan are said to have a high degree of mutual intelligibility by Tongans and East Uveans but East Uvean is demonstrably a Nuclear Polynesian language, the Tongan component of its lexicon emerging from a fairly recent period of intense borrowing (Biggs 1980). Pawley (1967) had earlier noted that in cases where East Uvean agrees with Tongan, as opposed to Nuclear Polynesian, the semantic agreement is nearly complete, indicating recent borrowing, where agreements with Nuclear Polynesian show more of the semantic drift typical of more ancient relations. East Uvean is also classified as a Nuclear Polynesian language based on the observation that where its words follow the Tongan pronunciation, such words commonly occur as doublets. Their alternate pronunciation and the great majority of other words in the lexicon follow Nuclear Polynesian patterns. By Biggs's (1980) analysis, retention of PPn *h* or loss of PPn *r* are hallmarks of Tongan loans in East Uvean. To that we can add that vowel assimilations are diagnostic of Tongan loans in East Uvean. East Uvean is otherwise very conservative in its vowel histories apart from those words that follow Tongan patterns.

Rensch (1987) thought that there might be something wrong with the tree model of linguistic relationships in Western Polynesia. He pointed to many doublets and unexpected losses as evidence that something was amiss in the interpretation of the phonological history and subgrouping of East Uvean. He made the unusual suggestion that sound changes were spreading incompletely around Western Polynesia; East Uvean, for instance, partially sharing the retention of PPn *h* with Tongic. If, however, (lexical) diffusion of sound changes around Western Polynesia were the cause of the multiple reflexes, why would the result nearly always be semantic doublets? Lexical diffusion does not result in semantic doublets in the Polynesian instances identified to date. A lexical borrowing solution is clearly more elegant.

Rensch (1987) looked only at the outcome of the consonants. This was the most basic weakness in developing his argument that the East Uvean lexicon is the result of incomplete

sharing of Tongic and Nuclear Polynesian sound changes over time. Due to the many vowel assimilations of Tongan since Proto Polynesian times, it becomes clear that the Tongan influence on East Uvean was recent and profound rather than long and insidious.

The list of words showing shared sound changes, usually exactly, with Tongan is very long. These occur exclusively in those words for which Tongan is known to have made the same change (except in those cases where Tongan forms are simply unknown). It is a simple matter to ask if the general pattern of vowel histories is different in those East Uvean words which show the characteristic Nuclear Polynesian consonant reflexes of Proto Polynesian, as opposed to those whose reflexes are characteristic of Tongan. In fact the pattern is very different indeed. East Uvean *always* has the Nuclear Polynesian vowels when the consonants are of the Nuclear Polynesian type and *always* has the Tongan vowel assimilations when the consonants are of the Tongan type. A few examples are:

Table 4.1: Some East Uvean words showing both Tongan vowels and consonants

PPn	*hangafulu*	'ten'		PPn	*mahuku*	'grass'
Ton	hongofulu	'ten'		Ton	mohuku	'grass'
EUv	hogofulu	'ten'		EUv	mohuku	'grass'
PPn	*hui*	'bone'		PPn	*maaqoli*	'true, genuine'
PNP	*iwi*	'bone'		PNP	*maaqoli*	'true, genuine'
Ton	hui	'bone'		Ton	mo'oni	'true, genuine'
EUv	hui	'bone'		EUv	mo'oni	'true, certain'
PPn	*tahina*	'ygr s-sex sibling'				
Ton	tehina	'ygr s-sex sibling'				
EUv	tehina	'same-sex sibling'				

Retention of *h* is taken to identify a Tongan source for these East Uvean words. In the left column regular vowel change has applied to Tongan but has applied to East Uvean only in words such as these for which we can show identical changes in Tongan. In the first case in the second column, East Uvean irregularly shows the PPn *h* and the Tongan vowel pattern. In the final example, East Uvean has borrowed both the irregular consonant change of Tongan and the regular Tongan vowel change. It is clear that Tongan consonant and vowel change patterns have entered East Uvean in the same words at the same time and not as part of a general process of partially sharing sound changes as Rensch suggested.

4.3.3 Anutan and Tikopian borrowings from East Uvean and Tongan

Anutan remained a poorly described language until Feinberg (1977). It was first classified, mainly due to lexicostatistical scores, as possibly Tongic (Bayard 1966; 1976:15, 80, 89) but Green (1971) soon showed that it was Nuclear Polynesian with abundant borrowings from East Uvean. Biggs (1980) produced further evidence in support of Green's interpretation as did Ranby (1982). Green's and Biggs's arguments were largely developed by reference to Tongan loans in East Uvean. East Uvean phonological correspondences to Proto Polynesian, other than the Tongan loans, are quite similar to those of Anutan; and borrowing cannot otherwise be distinguished from common inheritance. Feinberg (1989) ultimately showed that some of the forms concerned in Anutan were borrowed directly from Tongan rather than East Uvean and related the Anutan borrowings from East Uvean and Tongan to events in Anutans' oral histories.

In the course of the present project J. Fox and R. Feinberg examined a draft of the kin terms chapter and noted that some of my reconstructions were based solely on agreements between Tongan, Anutan and Tikopian. I then went back to *Pollex* and found that many of the irregularities of Tikopian are clearly East Uvean or Tongan loans, although they do not appear so abundantly as in Anutan. The most obvious cases are doublets of PPn *r* or *h* or those with distinctive vowels:

Table 4.2: East Uvean or Tongan loans in Tikopian

	'look at'	'ribs'	'peel, skin'	'easily'
PPn	*tiro	*hui kahokaho	*fohi	*ngaofie
PTo	*tio	*hui kahokaho	*fohi	*ngofua
PNP	*tilo	*ivi kaokao	*foi	*ngaofie
Tik	tiro(tiro)	kaokao		ngaofia
Tik < EUv or Ton	tio	kasokaso	(ma)fosi(fosi)	ngafua

4.3.4 Niuean borrowings from East Polynesian languages

McEwen (1970:viii–ix) gives a number of examples of East Polynesian borrowings in Niuean. At least some of the borrowings appear to be specifically from the Southern Cooks and Tahitian. Two of the apparent East Polynesian loans in Niuean have no consonant where PTA *h* occurred, suggesting they were borrowed from a language where PTa *h* had gone to glottal stop. PCE *f* and *h* have fallen together as the glottal stop in Southern Cook dialects, such as Raratongan and Mangaian, but have not otherwise done so in Tahitic. The two cases are given in Table 4.3:

Table 4.3: Some Niuean borrowings from Southern Cook languages

PPn *katafa* 'frigate-bird' became PTa *kootaha* > Rar *koota'a*. Both Niu *kootaa* and Puk *kotawa* have the PTa vowel change and Niu lacks the third consonant.
POc *sabe* 'deformity of the foot' (Mke) became PPn *sape* 'malformed (of foot)' > Rar *'ape* and occurs as Niu *ape(ape)* 'crooked legs'.

Otherwise, there are two Niuean words which retain the sound: Niu *hula* 'dance' which is otherwise known only from East Polynesian and PCE *pasu* 'drum' which occurs outside of Central East Polynesian only in Niu *pahu*. These retentions of PEP and PCE *s* suggest either older borrowings or different sources (such as NZ Maori, Tahitian or Tongarevan). One would want to know more about the early historical period before suggesting these are pre-European loans.

Another again refers to a material culture item: PCE *loki* 'bed, couch' and occurs as Niu *loi* 'mattress'. A Tahitian source is suggested, since Tahitian is the only Tahitic language to have changed *k* to glottal stop. But Rarotongan has its own regular reflex of the reconstruction, *roki*, and a Tahitian loan, *ro'i*, and could also be the source of the Niuean form. Niuean also has doublets of PPn *hui* 'bone': Tongic *hui* and the Nuclear Polynesian *ivi*. Another probable borrowing involves PPn *kainanga* 'people of a place, social group such as a clan' which became PCE *mata-kainanga*. Niuean is the only non-Central East Polynesian language to show addition of *mata*.

On the other hand, PCE *wehe* 'divide, separate' may specifically be a borrowing from Niuean and not Proto Tongic or Tongan (cf. PTo *wahe*, Ton *wahe*, Niu *wehe*). It contrasts with its regularly inherited doublet PCE *wae* 'divide, separate'. The doublets continue to

exist in all Central East Polynesian languages and dialects for which there is adequate description to make a determination (although no source gives any indication as to how they differ in use).

4.3.5 *Tongan borrowings from Nuclear Polynesian*

Tongan has abundant doublets where the expected Tongan form is found along with an unexpected form of the Samoan type (sometimes with a meaning similar to the Samoan meaning). The possibility of Tongan borrowing lexical items from Nuclear Polynesian has never received major treatment. The most telling borrowings are those Tongan forms in which both PPn *r is retained and PPn *h is lost. Biggs's (1994a) reconstructions include only five words with both PPn *r and *h. Only one has a doublet in Tongan and has been noted by Rensch (1987:570)—Tongan *ulu*. There is, however, a second form that may be borrowed from Nuclear Polynesian and is not mentioned by Rensch or found in Biggs (1994a)—Tongan *foeluolua*—(see Table 4.4). There seem to be no Niuean doublets of such words in McEwen (1970).

Table 4.4: Possible borrowings by Tongan from Nuclear Polynesian I

POc	*suru(p)*	'enter'	*pose	'paddle'
PPn	*huru	'enter'	*fohe	'paddle'
Ton	huu	'enter'	fohe	'paddle'
Ton < NP	ulu	'enter'	foeluolua[1]	'use two paddles'
			fœfoelua	'paddle and sail at once'
Niu	huu	'enter'	fohe	'paddle'
Sam	ulu	'enter'	foe	'paddle'
EFu	ulu	'enter'	foe	'paddle'
EUv	ulu	'enter'	foe	'paddle'
EUv < Ton	huu	'enter'[2]		

Note: 1. I found no *fohe-lua-lua* forms in the standard sources for Sam, EUv or EFu. May involve one of the odd retentions of PPn *r in Ton compounds but why would it also lose PPn *h? Here counted as a borrowing from NP. 2. "enter stooped down", a respectful thing to do.

The forms in Table 4.4 are certainly borrowings of Nuclear Polynesian in Tongan. In the first instance there is a simple doublet (Ton *huu* and *ulu*) where in the second the irregular members of the triplet have the additional irregularity of the retained PPn *r further marking the form as Nuclear Polynesian in origin.

The three etymological groups in Table 4.5 again seem to involve borrowings from Nuclear Polynesian in Tongan. Because Niuean seems not to share such Tongan doublets, we must attribute most such developments to a time after Niuean had diverged from Tongan. If Niuean shared in the doublet formation period, as we saw that it may have to a limited extent for *r and *l doublets, it would commonly have a few retentions involving only the member of the pair with the irregular correspondence (since both the regular and irregular forms are subject to the same ravages of time). But I have found no such forms and Rensch (1987) gives none. Additional apparent borrowings of Tongan from Nuclear Polynesian are given in Table 4.5.

Table 4.5: Possible borrowings by Tongan from Nuclear Polynesian II

POc	wase	'divide'			*jalan	'road'
Fij	wase	'divide'	Yas cuu	'hidden'		
PPn	wahe	'divide'	*huu	'refuge'	*hala	'road'
Ton	vahe	'divide'	huu-fanga	'refuge'	hala	'road'
	vaahenga	'division'				
Ton < NP	vae	'divide in two'	uu^2	'sheltered'	ala-	'in pl. names'
Niue	vehe	'divide'	huu	'refuge'	hala	'road'
	vahenga	'division'				
Sam	vae	'divide'			ala	'path, road'
	vaaega	'division'				
	vase	'draw line'				
	vasega	'a class'				
EFu	vae^1	'divide'	uu	'shelter'	ala	'road'
	vaaega	'division'				
EUv	vae	'divide'	uu	'sheltered'	ala	'road'
	vaenga	'division'				
EUv < Ton	vahe	'divide'	huu-faga	'protective'	hala	'in pl. names'
PCE	*wehe^3 and	'divide'				
	*wae					

Note: 1. EFu also has *vasi* 'divide' but this comes regularly from PPn **fasi* 'split'. This word seems not to be found in Ellicean (Sam, EcO and EP) or in "Futunic" Outliers. 2. Probably from PPn **ruru* 'shelter, calm'. 3. Borrowing from Niu (doublet in PCE with regularly agreeing form).

The two etymological groups in Table 4.6 are again from Biggs (1994a) by way of following up on Rensch's (1987:571) observation of PPn **h* doublets in Tongan. In the first we have a doublet in Niuean as well but not one that has much semantic similarity to the Tongan doublet.

Table 4.6: Possible borrowings by Tongan from Nuclear Polynesian III

POc	*tasi	'sea'		
Fij	taci	'sea'	moce	'sleep'
PPn	*tahi	'sea'	*mohe	'sleep'
Ton	tahi	'sea'	mohe	'sleep'
	tahitahi	'wet from sea'		
Ton < NP	taitai	'brackish'	moe-	
Niu	tahi	'sea'	mohe	'sleep'
Niu < NP?	taitai	'industrious (normally in ref. to fishermen)'		
Sam	tai	'tide'	moe	'sleep'
EFu	tai	'sea'	moe	'sleep'
	taitai	'wet from sea water'		
EUv	tai	'sea'	moe	'sleep'
	taitai	'wet from sea'		

Niuean irregularities often occur due to borrowings from East Polynesian but not, apparently, in this case. I could find no East Polynesian words of the **taitai* form that had anything to do with industriousness or even activity at sea.

4.3.6 Samoan borrowings from Tongan

Samoan seems to have borrowed from Tongan less than Tongan borrowed from Samoan but in a few cases Tongan loans in Samoan are clear or strongly indicative. Four possible cases are given in Table 2.36 and involve unexpected retention of PPn *h. Another is the apparent Samoan borrowing of Ton *suni*, which reflects an irregular change from PPn *sinu* 'shrub sp.' (Sam *suni*, see data group 3.3).

4.3.7 Pukapukan borrowings from East Polynesian

Pukapukan borrowings from East Polynesian have been considered by Clark (1980). He assigns numerous borrowing to the prehistoric period and the mission and colonial periods which mainly saw borrowings from Rarotongan. The borrowings occur in both cultural and "core" vocabulary and may also exist in the general grammar.

4.3.8 The Post Proto Ellicean relations of Samoan and Tokelauan

Hovdhaugen (1992) has recently expressed some exasperation over the possibility that Tokelauan might ever be classified in its relationship to Samoan by the tree model. He relates that subgrouping is frustrated because there is no loan phonology except for very recent borrowings. Until the late change of PPn > PNP > PEc *k to glottal stop in Samoan, there were no differences in the regular consonant reflexes of Samoan and Tokelauan. He showed many recent loans based upon that and more subtle loan phonology. I here classify Samoan and Tokelauan in a subgroup of their own and consider their relationship with the subgrouping materials (§5.8).

4.3.9 East Polynesian borrowings from Tongic

I presently know of only three words which seem to be borrowings from Tongic in East Polynesian languages. The first is the appearance of PPn *toro* 'sugarcane' as PEP *too*, as Langdon (1989) has noted. The second is the appearance of PPn *wase* 'divide, separate' as both PCE *wae* and *wehe*, doublets which continue into most East Polynesian languages. The second pronunciation is specifically Niuean and not Proto Tongic or Tongan. None of the sources give differing definitions for the doublets. Possibly there is some difference of register or other variable that has maintained this doublet in so many languages. The third case involves doublets in Proto Nuclear Marquesan of PPn *mara* 'preserved breadfruit' (Langdon 1989): PNM *mara* 'acidic (or perhaps rotten)' > Mqa *ma'a* 'rotten', Mva *mamara* 'sharp in flavour, acid'; and PNM *maa* 'preserved breadfruit' > Mqa, Mva *maa* 'id.' The significance of the first and third examples is considered in Langdon (1989) and Marck (1996e). The second, the doublet from Niuean, is from Biggs (1994a).

4.3.10 Rapanui borrowings from Tahitian

Tahitian missionaries were an important social force on Rapanui from early in the historical period and some Tahitian vocabulary was borrowed by the Rapanui people. The

difference between directly inherited Rapanui vocabulary and that borrowed from Tahitian is clearest in words containing reflexes of PEP *k or *ng which are unchanged in regular Rapanui reflexes but became the glottal stop in Tahitian.

Persons compiling dictionaries of Rapanui were able to identify some vocabulary borrowed from Tahitian on the basis of irregular sound correspondences or on the basis of Rapanui speakers' knowledge of specific words having come from Tahitian. Biggs (1992, 1993, 1994a) marks many Rapanui kin terms "Not Counted as Cognate", apparently out of concern for borrowings from Tahitian (and not due to any clues from loan phonology). Biggs may be too cautious. Speaking from the experience of having worked with the kin terms, there is reason for believing those terms are directly inherited and not borrowed from Tahitian (Chapter 8); and the few elements of cosmogony shared between Rapanui and other Polynesian traditions are specifically not at all like Tahitian traditions.

Rapanui words "Not Counted as Cognate" in Biggs (1994a) which are tagged in his notes as borrowings from Tahitian (or otherwise seem to be such) include the following (I have omitted most kin terms "Not Counted as Cognate" because I believe they are most commonly the directly inherited Rapanui forms (Marck 1996d and Chapter 8 below)):

Table 4.7: Some Rapanui borrowings from Tahitian

		Rapanui	Tahitian
PPn *kamu	'chew, munch'	'amu 'eat'	'amu 'eat'
PTa *pakari	'hard, strong'	pa'ari 'adult, firm, hard'	pa'ari 'dur, resistant'
PCE *parangi	'smudge, blur'	parai 'to smudge, soil'	parai 'daub, blot'
PCE *hakamata	'begin'	ha'amata 'begin, start'	ha'amata 'begin'
PNP *sau-nga	'unpleasant odour'	hau'a 'odour, scent'	hau'a 'odour, smell, taste'
PNP *soko	'buy, sell'	ho'o 'buy, sell, trade'	ho'o 'buy, sell'
PPn *ta(a)qonga	'treasured possession'	'tao'a 'goods, supplies'	tao'a 'objet, bien, propriete, richesse'
PPn *tau-lekaleka	'youth; young man'	taure'are'a 'bachelor, single'	taure'are'a 'young people'

4.3.11 Hawaiian borrowings from Tahitian

Hawaiian is classified as a Marquesic language and the kin terms are most commonly Marquesic rather than Tahitic when such matters can be determined (Marck 1996d and Chapter 8 below). But the oral history and cosmogony of the Hawaiians seem only to recall Kahiki (Tahiti) and Hawai'i (*Sawaiki, Savai'i (Samoa)).

Green (1966:29) reviews the linguistic evidence which had been developed to that time in support of Tahitic > Hawaiian loan hypotheses and added some observations of his own. The evidence was variously lexicostatistical patterns, uniquely shared words, a mixture of Marquesic and Tahitic names for nights of the moon, and a couple of possible borrowings of other vocabulary. Little work has been done on the question since that time.

Marquesan, Tahitian and Hawaiian are not very different from each other even today and they would have been much more similar and directly intelligible with each other at about AD 1200, the approximate time of significant Tahitian demographic and cultural influences upon

Hawai'i.[2] More specifically, there may have been no regular phonological differences between Tahitian and Hawaiian at the time. Thus we are reduced to identifying loans through sporadic sound changes, distributional evidence or uniquely shared semantic changes.

No Hawaiian borrowing from Tahitian stands out quite so boldly as the Hawaiian word *kahuna* 'priest'. This word began its journey to Hawai'i in the form of PPn *tufunga* which meant not "priest" but "expert, craftsman", apparently in the context of carpentry and other artisan activities. Only Tahitic languages and Hawaiian are known to have the "priest" sense and there was an odd (sporadic) change in the first vowel of the word in Proto Tahitic such that the pronunciation had come to be *tahunga* . Such changes of unstressed PPn *u* > PTa or other EP *a* or *a* are otherwise unknown and it is profoundly unlikely that Proto Tahitic and Hawaiian made this change independently. The fact that Proto East Polynesian, Proto Central East Polynesian and Proto Marquesic had not made such a change is confirmed by reference to Mqa *tuhuka* 'wise man'. Mao *tohunga* could be descended from *tahunga* but would not have resulted from *tuhunga*, further confirming the level of the innovation as PTa rather than PCE.

PPn *wele* 'weed, clear away scrub' became PTa *waele* (Tah *vaere*, Mao, Rar, Pen *waere*). Proto Marquesic had *wele* (Mqa *ve'e(ve'e)*, Mva *vere*, Haw *wele*). The change of PPn *we-* > *wae-* is otherwise unknown in East Polynesian except for the Hawaiian doublets *wele* and *waele* (Biggs 1994a), the former being its regularly inherited form as a member of Marquesic, the latter clearly borrowed from Tahitic.

Identifying Hawaiian borrowings from Tahitic on distributional grounds is confounded by the limited membership of Marquesic. It is not of great moment when only two languages seem to lack a cognate for any particular word. Since Marquesic has only three members, Hawaiian being the best described, a Ta + Haw distribution might be the result of borrowing in Hawaiian or might just as easily be due to loss or lack of description in Marquesan and Mangarevan. When evaluating the possibility of a Tahitic loan into Hawaiian such distributions are indeterminate since there is no method to distinguish between a directly inherited Proto Central East Polynesian word and a Proto Tahitic innovation borrowed into Hawaiian. There are 219 such cognate groups in Biggs (1994a).

4.3.12 Possible multiple strata in NZ Maori

Biggs (1994b) has recently asked if Maori can be shown to have a closest relative in Tahitic. Biggs found little reason to subgroup NZ Maori specifically with the Southern Cooks or the Societies. My conclusion is that no sporadic sound changes tie NZ Maori to any other individual Tahitic language. The evidence is that Tahitic had many unique innovations when NZ Maori diverged and that Tahitic was not internally diverse at the time. In the same volume Harlow (1994) asked a slightly different question: Did NZ Maori experience multiple inputs from the beginning? Harlow then gave evidence in support of linguistic inputs from Marquesic as well as Tahitic.

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[2]   The date of circa AD 1200 is here adduced by reference to the approximate time of New Zealand's settlement from the Tahitic heartland, as I have found no ordering arguments to place the divergence of NZ Maori or the Tahitic influences on Hawaiian speech either before or after one another.

5 *Subgrouping*

The results of the present work have supported some parts of the previous conventional subgrouping of the Polynesian languages and have led us to modify other parts of it (Figure 1.1 versus Figure 1.2). The most basic division (Elbert 1953, Pawley 1966) remains the one between Tongic (Tongan and Niuean) and Nuclear Polynesian (all other Polynesian languages). The internal subgrouping of Nuclear Polynesian supported by the present work follows Wilson (1985) who placed Ellicean Outliers (including Tuvalu and Tokelau) in a group with Samoan and East Polynesian. All other Nuclear Polynesian languages (East Futunan, East Uvean, the so-called "Futunic" Outliers and Pukapukan) have yet to be further subgrouped[1] and remain unclassified within Nuclear Polynesian by the present analysis. Samoic-Outlier, originally suggested by Pawley (1967) on the basis of exclusively shared features, is here (and by Wilson (1985)) abandoned and those shared features taken to be shared retentions. Work by Hovdhaugen (1992) shows that the Tokelauan relationship to Samoan is marked by much recent borrowing due to mission activities. However, evidence is presented here to show that Tokelauan and Samoan also uniquely share sporadic sound changes from some time deeper in its past. Neither Tuvalu, East Futunan nor East Uvean show the persistent influences of Samoan over time as Tokelauan does.

The evidence for East Polynesian (Elbert 1953, Pawley 1966) was expanded as was the evidence for Marquesic and Tahitic (Elbert 1953, Green 1966). A "Nuclear Marquesic" group consisting of Marquesan and Mangareva, but not Hawaiian, was identified in the present work. The histories of a bare two or three words hint that NZ Maori diverged from all other Tahitic before other Tahitic diverged from each other. I am suggesting the name "Nuclear Tahitic" for the group left behind by NZ Maori but the evidence is so scant I have been reluctant to treat it as a group in the present work.

The method used here for defending previously defined groups, abandoning them or refining them, has been the comparison of uniquely shared sporadic sound changes. Only Nuclear Marquesic is not yet supported by uniquely shared sporadic sound changes however that group is well supported by uniquely shared regular and diffused vowel changes.

5.1 Polynesian

It is only recently (Pawley 1996) that anyone has given a detailed account of the innovations defining the Polynesian subgroup. The group is so obvious upon inspection that there has been little motive. Pawley did so in the context of contesting the idea (Irwin 1992)

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[1]   Except for the Vanuatu group of "Futunic" Outliers.

that exploration and discovery of Polynesia was more or less continuous from the arrival of Oceanic-speaking peoples in the area. In support of the "pause" hypothesis (Chapter 9), Pawley (1996:392–395) gives an extensive inventory of regular, diffused and sporadic sound changes, lexical innovations, morphological innovations, and syntactic innovations for Proto Polynesian. He argues that about a thousand years of common development would have been required to account for those changes (Pawley 1996:395). This is by comparison to "a range of historically attested cases" (of (non-Polynesian) languages that have developed in unity for about a thousand years). It is not a lexicostatistical/glottochronological estimate but it is consistent with such estimates. Pawley (1996:401) also makes the point that:

> To say that the Polynesian branch underwent a long period of common development apart from its closest relatives is not to say that the development was free of regional variation.

5.2 The disintegration of a common language between Tonga and Samoa

Fiji and Western Polynesia (less Niue and probably Tuvalu and Tokelau) were settled more or less at once at about 900 BC (Chapter 9). Fijian and Polynesian centres of linguistic innovation developed rather soon after settlement (Geraghty 1983, 1996). Tongan, Samoan then actively shared innovations for a long period of time (Green 1981, Pawley 1996). Pawley speaks of Northern and Southern Pre Polynesian dialects. Here I puzzle through what we might say about how and when Samoan (of Northern Pre Polynesian) and Tongan (of Southern Pre Polynesian) stopped sharing innovations.

There are abundant failures of regular agreement between Tongan and Samoan and these have never been properly analysed. Rensch (1987) made valuable original observations on these matters but his suggestion that these languages were *partially* sharing innovations of the other's phonological system seems premature. I have already reviewed the situation in East Uvean and shown that East Uvean was borrowing Tongan words and not its sound changes (§4.3.2). Rench's other observations turn out mainly to involve lexical borrowing by ancient Tongan from ancient Nuclear Polynesian.

One can detect prehistoric borrowing between related languages (§4.3) only if the languages differ from each other in at least one of their reflexes of the common ancestral sound system. At some point in time before the dispersals of Pukapukan, Outlier and East Polynesian languages, Tongan and Samoan had each developed one distinct sound agreement with Proto Polynesian which merged different Proto Polynesian sounds. These were the merger of PPn *s and *h in Tongic (where Nuclear Polynesian retained *s and lost *h) and the merger of PPn *l and *r in Nuclear Polynesian (where Tongic retained *l and lost *r) (see Table 5.1).

Table 5.1: Criteria sounds for identifying borrowing around West Polynesia

	*r	*l	*h	*s
Proto Polynesian	*r	*l	*h	*s
Proto Tongic	Ø	l	h	h
Tongic borrowings from Nuclear Polynesian	l	NA	Ø	NA
Proto Nuclear Polynesian	l	l	Ø	s
Nuclear Polynesian borrowings from Tongic	Ø	NA	s	NA

Notes: "Ø" indicates that the agreement to Proto Polynesian is loss. "NA" indicates potential borrowings that cannot be detected since there would be no difference between the regular and the borrowed correspondences to the protolanguage, something which is always true of most other sounds.

In addition, we can search out sporadic changes of Proto Polynesian words. A very few demonstrable cases of Post Nuclear Polynesian or Post Ellicean borrowings of sporadic sound changes between Tongan and Samoan are presently known to me (§4.3.1). Otherwise, we would be looking for the kinds of differences in Table 5.1: the unexpected retention of PPn *r as *l* in Tongic (rather than loss) or loss of PPn *h (rather than retention as *h*); and the unexpected retention of PPn *h as *s* in Samoan (rather than loss) or loss of PPn *r (rather than retention as *l*). We can also search out differences in vowel correspondences, since Tongic, and particularly Tongan, had many vowel assimilations (§3.2.1) while Samoan, East Uvean and East Futunan did not.

5.2.1 *Tongic patterns of loss and retention of PPN *r and *l*

The normal outcome of PPN *r in Tongic is loss but there are regular exceptions and the situation is further confused by borrowings from Nuclear Polynesian. Appendix A considers the descent of the Proto Central Pacific liquids into Proto Polynesian and Proto Tongic. Like "PPn *h" in Samoan, PCP *r was not lost between like vowels in Proto Tongic (Appendix A). So what we reconstruct as PPn *l on the basis of retention in Proto Tongic may in fact have been PPn *r, a small residue never being lost in Proto Tongic, merging with PTO *l between like vowels rather than being lost.

Otherwise, in pairs of doublets ultimately descended from words with PPn *r, Tongan and Niuean show loss in one form along with retention as *l* in the second. Were both Tongan and Niuean to have doublets of the same word, we would wonder if one of the doublets may be the result of borrowing in Pre Tongic from Nuclear Polynesian. If Proto Tongic doublets were the source of *all* the modern doublets we would expect a normal distribution[2] through Table 5.2. But I found no examples of patterns 7, 8 and 9 and cases are otherwise not normally distributed.

Table 5.2: Double reflexes of Proto Polynesian *r and their possible outcomes in modern Tongan and Niuean

	Tongan		Niuean	
	Loss	Retention	Loss	Retention
1	+	+	+	+
2	+	+	+	Ø
3	+	+	Ø	+
4	+	+	Ø	Ø
5	+	Ø	+	+
6	+	Ø	Ø	+
7	Ø	+	+	+
8	Ø	+	+	Ø
9	Ø	Ø	+	+

"+" indicates a form with loss or retention is known. "Ø" indicates a form with loss or retention is unknown.

Patterns 1, 2 and 6 are dominant when there is no *a priori* reason[3] to expect patterns 3, 4 and 5 to be diminished or patterns 7, 8 and 9 to be absent. The distributions of Patterns 1–6 come from regular and irregular reflexes of the following words:

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[2]   In the statistical sense. The distribution should be determined by rates of loss/replacement in general and this should effect all cells in a similar way.

[3]   Except relative size of the dictionaries (the Ton dictionary is larger).

Table 5.3: Words known to typify Patterns 1–6 and their Proto Polynesian origins

1	*firo* 'mix, mingle', *miro* 'twist (by hand)', *muri* 'behind', *qaro* 'front', *riki* 'small', *rongo* 'hear'
2	*fara* 'pandanus', *marama* 'light', *refu* 'ashes', *rua* 'two'
3	*rara* 'heat over fire', *tere* 'sail, be afloat'
4	*maquri* 'alive'
5	*raku* 'scratch'
6	*firi* 'braid, plait', *fore* 'peel or strip (as skin or bark)', *kora* 'dregs', *qara* 'awake', *raqa* 'branch', *rau* 'k. of net', *tara(q)i* 'hew', *turi* 'knee', *uru* 'arrange hot stones', *waru* 'scrape'

Pattern 1 (doublets in both Ton and Niu)

firo 'mix, mingle' > Ton, Niu *filo* 'twist (as a rope, thread)', Ton, Niu *fio* 'mix'

miro 'twist (by hand)' > Ton *milo* 'twist by hand', Niu *milo(i)* 'restless at night', Ton *mio* 'twist', Niu *miomio* 'writhe about'

muri 'behind' > Ton *mooli*[1] 'abaft', Niu *muli* 'follow', Ton, Niu *mui* 'behind'

qaro 'front' > Ton *'alo* 'belly (of fish)', Niu *aloalo* 'belly', Ton, Niu *ao* 'front'

riki 'small' > Ton *-liki*, Niu *likiliki* 'small', Ton *iiki*, Niu *ikiiki* 'small'

rongo 'hear' > Ton *longo* 'silent', Niu *fakalongolongo* 'silence', Ton *ongo* 'heard', Niu *ogo* 'report, message'

Note: 1. Perhaps *muli*. From Biggs (1994a) citing "(Mtn)".

While these would seem to be the best evidence for doublets in Proto Tongic, only two of the six existed at that level with any certainty: PTo *fio* 'mix', *filo* 'twist cord' and PTo *qao* 'front', *qalo* 'belly' are securely reconstructed on the basis of doublets with semantic agreement of Tongan and Niuean for each pair. Three others are possible Proto Tongic doublets but the semantics of the Tongan and Niuean doublets do not match closely enough to attribute particular meanings to a Proto Tongic pair. Those pairs are the would-be Proto Tongic doublets *mio/*milo* 'twist cord', *mui/*muli* 'behind, after',[4] *ongo/*longo* 'hear'. The sixth pair (variants of PPn *riki* 'small') occurs due to a residual Tongan retention in compounds and a difference in Niuean dialects—so there are actually doublets with contrasting semantics in neither language.

Pattern 2 (doublet in Ton and loss in Niu)

fara 'pandanus' > Ton, Niu *faa* 'pandanus', Ton *fala* 'mat (gen.)'

marama 'light' > Ton, Niu *maama* 'light,', Ton *malama* 'v.i. shine, give light'

refu 'ashes' > Ton, Niu *efu-efu* 'ashes', Ton *lefu-lefu* 'grey bird'

rua 'two': Ton, Niu *ua* 'two', Ton *-lua* 'two (in some compounds)'

Since this pattern exhibits loss in Niuean, we wonder if the Tongan forms with *l* are Post Proto Tongic borrowings from Nuclear Polynesian in Tongan. In the first three there is no semantic argument for Nuclear Polynesian influence. The fourth (Ton *-lua*) is clearly a borrowing from Nuclear Polynesian (Table 4.4), because the form to which it suffixes in the sources is a borrowing from Nuclear Polynesian (Ton *foe-* 'paddle', as opposed to the common free form Ton *fohe*).

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[4] Further weakened by an irregular vowel in the possible Ton cognate of the second form.

Pattern 3 (doublet in Ton and retention in Niu)

rara 'heat over fire' > Ton *aa* 'heat leaves over fire', *lala* 'half-cooked', Niu *la(ngi)* 'smoke over fire'

tere 'sail, be afloat' > Ton *tee* 'float, go visiting', *tele* 'graze, touch', Niu *tele* 'float, creep'

Note that the second Ton form in the second group (*tele*) is at best a dubious cognate and that this group really consists of only one certain example (and may belong in Pattern 6).

Here again I could find no particular congruence of Nuclear Polynesian semantics in those Tongic words retaining *r* as *l*. In the second case Niuean retains the Proto Polynesian sense in an *l* form while Tongan retains that sense in the form with loss and has a quite different meaning for the form with the (potentially borrowed) retention of *r*.

Pattern 4 (doublet in Ton and no known cognate in Niu)

maquri 'alive' > Ton *mo'ui* 'alive', *maa'uli* 'practise midwifery'

This Tongan doublet has no apparent Nuclear Polynesian semantic source. It would not be a recent borrowing from Samoan since it retains the glottal stop.

Pattern 5 (loss in Ton and doublet in Niu)

raku 'scratch' > Ton *(v)aku* 'scratch', Niu *(v)aku-aku* 'scratch', *laku* 'mix with hands'

The Niuean form that retains *r* as *l* in this group has only a weak semantic agreement to the others and may not be cognate.

Pattern 6 (loss in Ton and retention in Niu)

firi 'braid, plait' > Ton *fii*, Niu *fili*
fore 'peel or strip (as skin or bark)' > Ton *(au)foe*, Niu *(fo)fole*
kora 'dregs' > Ton *koa*, Niu *kola*
qara 'awake' > Ton *'aa*, Niu *ala*
raqa 'branch' > Ton *va'a*, Niu *laa*
rau 'k. of net' > Ton *au*, Niu *lau*
tara(q)i 'hew' > Ton *taa'i*, Niu *talai*
turi 'knee' > Ton *tui*, Niu *tuli*
uru 'arrange hot stones' > Ton *uu*, Niu *uulu*
waru 'scrape' > Ton *vau*, Niu *volu*

This group is of interest due to its size (it is the largest by a third) and its definition as the one in which there is never a retention as *l* in Tongan and there is never a loss in Niuean. This group may constitute evidence that Niuean diverged from Tongan retaining at least some PPn *r* as distinct from *l*, and later merged some *r* with *l* rather than losing them. Alternatively, the "retentions" in Niuean could be borrowings from East Polynesian.

Conclusion

In some instances (Pattern 1) there may be cases of Nuclear Polynesian loans in Proto Tongic. Others could be as well (Patterns 3 and 4). Pattern 2 has the distribution expected for Nuclear Polynesian loans in Tongan after the divergence of Niuean. Pattern 6 may be a residue of retained PPn *r* in Niuean (from a residue in PTo). Some Pattern 6 forms could be East Polynesian loans in Niuean but there are no doublets, a common result of borrowing.

5.2.2 Irregularities of Niuean

Here I review some unexpected agreements in Niuean. Rensch (1987:575) suggests that any "missing" PPn *h sounds in Tongan and Niuean occurred (under Nuclear Polynesian influence) incipiently or diffusely over a long period of time. We have already seen (§4.3.5) that such losses in Tongan are surely loans from Nuclear Polynesian—Samoan, presumably. Here I show that Rensch's (1987:573–574) examples of loss in Niuean are very limited and largely in error. The examples Rensch puts forward for loss in Niuean are:

Table 5.4: Some Niuean doublets with and without /h/ (Rensch 1987)

Retention		Loss	
holo	'to grind, grate'	*olo*	'to smoothen'
hola	'to flee, escape'	*ola*	'life'
pihi	'to splash, splatter'	*pii*	'to sprinkle'
hiloa		*iloa*	'I don't know'
hinafi		*inafi*	'scale of fish'
hafangi		*afangi*	'to open'
hafua		*afua*	'fine (of weather)'
fuhi		*fui*	'bunch, cluster'
kakaha		*kakaa*	'burn'
hafule		*afule*	'clear dead leaves from plant'
haloka		*aloka*	'to talk'

These can be shown to involve a loss of PPn *h in only two instances. The other cases involve:

1. doublets which existed in Proto Polynesian and are not unique to Niuean;

2. residues of the Proto Polynesian glottal stop as *h* in only one of the Niuean dialects (rather than following the more common pattern of loss); and

3. only more rarely diffused losses of PPn *h.

The instances of Proto Polynesian doublets are the first three above and consist of PPn *holo* 'grate, grind', versus PPn *olo* 'to smoothen'; PPn *sola* 'flee', versus PPn *ola* 'life'; and PPn *pihi* 'squirt, spurt', versus PPn *pii(pii)* 'sprinkle water'. The next four had initial glottal stop in Proto Polynesian, and the Niuean form with a corresponding *h* is from the Niuean Motu dialect when the source dialect is indicated by Biggs, McEwen or other sources (PPn *qilo* 'to know', *qunafi* 'scale a fish', PPn *qafa* 'open, apart', PTo *qafua* 'fine (of weather)'). These seem not to be insertions after the loss of the PTo glottal stop because I find no such insertions for Niuean in Biggs (1994a) when there was no glottal stop. Niuen *h* (Motu dialect) is therefore a residue of the PTo glottal stop in these instances. Other examples (from Sperlich 1997) are *hagohago* 'of suitable proportions' (PNP *qago* 'thin'), *hapi(ni)* 'carry under arm' (PPn *qafi* 'carry under arm'). Only Niu *fuhi~fuifui* (PPn *fuhi* 'bunch') and *kakaha~kakaa* (PPn *kaha* 'burn') were found to be examples of what Rensch was actually talking about. But these are localised losses of PPn *h* in alternate pronunciations, not a general encroachment of Nuclear Polynesian phonological processes as Rensch suggested. The final two examples in Table 5.4 could not be related to evidence external but are typical of alternations in Niuean where one pronunciation shows word-initial *ha-* and the other *a-*, possibly as a result of old dialect differences which are now said to have "virtually disappeared" (Sperlich 1997:25). I take them to be old glottal stop forms which

have residual retention of the glottal stop as *h* in one dialect because I can find no insertion rules or sporadic losses of PTo **h* which would otherwise explain their histories.

5.2.3 *Western Polynesian vocabulary agreements*

Here I review a particular phenomenon involving vocabulary agreements around Western Polynesia (excluding Niuean). Tongan, Samoan, East Uvean and East Futunan share a higher portion of general vocabulary with each other than, for instance, Tongan does with Niuean, or Samoan with any of the Outliers or East Polynesian languages,[5] which are their more immediate relatives (Table 5.5). So we are left with the question of whether this is due to Post Proto Tongic, Post Proto Nuclear Polynesian and Post Proto Ellicean borrowings among the languages of Western Polynesia, or to the tendency of these languages to have similar retentions from Proto Polynesian. I posit that these agreements are mainly due to the latter, since there is actually very little vocabulary unique to Western Polynesia (less Niuean).

There are only about one hundred words shared between Tongan and other Western Polynesian languages (less Niuean) that are not known from the Outliers and/or East Polynesia, and loan phonology does not allow for their evaluation as Post Proto Polynesian loans (§4.3.1). But this is a very small number and indicates that active sharings or borrowings between ancient Tongan and Samoan must mainly have ceased before the divergences of Pukapukan, the Outliers and East Polynesian. On the other hand one would like to account for the generally higher agreements in vocabulary of Western Polynesian (than with their closest genetic relatives). Pawley (1970) does so by suggesting a tendency for larger language communities, like Tongan and Samoan, to be more conservative while the Outliers have smaller populations and, similarly, the initial East Polynesian speech community may have been very small and a founder effect may have occurred there. I would also suggest that it occurred through a certain level of continuing social contacts around Western Polynesia, a consequent recognition of cosmopolitan vocabulary and a bias towards its retention.

Here I crunch the numbers to show what linguists are talking about when they mention the high vocabulary agreements of Western Polynesian languages (excluding Niu, Tuv and possibly Tok which was not tabulated). The raw figures for known cognates between some of the languages are given in Table 5.5.

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[5]   With the exception of rather high scores of Sam with Tik.

Table 5.5: Number of known cognate vocabulary items for some Polynesian languages

	Ton	Niu	EFu	EUv	Sam	Tuv	Eas	Mqa	Haw	Tah	Mao
CWA[1]	2043	1333	1842	1459	1939	1313	732	1422	1688	1804	2462
Ton		1099	1437	1268	1466	952	442	785	813	870	1100
Niu	1099		947	817	998	718	375	642	649	691	847
EFu	1437	947		1214	1369	951	420	733	750	786	987
Euv	1268	817	1214		1105	814	362	599	614	648	814
Tik	1042	784	1055	829	1062	852	388	689	691	730	871
Sam	1466	998	1369	1105		961	451	802	826	902	1116
Tuv	952	718	951	814	961		369	584	601	626	773
Tok	760	553	704	585	810	622	283	477	480	521	616
Nuk	714	550	689	562	734	595	332	545	538	571	654
Eas	442	375	420	362	451	369		516	516	537	599
Mqa	785	642	733	599	802	584	516		981	976	1118
Haw	813	649	750	614	826	601	516	981		1103	1395
Tah	870	691	786	648	902	626	537	976	1103		1405
Rar	914	738	829	669	931	662	540	1000	1127	1351	1491
Mao	1100	847	987	814	1116	773	599	1118	1395	1405	

Notes: 1. "CWA": words for a language known to be "cognate with any" other language (varies by size of dictionaries and amount of work Biggs has done on a given language). Source: author's machine counts from Biggs's (1994a) data base.

"CWA" (words cognate with any other language) are variable due at least to the extent of description, Pawley's (1970) "large island" effect and a founder effect common to East Polynesian. So I also present the calculations in Table 5.6 where each score is weighted. The average CWA for the eleven languages in Table 5.5 was 1640. Each language was then assigned a weight based upon whether it had more or less than the average. Tongan, for instance, with 2043 CWA had a weight of 1.25 while Rapanui, with 732 CWA had a weight of 0.45. The weights of the two languages compared were, in each instance, used as denominators with their scores from Table 5.5 as the numerator. So, for instance, the Table 5.6 score for Tonga with Rapanui is 786 (442/(1.25x0.45)). These are simple lineal denominators where in reality correction should be on some incalculable exponential curve based upon dictionary size, the fact that some vocabulary is more conservative than others, the amount of time Biggs spent working on each language and other factors. The most obvious distortions are the "overloading" of languages with low CWA (e.g. Eas) and the "underloading" of languages with high CWA (e.g. Ton, Sam and esp. Mao).

Table 5.6: Number of known cognate vocabulary items for some Polynesian languages – weighted by each language's known cognates with any other language

	Ton	Niu	EFu	EUv	Sam	Tuv	Eas	Mqa	Haw	Tah	Mao
Ton		1086	1026	1140	994	952	786	722	631	633	586
Niu	1086		1044	1133	1044	1108	1028	911	778	775	698
EFu	1026	1044		1218	1036	1062	833	753	650	638	588
EUv	1140	1133	1218		1052	1144	903	774	670	662	609
Sam	994	1044	1036	1052		1018	849	782	680	695	630
Tuv	952	1108	1062	1144	1018		1025	839	730	712	644
Eas	786	1028	833	903	849	1025		1318	1114	1084	887
Mqa	722	911	753	774	782	839	1318		1095	1020	857
Haw	631	778	650	670	680	730	1114	1095		974	903
Tah	633	775	638	662	695	712	1084	1020	974		852
Mao	586	698	588	609	630	644	887	857	903	852	

Notes: See discussion in text above for how calculations were run and what biases resulted.

In any event, this is what we know of general vocabulary agreements amongst Polynesian languages at this time and, like the lexicostatistics (Dyen 1965, Biggs 1978), the scores are about as high (or higher) amongst the Western Polynesian languages as they are with the languages to which they are more closely related (i.e., Ton with Niu; Sam with EP). As noted above, this is due to shared retentions from Proto Polynesian rather than to uniquely shared Western Polynesian vocabulary.

5.2.4 Conclusion

Our family tree of Polynesian languages, showing Nuclear Polynesian as a group distinct from Tongic, implies that East Polynesian and the Ellicean Outliers originated in ancient Samoan speech rather than ancient Tongan. Our classing of linguistic sharings between Tongic and Nuclear Polynesian *before* those divergences as "shared innovations" and *afterwards* as "borrowings" is a terminological convention.

That distinction seems less pertinent after the present study, because it now seems quite clear that the period of intense and even casual sharing of innovations between ancient Tongan and ancient Samoan had ended by the time of the disintegration of Proto Nuclear Polynesian. Social contacts may have been more or less intense but sharing linguistic innovations had mostly ceased. Mainly we are able to show some Proto Tongic and Tongan borrowings from Nuclear Polynesian. Candidates for Post Proto Ellicean borrowings from Tongic in Samoan are relatively rare and less certainly loans.

5.3 Tongic

Pawley (1966:57–59) first set out evidence of shared innovations for this group (Tongan and Niuean) while Elbert (1953) suggested a group of Tongan, Niuean, East Futunan and East Uvean based upon less diagnostic evidence. Pawley's arguments for Tongic will be reviewed presently. From the present study of sporadic consonant changes we can add the evidence for Tongic in Table 5.7.

Table 5.7: Sporadic consonant changes of Proto Tongic

PPn *(t,k)amata[1]	PTo *kamata	'taste, attempt, try'
PPn *mamawa	PTo *mamao	'yawn'
PPn *qaoa	PTo *qovava	'banyan tree'
PPn *qafinga	PTo *qafine	'armpit'

Notes: 1. Direction of change uncertain.

In the case of the first pair of agreements, we cannot be sure what the Proto Polynesian form was but in the other three it is quite certain; and Tongan and Niuean share innovations which are unique with respect to the reconstructed forms (Chapter 2). I know of no shared sporadic vowel changes unique to Tongic but there are many vowel change rules which must be so narrowly specified for Tongan and Niuean together (§3.2.1) that common history is the only appealing solution. Regular consonant changes common to Proto Tongic and no other Polynesian languages are the merger of PPn *h and *s and the loss of PPn *r (Elbert 1953).

Pawley (1966:57–59) put forth the following shared innovations and uniquely shared features to define a Tongic subgroup:

1. Certain innovations as compared to the PPn pronouns:

PPn	*kitato(l)u	*kimato(l)u	*kilato(l)u
PTo	*kitautolu	*kilautolu	*kitautolu
	1pip	1pep	3pp

2. Use of *-utolu[6] as the pronominal trial marker versus PNP and Fij *tou.

3. "Several cases of grammatical markers in which PPn *a has become PTO *o or *e:"

    a. "PPn *ha-nga- 'stem formative' in *hangafulu 'ten' is reflected by PTO *ho-ngo- in *hongofulu 'ten'...; PPn *rua-nga-rau 'two hundred' is reflected by *-nge- in PTO *ua-nge-au..."

    b. "PPn *ma 'and, with, plus'... is reflected by PTO *mo..."

    c. PPn *-na- 'past time' is reflected by PTO *-ne- in the following: PPn *nanafi 'yesterday'... is reflected by PTO *-neafi...; PPn *nafee or *nafea 'when? (past time)'..., reflected by PTO *-nefee...; PPn *napoo 'last night'... is reflected by PTO *-nepoo..."

4. PTO "here", "there" and "specified location" "differ from the PTO demonstratives only in the presence of initial *h-.", i.e. PTO *eni, *ena and *ee versus *heni, *hena and *ee.

5. Certain uniquely shared features, not all of which can be shown to be innovations against PPn.

Dyen (1981:97) notes that "[t]here is little reason to quarrel with the notion that Tongan, Niuean and probably also East Uvean formed some kind of grouping within the Polynesian speech types..." As in earlier portions of that work, Dyen's main argument for the inclusion of East Uvean in Tongic was lexicostatistical. A telling passage in Dyen (1981:83) states that "[s]urely either the lexicostatistics must be widely in error or Biggs' subgrouping must be in

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[6]   Pawley (pers. comm.). Pawley (1966) read "-tolu".

error" with reference to Biggs's (1978) classification (which follows Pawley's). Rates of lexical retention and loss are variable and there is no reason to expect that the lexicostatistical scores of any group of languages will closely match classifications obtained through the demonstration of uniquely shared innovations (such as sporadic sound changes or shared innovations in morphology).

5.4 Nuclear Polynesian

Pawley's definition of Nuclear Polynesian[7] has been attacked by Dyen (1981). Harrison (1981:204) points out that Dyen's main attack was lexicostatistical but also contained a qualitative attack on the "six major innovations proposed by Pawley" (Harrison 1981:205). Harrison notes that "[t]hough they all merit comment... the alternatives he proposes are, in many instances, no more plausible or persuasive than those he attacks". The word "opportunistic" comes to mind because Dyen's alternant explanations seem *ad hoc* compared to the postulation of Tongic and Nuclear Polynesian groups (and the implications that flow from that). Here I shall return to the method of subgrouping of the present work (shared sporadic sound changes) and note the changes of PPn *hui* > PNP[8] *iwi* 'bone', PPn *tafu-raqa* > PNP *tafo-laqa* 'whale', and PPn *kui* > PNP *kiwi* 'blind' (§3.4.2). I know of no uniquely shared sporadic consonant changes defining Nuclear Polynesian.

Other phonological evidence for Nuclear Polynesian is the merger of PPn *r* and *l* and the loss of PPn *h* (Elbert 1953, Pawley 1966).

5.5 Unclassified Nuclear Polynesian languages

East Uvean, East Futunan, Pukapukan and the "Futunic" Outliers are unclassified Nuclear Polynesian languages by the present analysis. There is no regular or sporadic sound change shared by "Futunic" Outliers languages that could be demonstrated other than a few sporadic vowel changes amongst two or three adjacent languages. Those sharings overlap through the group but are rather rare suggesting some dialect chaining or local borrowings. There are some uniquely shared lexemes through some "Futunic" Outliers (cf. Biggs 1994a). The only one that is fairly well distributed is *nofine* 'wife' (Anu, Mfa, Pil, Tik, WFu). There are two problems with suggesting it could be an innovation of a "Futunic" Outlier group. The first is that the form could be a shared loss amongst other Polynesian languages. The second is that such cultural vocabulary is borrowed rather easily. The form could have arisen locally in one of the Outliers and come into usage elsewhere as a part of cultural contacts that otherwise had little other linguistic impact. Pawley (1967) suggested a smaller group consisting of the Vanuatu-Loyalty Outliers (WFu, MFa, Mae and WUv) but no other clusters are yet apparent except a group within that group consisting of Mele-Fila and Futuna-Aniwa (Clark 1978).

"Samoic-Outlier" ("Futunic", Ellicean Outlier, East Uvean, East Futunan, Samoan and Tokelauan) (Pawley 1967) is abandoned in the present study since no uniquely shared

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[7]   Pawley's (1966, 1967) definition of Nuclear Polynesian based chiefly upon shared innovations in morphology was to some extent presaged by Elbert's (1953) where all languages now considered Nuclear Polynesian, other than East Futunan and East Uvean, were blocked together in a table of sound correspondences and linked in a family tree.

[8]   East Uvean does not share the vowel change of the first but it also retains the PPn *h* as *h* in that word; so on the basis of both the consonants and the vowels, EUv *hui* 'bone' is irregular and a borrowing from Tongan.

sporadic sound changes could be found to support it. "Samoic-Outlier" is also abandoned because evidence in the following section demonstrates that Ellicean (Ellicean Outlier, Samoan-Tokelauan and Eastern Polynesian) continued to share innovations after the divergence of "Futunic" Outliers, Pukapukan, East Uvean and East Futunan. See also Marck (1999).

5.6 Ellicean

This group (Samoan, Outlier Ellicean, Tuvalu, Tokelauan and East Polynesian) was first defined by Wilson (1985) on the basis of uniquely shared changes in pronominal systems. The method employed here, that of isolating uniquely shared sporadic sound changes, resulted in a different, more general, internal subgrouping, but both studies agree on overall membership of the group.

Ellicean languages have no attested uniquely shared sporadic consonant changes. There are at least three sporadic vowel changes common to Ellicean (see Table 5.8). The evidence for them is given in §3.4.3. Some of those vowel changes occur in a few other languages but they only occur *en masse* amongst the Ellicean languages.

Table 5.8: Sporadic sound changes of Ellicean

PPn > PNP *mafu	PEc *mafo	'to heal'
PPn > PNP *fuanga	PEc *foanga	'whetstone'
PPn > PNP *kiu	PEc *kiwi	'bird sp.'

5.7 Ellicean Outlier

Pawley (1967:286) found the evidence for Ellicean Outlier to that time "considerably below that needed to establish a subgroup". Although materials presented established Northern (Nuk, Kap) and Central (Sik, Ong, Tak) groups, he could not link the two with each other or with Tuvalu (Vai, Nan) as closed groups with what he felt were conclusive arguments.

Howard (1981) had a good deal of published data on Outlier languages not available to Pawley (1967) and Howard's article remains the most solid basis for suggesting a closed group. The paper asked if a group composed of Tuvaluan and the Central and Northern Outliers could be supported. A few uniquely shared sporadic sound changes or uniquely shared lexemes were found to be strongly suggestive of such a group. Aside from a sporadic sound change mentioned above, Howard (1981:111–114) gives:

Table 5.9: Possible shared sporadic sound changes of Ellicean Outlier from Howard (1981)

PPn	*futu	*paqikea	*saqele	*(t,s)apatuu	*sau-pulu (Ton)	*qaukau
PEcO	*kafusu	*kaipea	*saale	*tapatuu	*tau-pulu	*u(u)kau
	'Barringtonia'	'crab sp.'	'go, walk'	'barracuda'	'caulk'	'pus'
	1	2	3	4	5	6

Most of the items in Table 5.9 have problems that weaken their value as potentially shared innovations. Several have doublets of the older pronunciations in one or more languages (1, 2, 3 and 6). Doublets are a common consequence of borrowing, and examples of sporadic

sound changes presented as evidence in the present work do not involve doublets. Item 4 may be a case of conflation (§4.2) rather than a shared sporadic sound change and the direction of change is uncertain. Item 5 may be composed of different initial morphemes and is attested only in Tongan, Tuvalu and Takuu (and may be a local development in each instance).

Howard was not able to give much consideration to Tokelauan because extensive wordlists and the current dictionary were not available. He did, however, find three uniquely shared features between Tokelauan and the "Equitorial Outliers" (Nuk, Kap, Nkr, Tak, Nkm, Ong and Sik). However, these are not demonstrably innovations and may be uniquely shared retentions.

I know of only one shared sporadic sound change that imperfectly defines an Ellicean Outlier (Nuk, Kap, Nkr, Tak, Nkm, Ong, Sik, Tuv) group (PPn > PNP > *faqelu* > PEcO *failu* 'wipe anus' (Howard 1981)). The innovative form is known from the Ellicean Outliers (including, as Howard did, Tuvalu and Tokelauan) but no cognate is known to me from Samoan. The change of the second vowel is shared with Tahitian but no other East Polynesian language. Proto Polynesian, Proto Ellicean and Proto East Polynesian were clearly still *faqelu* on the basis of all other East Polynesian agreements. In the context of trying to find more such shared changes I came to observe that all other cases of such sporadic sound changes amongst Ellicean Outlier languages are also shared with Samoan, Tuvalu, Tokelauan and East Polynesian. Thus the definition of Ellicean Outlier depends upon a single sporadic vowel change, upon Bayard's (1966) initial lexicostatistical observations and upon the more diagnostic work of Pawley (1967) and Howard (1981).

Overall, there is still little evidence for a subgroup composed only of Ellicean Outliers and Tuvalu and even less for one that would include those languages and Tokelauan. The strongest evidence is Howard's PPn *faqelu* > PEcO *fa(a)ilu* 'wipe anus', since East Polynesian languages retain the Proto Polynesian vowel configuration. Even this form has a doublet with regular agreements to Proto Polynesian (Tuv *faaelu*). The doublet could exist there as a loan or alternate pronunciation[9] from Western Polynesian neighbours.

5.8 Samoan-Tokelauan

Hovdhaugen (1992) has considered the history of Tokelauan with respect to Samoan in some detail. He concludes that:

> The contact between Samoan and Tokelauan has mainly taken place in the last one hundred and fifty years. During this period, most of the contact has taken place in Tokelau, where all Tokelauans have acquired a fluent, passive command and a more or less good active command of Samoan through reading the Samoan Bible, singing Samoan psalms and songs, and listening to Samoan pastors. The result of this contact with Samoan is that many Tokelauans on certain occasions use Samoan words and phrases as a stylistic device... and that a number of Samoan loanwords have entered the Tokelauan vocabulary (Hovdhaugen 1992:62–63).

Hovdhaugen (1992:63–68) then gives a list of 137 Tokelauan borrowings from Samoan. In some instances they are identifiable loans because there are doublets, because Tokelauan does not have its regular correspondence to a protolanguage (and follows Samoan) or because

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[9]   Hovdhaugen (1992) mentions register and other social variables surrounding the use of Sam pronunciations in Tok. No one has addressed such issues for Tuv.

Tokelauan people are simply aware that they are recent borrowings. But I also find four forms in Biggs (1994a) where Tokelauan shares a sporadic vowel change with Samoan and only the second has a doublet:

Table 5.10: Some shared sporadic sound changes of Samoan and Tokelauan

PEc		Sam	Tok
fatu-tili	'thunder'	*faititili*	*faititili*
loo	'ant'	*loi*	*loo, loi*
mutie	'grass'	*mutia*	*mutia*
taqahine	'girl'	*teine*	*teine*

Where Hovdhaugen identified recent borrowings, the above sharings probably constitute the insidious results of contact over a long period of time because they constitute such a large share of Samoan's vowel irregularities overall. Why would these particular odd pronunciations be adopted at once in the recent past when the Tokelauan lexicon remains so distinct from Samoan? By the present method of focusing on shared sporadic sound changes, I suggest a subgroup. Samoan has experienced very few sporadic sound changes since the demise of Proto Nuclear Polynesian and Proto Ellicean. There are only seven which do not seem to be shared with Tokelauan (Appendix B).

5.9 East Polynesian

There are two attested sporadic sound changes of East Polynesian languages: one sporadic vowel change and one sporadic consonant change. These are given in Table 5.11 and the evidence for them can be found in §2.2.7 and §3.4.4 respectively.

Table 5.11: Sporadic sound changes of Proto East Polynesian

PEc *manga-wai*	PEP *mana-wai*	'tributary water course'
PEc *salu*	PEP *seru*	'scrape, comb'

The group has been argued by Elbert (1953), Green (1966) and Pawley (1966), and more recently by Green (1988) with an additional summary by Marck (1996a). Because the group is marked by very few sporadic sound changes, I list the most compelling morphological innovations in Table 5.12.

Table 5.12: Proto East Polynesian morphological innovations

***i** 'past, past position': a tense marker regularly replacing PPn *ne* or *na*: Eas, Haw, Mao, Mqa, Mva, Pen, Rar, Tah *i*. Green (1988) and Pawley (1966) have PPn *ne'e* or *na'a* but there is little evidence for the second syllable in either form: PPn *na*: Ton *na'a*, Efu, Mfa, Niu, Ren, Sam *na*, Euv *nana*, Lua *ngaa*, Tok *naa*. PPn *ne*: Anu, Ece, Euv, Kap, Niu, Nuk, Tik, Ton *ne*.
***kore** 'negative': Eas, Mva, Pen, Rar, Tua *kore*, Haw *'ole*, Mao *kore*, Mqa *ko'e*, Tah *'ore*. Pawley (1966:60) and Green (1988:Table 1) have PEP *kaa-ore/kore*, the first based on: Mao *kaahore/kaaore*, Rar *kaare*, Tah *'aore*, Haw *'a'ole*, Mqa *ka-ko'e*, Mva *ka-kore*.
I would reconstruct *kakore* as a variant of *kore* for PMq and *kaa-ore* for PTa.
***pe-aha** 'conjecture, perhaps (postposed marker)': Eas *peaha*, Haw *paha*, Mao *pea*, Rar *pa'a*, Tah *paha*, Tua *paha* 'perhaps' (and Fij *beka* 'polite uncertainty, perhaps', Ton *apee* 'conjecture', Sam *pea* 'persisting', Tok *pea* 'nevertheless, still; continuously').
Pawley (1966:61) has PEP *paha*, Green (1988:Table 1) has PEP *pafa* and Biggs (1993) has PEP *pe-aha*, cross-referencing the form to PPn *pe(e)* 'be alike, resemble', PCE *paha* 'perhaps' and to the irregularly corresponding forms from Fij, Ton, Sam and Tok above. I have accepted Biggs's

Table 5.12 (continued): Proto East Polynesian morphological innovations

PEP reconstruction in this case on the basis of the EAS form as well as the more tenuous external evidence.

*aha 'what': Eas, Haw, Mao, Mqa, Pen, Tah, Tua *aha*, Mva *a'a*, PPn **hafa*, Fij *cava*, POc **nsapa*, PAN **sapa* 'what'. Cf. Ton *haa*, Sam *aa*, but also Kap, Nuk, WFu *aha*, MFa *afa*.

> Pawley (1966:61) and Green (1988:Table 1) contrast this with Ton and Sam which have unexpectedly lost the second PPn consonant. In that case it would be a shared retention of EP languages rather than a shared innovation. At any rate it needs to be dismissed as a shared retention, too, as several Outliers also retain the second consonant. There is nothing unique about this PEP form.

*he aha...ai 'why': Mao, Tah, Mva *he aha ... ai*, Eas *he aha* "with indefinite article **he*, corresponding to PSO **ko te aa te mea...ai*, PTo **ko e haa...ai*, with initial specifier **ko* plus definite article" (Pawley 1966:61).

*e...qana discontinuous marker meaning 'habitual or progressive tense-aspect' Haw, Mao, Mqa, Mva, Rar, Tah, Tua *e...ana*; Eas *e... 'ana/'a*.

*he(i) 'future position, purposive' Mao, Mva, Rar, Tua *hei*; Eas *he*.

After Pawley (1966:59–61) and Green (1988:Table 1) with additional data from Biggs (1992). Reconstructions here are the author's interpretation and do not necessarily agree with all of Pawley, Green and Biggs. Reproduced from Marck (1996a:List 1).

Marck (1996a:List 2) also gives twenty-three of 112 uniquely shared lexemes from Biggs (1992).

5.10 Central East Polynesian

Proto Central East Polynesian is well defined by sporadic sound changes and I shall not list other evidence from Green (1966, 1988), Pawley (1966) or Marck (1996a). There are three attested uniquely shared sporadic consonant changes (Chapter 2) and four uniquely shared sporadic vowel changes[10] (§3.4.5). There is also a uniquely shared borrowing from Niuean:

Table 5.13: Sporadic sound changes of Proto Central East Polynesian

PCE **hungawai*	PMq **hungowai*	'parent-in-law'
PEP **nguu-feke*	PCE **muu-feke*	'squid'
PEP **ngau* 'chew'	PCE **ngau*	'chew', **ngahu* 'bite'
PEP **faahua*	PCE **paahua*	'Tridacna (giant clam)'
PEP **kai*	PCE **koi*	'sharp'
PEP **kumi*	PCE **kumu*	'strangle'
PEP **kau-natu*	PCE **kau-nati*	'fire-plough'
PEP **wae*	PCE **wae* Niu *wehe* > PCE **wehe*	'divide'

[10] Biggs (1994a) and Biggs and Clark (1996) also give PCE **aute* 'paper mulberry tree' from PPn **kaute* but Tah and Rar contain regular reflexes of the initial consonant while Mao and Mq lack such reflexes. With both Mao and Mq lacking a regular initial consonant, borrowing from Ta (where **k* > glottal stop) could be the Mao and Mq source or there could have been an irregular loss in Mq and another in Mao (or a Mao borrowing from Mq, cf. Harlow 1994). In any event it is apparently not a sporadic sound change of PCE.

Central East Polynesian dictionaries all seem to give the **wae/*wehe* doublet, defining them in more or less the same words and cross-referencing them to each other without commenting on how their use differs. Possibly it is a matter of register(formality, social context, etc.).

5.11 Marquesic

I have found only one sporadic consonant change for Proto Marquesic, the loss of PCE **w* in PCE **hungowai* 'parent-in-law' > PMq **matua-hungoai* > Haw *makua-huunooai*, Mqa *motukoai* 'id.' Marquesic languages share the six sporadic vowel changes given in Table 5.14 (evidence for these changes is given in §3.4.5).

Table 5.14: Sporadic sound changes of Proto Marquesic

PCE **haere*	PMq **here*	'go, walk'
PCE **muka*	PMq **muko*	'growing tip'
PCE **taiti*	PMq **teiti*	'child'
PCE **tao-kete*	PMq **to-kete*	'ego's same-sex sibling-in-law'
PCE **tokelau*	PMq **tokolau*	'north'
PCE **tua-ngaane*	PMq **tu-ngaane*	'woman's brother'

Source: Green (1966), Marck (1996a) and §3.4.5.

Other arguments for Proto Marquesic from Green (1966) are updated and expanded by reference to Biggs (1992) in Marck (1996a).

5.12 Nuclear Marquesic

Nuclear Marquesic (Marquesan and Mangarevan) is attested by one case of uniquely shared metathesis (PMq **hakari* > PNM **erehi* 'mature coconut') (Table 2.10) in which **k* was sporadically lost. Nuclear Marquesic is also defined by a diffused sound change which affected the same words in those languages (§3.3.1). The change had affected many Proto Nuclear Marquesic forms and then went on to affect additional forms in Marquesan (but no more in Mangarevan) after their divergence from each other.

5.13 Tahitic

Tahitic was first defined by Elbert (1953) and then more clearly by Green (1966). Marck (1996a:505–507) lists Green's arguments and gives a sample of exclusively shared lexemes from Biggs (1992). I cannot show any sporadic consonant changes for Tahitic but ten shared sporadic vowel changes are given in Table 5.15 and the evidence for those changes can be found in §3.4.5. See also §4.1 for a discussion of a couple of shared morphological changes in Tahitic.

Table 5.15: Sporadic sound changes of Proto Tahitic

PCE *kumi*	PTa *kimi*	'seek'[1]
PCE *urufe*	PTa *aruhe*	'fern sp.'
PCE *ka(a)tafa*	PTa *kootaha*	'frigate bird'
PCE *katafa*	PTa *kootaha*	'bird's nest fern'
PCE *rimu*	PTa *remu*	'moss, seaweed'
PCE *mutie*	PTa *matie*	'grass'
PCE *nonu*	PTa *nono*	'plant sp.'
PCE *tanga-amimi*	PTa *tongaamimi*	'bladder'
PCE *toko-mauru*	PTa *tokomauri*	'hiccough'
PCE *tuhunga* 'expert'	PTa *tahunga*	'priest' (Haw *kahuna* 'priest' considered a borrowing from Ta)

Notes: 1. Also Eas *kimi* and Haw *'imi* which may be Ta loans, given Mqa *'umi-*.

5.14 Nuclear Tahitic

Biggs (1994b) asked if NZ Maori had a closest relative. He concluded (Biggs 1994b:104) that "[i]mpressions that Ratotongan is closer than Tahitian to Maori may be due to the innovative nature of Tahitian rather than a special relationship between Rarotongan and Maori". Harlow (1994) considered evidence of multiple inputs during the establishment of Tahitic in New Zealand, suggesting, among other things, that there may have been Marquesic mixing with a Tahitic dialect during the development of South Island Maori.[11] His conclusions are, like Biggs's, consistent with a Tahitic heartland (Cooks, Societies, Astrals and Tuamotus) without much internal diversity at the time NZ Maori diverged.

Although I have not indicated a subgroup in Figure 1.2, I would like to suggest that NZ Maori may have been the first to diverge from other Tahitic (that other Tahitic went on to share further innovations apart from NZ Maori). The evidence is indicative and problematic rather than conclusive in any way but it suggests an additional dimension to an elusive problem—the origins of NZ Maori. As I have named Nuclear Marquesan along the same lines as Nuclear Polynesian (i.e., the group remaining after the divergence of the first language from the others), I propose that, should the present suggestion be sustained by better evidence, Tahitic languages other than NZ Maori be named "Nuclear Tahitic (NT, PNT)".

The evidence is a single sporadic sound change and a single morphological reinterpretation. The sporadic sound change is PTA *taina* > PNT *teina* 'younger same-sex sibling' (Tah, Rar, Pen *teina*, Tua *teeina*) where NZ Maori retains the older pronunciation in one of its dialects (Eastern Maori *taina*, Western Maori *teina*). The morphological reinterpretation is the change of PCE *ma-uii* 'left, not right' to the form *ka-uii* in all Tahitic but NZ Maori and the Aitutaki dialect of the Southern Cooks, which reflect the PCE pronunciation.

As Biggs (1994b) and Harlow (1994) have shown, the answer to a question depends very much on how the question is asked. So perhaps we should ask if we can find retained features of Proto Central East Polynesian (and hence define the situation in Proto Tahitic) in NZ Maori where all other Tahitic show a uniquely shared innovation. I have not begun that search because the question only occurred to me as the present work was coming to a close.

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[11] Parenthetically, neither Biggs nor Harlow speak of "Proto NZ Maori" and such has never been proposed or demonstrated.

5.15 Conclusion

The Polynesian language family developed its distinctive characteristics during a long period of common development *in situ* in Western Polynesia (Pawley 1996). Some shared innovations mark a group consisting of Polynesian and Fijian, especially Lau Fijian (Geraghty 1983, 1996), but different centres of linguistic and cultural innovation seem to have been established from the earliest centuries of settlement in the area. Proto Polynesian disintegrated when Tongic (Southern Pre Polynesian) and Nuclear Polynesian (Northern Pre Polynesian) dialect areas stopped sharing innovations (Green 1981, Pawley 1996). The "Futunic" Outliers, Ellicean Outlier, Pukapukan and East Polynesian languages emerged from the Northern rather than Southern centre. Tongic loans are known from East Polynesian and Central East Polynesian, but the main linguistic input to the incipient East Polynesian speech community was clearly from Samoa and/or Tokelau and Tuvalu. Tuvaluan is the apparent source of Ellicean Outlier while Tokelauan continued to share innovations with Samoan after the divergence of Tuvaluan, Ellicean Outlier and East Polynesian.

East Polynesian had a period of unified development after its divergence from other Ellicean languages. Unlike Central East Polynesian, East Polynesian itself is not heavily marked by innovations. This may reflect to some extent the fact that Rapanui is the single member of its own first order East Polynesian subgroup. So there is only one language to offer any evidence from the subgroup at all and the situation is further exacerbated by Rapanui being less well described than most other East Polynesian languages.

Central East Polynesian appears to have had an extended period of common development compared to all other East Polynesian protolanguages (PEP, PMq, PNM and PTa) because it exhibits the largest number of sporadic sound changes amongst East Polynesian protolanguages (Table 2.32).

It is a significant contribution of linguistics to have ascertained that Rapanui was settled at a time when the progenitor language was continuing in unity in central East Polynesia. It may have been spread through what would become the Marquesic and Tahitic heartlands or it may have been nucleated in one or the other. More will be said about the two possibilities in Chapters 6 and 9.

Marquesic clearly developed in the Marquesas, and early North Marquesan and South Marquesan may have been dialectally distinct at the time Hawaiian diverged and abruptly ended the Pre Proto Marquesic period. The divergence of Mangarevan from Marquesan came later than the divergence of Hawaiian but may have been rather soon afterwards. There was a period of shared diffused vowel changes and a case of metathesis after the divergence of Hawaiian and before the divergence of Mangarevan, but other (sporadic, diffused and regular) sound changes of Marquesan and Mangarevan compared to Proto Marquesic are idiosyncratic.

Tahitic loans in Hawaiian show innovations of Proto Tahitic and none which seem particular to any of the Tahitic languages. Those Hawaiian borrowings cannot be ordered relative to the breakup of Tahitic and apparently occurred at about the time NZ Maori diverged and before the remaining Tahitic languages developed their separate innovations.

Marquesic is not as heavily marked by sporadic sound changes as Tahitic and this may indicate a relatively shorter period of common development. This would be *consistent* with Hawaiian diverging from other Marquesic before NZ Maori diverged from other Tahitic, but our method does not actually *confirm* such an order.

6 *Conclusions regarding language history*

The regularity hypothesis is sustained by this study of Polynesian languages. The search for sporadic, irregular change produced only the smallest handful of exceptions. Sporadic sound changes are wisps and threads of things that are buried in time against a background of massive regular and diffused agreements. Early in the present research I wondered if sporadic sound changes were fairly subtle aspects of speech which only spread through tightly integrated speech communities. But in the end, two Post Proto Ellicean[1] diffusions of sporadic sound changes were clear for Western Polynesia (i.e., with Tongan, Samoan, East Futunan and East Uvean agreeing on an innovative pronunciation) as were numerous Tokelauan agreements with Samoan. Clearly these kinds of sound changes can travel great distances and may have done so between sister speech traditions that had diverged past the language limit.

Linguists assume more or less continuous *regular* change amongst all languages.[2] Here we have seen evidence of more or less continuous, though profoundly rare, sporadic sound changes. Casting about for some reason why languages might make sporadic sound changes, an obvious suggestion in Polynesia would be that in some instances such may have been due to avoidance of words sounding like or homophonous with names of high chiefs (cf. Stokes 1955, White 1968). Most of the vowel changes need no social explanation at all since they are sporadic assimilations and have a simple linguistic explanation. But the consonant changes rarely have an obvious phonetic motive.

Consider the case of PPn *maqoli* 'true, genuine'. In this word PPn *l* was irregularly replaced by *n* or *k* amongst a group of dispersed daughter speech traditions which were at least highly distinct dialects at the time of the innovations. Instead of *maqoli*, East Futunan and Samoan reflect *maqoki* and Tongan, East Uvean, Samoan, Tokelauan, Tuvaluan and Sikaiana reflect *maqoni* (Sam having forms from both the innovative pronunciations but none of the languages listed having a regular reflex of PPn *maqoli*). These changes cross-cut the established subgroups and are evidence of Post Proto Ellicean borrowing around Western Polynesia. Samoan has four related forms: a *maqoki* reflex (*maao'i* 'real, genuine'), a *maqoni* reflex (*faka-maoni* 'true, loyal'), a *maqoni* reflex that follows the Tongan (*mo'oni* 'true, genuine') vowel assimilation (Sam *moni* 'true') and a *maqoki* reflex which also exhibits vowel assimilation (Sam *mo'i* 'true'). East Uvean has both a regular reflex of *maqoni* (*ma'oni-oni* 'juste, vrai') and one whose vowel shows the Tongan pronunciation (EUv *mo'oni* 'vrai, certain'). Tokelauan has only the *maqoni* form (Tok *moni* 'true, sincere')

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[1] "Post Ellicean": in the time after East Polynesian and Ellicean Outlier diverged from Samoan.

[2] Continuous but not constant amongst languages or in the history of an individual language.

as do Tuvaluan (*faka/maoni* 'reliable') and Sikaiana (*maaoni* 'true, genuine'). Other Outliers and East Polynesian have only reflexes of the original **maqoli* (§2.2.12). If we take the Sikaiana pronunciation to be a late influence from Tuvalu,[3] we can posit that after the divergence of Outlier and East Polynesian speech, some social force was responsible for altering the more ancient pronunciation around Western Polynesia and that such happened twice, probably in two different geographical centres, such as Tonga and Samoa. The royal lineages of Tonga and Samoa were intermarrying a great deal at the time of Western contact. Possibly some chief of these lineages once had a name which contained "**maqoli*", Western Polynesian irregular sound changes of the common word being developments in accordance with avoidance of that name. Most of the sporadic consonant changes (Chapter 2) were losses, insertions and changes of manner or place (but not both) and the possibility of a phonetic motive for change would be higher in those cases than in the relatively radical change of **maqoli* to **maqoki*.

A different kind of situation is one in which there was an irregular change in one of a set of homonyms: the change of Proto East Polynesian **kai* 'sharp' to Proto Central East Polynesian **koi* 'sharp'. No vowel change occurred between those languages in the homonyms PEP/PCE **kai* '1. negative imperative, 2. eat, food, 3. spread, erode (of an ulcer or sore), 4. points scored in a game, 5. prefix marking persons of a place (or lineage?), 6. games, riddles'. So we might also wonder if the change was simply a reaction to so much polysemy. Other examples of sporadic vowel changes (Chapter 3) had clearer phonetic motivations and polysemy was not so apparent.

For whatever reasons, the consonant changes occurred at a rate of about one every two or three centuries (for the better described languages; cf. Table 2.34 and associated discussion) and, with the sporadic vowel changes, leave us a revised subgrouping for Polynesian as compared to the most commonly reproduced family trees of Polynesian, the "standard" subgrouping, which has not changed much since Pawley (1966, 1967) and Green (1966) (Figure 1.1 versus Figure 1.2). Wilson's (1985) suggestion of an Ellicean group has found further support by the present method; a weakly defined Nuclear Marquesic group has been isolated and the question of a Nuclear Tahitic group raised.

We now have a picture of Western Polynesia being settled more or less simultaneously around the beginning of the first millennium BC by speakers of a single language who then retained a high degree of linguistic unity for all or most of a thousand years (Pawley 1996). In the present study we have learned a little more about how the drift to different languages between Tonga, Samoa, East Uvea and East Futuna had progressed by the time Pukapukan, Outlier and East Polynesian speech had separated from Samoan. Two conclusions became clear: 1. the period of intense sharing between Tongan and Samoan had ceased by that time (§5.2) and 2. Ellicean, the branch of Nuclear Polynesian consisting of East Polynesian, Ellicean Outliers and Samoan, was only lightly marked by innovations not shared with East Uvean, East Futunan or even Tongan (Marck 1999 and §5.6). A period of only two or three centuries may have passed between the disintegration of Proto Polynesian and the disintegration of Proto Ellicean; or we may be observing markings of local dialects from Pre Polynesian times. I cannot presently order the divergence of Ellicean Outlier, East Polynesian and Samoan-Tokelauan from one another, suggesting that the divergence of Ellicean Outlier and Eastern Polynesian from Samoa may have been part of the same cultural process of geographical expansion.

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[3]   As is otherwise known from oral traditions.

Tongan and Samoan borrowed sporadic sound changes from one another only rarely after the Outlier and East Polynesian languages separated from Samoan (two cases are presently identified, see Table 2.32). But Pawley's (1996) "Northern and Southern Pre Polynesian" dialect areas had shared innovations, including most of their sporadic sound changes, up until not long before that time. Tongan, Samoan, East Futunan and East Uvean tended to share a relatively high proportion of similar retentions from Proto Polynesian up to the present. This common body of shared retentions accounts for their high lexicostatistical scores (as given in Biggs 1978:692) and counts of total cognates (Table 5.2) in a situation where we can show few Post Proto Ellicean borrowings (other than the massive borrowings by East Uvean from Tongan (§4.3.2)) between these languages.

"Futunic" Outliers has been given in quotation marks through the present work for ease of reference to the geographical group, but I find no shared sporadic sound changes to define a genetic group. Pukapukan and the "Futunic" Outliers remain enigmatic in the sense that no shared sporadic sound changes can be shown to connect any of them with any other languages, such as Samoan, East Uvean or East Futunan, that are not simply shared innovations of Nuclear Polynesian as a whole. We might have the impression that Pukapukan and the "Futunic" Outliers diverged from their sources in Western Polynesia before East Polynesian, Ellicean Outlier and Samoan diverged from each other, but this is only because we wonder why we cannot link them with anything else, not because they were necessarily the first to diverge. They could, for instance, have diverged from East Futuna or East Uvea at about the time Ellicean disintegrated, or even later. But, if that were true we then wonder why there are no sporadic changes marking such connections and are left with the impression that "Futunic" Outliers and Pukapukan diverged from other Nuclear Polynesian before it was internally diversified.

We cannot be as clear about the language geography of early central East Polynesia (the Cooks, the Societies, the Australs, the Tuamotus and the Marquesas) as we can for Western Polynesia. The archaeologists agree that Fiji and Western Polynesia were settled more or less at once and we have little option but to conclude that Pre Proto Polynesian was spoken over Western Polynesia as a whole (excluding Niue and probably Tuvalu and Tokelau) (Green 1981, Pawley 1996). But it is not clear from the archaeology where and when East Polynesia came to be settled. We (as linguists) have evidence for a long period of unity for Pre East Polynesian, or at least Pre Central East Polynesian speech. Five hundred years would be the approximate time needed to account for the innovations between Proto Ellicean and Proto Central East Polynesian in my estimation. That or a profound founder effect. Such unity may have occurred on a single island or group of islands, or the innovations may have spread through central East Polynesia in the manner of Tonga and Samoa in their initial millennium of settlement. The linguist has no way to tell.

Once ancestral East Polynesian speech had been established in East Polynesia, the initial period of common development was followed by the divergence of Rapanui speech, something which clearly preceded the differentiation of speech between the Marquesas, the Societies, the Tuamotus, the Astrals and the Cooks. After the divergence of Rapanui speech, there continued some centuries of common development between the languages of central East Polynesia (in a locality or localities that we cannot isolate by strictly linguistic arguments). Proto Nuclear Marquesic is more lightly marked by known innovations than Proto Tahitic. This is consistent with Proto Marquesic disintegrating before Proto Tahitic.

We can also note that what we reconstruct as Proto Marquesic and Proto Tahitic may only be dialect differences between varieties of Central East Polynesian. Each has a fair number of distinct sporadic sound changes but vocabulary does not seem to have been very different.

There are only thirty-one uniquely shared lexemes of Marquesic in Biggs (1994a) and 141 uniquely shared lexemes of Tahitic (see Table 1.2)—figures which are again consistent with Proto Marquesic disintegrating earlier than Proto Tahitic. No sporadic sound changes or lexical innovations shared between Marquesan/Mangarevan and any Tahitic language can be shown to post-date the divergence of Hawaiian. So those stages of Tahitic and Marquesic may not have differed greatly from one another but they seem not to have been borrowing further innovations from one another. There may have been significant cultural contacts between the two but there was no obvious linguistic consequence.

By the measure of shared sporadic sound changes, the period of common development of Nuclear Marquesic (Marquesan and Mangarevan) was the shortest of all East Polynesian subgroups. The divergence of Mangarevan from Marquesan must have occurred soon (within a few centuries) after the divergence of Hawaiian.

Proto Tahitic was probably a dialect chain extending through the Southern Cooks, the Societies, Tuamotus and Astrals at the time NZ Maori diverged. But when NZ Maori diverged, Proto Tahitic was unmarked by locally distinct sporadic sound changes, as far as could be determined by the present study. In §5.14 I have offered the guess that the disintegration of Tahitic co-occurred with the divergence of NZ Maori. The divergence of NZ Maori from other Tahitic cannot be ordered with respect to Tahitic influences on Hawaiian and both events probably occurred at about the same time or within a few centuries of each other.

Borrowing was reviewed in §4.3 and a list of the main cases given on page 107. Amongst the Outliers there has been borrowing between neighbours and from Melanesian Oceanic due to cultural contacts. Anutan and Tikopian have borrowed from East Uvean and Tongan due to intrusions of speakers of the latter onto the islands of Anuta and Tikopia. This happened in prehistory but recently enough that there are clear memories of the new arrivals in Anutan and Tikopian oral histories.

Amongst the Western Polynesian languages, Tongan has Samoan loans and Proto Tongic might have had Nuclear Polynesian loans; East Uvean shows massive Tongan loans and Niuean shows many clearly East Polynesian loans. Tokelauan shows agreements with Samoan that I have categorised as indicative of a subgroup rather than borrowing but there are also abundant Samoan loans due to missionary activities and other contacts in the historic period. Samoan may have Tongan loans but they are few in number and such candidates as there are may better be explained by perplexing sound changes in Samoan (mainly having to do with the lenition of PPn *s, see §2.3.4) than by borrowing from Tongan.

The clearest case of prehistoric loans in East Polynesia is that of Tahitic loans in (Marquesic) Hawaiian. There may have been Marquesic substratum in parts of New Zealand mixed with a predominance of Tahitic speech (Harlow 1994). Rapanui has borrowed a great deal from Tahitian in the historic period due to missionary influences as has Pukapukan from Rarotongan. Some Pukapukan borrowings from East Polynesian may be prehistoric (Clark 1980).

7 *Cosmogony*

And yet it is somewhat surprising that the grand old epic of the New Zealand Maoris relating the birth of the gods as the offspring of the Sky-father (Rangi) and the Earth-mother (Papa), does not seem to have held the same important place in the beliefs of the Rarotongans... This is a question that might well occupy the attention of the younger generation of Polynesian scholars now gradually coming to the fore... There can be little doubt that the belief in the origin of all living things originating from the Sky-father and Earth-mother, was the primary belief of the Aryan-speaking people of India, dating probably from times antecedent to their migration into India... (S. Percy Smith 1919a:55)

7.1 Purpose, method and sources

There is a recurring Polynesian cosmogonic tradition whereby the primordial world was transformed into the modern world by a series of similar events. These events often consisted first of vague cosmic beings[1] (whose names and nature are not generally cognate) giving rise to a Primordial Pair, or vice versa. The Primordial Pair then gave rise to first-order anthropomorphic gods. The Primordial Pair in Tonga were "Seaweed" and "Sediment/Slime".[2] In Nuclear Polynesian, or at least Proto Ellicean, we find evidence for the male and female being named *Papa*-adj. in both Proto Nuclear Polynesian and Proto Central East Polynesian. "*Papa*-adj." are thought of as physical strata or rock in Samoa, while in Central Eastern Polynesia there was commonly the notion that *Papa* (the female) was the earth itself and that her mate was the sky or the space between the sky and the earth. It was, however, only amongst NZ Maori that the male was specifically given the name "Sky". An alternate name for the male in the Marquesas is "Sky Father" but this is not the name used in recitations and seems a (lexical) development independent of the NZ Maori, as will be reviewed presently. Typically the primordial parents had a child or children who constituted the first order of anthropomorphic gods. Following the present discussion of purpose, method and sources, the Primordial Pair and their children, the first-order anthropomorphic gods, are the topics of this chapter.

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[1] "Cosmic beings" is a term applied by many of the late nineteenth century and early twentieth century descriptive and comparative sources to a recurring element in Polynesian cosmogonic traditions. These are often the earliest "beings" in creation. The cosmic beings lack deeds, consciousness, and sometimes even form. It might be appropriate to speak of them as personifications in the sense of "embodiment" but not in the sense of anthropomorphic form as they have no such form in any instance.

[2] This chapter is taken from Marck (1996b, 1996c). Section 7.1 combines introductory material from both, §7.2 presents the results of Marck (1996b) and §7.3 presents the results of Marck (1996c). There is much rephrasing but only significant variances from the main presentations of those two works are mentioned in footnotes.

The conclusions of this chapter result mainly from a comparison of Tongan, Samoan, Marquesan, NZ Maori, and one group of Cook Island Maori traditions. Traditions that differ—such as Tahitian, Tuamotuan, other Cook Islands and Hawaiian—would seem to have developed out of the basic pattern seen in the previously mentioned groups. Little is known of Rapanui or Polynesian Outlier cosmogonic traditions and it is the traditions of the other groups with which we will be most concerned.

Specifically I will address the question of how old may be the NZ Maori concept of a Primordial Pair involving Sky Father or Father Sky (*Rangi*) and Earth Mother or Mother Earth (*Papa*). Handy (1927) viewed NZ Maori cosmogony in general as somewhat archetypal, truer to the past than others, and held that the Sky Father concept seemed to be of great antiquity and a pattern from which other Polynesian cosmogonies emerged (pp.312–313). Here I will suggest that it was not—at least in linguistically reconstructable patterns of naming.

It may seem odd to hark back to such dated materials but it seems that no Polynesianist has ever returned to the subject of attempting a reconstruction of Polynesian cosmogony. It is with Handy (1927) that such attempts appear to have begun and ended. Williamson (1933a, 1933b) soon produced a broader comparative work than Handy on these and related matters. He speculated about the past but was not so specifically preoccupied with reconstruction as Handy. Craig (1989) is the only work since Williamson's to present extensive comparative materials on Polynesian pantheons and cosmogonic traditions for all the major groups. Like Williamson, Craig did not attempt to reconstruct earlier systems or stages. Hiroa (1938a) compared Central East Polynesian memories of "Hawaiki"[3] but he did not consider those aspects of cosmogony presently under discussion: the conceptualisation of the Primordial Pair and their progeny.

Whether for lack of interest or lack of an acceptable method, further attempts at reconstruction seem entirely lacking in the literature. Here I shall suggest a method, apply it, and compare the conclusions to some of those reached by Handy. It follows from an initial incursion into the materials where I found it quite remarkable that certain cosmogonic traditions occur only within specific linguistic subgroups.

Here I employ the premise that there may be a phylogeny of creation traditions that developed and differentiated something along the lines of the linguistic phylogeny for the area. There is nothing in the comparative linguistics literature that gives one permission to proceed exactly along the lines I shall suggest. As Goodenough puts it:

> Nothing as neat as the Grimm's law kind of correspondence has been worked out for cultural forms other than linguistic ones. The closest anthropologists have come to a comparable degree of precision in establishing cognate forms has been in technology...

> But attempts to do this with other sectors of culture have been much less precise and often unconvincing... (Goodenough 1980:128)

Goodenough goes on to suggest a method for comparing certain cultural traits, but in that work he was speaking of traits as they are examined in functional interpretations. The present work makes no claims about function or evolutionary tendencies. Rather it is a simple historical examination of distributions of names and concepts or motifs surrounding the

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[3]   Spelt "*Sawaiki*" in contemporary PEP and PCE orthographies.

Primordial Pair and their children as compared to the linguistic phylogeny of Polynesia (Chapter 5 above).

I shall be concerned with the notion that borrowing ideas might occur more readily than, for instance, words naming material culture. There is no linguistic method for evaluating whether borrowing ideas has occurred when the names associated with those ideas have not been borrowed. Convergence is another issue that must be addressed and linguists have no method for recognising convergence except with our own materials.

The possibility of borrowing can reasonably be ruled out in many Polynesian instances by the great distances involved. If, for instance, a belief is universal within Polynesia, it becomes very complex to explain its distribution by borrowing. Economy of explanation lies with the inference that the belief existed in the common ancestral community. On the other hand, if a trait is known only from Tonga and Samoa we would be quite happy to entertain the possibility of borrowing, since we know there were regular contacts in pre-European times. But, for instance, a highly specific agreement of an idea and its name between Samoa and the Marquesas would suggest that the belief and name for it existed in the common ancestral community. Borrowing over such a distance would be difficult and convergence unlikely in a named detail of structure where the names were cognate.

Convergence, the independent development of common characteristics, is unlikely in the instance of shared cosmogonic identities who have linguistically cognate names and highly specific identical deeds. But convergence is more difficult to dismiss in the instance of structured beliefs that have no particular name to test for cognation and may be similar due to universal tendencies in the transformation of cosmogonic beliefs. It is especially at this point that we leave the methods of comparative linguistics behind and must state our assumptions and methods explicitly.

What follows are proposed standards for the task at hand. These cannot be claimed to have the support of comparative linguists in general. They do, however, resemble Clark's (1976) "distributional method" for reconstructing grammatical components of Polynesian protolanguages.

The following guidelines are the basis for the suggestions in the rest of the chapter:

1. *If a feature of the cosmogonies is universal or occurs in Tonga and East Polynesia, the feature will be suggested to have occurred amongst the beliefs of the Proto Polynesian speakers.* (Agreements between Tongan and Samoan will be considered possible borrowings unless there is agreement from Eastern Polynesia as well). An example of a Tongan–Samoan–East Polynesian agreement that we will see is the belief that the sky was close to the earth at the time of creation. This caused great inconvenience to early anthropomorphic gods and people and an early act of these gods was to raise the sky. This would seem to have been a belief of the Proto Polynesian speakers.

2. *Similarly, if a feature occurs in two widely separated groups not otherwise known to have borrowed from each other, the feature will be suggested to have occurred in the community of speakers of their common protolanguage rather than to have been borrowed.* An example that we will see is the naming of the male of the Primordial Pair as *Papa-*adj. in both Samoa and the Marquesas.

The method may be in error. It assumes that cosmogonies were transmitted and differentiated amongst prehistoric communities in the same general way as languages. This may not always have been true. Still, it seems to produce a more plausible result than seen in

Handy (1927) and provides a different point of departure that some students of the situation might find more appealing.

Sources employed are a mix of primary and secondary materials. Handy (1927) and especially Williamson (1933a, 1933b) have already been mentioned as secondary sources containing much useful material, as is Craig (1989)—a recent comparative dictionary of Polynesian mythology. Handy, Williamson and Craig largely agree on what the most valuable primary material is, up to date of their own publication. In fact it is an agreement upon what extant material has any value at all and the materials concerned added up to only about three hundred titles by the time of Craig (1989). Many of those sources are very short, and those concerning cosmogony (rather than religion or general mythology) are very few indeed. Amongst these, many will not be mentioned here because they seem to be traditions that have developed locally, having neither actants nor motifs in common with other groups. Others are not mentioned because they are peripheral to the present topic. There is a need to remain focused. There is much that must await further study.

There is a general problem with the lack of specific cosmogonic materials in otherwise comprehensive works. Firth (1967) on Tikopia, for instance, concerns religious practices. Religious practices in Polynesia seldom had much to do with the Primordial Pair or first-order anthropomorphic gods. Rather, ancestors were commonly worshipped, since they were genealogically closer to the gods that first created or procreated people. These ancestors were seen as capable of interceding with the earliest gods on behalf of living people. The earliest gods were distant and not the subject of much ritual. Thus a work describing Polynesian religious practices need not deal with cosmogonic notions and many of them do not.

Firth's (1961) earlier work on Tikopian oral history and traditions addresses the issue of cosmogony. However, there we encounter a problem common to what little we know of the Polynesian Outliers cosmogonies. These cosmogonies little resemble the traditions of Tonga or Samoa, which is similar to what Geraghty (1993:344 fn. 3) has noted in reference to the absence of the Tongan and Samoan *Pulotu* 'Paradise' word and notion amongst the Outlier groups.

While cosmogony was neglected in favour of descriptions of religious life in some localities, another source of neglect was a preoccupation with general mythology. For example, von den Steinen (1898, 1899, 1925–1928, 1933, 1934, cf. also Terrell & Langridge 1988) collected a great deal of Marquesan mythology and oral history but little of the cosmogony is mentioned in those materials. From a short passage in Christian (1895:187–188) supported by a few paragraphs from Handy (1923:244–245) we find that there are many similarities between the basic Marquesan conceptualisation of creation and those of Tonga, Samoa and especially NZ Maori. But that is about all we know: just those few paragraphs.

There is sometimes a problem caused by loss or transformation of cultural memory under Christian influence and with the absence of interested European parties to document cosmogonies prior to their loss or transformation. This seems to have affected cosmogonic traditions more than general mythology. An example is the common source for Tahitian traditions (Henry 1928). Henry's traditions were collected after a period of contact with Christians and it is questionable how much Henry's detailed cosmogony pre-dated European times (cf. Barrère 1967, Marck 1996c and §7.2.1.10 below). Yet there is no earlier record of Tahitian traditions which is as comprehensive as Henry's, and we must search for elements of the past in a highly transformed set of traditions.

Similarly, Fraser (1892) appears to have been told a Christianised Samoan tradition not long after traditions more in keeping with the general Polynesian pattern were collected (e.g., Turner 1861, 1884).

Barrère (1967) suggests some criteria for distinguishing authentic Polynesian traditions from those transformed by Christianity and specifically addresses the question of whether a would-be supreme being from around the Tahiti area and New Zealand (variously *Io*, *Iho*, *'Iho* or *Kiho*) is a post-Christian development. Williamson (1933a, 1933b) barely mentions those traditions even though many were known by the time of his work, so possibly he, too, considered them suspect. In addition to Barrère's arguments we can note that NZ Maori *Io* lacks both the consonants of the would-be cognates around Tahiti, sounds which are otherwise almost never lost in NZ Maori (§§2.2.9 and 2.2.10) borrowings or directly inherited words.[4] The absence of consonants strongly indicates that different ancient words were involved, that any borrowing was through the agencies of non-Polynesian speakers, or that it was late prehistoric.[5]

In addition to the cautions Barrère (1967) mentions, we can suggest that Christian influence is to be suspected when there is a pre-existing supreme being at all and when early acts of such supreme beings were creation of the land, waters and heavens. Comparisons made in the present work suggest that ancient Polynesian cosmogonies conceived of the primordial condition[6] as one in which the land, sea and sky pre-existed, the sky was hugging the earth, and the primordial period was interrupted by actions of cosmic beings or the Primordial Pair. Pre-existing male anthropomorphic creators are found in Fraser's (1892) Samoan tradition and around the Tahiti area. In both cases reflexes of the male PPn *Tangaloa* 'first-order anthropomorphic god' (§7.3.4.6) are involved. But the Samoan tradition has few other elements or actants known from elsewhere. Nor do the traditions of *Ta'aroa/Tangaroa* as creator god around Tahiti have elements or actants known from beyond the Tuamotus—not even amongst the NZ Maori with which Tahiti is closely linked linguistically, nor amongst Hawaiians who may have borrowed some elements of their cosmogony from early Tahitic. Thus some traditions cited by Handy (1927), Williamson (1933a, 1933b) or Craig (1989) are not mentioned here because their main elements have no counterparts outside of a local area and these elements sometimes seem suspiciously similar to Judeo-Christian cosmogonic concepts.

7.2 The Primordial Pair

7.2.1 *The primordial condition, the Primordial Pair and creation in Polynesian cosmogonies*

In the main, Polynesians conceived of the primordial condition as one in which the sky was a stratum hugging close to the earth. The Primordial Pair gave rise to cosmic beings, or vice versa, who gave rise to first-order anthropomorphic gods. An early act of the first-order

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[4]   See also Emory (1938:48–52) on the equivalence of Mao *Io* or *Iho* and Tah *'Iho-'Iho*.

[5]   We can, for instance, wonder about the possible role of "h-less" English dialect speakers passing the Tah word and notion on to Mao. But Tah *'Iho* > Rar *'I'o* > Mao *Io* would be a possible pre-European borrowing sequence.

[6]   Or at least the condition at the time of the Primordial Pair.

anthropomorphic gods, their offspring and contemporaries was to raise the sky to make the earth more habitable—in the sense of such modern conveniences as being able to walk upright, living on an earth bathed in sun and starlight, and being able to see to the horizon as it is known today. These beliefs are common in varying degrees to Tongan, Samoan, Marquesan, NZ Maori, Tahitian, Cook Island, Tuamotuan and Hawaiian traditions (cf. Beckwith 1970:230, 379; Fornander 1916–1917:18; Gill 1876:58–60; Grey 1885:2; Handy 1923:245; Henry 1928:419–415; Williamson 1933a:1–45). Thus, by our present method, we conclude that these were beliefs of Proto Polynesian, Proto Nuclear Polynesian, Proto Ellicean, Proto East Polynesian, Proto Central East Polynesian, Proto Marquesic and Proto Tahitic speakers.

In Tongan and Samoan traditions the primordial condition was interrupted by the union of a Primordial Pair, male and female, that gave birth to cosmic beings who in turn gave birth to the first-order anthropomorphic gods. NZ Maori traditions have the cosmic beings giving rise to the Primordial Pair whose direct offspring were the first-order anthropomorphic gods. Marquesan traditions do not seem to remember a period of cosmic beings and have the primordial condition interrupted directly by the union of the Primordial Pair, whose immediate offspring are the first-order anthropomorphic gods like those in NZ Maori traditions. Tahitian traditions and those of Hawai'i diverge in various ways from this pattern as do some Tuamotuan and Southern Cook Island traditions. There the Primordial Pair are found in different roles but are recognisable because they retain their old names and sometimes issue forth the same first-order anthropomorphic gods. Other Cook Island traditions follow more the NZ Maori and Marquesan pattern. The names of the Primordial Pair for the languages under discussion and suggested reconstructions for some of the protolanguages are given in Table 7.1.

Table 7.1: The Primordial Pair and possible remnants of the Primordial Pair in Polynesian cosmogonies.

	'Male'	'Female'
Tongan	*Limu*	*Kele*
PEc (PNP?)	**Papa*-<u>adj.</u>	*Papa*-<u>adj.</u>
Samoan	*Papa-Tuu*	*Papa-'Ele*
PEP/PEP/PCE/PMq	**Papa*-<u>adj.</u>	**Papa*-<u>adj.</u>
N. Marquesas	*Papa-'Uka*	*Papa-'A'o*
S. Marquesas	*Papa-'Una*	*Papa-'A'o*
Hawaiian	*Waakea*[1]	*Papa*
PTa	**Aatea*	**Papa*
Tahitian[2]	*Tumu*	*Papa-Raha-Raha*
	Papa-Tuu-'Oi	*Aatea*
	Aatea	*Ha'a-Hotu*
Tuamotuan	*Tumu*[2]	*Papa*[2]
	Vaatea	*Hotu*
Rarotongan	*Tumu*	*Papa*
	Vaatea	*Papa*
Mangaian	*Vaatea/Avaatea*	*Papa*
Tongareva	*Aatea*	*Haka-Hotu*
NZ Maori	*Rangi-Aatea*	*Papa*

Notes: 1. Here suggested to be a loan from Early Tahitian. 2. Not the Primordial Pair but hold a similar position.

7.2.1.1 Proto Polynesian

I have suggested no Proto Polynesian reconstructions. This is due to the absence of agreement between Tongan and Nuclear Polynesian. While there is the partial agreement of Tongan *Kele* with Samoan *Papa-'Ele* this could be a borrowing. The Tongan Primordial Pair, *Limu* and *Kele*, translate to "Seaweed (male)" and "Sediment (female)". The second has traditionally been translated as "Slime" (cf. Williamson 1933a, Craig 1989) but Tongan *kele* refers to water-borne or water-deposited soil and not the particular state that it is in (cf. Churchward 1959:260). In Tongan traditions *Limu* and *Kele* become the parents of a rock in one version or simply pass by it in the water in another and the rock begins to spew forth cosmic beings from whom ultimately descend the first-order anthropomorphic gods, the half-brothers *Tangaloa*, *Maui* and *Hiku-Leqo*.[7]

7.2.1.2 Proto Nuclear Polynesian

Nuclear Polynesian[8] traditions, specifically those of Samoan and Central East Polynesian, are quite distinct from Tongan. Nuclear Polynesian traditions differ because the Primordial Pair are conceived of as lower earthly geological strata or the earth itself in the case of the female. The male is conceived of as upper earthly geological strata, the sky (which was a stratum hugging the earth), or the stratum of space between the sky and the earth.

Both Samoan and Marquesan name the Primordial Pair *Papa*. PNP *papa*, as a common noun, derives from Proto Austronesian for which *papan* 'board, plank' is reconstructed. It came into Proto Polynesian regularly by way of Proto Oceanic for which *ba(b,p)an* 'plank' is reconstructed. Biggs (1994a) reconstructs PPn *papa* 'flat hard surface'. This is a cautious, minimal semantic reconstruction but the word means 'board' in several Polynesian languages (e.g. East Futunan, Hawaiian, Samoan and Tongan), as it did in Proto Austronesian and Proto Oceanic. Therefore the word certainly had that meaning in Proto Polynesian, and polysemy in Proto Polynesian seems to have evolved out of that older meaning.

It seems possible *papa* had a "stratum" sense in Proto Nuclear Polynesian, or at least Proto Central East Polynesian. This is the sense in which it was used to name the Primordial Pair: *Papa-Tuu* 'Standing Stratum, male' and *Papa-'Ele* 'Earth Stratum, female' in the case of Samoan; and *Papa-'Una/'Uka* 'Upper Stratum, male' and *Papa-'A'o* 'Lower Stratum, female' in the case of the Marquesas. "Stratum" is not such a different concept than "board" or "flat surface" if we think of them as being capable of being stacked.

Neither Samoan nor Marquesan dictionaries give a "stratum" meaning for *papa* so this is largely conjecture. But linguists would be inclined to search for some commonality since the words are presently identical but are said to mean somewhat different things to the Samoans and the Marquesans in their naming of the Primordial Pair. The traditional translation of the

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[7]   Several Tongan creation traditions are known and differ somewhat, one having *Limu* and *Kele* in sexual union producing the rock *Toui-A-Futuna* from which burst forth cosmic beings (Williamson 1933a:9–11 and Craig 1989:28–29) while another (Collocott (1921:152–153) has *Limu* and *Kele* passing by *Toui-A-Futuna* which is a rock in the sea and magically causing it to burst forth with cosmic beings. Gifford (1924:19) relates a third where *Limu* and *Kele* produce a male and a female child which mate and begin creation. All agree that *Limu* and *Kele* are the beginning and *Hiku-Le'o*, *Tangaloa* and *Maui* the first-order anthropomorphic gods that ultimately emerge. Gifford (1924:14) mentions other minor variations.

[8]   More precisely, Ellicean as supporting evidence from non-Ellicean Nuclear Polynesian is lacking.

Samoan meanings (cf. Williamson 1933a:3–4, 6) is "Great Rocks" or "Standing Rocks" for the male and "Earthy Rocks" or "Earth Rock" for the female. Several Samoans living in Canberra in 1995 agree that this is what the names mean to them: *papa* is "rock", *tuu* is "standing" and *'ele* is "dirt, soil". *Papa-'Ele* means, to them, "Earth Rock" and *Papa-Tuu* means "Standing Rock" such as might be found in the mountains. These speakers state specifically that there is no notion familiar to them of *Papa-Tuu* being the sky. They think of it/him as a part of the earth.

On the other hand, in the Marquesas there is the question of whether *Papa-'Una/'Uka* represents the sky itself and *Papa-'A'o* the earth itself. Williamson (1933a:26) citing Christian (1895:187) states that the Marquesan *Papa-'Una/'Uka* and *Papa-'A'o* were believed to be the sky and the earth, respectively. However, Christian actually translates them as "World Above" and "World Below" so the equation of these names with "sky" and "earth" is uncertain on the basis of Christian alone. Handy (1927:38) speaks to this issue stating that *Papa-'Una* was sometimes referred to as *'Ani-Motua*, which is literally "Sky Father".

In addition to this difference in the conceptualisation of their male *Papa*, there is a basic difference in the sky-raising story between Samoa and the Marquesas. In Samoa it was the sky itself that was hugging the earth and it was called by the "sky" name in the sky-raising stories (cf. Turner 1884:198, Pritchard 1866:114) rather than *Papa-Tuu*. In the Marquesan traditions (Handy 1923:244) it was specifically *Papa-'Una/'Uka* which was hugging close to *Papa-'A'o* and had to be lifted, so Marquesan *Papa-'Una/'Uka* was the sky even though it was not called by that name in the formal recitation of the main traditions.

7.2.1.3 *Proto Central East Polynesian*

The outstanding feature of Central East Polynesian–speaking groups is the common naming of the Primordial Female as **Papa* and the belief that she was the earth itself. Her children would seem to have been at least **Tangaroa*, **Taane*, **Tuu*, **Rongo* and perhaps **Aatea*, **(H)aumia*, **Tonga-Fiti*, and **Mauri* and other nights of the moon (cf. Williams 1928, Stimson 1938, Green 1988, Marck 1996c and §7.3.4 below). Only Tahitian, Tongarevan and certain Tuamotuan traditions name the Primordial Female something different than by a reflex of **Papa* and all of these name her by reflexes of **Faka-Fotu* ("to make appear"). This seems a recent innovation in the region around Tahiti, one that extended somehow to Tongareva, possibly due to the divergence of Tongarevan from Tahiti or the Southern Cooks at a time when the usage was current there.

Hiroa (1938b:418–424, 508–509) reports nothing like the Primordial Pair for Mangareva. Hawaiian traditions may be a mixture of Marquesan and Tahitian traditions. Hawaiian *Papa* was wedded to *Waakea* (PCE **Waatea* or **Awatea*) which is true elsewhere only in some Tahitic groups. The pronunciation and meaning of Hawaiian *kahuna* 'priest' is clearly a borrowing from Tahitic (§4.3.10). Therefore Tahitic influence is certain in one instance and seems quite possible in another about matters of religion and cosmogony. Possibly there are additional borrowings of religious terms from Tahitic but I have not examined those materials.

The absence of a Primordial Pair in Mangareva traditions and the possible borrowing of Tahitic elements into Hawai'i do not allow for speculation about the situation in Proto Marquesic on the basis of Marquesic materials alone.[9] Reconstruction is dependent upon agreement of the one reliable witness (Marquesan) with some language or group outside Marquesic. As Marquesan agrees with Samoan in the noun portion of their terms for both members of the Primordial Pair, the noun with indeterminate adjectives are reconstructed. The suggestion being made is that this terminology existed, minimally, in Proto Ellicean and that it continued into Samoan, Proto East Polynesian, Proto Central East Polynesian, Proto Marquesic and Marquesan.

7.2.1.4 *Proto Marquesic*

While it is possible that Samoan, Marquesan or both could have extended the relatively constant female name to the male (with a different adjective), there is the question of why Marquesan speakers would do this when the entity involved seems to have been the sky itself. The reconstructions in Table 7.1 suggest that while the Marquesans thought of *Papa-'Una/'Uka* as being the sky, they retained an older name. By this solution Tahitic and Hawaiian are seen as changing the name to higher elements of the primordial universe as they conceptualised it. That is, the **Aatea* suggested for Proto Tahitic in Table 7.1 meant "Space (deified/personified)" and refers to the space between the earth and the sky.

In one Marquesan tradition *Aatea* was the first-order anthropomorphic god (offspring of the Primordial Pair) that first succeeded in breaking out into open space from the cavern in which he and his siblings dwelt (cf. Williamson 1933a:25–26, Terrell & Langridge 1988:66). Although another Marquesan tradition attributes this to *Taane* (Williamson 1933a:26), the *Aatea* tradition seems more in line with *Aatea*'s name, because it refers to the open space into which they burst. After these heroic events *Aatea* was the "progenitor of all natives with Atanua his wife" (Handy 1923:245, cf. also Williamson 1933a:68). Handy (1923:244) names him first when recounting the offspring of the Primordial Pair but does not state specifically that he was most senior.

In the suggested Proto Marquesic reconstruction, I have set aside the agreement of the first component of the alternate Marquesan name *'Ani-Motua* with NZ Maori *Rangi*. Our logic would seem to suggest a competing Proto Marquesic ***Rangi* and attribute this to Proto Central East Polynesian and Proto Tahitic as well. However, the evidence internal to Tahitic seems not to favour this solution and they seem independent developments.

7.2.1.5 *Proto Tahitic*

The recurrent male partner of the female *Papa* in Tahitic groups is *Aatea*, *Waatea*, *Awatea*, *Watea*[10] and the like, including that found in the NZ Maori variant *Rangi-Aatea* and

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[9]   Marck (1996b:16) phrases this as a problem in the limits of "internal reconstruction", which was a flawed use of that linguistic term (which refers to phonological reconstruction using evidence from a single language to suggest what may have existed in its own past).

[10]   Marck (1996b:17) reads "*Aatea, Waatea, Avatea, Vatea*" but 'w' is more consistent with Proto Tahitic.

the possible Tahitic loan in Hawaiian: *Waakea*. As Barèrre says in reference to Tahitic groups:

> ...Tane, Tu, Tangaroa, and Rongo, present in most cosmogonies as children of the "Sky Father" (Atea) and the "Earth Mother" (Papa)... (Barrère 1967:104)

But the situation is varied and complex (see Table 7.1), and our main criteria in searching out remnants of the Primordial Pair tradition in much of Tahitic and Hawai'i involve asking:

1. Was the female called **Papa* or the male called **Aatea* and

2. were their offspring such first-order Central East Polynesian anthropomorphic gods as **Tangaroa*, **Taane*, **Tu* and **Rongo*?

While *Tumu* is paired with *Papa* in some highly transformed Tahitian, Tuamotuan and Southern Cook Island traditions, there is also a pairing of a female *Aatea* with a different *Papa* in Tahiti. This is followed by a change in gender of *Aatea* and a new spouse, *Ha'a-Hotu* (Henry 1928:356), who is also the (female) spouse of *Aatea* (male) in some Tuamotuan traditions (Caillot 1932:51) and the main Tongarevan tradition known (Hiroa 1932b:85). It seems there was a great deal of change centred in and emanating from the Tahiti area, the first the pairing of **Aatea* with **Fa'a-Hotu* rather than or after **Papa* and the second the pairing of the main **Papa* figure with **Tumu*. But for Tahiti, the anthropomorphic siblings are generally the children of **Aatea*, variously by his wife **Papa* or **Fa'a-Hotu*. I will consider the traditions of the various Tahitic localities and summarise at the end.

7.2.1.6 NZ Maori

> It is interesting to note that, while Atea as a proper name does not appear to have been known in New Zealand, the Sky Father was sometimes called Rangi-atea (Hongi 1920:25).

Compound names in Polynesian languages sometimes include naming a parent in the second word. Thus, NZ Maori *Rangi-Aatea*[11] may have meant "*Rangi son of Aatea*". One of the islands in the Societies is named *Ra'iatea* (**Rangi-Aatea*) and Biggs (1994a) notes the same compounded place name in New Zealand and Hawai'i. Hence the name seems old within Tahitic and is possibly borrowed by Hawaiian. Another NZ Maori tradition (Tregear 1904:436) identifies *Rangi-Awatea* as a woman, but the adjectives are formally different and the Tregear tradition refers to actants and events some time later in the course of creation. There seems therefore to have been both *Rangi-Aatea* and *Rangi-Awatea*, the former a member of the Primordial Pair and the latter not.

I know of one reference that contradicts Handy's statement that *Awatea* or *Aatea* did not occur independently in NZ Maori. This reference—Andersen (1928:356)— states that "Awatea or Atea takes the place of Whaitua as the eighteenth age". The *Whaitua* age was the final age of cosmic beings—ages which gave rise to *Rangi* and *Papa*—so this tradition supports the notion of *Aatea* as a parent or ancestor of *Rangi* in NZ Maori traditions.

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[11] The cosmogonic sources rarely indicate the vowel length in reflexes of **Aatea* but the dictionaries of the individual languages and Biggs (1994a) normally do.

In any event, the NZ Maori absence of *Aatea* as the spouse of *Papa*, as in other Tahitic, or as a first-order anthropomorphic god (child of the Primordial Pair), as in Marquesan, is quite remarkable and some kind of explanation is called for. The solution suggested here is that *Aatea* was lost from NZ Maori, or relegated to a distant memory as a cosmic being ancestral to *Rangi* and *Papa*, because he was replaced by *Rangi*.

There is a hierarchy of what Polynesians remember about and attribute to beings involved in creation. They remember a great deal about the first-order anthropomorphic gods and attribute many deeds to them and there are many cognate names as is discussed in later sections of the present chapter. They usually remember a Primordial Pair, some of whose names are cognate, but deeds, other than union and procreation leading to the first-order anthropomorphic gods, are not attributed to them except in the instance of Hawai'i and NZ Maori. Cosmic beings in the traditions of the main groups for which they are reported (Tonga, Samoa and NZ Maori) have not yet been shown to have cognate names[12], and deeds other than procreation are not attributed to them. Thus if *Aatea* was elevated to a cosmic being by NZ Maori or some early Tahitic group with which they share a history, it is not surprising that deeds ceased to be attributed to him and his name was all but forgotten.

7.2.1.7 The Cook Islands

An examination of Cook Island traditions lends some support for the notion that *Aatea* was the spouse of *Papa* in Proto Tahitic. This was the belief current in Mangaia when Europeans first recorded such things (Gill 1876:7–11). *Waatea* and *Papa* are not pre-existing primordial entities in this Mangaian tradition nor the offspring of cosmic beings but they are the direct parents of the first-order anthropomorphic gods, as are the Primordial Pair in the Marquesas and amongst the NZ Maori.

Gill (1911:135–137) relates a Rarotongan tradition where *Aatea* was the creator of all things, his wife was *Papa-Roa-I-Te-Itinga* (*Papa-Roa* of the Sunrise) and their child was *Te Tumu* who married *Papa-Roa-I-Te-Opunga* (*Papa-Roa* of the Sunset). In a Rarotongan tradition, *Tumu* and *Papa* are said to have dwelt in '*Awaiki* ("*Hawaiki*"[13]) where *Tumu* was an *ariki* 'chief, royal'. Their children were numerous and among them were many of the standard first-order anthropomorphic gods seen in other Central Eastern Polynesia groups: *Rongo*, *Taane*, *Tuu*, *Tangaroa*, *Aatea* and others. Te Arikitara-are (1919:61) calls this same Rarotongan *Tumu* the "Sky Father" but *tumu* around Tahitic generally means "origin, base, trunk". The "Sky Father" rendering is neither literal nor is it explained. "*Atea*" in this tradition is not expanded upon except to mention him as a child of *Tumu* and *Papa*.

Amongst the NZ Maori traditions, the name *Tumu*-adj. was carried by several ancestors from *Hawaiki* (cf. Craig 1989:299), while in the Tuamotus, *Tumu*-adj. was the name for several regions of the sky (Stimson & Marshall 1964:572, cf. Craig 1989:298–299); and the Tuamotuan name, *Tumu*, without adjectives, named "the Tuamotuan god of life who

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[12] At least Mqa, Mao and Haw agree on *Poo 'Darkness' and *Ao 'Light' as cosmic beings. There is the question of whether these occurrences of "Darkness" and "Light" came into being under Christian influences, but the Marquesan tradition (Christian 1895:191), in particular, seems to have been well isolated from European influences so possibly there was PCE *Poo 'Darkness (cosmic being)' and *Ao 'Light (cosmic being)'. (Revision of Marck 1996b:18 fn. 37).

[13] As spelt by Hiroa (1938a), "*Sawaiki" in the current PEP and PCE orthography.

rewards spirits according to their earthly deeds" (Craig 1989:298 citing Henry 1928:349). Tua *Tumu-Ruuia* was "supreme lord of the sky world" (Craig 1989:299 citing Stimson & Marshall 1964:572) but many gods became lord of various skies[14] around Polynesia and this Tuamotuan *Tumu-*adj. was apparently not the spouse of *Papa*.

The Primordial Pair in Tongareva were *Aatea* and *Haka-Hotu* (Hiroa 1932b:85). They were the parents of the first-order anthropomorphic gods *Taane*, *Tangaroa*, *Rongo-Nui* and others. *Haka-Hotu* seems Post Proto Tahitic Tahitian given the *Papa* of the NZ Maori, some of the Southern Cooks and certain Tuamotuan traditions.

7.2.1.8 The Tuamotus

The Tuamotus cover a vast area and many creation traditions are reported from various islands. I will first mention one from Caillot (1932:50–51) because it seems more complete and to involve older notions than those mentioned by Williamson (1933a:15–16), Stimson (1933:9–69) or Henry (1928:347–349) which was Craig's (1989:29) source.

By Caillot's account, *Waatea* and *Hotu*, whose origins are not mentioned, sleep together with the result being a number of children: "Ru, Pigao, Tope, Tane, Tagaroa, Titi, Tiki, Ruanuku, Maui, Gaohe, Vaerua" (1932:50–51). Clearly *Waatea* and *Hotu* are the Primordial Pair in this tradition by our present criteria.

Williamson (1933a:15–16) relates a few paragraphs about "Paumotu" (now a mainly non-English appellation for "Tuamotus") from Montiton (1874) who gives the islands of Fangatau and Tokoto as his source.

> It began with a reference to the original close embrace of sky and earth with a race of giants living within or between them, and went on to tell of fighting between two of these children, Oatea [Atea] and Tane, in which Tangaroa also took part, and of Tane's raising of the sky (Williamson 1933a:15–16).

These elements seem broadly consistent with Central East Polynesian traditions from pre-Christian times. This particular Tuamotuan tradition has a Marquesan flavour in the sense that *Aatea* is said to have anthropomorphic characteristics and actions. Names for the Primordial Pair, however, cannot be clearly established from this tradition. *Tumu-Henua* is the earliest entity in one tradition giving birth to *Tumu-Nui* (male) and *Tumu-Iti* (female) who have a child *Tangaroa*, amongst others not named. Then the islands of Fiji, Samoa, Tongatapu, Vava'u, Tahiti, others and numerous of the Tuamotus appear[15] (Williamson 1933a:16). *Tumu* is a name or place in many creation traditions around the Tuamotus, Societies and Cooks all the way down to New Zealand but there are usually other candidates for the Primordial Pair or remnant memories thereof.

The largest collection of Tuamotuan creation traditions are those from Stimson (1933:9–69). They were taken down after many generations of Christianity and centre

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[14] Most Polynesian groups, for which such things are specified, believed in multiple skies. Eight and ten are common numbers.

[15] Note that there are memories however dim, through the Cooks and Societies, all the way over to the Marquesas, of having come from the Samoa, Tonga and Fiji areas. The names of specific islands in Fiji, Tonga and Samoa are remembered as ancestors in genealogies, and as places visited, in certain chants and other oral history. Easter Islanders, Hawaiians and possibly the NZ Maori seem not to have such memories. See §7.3.4.7.

around *Kiho*, the supreme being. Barrère (1967) suggests *Kiho* may be a post-European contact development around New Zealand, the Societies and areas immediately adjacent to the Societies. Thus in Stimson's collections we are looking for what remnants of the Primordial Pair might be found in highly transformed traditions. The first major god made and empowered by Stimson's *Kiho* is *Aatea* ("*Atea*" or "*Atea-Rangi*"). Three heavenly spheres emerge: *Kiho* reigned over the night sphere, *Aatea* over the day sphere and *Taane* ("*Tane*") over the sky sphere (Stimson 1933:13). *Taane* is later said to be the son of *Aatea* (Stimson 1933:23). *Aatea* is a great creator god and is specifically credited with bringing *Tangaroa*, *Rongo-Nui*, *Tiki* and the clan of *Ru* into existence (Stimson 1933:21). However, he does this without a spouse and his creation of *Taane*, *Tangaroa* and *Rongo-Nui*[16] is our main evidence from this tradition for believing he may have once been the Tuamotuan male of the Primordial Pair. This is not too disturbing since a central part of the transformation of traditions that Barrère (1967) reviews is the replacement of a cosmogonic tradition—that has creation commencing with the sexual union of primordial physical elements—with one in which creation commences with deeds of primordial (pre-existing) anthropomorphic male creator beings.

7.2.1.9 Tahiti

As mentioned previously, Tahitian traditions differ most markedly from other Polynesian traditions. Therefore they are presented penultimately, traditions of Hawai'i being last of all because they may be a mix of Marquesic and Tahitic. There are three possible remnants of a Primordial Pair of the Proto Ellicean, Proto Central East Polynesian and Proto Tahitic type in the main Tahitic traditions from Henry (1928). The pairs are *Tumu* and *Papa-Raha-Raha*; *Papa-Tuu-'Oi* and *Aatea*; and *Aatea* and *Ha'a-Hotu*. *Papa-Tuu-'Oi* is a possible cognate of Samoan *Papa-Tuu* but also possibly a local Tahitian innovation. As will be seen below, these are highly transformed traditions and the main agreement in naming with other Tahitic is the *Aatea/Ha'a-Hotu* pair. I will begin by outlining what is known of Tahitian traditions.

In two Tahitian traditions related by Henry (1928:336–340), *Ta'aroa* (PPn *Tangaloa*) was a pre-existing being rather than a first-order anthropomorphic god. He existed since primordial times in a shell, like that of an egg, which revolved in primal darkness. Ultimately he broke out of his shell. In one of the traditions *Tumu-Iti* is mentioned and translated as "Little-Foundation", a locality within the broken shell that existed in a primordial world comprising sky, ocean, land and fresh water. In the longer of the two traditions, *Ta'aroa* takes another *Tumu*, *Tumu-Nui*, translated as "The-Great-Foundation-of-the-Earth", and makes him the husband of *Papa-Raha-Raha* which Henry (1928:338) renders as "Stratum-Rock" (Tahitian *raha* means "flat, broad"). That longer tradition ends with mention of *Tumu-Ra'i-Fenua* ("Foundation-of-Earthly-Heaven"), an octopus that held the sky down close to the earth. We will note, for the moment, that *Tumu* is the first party in creation to be espoused to any *Papa*; that *Papa* meant "earth, the Earth"; and that *Tumu* meant "foundation", but did not seem to be associated with deified chiefs (as in New Zealand) or sky gods (as in the Tuamotus).

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[16] First-order anthropomorphic gods amongst NZ Maori and in the Marquesas.

Henry (1928:340–344) then relates a tradition of a chaotic period during which time *Ta'aroa* creates (calls forth) *Tuu*[17], plants took root, and *Ta'aroa* fixed the sky (part of his eggshell) on pillars which *Tumu-Nui* and *Papa-Raha-Raha* helped him obtain. The space created was *Aatea* and *Ta'aroa* invoked a spirit to fill it. *Aatea* is wedded to *Papa-Tuu-'Oi* "Basaltic-Peak" in a following tradition (Henry 1928:356) and they have a child *Ra'i-Tupua-Nui-Te-Fanau-'Eve* ("Great-Sky-Developer-Born-in-Commotion") who caused "the laying out of the world". In these traditions *Aatea* is female and *Papa-Tuu-'Oi* a male. In a following tradition (Henry 1928:364) *Aatea* and *Papa-Tuu-'Oi* have another child, *Taane*. But *Aatea* and *Papa-Tuu-'Oi* apparently sire no more of what are otherwise first-order anthropomorphic gods in Marquesan and other Tahitic traditions and there are various other gods and craftsmen in existence by this time. These seem highly transformed traditions compared to the Marquesas, NZ Maori, and even the Cooks and Tuamotus. There is then a tradition of *Aatea* trading her feminine nature with *Fa'a-Hotu*, who was female but had a masculine nature (Henry 1928:372–374). *Aatea* then goes on to father children with *Fa'a-Hotu* while *Ta'aroa* and *Papa-Raha-Raha* had numerous daughters. Other gods are conjured forth at this time. None of the children of *Aatea* or *Ta'aroa* have names cognate with first-order anthropomorphic gods of the Marquesas, the Cooks, the Tuamotus or New Zealand except *Taane* and *Ro'o*, respectively.

Henry's traditions were collected after some years of regular European contact and those with which we are presently concerned were collected by Orsmond in 1822, the year William Ellis left the island. Ellis (1829b:42–43) was interested in what he said was a "Hindu" notion that creation began with an egg. Try as he might, he could not find people who related similar notions to him in Tahiti at that time. In Henry (1928:336–344) is the specific notion of *Ta'aroa* as a pre-existing being, living out the primordial eternity inside a kind of egg shell out of which he finally broke and fashioned the world as we know it today. We can raise the possibility that Ellis's asking after an egg tradition motivated this Tahitian innovation. Ellis (1829a:5) first embarked for Tahiti in 1816 and last left those islands on 31 December 1822 (1829b:574). The "egg" traditions were first collected in 1822 and again later, so it is possible that Ellis made inquiries about an egg tradition and that this inspired further revision of cosmogonies that were already seeing some European notions creeping in (cf. Barrère 1967:104). In any event, the egg notion is found in Polynesia and outside the Societies only in certain of the Tuamotus and cannot be shown to be of general antiquity around Polynesia. Otherwise, Ellis (1829a, 1829b) relates bits of cosmogonic traditions where *Ta'aroa* is a pre-existing creator god, somewhat in the fashion of Henry's sources.

7.2.1.10 *Summary of Tahitic traditions and further thoughts on Proto Tahitic*

PTa *Aatea 'Primordial Male' is reconstructed in Table 7.1 on the basis of NZ Maori, Mangaian, Tongarevan, certain Rarotongan and certain Tuamotuan traditions. PTa *Papa 'Primordial Female' is reconstructed in Table 7.1 on the basis of NZ Maori, Tuamotuan, Mangaian and Rarotongan traditions, which agrees with external evidence from the Marquesas and Samoa and with the ambiguous (Tahitic or Marquesic) evidence from Hawai'i.

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[17] A first-order anthropomorphic god and child of the Primordial Pair in other Tahitic and Marquesic traditions.

7.2.1.11 Hawai'i

The local transformations of Hawaiian creation traditions are well known from Beckwith (1970). The outstanding characteristic is a trilogy consisting of *Kaane*, *Kuu* and *Lono* (PCE **Taane*, **Tuu* and **Rongo*) in which *Kaane* was supreme. Craig (1989:101) has *Kaane* emerging directly from "the eternal *poo* (darkness)" as does Beckwith (1970:42–43), his source. But neither mentions[18] passages in Fornander which are more in keeping with the general Central East Polynesian pattern that specifically have *Kaane* and *Kanaloa* (PCE **Tangaroa*) (Fornander 1916–1917:17–18), and *Ku, Lono, Kaane* and *Kanaloa* (Fornander 1919–1920:360)[19] as the offspring of *Waakea* and *Papa*. Due to these neglected passages, I think we can question[20] much of what has passed for Hawaiian tradition in Fornander (1917–1918), Beckwith (1970) and Craig (1989). Rather, we see in the passages from Fornander, cited above, the last dying gasp of an aboriginal pattern which cascaded towards Christian motifs soon after the arrival of Europeans.

To ask whether these small bits of unblemished tradition are more Tahitic or more Marquesic is probably not very meaningful. The Hawaiian Primordial Pair is more in keeping with Tahitic, and the Hawaiian memory is one of *Waakea* and *Papa* coming from Tahiti, *Kaane*, *Kanaloa* and the others being born in Hawai'i. The memory of *Kanaloa* being a child of the Primordial Pair does not have a counterpart in the Marquesas but it does in Mangareva. Thus the Mangarevan evidence leans towards a Proto Marquesic first-order anthropomorphic god **Tangaroa* and Hawaiian *Kanaloa* may come from that tradition, the Tahitic tradition, or both (because they may not have greatly differed at the time). There is no linguistic method for suggesting whether the Hawaiian tradition of *Waakea* and *Papa* is a transformation of an inherited Marquesic tradition or a borrowing from Tahitic. Since the Hawaiians specify that those gods or godly people came from Tahiti, it is tempting to favour the Tahitic loan possibility. We can also note that Hawaiian "*Waakea*" follows the common Tahitic pronunciation rather than PMq **Aatea*.

7.2.2 Results

The element of the cosmogonies most clearly reconstructable to the beliefs of the Proto Polynesian–speaking community was the notion that the primordial condition involved a sky that was hugging close to the earth. The sky-raising story is part of a general complex of reconstructable beliefs. While the Primordial Pair was named as being the sky and earth in NZ Maori, this is unique in Polynesia. It seems the end of a long progression, within Maori's line in Ellicean, of naming the male first after terrestrial, then atmospheric, then heavenly entities and strata. The male of the Primordial Pair may have been thought of as the sky itself as early as Proto Central Eastern times, but he seems to have been called by older names. Samoans specifically do not think of their *Papa-Tuu* as being the sky. In Tonga the Primordial Pair are minor earthly elements and the "union of strata" theme of Ellicean cannot be reconstructed to Proto Polynesian.

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[18] Marck (1996c:231) read "both ignore".

[19] This second Fornander passage was not mentioned in Marck (1996c:231–232).

[20] Marck (1996c:232) read "dismiss".

Handy (1927) looks for the NZ Maori Sky Father elsewhere and when it is not found, assumes a direct equivalence must exist: "In begetting the islands Waakea's part corresponds to that of Taaroa and Tangaloa (who played the part of Sky Father in Tahiti and Samoa)" (Handy 1927:104). But Handy's work was done at a time when the dispersal of people into the far corners of the earth was presumed to be fairly recent, and Polynesian mythology was hoped to connect somehow to that of the Indus and areas further west, as the quote from Smith before the introduction of this chapter indicates (see also Smith 1919b). The comparative method of social anthropology, as employed in Handy's generation,[21] may have favoured a unilineal interpretation moving from simplicity of the Primordial Pair notion, such as in Tonga, to grander notions such as ultimately achieved in NZ Maori. But Handy (1927) took the position that the Sky Father notion was the original and other groups had somehow lost or retained it with a different terminology.

If Polynesian creation traditions differentiated according to a phylogeny similar to that of Polynesian linguistic traditions, our present method suggests that **Aatea* 'Primordial Male' and **Papa* 'Primordial Female' were the parents of the first-order anthropomorphic gods, in the beliefs of the Proto Tahitic speakers; and that NZ Maori *Rangi-Aatea* was a local development, as was Marquesan '*Ani-Motua* ('Sky-Father').

Tahitian traditions reflect major transformations of what we reconstruct for Proto Tahitic, on the basis of comparison of NZ Maori and some Cook Island and Tuamotuan traditions with Marquesan. Some of these transformations appear to have spread into the Tuamotus and some of the Southern Cooks. Some aspects of these transformations were pre-European. Others are clearly influenced by Christianity and there may even be a "Hindu" influence in the possibility of the Tahitian egg notion developing under the influence of Ellis's questioning after such beliefs.

Hawaiian traditions may be directly inherited from Marquesic or borrowed from Tahitic. Our method cannot distinguish because the vocabulary concerned would be pronounced in the same manner in historic Hawaiian in either event, except that the addition of initial *W-* in Hawaiian *Waakea* is otherwise only known from Tahitic. The Hawaiians have only memories of coming from Tahiti and this is intimately tied to their cosmogony so there are reasons beyond our method for suspecting a Tahitian element. The naming of the Hawaiian Primordial Pair is shared with Tahitic rather than Marquesic.

It is possible that some reconstructions in Table 7.1 are in error. In the first instance, **Aatea* might have been the male of the Primordial Pair as early as Proto Central East Polynesian times. There are some advantages to this solution. It would mean that Hawaiian could have inherited that belief from Proto Marquesic speakers rather than borrowing from Tahitic and it would support the Proto Tahitic **Aatea* reconstruction. But there are two disadvantages to this solution. One is that it would require the demotion of the Primordial Male to a first-order anthropomorphic god in Marquesan and Mangarevan. We have no other certain example of a male of the Primordial Pair coming to be an anthropomorphic god (more often they are elevated to ancestral cosmic beings or simply forgotten). The other is that it requires the independent naming of the Primordial Male as *Papa* in Marquesic and Samoan. In the first instance we have no precedence and in the second we can suggest no motive.

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[21] And so eloquently dismissed by Evans-Pritchard (1965).

Secondly, we must consider the possibility that language traditions and creation traditions did not differentiate along similar phylogenetic paths. If they did not this chapter need not have been written. But we have asked what a linguist might say if they did and the result seems more plausible, at least, than the notion that the most ancient beliefs involved a Sky Father and Earth Mother who somehow came to take different names everywhere but amongst the NZ Maori. Post Proto Tahitic distributions, where some of the Tuamotus and Southern Cooks seem to have been adopting new traditions from Tahiti, are the most significant distributions at variance with a cosmogonic phylogeny similar or identical to the linguistic phylogeny.

Our result suggests no reconstruction of names for the Primordial Pair to Proto Polynesian, since the Tongan and Ellicean (Nuclear Polynesian?) conceptualisations of the Primordial Pair and their names for them are so different. For Proto Nuclear Polynesian or at least Proto Ellicean there may have been a situation in which constituents of the earth, higher and lower rock strata, comprised the Primordial Pair. By Proto Central East Polynesian times the female seems to have been conceived of as the earth itself although she was still called *Papa* 'rock, stratum'. If the male was *thought* of as the sky he did not have to have the "Sky" name in Proto Central East Polynesian, Proto Marquesan or Proto Tahitic.

PCE **Aatea* was the deification of the space between the earth and the sky and seems to have been the Primordial Male in Proto Tahitic. If so, there was a kind of progression of naming the male after higher and higher physical elements in the prehistory of NZ Maori. Something that was not clearly thought of as a non-terrestrial stratum (PEc (PNP?) **Papa*-adj.) came to be thought of as an atmospheric or celestial stratum but was still named in the old way (PCE **Papa*-adj.); then took on the name of the atmospheric stratum (PTa **Aatea*); and then took on the name of the sky itself (NZ Maori *Rangi*). Perhaps this is the history of the NZ Maori Sky Father *Rangi* and Earth Mother *Papa*.

7.3 The first-order anthropomorphic gods

> The Polynesian race of the Eastern Pacific has an elaborate system of Cosmogony, which aims at explaining how the heavens were created and sustained, how gods and men came to be, how their own islands arose; but the details thereof vary much as given by the wise men in the various groups... (Fraser 1892:165)

7.3.1 Introduction

This section compares and reconstructs notions of who the first order of anthropomorphic gods were, how they came to be and what may have been their position in the cosmogonies of Proto Polynesian, Proto Nuclear Polynesian and/or Proto Ellicean, and Proto Central East Polynesian speakers.

While Tongans regard a group of half-siblings as being the first anthropomorphic gods (*Tangaloa*, *Maui* and *Hiku-Le'o*), Samoans have a different tradition in which *Tagaloa* was the *only* first-order anthropomorphic god and seems to have had no siblings save other *Tagaloa* incarnations. For Proto Central East Polynesian speakers, a set of beliefs distinct from Tongan and Samoan is reconstructed where a large group of full siblings was involved including at least **Tangaroa*, **Taane*, **Tuu* and **Rongo* and possibly **Aatea*, **(S)aumia*,

Tonga-Fiti and *Mauri*. Some of what is here reconstructed for Proto Central East Polynesian has been presaged by observations of Tahitian names for nights of the moon (Stimson 1938) and by reconstructions of Proto East Polynesian names for the same (Green 1988:Table 4). These names were often names of gods—first-order anthropomorphic gods in some instances.

7.3.2 *Proto Polynesian and Proto Nuclear Polynesian*

The first-order anthropomorphic gods of Tonga were half-brothers by the same father, a cosmic being descended from the Primordial Pair, and cosmic being mothers also descended from the Primordial Pair (Williamson 1933a:10–11). The brothers were *Hiku-Le'o*, *Tangaloa* and *Maui*.[22] *Tangaloa* governed the sky, *Maui* governed *Lolo-Fonua* ('Land or Country Below') and *Hiku-Le'o* governed *Pulotu* ('Paradise', cf. Geraghty 1993).

Craig (1989:28), Handy (1927:15) and Williamson (1933a:3) all cite Turner (1861, 1884) as their primary source on Samoan creation traditions. Creation begins with a genealogy of unions between cosmic beings such as "Nothing", then "Fragrance", then "Dust" and others which gradually merge with the genealogies of people (Turner 1884:3–9). In the first union mentioned in the genealogies of people, *Papa-Tuu* 'Standing Rocks (male)' and *Papa-'Ele* 'Earth/Soil Rocks (female)' pair, produce cosmic beings and seven generations later *Tagaloa* was born (Turner 1884:4).[23]

While Turner's (1884:4) genealogical table gives no siblings of *Tagaloa*-the-Originator-of-Men the next page mentions another child of the same father ("Cloudless Heavens", a cosmic being): *Tagaloa*-the-Dweller-in-Lands who is said to have a different mother ("The Eighth Heavens" rather than "Spread Out Heavens"). *Tagaloa*-the Originator-of-Man is said to have sired *Tagaloa*-of-the-Heavens; while *Tagaloa*-the-Dweller-in-Lands is said to have sired *Tagaloa*-the-Explorer who in turn sired *Vale-Vale-Noa* ('Space' deified/personified).[24] Thus Turner (1884:3–9) mentions siblings or half-siblings named *Tagaloa* as the first anthropomorphic gods and does not indicate that they had siblings not named *Tagaloa*. But the source is a genealogy which would not mention ancestors other than those in a direct line back to *Papa-Tuu* and *Papa-'Ele*.

What we know of the ancient Samoan pattern cannot be shown to be similar to Tongan or much of Central Eastern Polynesia, where the union of the Primordial Pair resulted in groups of siblings. While we might suspect the "group of siblings" theme was a Proto Polynesian or Proto Nuclear Polynesian feature, we cannot demonstrate this by comparison of the Tongan half-siblings with Central East Polynesian, because only PPn *Tangaloa* can be reconstructed with the "first-order anthropomorphic god" status. Tonga's *Maui* is not a first-order

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[22] PPn *Maaui* is reconstructed (Biggs 1994a). The "a" is short in Ton but not in Niu.

[23] Craig (1989:28), citing Turner (1884:3–5,10) and Krämer (1902:7), would seem to have "power demons Saolevao and Saveasi'uleo" born directly to *Papa-Tuu* and *Papa-'Ele*. This is not supported from Turner (1884:3–5,10). Craig's own wider reading of Krämer has "Saolevao (or Salevao)" as a child of *Tua-Faile-Matagi* and *Papa-Tea* (Craig 1989:242 citing Krämer 1902:8,23,75,79–80,105,115) and *Savea-Si'u-Leo* as a child of *Taufa* and *Alao* (Craig 1989:243 citing Krämer 1902:104–108 and Turner 1884:259). Craig's (1989:28) characterisation therefore seems an abbreviation for his dictionary purposes and cannot be taken literally.

[24] The personification or deification of space is common in Central Eastern Polynesia but the name, PCE *Aatea*, is not cognate with Samoan *Vale-Vale-Noa*.

anthropomorphic god in Nuclear Polynesian and Tonga's *Havea-Hiku-Le'o* is known elsewhere only from Samoa, where he seems not to have been of the order of *Tagaloa* and may, on distributional grounds, be a borrowing. In fact, Samoan *Si'u-Leo* is "Said to come from Tonga" (Turner 1884:52).

There may have been an early Nuclear Polynesian tradition of **Tangaloa* siring **Maaui-Tiki-Tiki-A-Talanga*. But that is a different story. The point to be made here is that **Maaui-Tiki-Tiki* is not a first-order anthropomorphic god in Nuclear Polynesian, as in Tonga, so his position at the Proto Polynesian level is indeterminate. The first-order subgroups do not agree on this matter and there is no external evidence in agreement with either subgroup. In fact, Polynesian cosmogonies seem particularly Polynesian. No similarities of actants and deeds are known other than possible borrowings from Polynesian Outliers by other Melanesians.

After their birth, in both Tonga and Samoa, **Tangaloa* and **Maaui* occupy themselves with bringing the world as we know it into existence. They fish up islands; **Maaui* raises the sky; **Tangaloa* sends worms or maggots to earth that become people and **Maaui* goes into the bowels of the earth and obtains fire for gods and people[25] (Williamson 1933a:2–11, 41–42, 47–58; 1933b:184–191). The story of people coming from worms or maggots is not known from Central Eastern Polynesia so this is a possible borrowing between Tonga and Samoa. The sky-raising story is also told around Central Eastern Polynesia. **Maaui* is the most consistent hero of these traditions so we have good reason to suspect that such was the belief amongst speakers of Proto Polynesian and all the main interstages. There is a specific agreement between Tongan, Samoan and Hawaiian that **Maaui* raised the sky in return for a drink of water from a mortal woman who asked him to do so. By our present method, this belief is then reconstructed to the cosmogony of Proto Polynesian, Proto Tongic, Proto Nuclear Polynesian, Proto Ellicean, Proto East Polynesian and Proto Central East Polynesian speakers. Whether it should be reconstructed to Proto Marquesic, Proto Tahitic or both is not clear because Hawaiians may have inherited the belief directly as members of Marquesic or may have borrowed the belief under later Tahitic influence.

At least two other names for Samoan gods have cognates with first-order anthropomorphic status elsewhere. They are *Logo* and *Tuu* who are discussed below under the reconstructions **Rongo* and **Tuu*, but in Samoa they are not anthropomorphic gods of the first order.

There are numerous other cognate god names between Tongan, Samoan and Central East Polynesian groups: e.g., Samoan *Luu* and PCE **Ruu*; Tongan *Sinilau*, Samoan *Tinilau*, and PCE **Tinirau*; and Tongan *Hina*, Samoan *Sina* and PCE **Sina*—all are cognate. But these were not first-order anthropomorphic gods, as defined here, in any of the traditions, and detailed comparison of those figures was not attempted for the present work.

Reconstruction of additional first-order anthropomorphic gods to the Proto Polynesian level is frustrated by a lack of further agreements between Tongan and Nuclear Polynesian. Reconstruction of additional first-order anthropomorphic gods to the Proto Ellicean level is frustrated by a lack of further agreements between Samoan and Central East Polynesian.

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[25] It is a particularly Nuclear Polynesian tradition that **Maaui* obtains fire from PNP **Mafuike*. It is also *Maui* who obtains fire in Tonga but a name similar to **Mafuike* is not reported from Tonga. I specify Nuclear Polynesian rather than Ellicean as the **Maaui* and **Mafuike* traditions occur in Rennell/Bellona.

7.3.3 *Proto Central East Polynesian traditions*

The reconstruction of beliefs to the Proto Central East Polynesian level proceeds most conveniently by the comparison of Marquesan and NZ Maori traditions which have much in common. When members of two first-order subgroups agree in form and meaning, one can reconstruct the agreement to the common protolanguage if borrowing or convergence are implausible. Marquesan and NZ Maori traditions agree on the Proto Central East Polynesian first-order anthropomorphic gods in Table 7.2. Additional agreements with Marquesan are taken from Mangaian (in the case of PCE *Tonga-Fiti*) and Tongarevan (in the case of PCE *Mauri*). Finally, there is the agreement of NZ Maori, Mangaian, Tongarevan and Samoan in the case of PCE *Tangaroa*.

Table 7.2: Proto Central East Polynesian first-order anthropomorphic gods

PCE	Marquesan	NZ Maori	Mangaian	Tongarevan	(Samoan)
Mauri	*Moui*[2]			*Mauri*	
Rongo	*'Ono*	*Rongo*	*Rongo*	*Rongo*	
(S)aumia[1]	*Aumia*	*Haumia*			
Taane	*Taane*	*Taane*	*Taane*	*Taane*	
Tangaroa		*Tangaroa*	*Tangaroa*	*Tongaroa*	*Tagaloa*
Tonga-Fiti	*Tono-Fiti*		*Tonga-'Iti*		
Tuu	*Tuu*	*Tuu*			

As deduced from the comparison of Marquesan with NZ Maori and Cook Island traditions. Sources: Marquesan: Christian (1895:187–188) and Handy (1923:244–245); NZ Maori: Best (1925:746), Grey (1885:1–11) and Tregaer (1904:462); Mangaian: Gill (1876:9–12), Tongarevan: Hiroa (1932b:85). Notes: 1. The agreement between Mqa and Mao is imperfect. If the reconstruction is correct, Mqa has irregularly lost the initial consonant. The Mqa source (Handy 1923) is not otherwise known to have omitted initial *h-* in his transcriptions; Mqa is not otherwise known to have lost an initial **h-* nor does Mao commonly insert one so PCE **(S)aumia* is the proper reconstruction. 2. We would expect ***Mou'i* but the single source (Handy 1923:244) did not record Marquesan glottal stops.

PPn *Tangaloa*, while elevated in Tahiti to a pre-existing being, was apparently demoted in Marquesan. He is not a first-order anthropomorphic god in Marquesas but was relatively important to the Mangarevans (cf. Hiroa 1938b:16,17–18,19,111). The possible reconstruction of *Aatea* to the male of the Primordial Pair in Proto Tahitic (§7.2.1.11 above), the possible borrowing of that status into Hawaiian and the position of *Aatea* as a first-order anthropomorphic god amongst Marquesans (Christian 1895:188, Handy 1923:244) suggest a high status for *Aatea* amongst Proto Central East Polynesian speakers but one that is indeterminate. He did not necessarily become the male of the Primordial Pair in Proto Tahitic due to being a first-order anthropomorphic god in Proto Central East Polynesian, although this seems a possible scenario.

It is difficult to speak of the first-order anthropomorphic gods of Central Polynesia all at once since they are different from place to place, and even when they are the same their deeds and roles sometimes differ between localities. Thus it is convenient to first present an outline of their origin for the major localities and then return to consider the individual reconstructions of Table 7.2 along with that for PCE *Aatea*.

We will note here and refer the reader to Hiroa (1938a) that Central East Polynesian creation traditions are rarely autochthonous[26] like they are in Tonga and Samoa. Creation is remembered as having occurred in PCE *Sawaiki*. Traditions through the Cooks, Societies and the Tuamotus have specific memories of the creation of various islands of Samoa, Tonga and Fiji. Similarly, Marquesan and Tuamotuan genealogies name individual islands of those Western Polynesian archipelagoes among the first ranks of godly ancestors in the descent of people from the first-order anthropomorphic gods. Such memories may be vaguer amongst the NZ Maori and Hawaiians but the present point is that they, too, remember creation as occurring elsewhere (in *Sawaiki*). They think of people coming to New Zealand and Hawai'i after creation and the beginnings of human existence elsewhere.

7.3.3.1 Marquesic traditions

7.3.3.1.1 The Marquesas

Williamson (1933a:15) and Craig (1989:29) mention only two primary sources concerning the end of the primordial era and the origin of the first-order anthropomorphic gods: Christian (1895:187–188) and Handy (1923:244–245). Even Handy (1927) provides no further information on this specific question. In both Christian and Handy *Papa-'Una/'Uka*[27], the "Level Above" or "World Above" (male), unites with *Papa-'A'o*, the "Level Below" or "World Below", resulting in the birth of the first-order anthropomorphic gods. Christian names a sibling group of twelve, Handy nineteen. Those whose names have cognates outside the Marquesas are *Aatea*, *Taane*, *Tono-Fiti/Toko-Hiti*, *Tiki*, *Aumia*, *Moui*, *Tuu* and *'Ono*. Of the preceding, only *Aatea*, *Taane* and *Toko-Hiti* are mentioned by Christian the rest coming from Handy. The others mentioned by Christian and Handy have no cognates in other Polynesian of which I am aware.

Christian (1895:187) tells us that at first these siblings lived in a subterranean cave, longing for light, and that it was *Aatea* who broke them out of the cave by stamping his foot through the earth to open space. Thus, we might presume, his name, which translates freely as "clear space" or "clear illuminated space". Christian's tradition then goes on to speak of the lands over which *Aatea* and his eleven siblings came to hold dominion.

Handy's tradition does not mention the "breaking out" motif and focuses more upon the areas of human affairs over which the more important siblings held sway. *Aatea* is said to be "progenitor of all natives with Atanua his wife... Tu is a legendary character and patron of war. His name does not appear in the genealogies". *'Ono* (PCE *Rongo*) "was of no importance in the actual worship – at least not under this name." "Tane was of little importance in the Marquesas. His name appears in legend and chants, but not in genealogies" (Handy 1923:245).

"*Tana-oa*" (*Tana'oa* from PCE *Tangaroa*) is mentioned at the end of these materials (Handy 1923:245) but recall that neither Christian nor Handy mention him as a member of the first-order siblings: "Tana-oa is mentioned elsewhere as a god of the wind and sea and

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[26] As used in the cosmogony literature: "creation occurred locally and people, locally, are directly descended from gods and/or humans created, locally, at the end of the primordial period".

[27] Mqa has northern and southern dialects, the northern dialect reflecting PCE *ng* as *k* and the southern dialect reflecting PCE *ng* as *n*. Both reflect PCE *r* as glottal stop and PCE *f* as *f* or *h*.

patron of fishing." Handy credits *Tono-Fiti* with thrusting apart the "Level Above" and "Level Beneath" but this seems unique in Polynesia where it was more often **Maaui* who did so. This latter belief was prevalent in Mangareva (Williamson 1933a:44).

The island raising stories of the Marquesas and Central Polynesian groups in general concern *Maui*[28] (Williamson 1933a:35–36), and not **Tangaloa* together with **Ma(a)ui* as in Tonga and Samoa. In general, the position of the Marquesas' *Tana'oa/Taka'oa* is diminished compared to other Polynesian. Williamson (1933a:20–21) gives a translation of a Marquesan tradition from Fornander (1878:214–218) in which *Tana'oa* represents something like primal darkness and is defeated by *Aatea*. Elsewhere Williamson (1933b:235–236) notes the general dearth of materials concerning *Tana'oa* for the Marquesas and wonders if he is a recent introduction.

Cosmic beings, such as we have seen in Tonga and Samoa, are not mentioned in Handy's (1923:244–245) account for Marquesan, but something of the sort seems part of Christian's genealogies (cf. 1895:191) which follow the latter's cosmogonic tradition. There, such entities as "*Po*" (*poo* 'darkness, night') and "*Ao*" (*ao* 'light, day') are named as are various Western Polynesian and Fijian localities: "Havaii", "Vevau", "Fiti", "Fiti-tapu" and "Tona-Tapu". Modern people stand in a genealogical line between the Primordial Pair, their immediate offspring *Aatea*, these cosmic beings or lands (descendants of *Aatea*), and then (pre)historical people (descendants of the cosmic beings or lands).

7.3.3.1.2 Mangareva

Hiroa (1938b:20–96) relates the traditional history of Mangareva. Only the first few pages have much to do with the current topic. They relate quite a different kind of story than the autochthonous traditions of Tonga and Samoa, or Central East Polynesian traditions which view creation as occurring in PCE **Sawaiki* (*Savai'i* in Samoa, spelt "*Hawaiki*" by Hiroa 1938a and others). In the tradition related by Hiroa (1938b:20–21), more or less mortal people are the first to arrive in Mangareva and have come from the Marquesas. These two men, named Miru and Moa, return to the Marquesas. Other people then come with Miru and Moa to Mangareva, and *Tagaroa-Huru-Papa* figures in this tradition. Other gods with names cognate elsewhere are not mentioned.

In later materials Hiroa (1938b:418–425) relates details of the primary gods: *Aatea*, *Tagaroa* and a few others not cognate with first-order anthropomorphic gods elsewhere. They have origins "so remote that they are termed gods without beginning" (Hiroa 1938b:418). There is no Primordial Pair or sibling group parented by them. Some of the gods commonly found as first-order anthropomorphic gods elsewhere are said to be the children of *Tagaroa*, including *Tuu* and *Rogo* (Hiroa 1938b:422).

I find no other sources on the cosmogonic traditions of Mangareva except for very limited notes, such as in Smith (1918:115–131) who mentions that "Maui-matavaru" fished up the islands of Mangareva, and that "Tiki" was the first man and husband of "Ina".

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[28]   The first vowel is short in Mqa.

7.3.3.1.3 Hawai'i

Hawaiian cosmogonic traditions are highly idiosyncratic. There are many competing traditions and Beckwith (1970:42–46) relates five of which two are from Fornander (1916–1920) and seem the least influenced by Christianity. But there, too, is a suspicious trinity involving *Kaane*, *Kuu* and *Lono* (PCE **Taane*, **Tuu* and **Rongo*) and Beckwith (1970:46) acknowledges a Biblical "coloring" in all of them. In the longer of the two Fornander traditions:

> The three gods Kane, Ku, Lono come out of the night (po) and create three heavens to dwell in, the uppermost for Kane, the next below for Ku, and the lowest for Lono...
> Next they make the earth to rest their feet upon... Kane then makes sun, moon, and stars, and places them in the empty space between heaven and earth... Next an image of man is formed out of red earth... A law is given him but he breaks the law and is then known as Kane-la'a-(kah)uli, "a god who fell because of the law."

> In the original garden... [is found] A tapu tree, sacred apples which cause death if eaten by strangers... (Beckwith 1970:43)

As Beckwith would agree, this does not seem the place to look for remnants of aboriginal Polynesian traditions. As mentioned earlier in the citation of neglected passages from Fornander (§7.2.1.11), I think we can dismiss much of what has passed as Hawaiian cosmogonic tradition in Craig (1989) and Beckwith (1970) as late developments under the influence of Christianity.

Waakea and *Papa* are said to be thought of as people in the Hawaiian traditions (Beckwith 1970:294) but their offspring, some of the Hawaiian islands themselves, suggest a magical sort of people. The passages from Fornander mentioned in §7.2.1.11 above call into doubt any notion that they were thought of as people rather than gods before Christian influence (as they were the parents of the gods *Kuu, Lono, Kaane* and *Kanaloa*).

7.3.3.2 Tahitic traditions

7.3.3.2.1 NZ Maori

I will consider NZ Maori cosmogonic traditions first. By comparison to evidence external to Tahitic, notions concerning the first-order anthropomorphic gods seem the most conservative Tahitic traditions. It is also the case that they have been recorded in greater detail than for many other Tahitic groups. The most widely reported cosmogony of the NZ Maori is quite clear and has many elements in common with other Polynesian: cosmic beings began evolving and their ultimate progeny, <u>*Rangi*</u> 'Father <u>Sky</u>' or '<u>Sky</u> Father' and <u>*Papa*</u> 'Mother <u>Earth</u>' or '<u>Earth</u> Mother', are the direct ancestors of the first-order anthropomorphic gods. There are competing traditions that *Tangaroa* was the spouse of *Papa* and that *Rangi* absconded with her (c.f. Tregear 1904:462, Biggs n.d.) but the union of *Papa* amongst Nuclear Polynesian groups is normally with a terrestrial, atmospheric or sky stratum and not an anthropomorphic god. Consequently, the *Tangaroa-Papa* tradition seems a local development.

There are many sources for the *Rangi-Papa* tradition (e.g., Shortland 1856, 1882, Clark 1896, Tregear 1904, Cowan 1910, 1930a, 1930b, Best 1924, 1925, Andersen 1928) which

seem to come from a limited array of primary sources (primarily Grey 1885 and previous editions of that work). A passage from Cowan (1910) seems most useful for our present purpose:

> who are the chief gods of the Polynesians and Maoris: Rangi and Papa, the Sky-Father
> and Earth-Mother, were the parents of the following deities,
> Rongo (God of Cultivations).
> Tane (God of Man, also Forests and Birds).
> Tangaroa (God of the Ocean and Fish).
> Tawhiri-matea (God of the Wind and Storms).
> Haumia (God of Fern-root and Uncultivated Foods).
> Ruai-moko (God of Volcanoes and Earthquakes).
> Tu-mata-uenga (God of Man and of War).

> ...Following upon the begetting of their seven children (there are many others
> mentioned in legends and genealogies, but the foregoing are the principal and deified
> ones), came the separation of Heaven and Earth...It was Tane-mahuta who forced his
> parents apart by standing on his head and thrusting Rangi upwards with his feet
> (Cowan 1910:105).

Amongst Cowan's list of the most important first-order anthropomorphic gods we find all the gods with cognate names in other localities, so we will not mention the others. There are very basic similarities with the Marquesan cosmogony, the main differences being in the naming of the Primordial Male, the inclusion of *Tangaroa* as amongst the first-order progeny, and the role of *Taane* instead of Marquesan *Tono-Fiti* or Mangarevan *Maui* in lifting the sky. These events are conceived of as occurring in *Hawaiki* in both the Marquesas and amongst the NZ Maori. The discovery and settlement of New Zealand is viewed as being done by mortal people.

7.3.3.2.2 Cook Islands

The reconstruction of **Aatea* as the Primordial Male for Proto Tahitic (§7.2) is based on agreements between certain Cook Island and Tuamotuan traditions, and the *Rangi* alternate *Rangi-Aatea* from NZ Maori. It is not supported by evidence external to Tahitic. Still it is these same Tuamotuan and Cook Islands that tend to have the most resemblances to Marquesan and NZ Maori as concerns the first-order anthropomorphic gods. So I will present first what seem the most conservative Cook Island traditions and then those that seem more influenced by transformed Tahitian traditions.

7.3.3.2.2.1 Tongareva (Penrhyn)

These Northern Cook Island people recall creation as being the result of the union between *Aatea* and *Haka-Hotu*.[29] Their children were *Taane, Tangaroa, Te Kapua, Mauri,*

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[29] We can reconstruct **Faka-Fotu* on the basis of a Tua *Hotu*, Tah *Ha'a-Hotu* and Pen *Haka-Hotu*. But the era to which it is reconstructed is Post Tahitic—after the time of PTa (in which language the Primordial Female was certainly **Papa*). Thus the Pen name is probably taken from the Tahiti area at a time after the

Rongo-Nui, Tahaki, Te Porou-Rangi, Te Tou, Maru, Haka-Peka, and *Putahi-Aitu* (Hiroa 1932b:85). Hiroa (1932b) does not mention a sky-raising story or the fishing up of the islands nor do I know of other sources on such matters for Tongareva. Gill (1876:48), however, relates a Mangaian myth that Tongareva was raised by *Vaatea* while he was fishing. This seems unusual in two respects. Firstly, it is not common for a member of the Primordial Pair to be attributed anthropomorphic acts and secondly PCE **Aatea* is not mentioned elsewhere in Polynesia in the context of the fishing up of the islands.

7.3.3.2.2.2 Mangaia

Gill (1876:1–22) relates an outline of creation from Mangaia, and Williamson (1933a:11–14) summarises it. The creation tradition is quite different than other Polynesian, even other Tahitic, but a number of familiar figures are present. First there is a complex notion of the universe resembling a coconut with a root extending downward and with a single hole in the top:

> At various depths, in the interior of the coconut, which Gill calls *Avaiki*, was a series of floorings or lands, one above another, and communicating with each other...in the lowest depth of *Avaiki*, where the sides of the shell nearly met, lived a woman, a demon of flesh and blood...She was the great mother...

> This great mother, being desirous of offspring, plucked a piece of her right side, and it became a human being - the first man - Avatea or Vatea (Noon). This being, the father of gods and men, was half man and half fish...(Williamson 1933a:12–13)

The name of *Vaatea's* mother (*Vari-Ma-Te-Takere*) is not cognate with any creation name that I know of outside of Mangaia. *Vaatea* eventually weds *Papa* (which Williamson translates as "Foundation"):

> Vatea and Papa had five sons [all gods]. The first two, Tangaroa and Rongo, were twins; they were the first beings of perfect human form, having no second shape; the third was Tonga-iti, incarnate in the white and black spotted lizards; the fourth was Tangiia; and the fifth was Tane-papa-kai (Tane-piler-up-of-food). Rongo had three grandsons - Rangi and two others who dragged up the island of Mangaia from *Avaiki* to the light of day...(Williamson 1933a:14)

So here we see a familiar set of relationships between the Primordial Pair and some of the early gods. Hiroa relates:

> In Mangaia there is no exploratory period, for the sons of the well known god, Rongo, drew the island out of an under-seas spiritual Avaiki to its present material position, with themselves upon it. With them commences the settlement period which thus links directly with the mythical period...As the period becomes more remote, details disappear, and the pedigree becomes a single list of names. The single list merges into the mythical period, from which it is often not clearly defined (Hiroa 1932b:16).

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divergence of Mao either as a later cultural borrowing or because the settlement of Tongareva occurred after the settlement of New Zealand (and **Faka-Fotu* was the Primordial female around Tahiti at the time).

Ruu and *Maaui* are associated with the raising of the sky in Mangaia (Gill 1876:58–60, Williamson 1933a:43).

7.3.3.2.2.3 *Rarotonga*

Williamson (1933a:14–15) relates two Rarotongan versions of creation. The first is as follows:

> A genealogy of the royal (Makea of Karika) family of Rarotonga commences with references to Papa (the earth), which grew, became beautiful, budded, became mature, had duration, and became a parent; and its child, regarded apparently as a spirit or human being. This child married Ina [this is the same as Sina of Samoa and Hina of Tahiti], the daughter of the god Rongo, and it was from this first marriage that the Makea or Karika family's ancestry was traced (Williamson 1933a:14).

The second is as follows:

> According to another Rarotongan account of the opening up of Papa (the earth), it was said that a person or being called Te Tumu [*tumu* means the "root", "origin", "source" or "foundation" of a thing] took Papa to be his wife and had by her three children - Te Uira, Te Aa, and Te Kinakina...After this Papa gave birth to the gods Rongo, Tane, Ruanuku, Tu, and Tangaroa. We are then told of a descendant of Te Tumu who begat the god Atea and others...(Williamson 1933a:14).

Overall, the Rarotongan legends are somewhat unique, individually, and as a group and are not always consistent with each other. Whereas there is no male ancestor of *Tumu* in the tradition related by Williamson above, there are some brief passages from Gill (1911:134–136) which indicate that *Tumu* was the child of *Aatea* and *Papa-Roa-I-Te-Itinga*, while *Tumu*'s wife was *Papa-I-Te-Opunga*. *Tumu* was the spouse of *Papa* in Tahiti (§7.2.1.10), something we did not see in Tongareva or Mangaia or for the NZ Maori. Thus some Rarotongan traditions blend with some seemingly recent Tahitian traditions in a way that Tongarevan and Mangaian traditions known to me do not. *Maaui* is associated with the raising of the sky in Rarotonga (Te Arikitara-are 1899:70–72) rather than *Taane*, as amongst the NZ Maori and Caillot's (1932) Tuamotuan tradition.

7.3.3.2.3 *Tahiti*

Since the cosmogonies of the NZ Maori, some of the Tuamotus and much of the Cooks have so much in common with that of the Marquesas, it will be appreciated that the very different concepts concerning creation in Tahiti, for which similarities are to be found in only some of the Tuamotus and Rarotonga, must be local developments as Hiroa (1938a:150) suggested.

The outstanding feature of Tahitian cosmogonies is the elevation of *Ta'aroa* (PCE *Tangaroa*) to a pre-existing being and supreme creator of the world as we know it today. Barrère (1967:104) attributes this to an adoption of Ra'iatean beliefs. The assertion is unreferenced but Williamson (1933a:379), also in an unreferenced assertion, places the "centre of the Tangaroa-Oro cult" in Ra'iatea as well.

Henry (1928) is the common source for Tahitian cosmogonic traditions (cf. Handy 1927,[30] Craig 1989) and there are a smattering of others (cf. Williamson 1933a:34 fn. 4, 35 fns. 1–6, Ellis[31] 1829a, 1829b). Henry's (1928:336–334) traditions were collected in 1822, 1824, and 1833. Barrère (1967:104–107) provides an overview, mainly in the context of questioning whether the belief in *Ihoiho* was ancient (see §7.1 above).

Within these highly transformed traditions the search for remnants of a Primordial Pair and first-order anthropomorphic gods of the Marquesan or NZ Maori variety is fruitful only in bits and pieces. Of the three possible remnants of the Primordial Pair in Henry's (1928) traditions (see Table 7.1), none produce a sibling group of first-order anthropomorphic gods in the typical fashion of Central East Polynesian-speaking groups' traditions.

As elsewhere, the sky is said to be held down against the earth. In at least one Tahitian tradition it is an octopus which holds down the sky. Williamson, citing Tyerman (1831a:526) relates:

> There was a belief in the Society island of Ra'iatea that the sky originally lay flat on the face of the earth and ocean, being held down by the "legs" (? tentacles) of a huge cuttle-fish; but Maui dived down to the bottom of the sea and dismembered the cuttle-fish, whereupon the sky flew up, became convex, resting on the horizon and having the vertical sun as its keystone (Williamson 1933a:42).

Ellis (1829a:43) relates a tradition that "at the first the heavens joined the earth, and were only separated by the *teva* plant, *Draconitum pollyphillum*, till their god, *Ruu*, lifted up the heavens from the earth". Henry (1928:409–413) relates a similar story involving both *Ruu* and *Maaui*. Williamson (1933a:34–35 citing Hale 1846:23,25, Moerenhout 1837:450, Young 1898:109, Forster 1778:159,541, Smith 1903:239, Ellis 1829a:167, Cuzent 1872:44, and de Bovis 1863:274) relates that in the Societies *Maaui* is credited with raising the islands from the sea. These are the Society Islands sources of which I am aware for traditions concerning the raising of the sky and the fishing up of the islands. It is consistent with the common notion of Central East Polynesian-speaking groups that **Maaui* was responsible for these deeds. But first-order anthropomorphic gods in the common Central East Polynesian pattern are absent but for the glorification of *Ta'aroa* (**Tangaroa*).

7.3.3.2.4 The Tuamotus

The Tuamotus are numerous and cover a vast area. Since the traditions to be related here come from only a few of those islands, it is important not to view these Tuamotuan traditions to be indicative of the archipelago as a whole.

Craig (1989:29) mentions only Henry's (1928:347–349) Tuamotuan creation tradition which does not give the home island of Paiore, "the chief and regent", from which it was collected (Henry 1928:347, fn. 30). Young (1919) also mentions Paiore but does not mention the area of the Tuamotus from which he came. Williamson (1933a:15–16) mentions Tuamotuan creation traditions collected by Montiton (1874) from the islands of Fangatau and Takoto and another collected by Smith (1903:221–42) for which the source island is not

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[30] Handy (1927) and Henry (1928) were both published by the Bishop Museum and Handy had access to Henry's manuscript while his book was in preparation.

[31] Ellis's source was Orsmond which was ultimately published by Henry (1928) (Niel Gunson, pers. comm.).

mentioned. Caillot (1932:37–57) is another primary source and some of those traditions were recorded on Makemo and Hao, though it is not clear if those Tuamotuan traditions to be mentioned here were.

The account of Paiore collected by X. Caillet[32] in 1890 and published by Henry (1928:347–349) is notable in that it contains elements of the transformed Tahitian traditions as well as elements that had not undergone such extreme transformations. In that tradition *Tumu* and *Papa*, not *Tangaroa*, were contained inside the primordial egg which burst open "and produced three layers, one below propping two above. Upon the lowest layer remained Te-Tumu and Te-Papa, who created man, animals, and plants" (Henry 1928:347). In this account, *Tangaroa* is born to other early anthropomorphic gods or godlike people (neither with cognate names from elsewhere in Polynesia) and an initial raising of the sky occurs before the birth of *Tangaroa*. *Tangaroa's* realm is darkness and the netherlands, which is reminiscent of Marquesan.[33] The only *Tangaroa* mentioned is the father of the only *Maaui* mentioned.[34] Another Tuamotuan tradition follows in Henry (1928:349–353) but no date or home island of the narrator is given. It concerns *Aatea*, *Taane* and *Maaui*, giving parents of *Taane* that are not reported elsewhere and not counting any of the three as siblings or descendants of *Tumu* and *Papa*. There is nothing further in that tradition to link with the "group of siblings" theme in the conceptualisation of the first-order anthropomorphic gods amongst some other Central East Polynesian-speaking groups.

The traditions mentioned by Williamson (1933a:15–16) are covered in two paragraphs and include an account of a battle between *Aatea* and *Taane* (mentioned also in Henry (1928:349–353)) and of *Taane's* raising the sky. The Smith (1903) tradition is highly abbreviated in Williamson (1933a:16) but, as usual, very true to the source. There is no sibling group in the typical Central East Polynesian pattern in the primary source.

The Tuamotu tradition of *Taane* raising the sky, as amongst the NZ Maori, is a quite mysterious similarity. It may be due to independent developments or some kind of borrowing between certain of the Tuamotus and the NZ Maori, or Tuamotuans having a part in the settlement of New Zealand.

In a very short passage (Caillot 1932:50–51), *Aatea* is mentioned as sleeping with *Hotu*, the result being the sibling group "Ru, Pigao, Tope, Pepe, Tane, Tagaroa, Titi, Tiki, Ruanuku, Maui, Gaohe, Vaerua". Calliot (1932:51) mentions that *Vaatea*, *Taane* and *Tagaroa* are "trois formes d'une meme divinité". So it would seem that older traditions based on the Primordial Pair-sibling group pattern were current, but being transformed in light of Christian notions.

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[32]   Note that there was an X. Caillet and an A.-C.E. Caillot who both worked on matters concerning the Tuamotus and that they were different individuals.

[33]   And Hawaiian traditions after some years of contact. I am, however, inclined to believe that the Hawaiian demotion of *Kanaloa* is a post-European development. See §7.3.3.1.3 on Hawai'i.

[34]   This sentence ended with "much in the mould of Nuclear Polynesian traditions as a whole" in Marck (1996c:238). While it is true that *Tangaloa* was the father of *Maaui* in some Samoan and Central East Polynesian traditions, competing traditions have *Talanga/*Taranga* as the father (or mother) of *Maaui* (in both Samoa and Central East Polynesia).

7.3.4 Proto Central East Polynesian reconstructions

Having summarised the general character of the sources for the various islands, I now consider the evidence for individual reconstructions.

7.3.4.1 *Aatea

PCE, PMq *Aatea*, Mqa *Aatea*
'space deified/personified and first-order anthropomorphic god',
Haw *Waakea* 'space deified and Primordial Male',
PTa *Aatea*, Var.: *Waatea* 'space deified and Primordial Male',
Tua *Aatea*, *Vaatea*, Pen *Aatea*,
Mia *Vaatea* 'space deified and Primordial Male',
Mao *Rangi-Aatea* 'sky deified and Primordial Male'
Tah *Aatea* 'space deified and father of *Taane*'

Biggs (1994a): PPn *qaho-qatea*, PCE *awatea* 'midday',
PPn *qaho*, PCE *ao* 'day', PPn *qaatea*, PCE *aatea* 'clear, unobstructed'

The Proto Central East Polynesian name *Aatea* denoted the space between the sky and the earth which was a compressed stratum in the primordial state due to the sky's hugging close to the earth. Reconstruction of a precise status to the Proto Central East Polynesian level is not possible. This is due to a basically different conceptualisation of *Aatea*'s role in creation between the two Central East Polynesian subgroups, and an absence of external cognate names or even a similar type of entity with similar deeds.[35] In the instance of Marquesic, we have a clear statement of his origin for the Marquesas (a child of the Primordial Pair). It is an origin so ancient it was forgotten in Mangareva and one that seems influenced by Tahitic in Hawai'i where, amongst other things, a Tahitic rather than Marquesic pronunciation is found. In the instance of Tahitic, we have agreement amongst many of the Cooks and at least one Tuamotuan tradition that *Aatea* was the Proto Tahitic Primordial Male. NZ Maori traditions conceptualise creation in a similar way but have largely forgotten the *Aatea* name except in the *Rangi* 'Primordial Male' variant *Rangi-Aatea*. All that is recorded for Tahiti is a basically transformed conceptualisation of creation. This is shared to some extent with some of the Tuamotus and Southern Cooks respectively.

Marquesan *Aatea* is a first-order anthropomorphic god in the sibling group who were the children of *Papa-'Uka* and *Papa-'A'o*, the Primordial Pair in the widespread Polynesian pattern. From their birthplace within the earth he kicked through to open space so he and his siblings could reside on the earth's surface; thus, apparently, his name ("Clear Space"). All Marquesans trace their ancestry to him and his wife *Ata-Nua*.

A rather transformed Hawaiian set of traditions agrees to some extent with the Proto Tahitic Primordial Pair of *Aatea* and *Papa*. The traditions concur that *Waakea* and *Papa* were great creator anthropomorphic gods in Hawai'i, responsible for the origin of many of

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[35] Save Sam *Vale-Vale-Noa*, mentioned in the section on Proto Polynesian and Proto Nuclear Polynesian. But there is no similarity in his deeds or role to that of *Aatea* around Central East Polynesian groups.

the islands, and the parents of *Kuu, Lono, Kaane* and *Kanaloa*. Tahitic notions depart on the issue of *Waakea* and *Papa*, who are remembered as the progenitors of all Hawaiians, very much as the Marquesans remember *Aatea* and *Ata-Nua* as their ancestors. Tahitic groups do not trace their ancestry to PTa **Aatea* except through one of the first-order anthropomorphic gods, so the Hawaiian memory of being descended from *Waakea* may be Marquesic.

It is not clear which group has changed what, since Proto Central East Polynesian times. Two possibilities can be imagined without much difficulty, both with two possible explanations for the situation in Hawai'i:

1. There was a Primordial Pair named **Aatea* and **Papa* in Proto Central East Polynesian and this continued into Proto Marquesic and Proto Tahitic, but was modified in Marquesan where **Aatea* came to be amongst the first-order offspring of the Primordial Pair. In this instance Hawaiian *Waakea* and *Papa* could be either from direct inheritance of Proto Marquesic speakers' beliefs or indirect inheritance (a borrowing) from Tahitic.

2. There was a Proto Central East Polynesian Primordial Pair *Papa*-adj. and *Papa*-adj. and **Aatea* was amongst their first-order anthropomorphic offspring. Proto Tahitic speakers elevated him to the status of the Primordial Male while Marquesan simply did not change. The Hawaiians' *Waakea* and *Papa* would then be either a borrowing from Tahitic or a local transformation of earlier Marquesic notions.

The first solution is not very satisfying and was not adopted in Marck (1996b and §7.2 above) for two reasons. Firstly, it requires a renaming, in Marquesan, of the Primordial Male as *Papa*-adj.. Secondly, the claim that the similarity to the naming of Samoa's Primordial Male, also *Papa*-adj., is an independent development. The solution taken (§7.2) is the second above because it does not require independent identical developments in Samoan and Marquesan. By this solution, the *Waakea-Papa* pair of the Hawaiians could be a Tahitic loan or independent local development of *Waakea* as *Papa*'s husband. The Tahitic loan hypothesis is appealing for two reasons. Firstly, the Hawaiians remember them as coming from Tahiti and their pronunciation, "*Waakea*", is Tahitic. Secondly, as a Hawaiian transformation of old Marquesic beliefs, it is a particularly Marquesan notion that *Aatea* is the ancestor of all people and this is shared with Hawaiian traditions. **Taane* is more commonly the ancestor of people in the Tuamotus, Societies and amongst the NZ Maori. So Hawaiian traditions seem a blending of Marquesic and Tahitic as we might expect.

Again, the position of **Aatea* at the Proto Central East Polynesian level is indeterminate by our method but he may have been one of the first-order anthropomorphic gods and is mentioned here for that reason.

7.3.4.2 **(S)aumia*

> PCE, PMq, PTa **(S)aumia*, Mqa *Aumia* 'first-order anthropomorphic god',
> Mao *Haumia* 'god of fern root, first-order anthropomorphic god'

This is a marginal reconstruction with only two cognates which agree imperfectly. *Haumia* is well known from NZ Maori traditions as a first-order anthropomorphic god who was the god of the fern root, an important source of starch to the NZ Maori, because taro and breadfruit do not flourish in their southern environment. Handy (1923:244) mentions *Aumia* among the Marquesan siblings of *Aatea, Taane, Tuu, 'Ono* and others but does not mention

his (or her) realm, and other primary and secondary sources do not mention a Marquesan *Aumia* at all. If they are cognate, the NZ Maori *Haumia* agreement with Marquesan *Aumia* is irregular in that NZ Maori has irregularly inserted an initial consonant or Marquesan has irregularly lost one. It is also possible that Handy did not transcribe an initial *h* (although we otherwise know he heard and transcribed that sound in that environment in that language). The possibility of a chance resemblance would be about one in six thousand[36] so certainly they are cognate. Possibly there was a time around central East Polynesian when fern root was an important food and Marquesans remember it for that reason. Such may have been the case before breadfruit and taro were abundantly available.

Craig (1989:53) equates NZ Maori *Haumia-Tiki-Tiki* with Hawaiian *Haumea*, Marquesan *Haumei*, and Tuamotuan *Faumea* and calls NZ Maori *Haumia-Tiki-Tiki* a "goddess" in the "Haumea" entry, while calling *Haumia-Tiki-Tiki* a "god" and son of *Rangi* and *Papa* in the "Haumia-Tikitiki" entry. This linguist's inclination is to suggest that at least three names are involved in those and an associated entry. These names are:

1. the *Haumea* of Hawai'i and the *Faumea* of the Tuamotus, which seem regularly cognate names but share nothing of the same deeds as related in Craig (1989:38, 53);
2. the *Haumei* of the Marquesas, whose form is regularly cognate with none of the others and seems (Craig 1989:53) to share no deeds with the others; and
3. the *Haumia-Tiki-Tiki* of the NZ Maori, which is probably not cognate with the others but possibly cognate with the Marquesan *Aumia* mentioned above.

7.3.4.3 *Mauri

PCE **Mauri*, Mqa *Moui*,
Pen *Mauri* 'first-order anthropomorphic god'

Biggs (1994a): PPn **maquri*, PCE **mauri* 'life, alive'

This reconstruction is almost as obscure as the previous one, only two groups remembering PCE **Mauri* as a first-order anthropomorphic god.[37] We would expect ***Mou'i*[38] for Marquesan but the source (Handy 1923) did not record Marquesan glottal stops. Neither Handy (1923:244) for Marquesan nor Hiroa (1932b:85) for Tongarevan describe a realm or deeds for this god, only that he was amongst the sibling group first born to the Primordial Pair. We must note the reconstruction as weak. It is possible both the Marquesans and Tongarevans raised a more junior god to first-order status because many siblings of the main gods are mentioned (but not realms or deeds). Also, many siblings of the main gods are rarely cognate between groups (for groups that have the "group of siblings" theme).

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[36]   There are five vowels and about ten consonants in those two languages. If all vowels were equally common and all consonants equally common, the likelihood of chance identity of the "*aumia*" portion of the reconstruction would be 5x5x10x5x5 (one chance in 6,250).

[37]   This is a rephrasing of Marck (1996:242) which said that more groups have reflexes of **Mauri*, though not as a first-order anthropomorphic god. Both assertions were in error.

[38]   "**" is used here to indicate an expected but unattested form.

7.3.4.4 *Rongo

PCE, PMq, PTa *Rongo,*
Mqa *'Ono/'Oko*, Haw *Lono,* Tua *Rogo,*
Rar, Pen, Mia, Mao *Rongo* 'first-order anthropomorphic god',
Tah *Ro'o* 'one of the earliest gods'

Biggs (1994a): PPn, PCE, PMq, PTa *rongo* 'to hear'

PCE *Rongo,* probably PCE *Rongo-Nui,* is remembered as a messenger god in Tahiti, a role in which the Samoan god with a partially cognate name, *Logo-Noa,* is also found (Fraser 1892:265), although not as a first-order anthropomorphic god as he often is around Central East Polynesian groups. In Samoa he was the messenger of *Tagaloa* (Craig 1989:142) and in Tahiti the messenger of *Taane* (Henry 1928:369–371). He was often a god of food around Tahitic, e.g., Tongareva (Hiroa 1932b:87), Mangaia (Gill 1876:11–12) and amongst the NZ Maori (Tregear 1904:462) and this was also true of Mangareva (Hiroa 1938b:422), so possibly he was the god of food amongst Proto Central East Polynesian speakers. Little is known of him from the Marquesas (Handy 1923:245) and he is not mentioned as a god of food in the Tuamotus and Tahiti in sources I have seen. Still, the agreement of Mangarevan and Cooks/NZ Maori is enough to establish his status as god of food in Proto Central East Polynesian if this is not a borrowing. There is an interesting passage in Gill (1876:10–14) which states that *Rongo* and *Tangaroa* were twins and the first born of *Vaatea* and *Papa* in Mangaia. "Tangaroa should have been born first, but gave precedence to his brother Rongo" (Gill 1876:10). There followed a great deal of competition between the two as to who would have dominion over what. The passage is significant mainly because it says something about the birth order of the first-order anthropomorphic gods, something which is otherwise left to the imagination in Central East Polynesian accounts of these gods (unless we take their order in being named to be the birth order which does not seem an entirely safe assumption). In Hawai'i he was a first-order anthropomorphic god (Fornander 1919–1920:360). *Ro'o* in Tahiti was an early god, as early as most others in these highly transformed traditions, but they are not known to be offspring of the Primordial Pair in those localities.

7.3.4.5 *Taane

PCE, PMq, PTa *Taane,* Mqa *Taane,* Haw *Kaane,*
Tua, Pen, Mia, Rar, Mao *Taane,*
'first-order anthropomorphic god'
Tah *Taane* 'early god'

Biggs (1994a) PPn *taqane,* PCE, PMq, PTa *taane* 'male'

The evidence for PCE, PMq, PTa *Taane* 'first-order anthropomorphic god' is abundant and unequivocal. He is a child of the Primordial Pair in at least one tradition from the Marquesas, the Tuamotus, NZ Maori, Rarotonga, Mangaia and Tongareva.[39] Many books

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[39] He is even a child of *Papa-Tuu-'Oi* and *Aatea* in Henry's (1928) traditions—the only member of the common sibling group not simply conjured forth by *Ta'aroa* in these highly transformed traditions.

could be written about **Taane* in Tahitic. Our purpose here is complete with the simple demonstration of his status amongst Proto Central East Polynesian speakers and some mention of his status in Proto Marquesic and Proto Tahitic. He is not known from Tonga or Samoa.

There are basic differences between the Marquesan *Taane* and that of Tahitic. I will comment upon *Kaane* in Hawai'i after mentioning some of *Taane*'s characteristics in Marquesan and Tahitic.

Tregear (1904:453) wonders that the "sublime Trinity-worship" of *Taane, Rongo* and *Tuu* is not found in New Zealand whereas it was conducted "with such solemn ritual and embodied in such magnificent hymns... in the Hawaiian Islands and the Marquesas." I am aware of some motive for his question in the case of Hawai'i but have found nothing to support his assertion of a *Taane, Rongo* and *Tuu* "trinity" in the case of the Marquesas. Handy relates that:

> Tane was of little importance in the Marquesas. His name appears in legend and chants, but not in genealogies... The concepts of a male principle and light belong to Atea rather than to Tane here, though Tane was regarded as a "light" god in the sense that he was believed to have had light skin and hair and to have been the ancestor of the white race (Handy 1923:245).

Taane is described as "of little importance" by Handy but first-order anthropomorphic gods are often described as such (cf. Craig 1989:99 on Samoa's *Tagaloa*), usually because they are not associated with much religious ritual. A single Marquesan tradition of which I am aware credits the raising of the sky to *Taane* in association with *Aatea*. A similar story is known from the Tuamotus (Williamson 1933a:26–27, cf. also Caillot 1932:60), but another credits Marquesan *Tono-Fiti* (Handy 1923:245). Closely related Mangarevan has memories of *Maaui* having done so (Williamson 1933a:44), which seems the older pattern given the agreement with Tongan, Samoan, Hawaiian and some Cook Island traditions on the matter. Hiroa (1938b:424) mentions a rather marginal status for *Taane* in Mangareva.

In Tahitic, on the other hand, *Taane* is normally quite prominent. The Tahitian traditions are generally idiosyncratic and knowledge of Tuamotuan traditions quite limited, so we shall turn to the Cooks for our first look at *Taane* in Tahitic. Starting with Tongareva in the north, Hiroa (1932b:85–86) notes that *Taane* was a child of *Aatea* and *Haka-Hotu* and an active god at the time of creation. *Taane*, or a *Taane* incarnation, is in one of three main lines of descent in the genealogies (Hiroa 1932b:17–19). Other than this, nothing is said of him in that work.

Gill (1876:11) relates that *Taane* was a principal god of Mangaia along with *Tangiia*, a Mangaian first-order anthropomorphic god for whom I know of no cognates around Polynesia.[40] Gill does not expand upon his assertion that *Taane* was a principal god of Mangaia. There is no description of deeds attributed to him except for a tradition concerning him marrying "Ina" ('*Ina* from PCE **Sina*) (Gill 1876:107–114). However, **Sina* is not generally associated with **Taane* outside of Tahitic, as much as **Tangaloa* and **Maaui*, and the story line has no elements which seem similar to those other traditions. It would seem to be *Rongo* rather than *Taane* to whom the "original" Mangaians trace their ancestry (Gill 1876:17).

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[40]   Although Gill (1876:19, 23) mentions a mortal chief by that name from Rarotonga and another (possibly the same person) from Tahiti.

Taane in Rarotonga is mentioned briefly by Te Arikitara-are (1919:57–61). We find there only the mention of his being amongst the first-order anthropomorphic gods along with *Rongo, Tuu, Tangaroa* and *Rua-Nuku*.

Taane is relatively well known from NZ Maori sources. His role and deeds embraced the following:

1. separating *Rangi* and *Papa* (Grey 1885:1–3, Tregear 1904:461, Best 1924:37–38, 1925:745);
2. adorning "the breast of heaven (his father, Rangi) with stars" (Tregear 1904:435, cf. 461; cf. Best 1924:39) and covering the earth (his mother, *Papa*) with trees (Andersen 1928:403–404);
3. being the god of forests (Grey 1885:2, Tregear 1904:439);
4. making the first woman (Andersen 1928:407, Cowan 1930a:8);
5. making the first man (Tregear 1904:464) or being the "Father of Man" (Cowan 1930b:44) or "God of Man" (Cowan 1910:105); and
6. fighting battles with other gods (Grey 1885:5, Tregear 1904:478–479).

Altogether, there is a great deal of content against which we can begin to evaluate the prehistory of traditions around Tahiti and in Hawai'i.

I will consider Tuamotuan traditions briefly before going on to Tahitian. The material I will cite is from Caillot (1932). It has been mentioned in the summary of Tuamotuan sources as more conservative in some respects than others. Recall that in those materials *Taane* is amongst a sibling group of first-order anthropomorphic gods in the broad Central Polynesian pattern, children of *Vaatea* and *Hotu* in this instance (Caillot 1932:50–51). In a following passage (Caillot 1932:60) a number of things are attributed to *Taane*. Roughly translated from Caillot's French, they include:

1. the raising of the sky; the covering of the barren earth (with plant life);
2. holding the status of the principal force of life in all beings;
3. fathering universal life; and
4. responding to needs of the heart, and arbitrating the destiny of people's lives (while living but not after their death).

In Tahiti there is no sibling group of first-order anthropomorphic gods nor a clear Primordial Pair in the broader Polynesian pattern. Nevertheless, *Taane* is the sole child of *Aatea* and *Papa* who are the Primordial Pair elsewhere around Tahitic, even though their genders are reversed in the tradition related by Henry[41] (1928:364–369). Henry's (1928:353–371) traditions have a great deal to say about *Taane*, though little of it resembles what has been seen for NZ Maori's *Taane* or that of the Tuamotus. Aside from *Ta'aroa*, who is elevated to a pre-existing creator god, *Taane* figures most prominently in these traditions. Often they are adulations reminiscent of Judeo-Christian eulogisation about the

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[41] Craig (1989:101–102) misstates the sex of *Aatea* and *Papa-Tuu-'Oi*, which he has as male and female, respectively. His source (Henry 1928:364–369) has them as female and male, respectively. While *Aatea* later changes gender (Henry 1928:372–376) and has more children as a male, none of the latter have names cognate with first-order anthropomorphic gods elsewhere. Possibly Craig has glossed over this Tahitian idiosyncrasy for brevity. It is noteworthy that the female Tah *Aatea* changes gender by exchanging natures with *Fa'a-Hotu*, also a woman but with a masculine nature, and that *Hotu* is the name of the male *Aatea*'s wife in Caillot's (1932) Tuamotuan materials (§7.2.1.9). *Haka-Hotu* is the female spouse of the male *Aatea* in Tongareva as well (see Table 7.1).

glory of their deity, or a setting out of the world in a fashion more similar to the Old Testament order than other Polynesian traditions of creation. Nothing is very similar to other Tahitic about *Taane* except for his high status.

The question of what Hawaiian *Kaane* traditions most resemble beyond Hawai'i is muddled by the following:

1. the local transformation of Hawaiian traditions, much of it apparently after European contact;
2. the probable transformation of Tahitian traditions after early borrowings by Hawaiians; and
3. the dearth of materials from the Marquesas.

Beckwith (1970:60–80) relates a number of traditions concerning *Kaane* in which *Kanaloa* is normally involved somehow. In one (Beckwith 1970:60–61) *Kaane* and *Kanaloa* are said to draw men in the earth and *Kaane*'s man lives while *Kanaloa*'s does not. Beckwith's rendition of this tradition varies somewhat from the source (Fornander 1919–1920:267–268), but the present observation is that *Kaane* is associated with the origin of people (a Tahitic belief), but *Aatea* is the progenitor of people (a Marquesan belief). There is a fight between *Kaane* and *Kanaloa* (Fornander 1919–1920:268) in which *Kaane* prevails. It was *Aatea* that fought off *Tana'oa* in the Marquesas (Fornander 1878:214–218). There, *Tana'oa* was thought of as a god of darkness as was Hawai'i's *Kanaloa*. This is something which happens nowhere in Tahitic, nor, apparently, in Mangareva. But like the Marquesan *Tana'oa*, Hawaiian *Kanaloa* is still god of the sea. So there are a few resemblances to Marquesan in Hawai'i about *Tana'oa* and *Kanaloa*, but the prominent role of *Kaane* cannot be identified as having a Marquesic source and seems most similar to Tahitic *Taane*.

While the role of *Kaane* in Hawai'i resembles that of **Taane* in Tahitic, there seem to be no specific resemblances of *Kaane* traditions from Hawai'i and no specific resemblances of **Taane* traditions from Tahitic localities. The activities of *Kaane* and *Kanaloa* generally seem to take place in Hawai'i itself, rather than **Sawaiki* as in Tahitic traditions, so there is little to compare other than prominence of the role itself which could have arisen independently.

Finally, the Hawaiians remember *Maaui* rather than *Kaane* lifting the sky (Beckwith 1970:230, 379). This could be either a Marquesic memory or one from around Tahiti. *Taane* took that role in the Tuamotus and New Zealand (but not around some of the Cooks and Tahiti which still remember *Maaui* as having done so).

Thus we find no compelling reason to suggest Hawaiian *Kaane*'s high status is a loan from early Tahitic, a retention from early Marquesic, or an independent development. Superficially there is the greater resemblance to Tahitic. However, there is an absence of specific similar elements in the conceptualisation and deeds of Hawaiians' *Kaane*, other than the notion of the creation of the first man. With the borrowing of the Tahitic pronunciation for "priest" into Hawaiian[42] and the possible borrowing of the Hawaiian names for the Primordial Pair from Tahitic, we might be inclined to view the role of *Kaane* as a further Tahitic influence. But we cannot demonstrate such by our method. It could just as well be an independent development or developments out of Hawai'i's Marquesic heritage.

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[42]   Haw *kahuna* 'priest' < PTa **tahunga* 'priest' not PMq **tuhunga* 'expert', see §4.3.11.

PCE *Taane* may have had a high status that was displaced by *Aatea* in the Marquesas, or he may have been the relatively obscure god that he was in the Marquesas and been elevated to greater prominence in early Tahitic. In any event, he seems definitely to have been among the first-order anthropomorphic siblings born to the Primordial Pair in the cosmogony of Proto Central East Polynesian speakers.

7.3.4.6 *Tangaroa

PPn, PNP *Tangaloa*, PCE, PMq, PTa *Tangaroa*,
Ton *Tangaloa*, SAM *Tagaloa*, Mqa *Taka'oa/Tana'oa*, Mva *Tagaroa*, Haw *Kanaloa*,
Tua *Tagaroa*, Pen, Mia, Rar, Mao *Tangaroa*
'first-order anthropomorphic god'
Tah *Ta'aroa* 'pre-existing creator god'

Biggs (1994a) PPn *Tangaloa* 'a principal god of the pantheon',
PPn *tanga* '1. bag, 2. drive into enclosure, surround',
PPn *loa* 'long'

It is tempting to reconstruct "*senior* first-order anthropomorphic god" for PCE *Tangaroa*, but the "senior" turns out to be difficult to support from within Central East Polynesian. While it is true that *Tangaloa* was the senior of three half-sibling first-order anthropomorphic gods in Tonga, the only anthropomorphic god of first rank in Samoa and elevated to pre-existing creator god in Tahiti, Central East Polynesian traditions do not generally specify that he was senior. Gill's (1876) account for Mangaia, mentioned above in the context of PCE *Rongo*, specifically has *Tangaroa* and *Rongo* as twins and first born of the Mangaian sibling group of first-order anthropomorphic gods. But he seems not otherwise specifically mentioned as the eldest around Central East Polynesian groups, though his name is often given first which would normally imply the birth order. We might suspect that the Tahitians took him to be their pre-existing being because he was the most senior of the siblings; however, I cannot presently suggest that he was most senior with materials internal to Central East Polynesian but for the Mangaian account. We might also mention that he was the only god or man common to Central East Polynesian traditions, other than *Tiki*, to be remembered by the Rapanui people. In those traditions, *Tangaloa* is said to have died on Rapanui (Englert 1970).

Unlike Tonga and Samoa, *Tangaroa* seems never to be associated with the fishing up of the islands in Central East Polynesian groups. Caillot (1932:60) mentions him as finishing the sky-raising work of *Taane*, but I know of no other mention of him in connection with the sky-raising story around Polynesia, except Fraser's (1892) suspicious Samoan tradition.

Tangaroa is the god of craftsmen in the Tuamotus (Caillot 1932:60–61). Given the agreement with Tonga (Collocott 1921:153) on this matter, we can reconstruct that status to Proto Polynesian through the various interstages to Proto Tahitic. He is the god of the sea amongst the NZ Maori (Tregear 1904:462), as in the Marquesas (Handy 1923:245), so we can reconstruct that status to Proto Central East Polynesian, Proto Marquesic and Proto Tahitic.

His loss of rank in the Marquesas is curious. There he is remembered as a thirty-ninth generation offspring of the Primordial Pair, but not so in Mangareva. There, he is one of the

gods so ancient in the genealogies that previous ancestors are unknown and their origin is unspecified. The diminution of *Kanaloa* in Hawai'i may be recent and independent of Marquesan. Beckwith (1970) mentions only the "trinity" of *Kaane, Kuu* and *Lono*; while neglected but more authentically Polynesian sorts of traditions can be found in Fornander (§7.2.1.12 above) which has *Kanaloa* a full sibling of *Kaane, Kuu* and *Lono* born of *Waakea* and *Papa*. Beckwith (1970:cf. 60, 62) remarks more than once that *Kaane* and *Kanaloa* are normally mentioned in the same breath and her sources extend far beyond Fornander (1878–1885, 1916–1920)—often in the context of propitiatory recitations. It would seem to indicate *Kaane* and *Kanaloa* held similar sway over human affairs before *Kanaloa*'s apparent demotion in the *Kaane-Kuu-Lono* "trinity" of the historic period.

7.3.4.7 *Tonga-Fiti

PCE *Tonga-Fiti*,
Mqa *Tono-Fiti*, Mia *Tonga-'Iti*
'first-order anthropomorphic god',
Rar *Tonga-'Iti* 'early god'

Biggs (1994a): PPn, PNP, PCE, PMq, PTa *tonga* 'south, south wind',
Marck: PPn, PNP, PCE, PMq, PTa *Tonga* 'Tonga'
PPn, PNP, PCE, PMq, PTa *Fiti* 'Fiji'

This is a marginal reconstruction. The second vowel of Marquesan does not agree with that of the others, and the glottal stops of Mangaia and Rarotonga are assumed (the sources, Gill (1876:9–12) and Te Arikitara-are (1919:58), do not mark glottal stops). The only deeds attributed to any of them is the lifting of the sky by *Tono-Fiti* in the Marquesas (Henry 1923:245), and that of *Tongo-'Iti* parenting the children who "opened up" *Papa*, the earth, in Rarotonga (Te Arikitara-are 1919:58). Terrell and Langridge (1988:194–197) also recount a tale about Marquesan *Tono-Fiti* but not one which comments on cosmogony. Christian (1895:187) relates that his domain was "Havaiki" in the Marquesas, that is, the afterlife or paradise.

While the reconstruction is marginal, it allows us to recall the extent to which Tonga and Fiji, in addition to *Sawaiki*, were remembered around central Eastern Polynesia. It seems that Marquesans, Tuamotuans, Tahitians and Cook Islanders all remembered the Tonga/Fiji area, more or less. In the Marquesas, the islands of "Tona-Tapu", "Vevau", "Fiti", "Fiti-tapu" and "Havaii" are remembered as ancestors in genealogical recitations in the ninth to eleventh generations after the Primordial Pair. Borabora ("Pai-o-Poapoa") is remembered as an ancestor in the twenty-fifth generation after the Primordial Pair (Christian 1895:191). Specific Marquesan memories of these localities as real-world geographical places can be seen in Terrell and Langridge (1988, cf. 104–109).

If the Marquesans remember these places it should not be surprising that Tuamotuans and people progressively closer to Samoa/Tonga/Fiji might also do so, and such references are found from time to time in the cosmogonic materials of at least the Tuamotus, Societies and Cooks. I will not present them here. I simply want to make the point that if there is any reluctance to accept Hiroa's (1938a) assertion that the Central East Polynesian memory of

Sawaiki refers specifically to Savai'i in Samoa, how then can we dismiss specific associated memories of individual Fijian and Tongan islands as well?

7.3.4.8 *Tuu

PNP *Tuu* 'primary god of war',
PCE, PMq, PTa *Tuu*,
Mqa, Mao, Tua *Tuu* 'first-order anthropomorphic god; primary god of war',
Tah *Tuu* 'early god and artisan',
Haw *Kuu* 'first-order anthropomorphic god and god of growth, rain, forests',
Mva *Tuu* 'god of breadfruit'

Biggs (1994a): PPn, PNP *tuqu*, PCE, PMq, PTa *tuu* 'stand, be upright'

There can be little doubt that PCE *Tuu* was a first-order anthropomorphic god. Equally, his status as god of war in Proto Central East Polynesian continued the status he held in Proto Nuclear Polynesian and/or Proto Ellicean communities—for which we can be less certain about his parentage. He was the primary god of war but not a child of the Primordial Pair in Samoa (Turner 1884:61). In Hawai'i, *Kuu* was part of what had become a trinity by the early years of European contact (Beckwith 1970) but his position was not generally so illustrious elsewhere. Specific deeds are not mentioned for him in many localities, although he had a major role in the argument with his siblings about raising the sky in the case of the NZ Maori (Grey 1885:1–7). In the Marquesas he is mentioned simply as a first-order anthropomorphic god, patron of war and as absent from the genealogies (Handy 1923:245). In Mangareva he was patron of breadfruit rather than war (Hiroa 1938b:422). He is not mentioned as among the children of the Primordial Pair in Tongareva (Hiroa 1932b:85), nor is he for Mangaia (Gill 1876:1–22) or Rarotonga (Te Arikitara-are 1919:57–61). Caillot (1932:62–64) mentions *Tuu* as a first-order anthropomorphic god for one Tuamotuan locality and a *Tuu* incarnation as god of the sea, but does not mention him as god of war in that locality.

7.3.5 *Conclusion*

We have examined a topic that is, perhaps, more meaningful for Central East Polynesian groups than for Tonga and especially Samoa. We have reconstructed a sibling group of first-order anthropomorphic gods, children of the Primordial Pair, for Proto Central Eastern Polynesia. The sibling group, or at least three half-brothers, is also found in Tonga but not with names cognate with what we have reconstructed for Proto Central East Polynesian (other than in the case of PCE *Tangaroa*). Samoa's *Tagaloa* is also a first-order anthropomorphic god but does not seem to have siblings not also named *Tagaloa*. Thus the sibling group may be independent developments in Tongan and Proto Central East Polynesian cosmogonies.

PCE *Rongo* and *Tuu*, part of the sibling group in Proto Central East Polynesian, are clearly cognate with Samoan *Logo* and *Tuu* and reconstruct to Proto Nuclear Polynesian or Proto Ellicean, but not as first-order anthropomorphic gods. PCE *Taane* is the final member of the sibling group about whom we can express a high level of confidence, occurring in both

Marquesic and Tahitic with widely agreeing attributes mainly in Tahitic. PCE *(H)aumia*, *Mauri* and *Tonga-Fiti* are relatively marginal reconstructions but allowed by our method.

The reconstruction of *Aatea* as a first-order anthropomorphic god in Proto Central East Polynesian is supported only by Marquesic, Tahitic evidence suggesting that he was the male of the Proto Tahitic Primordial Pair. If we take Hawaiian traditions to be mainly Marquesic, then we need to reconstruct PCE *Aatea* as the Primordial Male. But Hawaiians seem to have borrowed their pronunciation, "*Waakea*", from Tahitic and they only remember him coming from Tahiti. Furthermore, reconstruction of *Aatea* as the Primordial Male in Proto Central East Polynesian displaces an appealing agreement between Samoan *Papa*-adj. and Marquesan *Papa*-adj. for the Primordial Male from which agreement PEP, PCE and PMq *Papa*-adj. 'Primordial Male' is reconstructed (§7.2).

7.4 Retrospective on the method

The outstanding characteristic of this kind of work is its multiplicity of facets. There are many actants. There are many localities. There are competing traditions within those localities. I have here tried to reduce the problem to a manageable level by choosing small questions about which we have some hope of giving comprehensive treatment, or at least of mentioning those Polynesian traditions or motifs from traditions which occur in more than one locality.

The availability of encyclopedic secondary sources, especially Williamson (1933a, 1933b) and Craig (1989), has greatly facilitated the work. Not all primary sources were available during the course of this work and not all primary sources at hand were searched as exhaustively as they might have been. On the other hand, relevant material on the present topic tends to be limited to a very few paragraphs or pages in each source, except the shortest sources such as chants, genealogies or individual legends.

The purpose of this presentation was to revive hope that work on such topics might be fruitful. The distributions that confounded earlier students of the situation, especially Handy (1927) and Williamson (1933a, 1933b), can now be seen in a different light given the current linguistic phylogeny for Polynesia. It is now clear that certain distributions of cosmogonic notions, actants and their deeds occur exclusively within certain linguistic subgroups, and that languages and cosmogonies may have differentiated along similar lines during the prehistory of the area.

In applying the method proposed here, I have felt least secure about the notion that there was a unified Proto Tahitic cosmogony in the same sense that there seems to have been a unified Proto Tahitic language. Certain elements of some Cook Island traditions seem quite conservative compared to developments common to Tuamotuan, the Societies and the NZ Maori. An example is the central status of *Taane* in the latter groups, while the Cooks have rather less interest in *Taane* and some, along with Tahitian, retain a belief that *Maaui* and not *Taane* raised the sky. These traditions were (and are) maintained mainly by families and their political networks. Our modelling will probably approximate reality more closely if it assumes a certain amount of diversity in the past. Such was not done here, since there were no competing traditions clearly reconstructable.[43] More generally, it was the purpose of the

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[43] Except for the ancestry of *Maaui*, upon which I have not elaborated here as he was not a first-order anthropomorphic god except in Tonga.

present chapter to identify central cosmogonic themes in the speech communities of the various subgroups, and in accomplishing this other interesting material was neglected as being beyond the scope of the present narrow concerns.

8 *Kin terms in the Polynesian protolanguages*

8.1 Introduction

This chapter reports on an examination of Polynesian kin terms from a linguist's point of view.[1] Although some aspects of kinship behaviour are mentioned, the main concern is with the terms themselves and the overall ancestral terminological system.[2] Terms of reference are the central concern. Terms of address (vocatives) are mentioned only incidentally. Terms for the following Polynesian protolanguages are reconstructed: Proto Polynesian, Proto Tongic, Proto Nuclear Polynesian, Proto Ellicean, Proto Ellicean Outlier, Proto East Polynesian, Proto Central East Polynesian, Proto Marquesic and Proto Tahitic.

The results indicate that the Proto Polynesian system had:

1. One pair of sibling terms that distinguished relative age among same-sex siblings, and another pair that distinguished cross-sex siblings. These were: PPn *tua-fafine* 'man's sister', *tua-ngaqane* 'woman's brother', *tuakana* 'elder same-sex sibling', *tahina* 'younger same-sex sibling' (Clark 1975). Additionally, there were generic terms for cross-sex siblings and same-sex siblings: PPn *kawe* or *weka* 'cross-sex sibling' and *taqo-kete* 'same-sex sibling'.

2. An absence of special terms for cross- or parallel-cousins, and use of sibling terms for all cousins (Firth 1970:281–282). There may have been prefixes to the sibling terms to specify cousins in general, but the sources do not report on this consistently, and reconstruction has not been attempted.

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[1] This chapter was published much as in the present form (Marck 1996d) except that certain introductory materials are here omitted and there is a great deal of rewording for greater clarity. The most significant variances with Marck (1996d) are footnoted. Richard Feinberg, James Fox, Paul Geraghty, Andrew Pawley and Malcolm Ross read and commented upon earlier versions of this chapter and I am deeply indebted to all of them. The present arguments are my own, but they have been shaped by all the above-mentioned people, especially in those parts of the work where personal communication from one or more of them is cited.
A special convention of this chapter is to note definitions as 's.r.' ("same as reconstruction") when they are the same as for the main reconstruction for the table in which they occur.

[2] Most of the reconstructions to be mentioned below can already be found in *Pollex* (Biggs 1994a). Much of the kin term work there is credited to Ross Clark. But the present work gathers data from a larger range of ethnographic sources, reconstructs more forms and argues the list of reconstructable forms for each protolanguage (rather than just reconstructing to the highest level possible).

3. Naming of father's sister (PPn *masaki-tanga* 'sick-nominaliser') in apparent reference to her cursing power[3] over men of the family. Naming of mother's brother as PPn *tuqa-tina*, which together with the father's-sister reconstruction constitute exceptions to the pattern of generational naming of first-ascending-generation consanguines as "father" or "mother".

4. Naming of a man's sister's child as *qilamutu*, which constitutes the only exception to the generational pattern of naming first-descending-generation consanguines as "child", "son" or "daughter". There is also a form that would reconstruct as PPn **faka-fotu[4] 'woman's brother's child', but the evidence is geographically restricted, and the question of whether it was a Proto Polynesian usage is indeterminate.

5. Differential terms of reference for children on the part of mothers as opposed to fathers in Proto Polynesian.

I embarked on this project with a pronounced sense of trepidation. The trail of exploration toward a theory of early Polynesian, Oceanic, and Austronesian kin term systems has not been straightforward. Several attempts at reconstruction on the part of anthropologists have been found by linguists to be defective. Epling, Kirk, and Boyd's (1973) discussion of the "genetic relations" of Polynesian kinship systems was dismissed on methodological grounds by Clark (1975). Marshall's (1984) central conclusions concerning the Proto Oceanic sibling-term system were similarly dismissed by Bender (1984), Blust (1984), Chowning (1984), and Clark (1984). Even Murdock's (1949) widely cited assertions about the early Malayo-Polynesian kinship system have now been broadly challenged (Blust 1980). In each instance, agreements between languages in critical subgrouping relationships to one another allowed the linguists to demonstrate that the terminological system reconstructed at certain levels by standard methods of comparative linguistics was different from that proposed by anthropologists for the same levels.

Since these criticisms from the linguists, work on early Polynesian, Oceanic, Malayo-Polynesian, and Austronesian kin terms has not flourished as the vibrant intellectual exercise that many of us would like to see. The Oceanic, and especially Polynesian, anthropologists are, perhaps, waiting for a definitive statement of what the linguistic data suggest on their own. Like the linguists, they are actually rather few in number.

A few linguistic contributions have been made or are in progress. Blust (1980) has produced a linguistic analysis of early Austronesian social organisation in which the kinship system was of central concern, and has more recently (Blust 1994) considered Proto Malayo-Polynesian sibling terms and their reconstruction in detail, as did Fox (1994). The Proto Oceanic lexicon project at the Research School of Pacific and Asian Studies, The Australian National University, includes work on kin terms that was made available to me. It is hoped that the present report moves the comparative linguistic situation in Polynesia a step forward. The results are given for the various Polynesian protolanguages in Table 8.1 and justified in the sections that follow.

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[3] i.e. PPn *masaki* 'sick' + *-(C)anga* 'nominaliser'.

[4] The double asterisk indicates a problematic reconstruction.

Table 8.1: Kin terms in the Polynesian protolanguages

	PPn	PTo	PNP	PEc	PEcO
'grandparents'	*tupuna	*tupuna	*tupuna	*tupuna	*tupuna
'parent'	*matuqa	*motuqa	*matuqa	*matuqa	*matuqa
'parents'	*maatuqa	*maatuqa	*maatuqa	*maatuqa	*maatuqa
'father'	*tama(na)	*tama(na,i)	*tamana	*tamana	*tamana
'mother'	*tina(na)	?	*tinana	*tinana	*tinana
'mother's brother'	*tuqa-tina	*tuqa-tina	*tuqa-tina	*tuqa-tina	**tuqa-tina
'father's sister'	*masaki-tanga	*masaki-tanga	*masaki-tanga		
'elder same-sex sibling'	*tuaka(na)	*taqo-kete	*tuakana	*tuakana	
'younger same-sex sibling'	*tahina	*tehina	*ta(h)ina[1]	*ta(h)ina[1]	*ta(h)ina[1]
'woman's brother'	*tua-ngaqane	*tua-ngaqane	*tua-nga(q)ane	*tua-nga(q)ane	*tua-ngaane
'man's sister'	*tua-fafine	*tu(a,o)-fefine	*tua-fafine	*tua-fafine	*tua-fafine
'cross-sex sibling'	*kawe or *weka		*kawe	*kawe	*kawe
'same-sex sibling'	*taqo-kete		*taqo-kete	*taqo-kete	

Notes: 1. A very few PPn *h may have survived in PNP and this may have been one of the words in which this happened. See §2.3.4 for a discussion of the phonological situation.

Table 8.1 (continued): Kin terms in the Polynesian protolanguages

	PEP	PCE	PMq	PTa
'grandparents'	*tupuna	*tupuna	*tupuna	*tupuna
'parent'	*matuqa	*matuqa	*matua	*m(a,e)tua
'parents'	*maatuqa	*maatua	*maatua	*maatua
'father'	*matuqa-(adj.)	*matua-(adj.)	*matua-(adj.)	*m(a,e)tua-taane
'mother'	*matuqa-(adj.)	*matua-(adj.)	*matua-(adj.)	*m(a,e)tua-wahine
'mother's brother'				
'father's sister'				
'elder same-sex sibling'	*tuakana	*tuakana	*tuakana	*tuakana
'younger same-sex sibling'	*taina	*taina	*taina	*taina
'woman's brother'	*tua-nga(q)ane	*tua-ngaane	*tu-ngaane	*tua-ngaane
'man's sister'	*tua-hine	*tua-hine	*tua-hine	*tua-hine
'Unspecified consanguine'	*kawe	*kawe	*kawe	*kawe
'same-sex sibling'				

Table 8.1 (continued): Kin terms in the Polynesian protolanguages

	PPn	PTo	PNP	PEc	PEcO
'woman's child, esp. son'	*tama	*tama	*tama	*tama	*tama
'young man'			*tama-loa	*tama-loa	**tama-loa
'man's son'	**fosa	**fosa	**fosa	*ata-liki	**ata-liki
'woman's daughter'	*tama-qa-fine	*tama-qa-fine	*tama-qa-fine	*tama-qa-fine	*tama-a-fine[1]
'man's daughter'	**(q)a-fafine	*qo-fafine	*(q)a-fafine	*(q)a-fafine	
'man's sister's child'	*qilamutu	*qilamutu	*qilaamutu	*qilaamutu	*ilaamutu
'firstborn child'[2]	*qulu-matuqa	*qulu-matuqa	*qulu-matuqa	*(q)ulu-matu(q)a	*ulu-matua
'grandchild'	*makupuna	*mokopuna	*makupuna	*makupuna	*makupuna
'spouse'	*qahawana	*q(a,o)hoana	*qaawanga	*qaawanga	*aawanga
'husband'					
'wife'					
'same-sex sibling-in-law'	*maqa	*maqa	*maqa	*maqa	*maqa
'child-in-law'	*fungaona	*f(i,u)ng(a)ona	*fungaona	*fungaona	*fungaona
'parent-in-law'	*fungawai	*fungawai	*fungawai	*fungawai	

Notes: "**" - indicates a questionable reconstruction. 1. Man or woman's. 2. Terms for firstborn child and/or son are statuses rather than kin terms but are included in the present work because they are sometimes such an important social role within Polynesian families.

Table 8.1 (continued): Kin terms in the Polynesian protolanguages

	PEP	PCE	PMq	PTa
'woman's child, esp. son'	*tama[1]	*tama[1]	*tama[1]	*tama[1]
'young man'	*tama-roa[2]	*tama-roa[2]	*tama-roa[2]	*tama-roa[2]
'man's son'	*ata-riki[3]	*ata-riki[3]	*ata-riki[3]	*ata-riki[3]
'woman's daughter'	*tama-(q)a-hine[4]	*tamaa-hine[4]	*tamaa-hine[4]	*tamaa-hine[4]
'man's daughter'				
'man's sister's child'	*(q)iraamutu	*iraamutu	*iraamutu[5]	*iraamutu
'firstborn child'		**mata-hiapo	**mata-hiapo	*mata-hiapo
'grandchild'	*makupuna	*makupuna	*makupuna	*makupuna
'spouse'				
'husband'		**taane	**taane	*taane
'wife'		*wahine	*wahine	*wahine
'same-sex sibling-in-law'	*ta(q)o-kete	*tao-kete	*to-kete[6]	*tao-kete
'child-in-law'	*hungaona	*hungaona	*hungona	*hungaona
'parent-in-law'	*hungawai	*hungowai	*hungoai	*hungowai

Notes: "**" - indicates a questionable reconstruction . 1. Man or woman's child. 2. Man or woman's son. 3. First-born son. 4. Man or woman's. 5. May have meant "cross-sex sibling's child" or may have retained the PPn > PCE meaning. 6. Given as "*ta-kete" in Marck (1996d:Table 1).

8.1.1 Statement of problem

Total kin terms in each Polynesian locality grade from the most minimal systems in some Ellicean Outlier societies to systems with a larger number of terms in "Futunic" Outliers and Triangle Polynesia. All are "generational". People of the same sex and generation tend to be

called by the same term among consanguines.[5] Granduncles are generally called by the same terms as grandfathers. Parallel aunts and uncles are generally called by the terms for father and mother. Cousins are generally called by the sibling terms. 'Grandchild' always seems to include collaterals and not just one's own grandchildren.[6]

Some elaborations of Polynesian kinship systems that go beyond the mainly generational pattern were reviewed by Firth (1970), as did an inspired and important but unpublished paper by Kuroiwa (1975) in which further commonalities were noted and the findings reconstructed, where appropriate, to Proto Polynesian. Kuroiwa suggested that Proto Polynesian had special terms for 'father's sister', 'man's sister's child', 'mother's brother', 'older same-sex sibling', 'younger same-sex sibling', 'man's sister', and 'woman's brother'. Clark (1975) made those same sibling reconstructions in that same year. The sibling distinctions are fairly well known and are commonly (but not universally) found around Polynesia. Those distinctions, noted by Firth (1970), are now known to have been made in Proto Malayo-Polynesian itself (Blust 1980, 1984, 1994, Fox 1994) and to have continued into Proto Oceanic (Clark 1975, Marshall 1984; see also Bender 1984, Chowning 1984, Clark 1984), Proto Central Pacific and Proto Polynesian. Additional Proto Polynesian reconstructions are made here for 'same-sex sibling' and 'cross-sex sibling'.

8.1.2 Sources

We will be making very few reconstructions not found in Biggs (1994a). But Biggs's semantic reconstructions are generalised, and those that follow are detailed. His semantic reconstruction, for instance, of PPn *tama* is simply 'child', where we will find evidence to reconstruct PPn *tama* 'child of a woman or couple'. Similarly his semantic reconstruction for PPn *fafine* is 'woman, female', where we will be interested in the evidence for the more subtle reconstructed meaning of 'wife; wife's sisters and classificatory sisters; brother's wife; women of a man's generation who are not sisters or classificatory sisters' and the question of the highest order protolanguage to which we can reconstruct that sense (which seems to be only Proto Tahitic).[7]

In the search for detailed definitions from the historic societies, many sources have been consulted, most commonly ethnographies and dictionaries. In some instances, numerous sources were consulted, and what is presented in this chapter is my own judgment of the most insightful definition coupled with the most reliable spelling. The failure to represent vowel length is the most common problem, as even some dictionaries do not do so, and the ethnographies rarely do. Notes, terms, and definitions from the sources can be found in the kinship database.[8] Data given in this chapter are linked to their sources in the kinship database and, when not from the kinship database, are from Biggs (1994a). The sources used to build the kinship database are found in Table 8.2.

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[5]   Relatives by blood, as distinguished from "affines", relatives by marriage.

[6]   In some instances, we do not have enough information to say. But in no instance are collaterals said to be excluded from the basic definition of the term involved.

[7]   Biggs's (1994a) reconstructions, many of which are from R. Clark's collaboration on that work, are not often different at all from what is reconstructed here. The main differences are that (1) Biggs's and Clark's reconstructions are made at the highest level possible, whereas those presented here are made at every level possible, (2) their evidence from living languages is generally less complete than what was developed here by reference to a larger number of ethnographic works, and (3) they do not flag PPn and PNP reconstructions as problematic when the main evidence outside Tongic is from Anu and Tik.

[8]   The kinship database is available for copying from an Internet site that has the address: http://rspas.anu.edu.au/linguistics/archives.

Table 8.2: Sources utilised in the kinship database

Living languages in alphabetical order by lowest level subgroup membership:

I. Tongic (To)

I.1. Niue (Niu): (Loeb 1926, McEwen 1970)

I.2. Tonga (Ton): (Gifford 1929:17–9, Beaglehole & Beaglehole 1941:72–78, Aoyagi 1966, Decktor Korn 1974, 1978, Rogers 1977, Churchward 1959)

II. Nuclear Polynesian (NP)

II.1. Aniwa (Ani): (Guiart 1961)

II.2. Anuta (Anu): (Feinberg 1973, 1977, 1979a, 1979b, 1983, Kaeppler 1973)

II.3. Bellona (Bel): (Monberg 1976)

II.4. East Futuna (EFu): (Burrows 1936:71–80, Moyse-Faurie 1993)

II.5. East Uvea (EUv): (Burrows 1937:62–66, Rensch 1984, Bataillon 1932)

II.6. Pukapuka (Puk): (Beaglehole & Beaglehole 1938:220–263, Hecht 1977, 1979, Mataola et al. 1981, Beaglehole & Beaglehole 1991)

II.7. Rennell (Ren): (Hogbin 1931a, Birket-Smith 1956, Elbert 1975, 1981)

II.8. Taumako (Tau): (Davenport 1968)

II.9. Tikopia (Tik): (Firth 1963, 1985)

II.10. West Futuna (WFu): (Dougherty 1983, Capell 1960, Capell 1984)

II.11. Ellicean (EC)

II.11.1.1. Samoa (Sam): (Mead 1930:126–146, Shore 1976, Pratt 1984, Milner 1993)

II.11.1.2. Tokelau (Tok): (Macgregor 1937:45–47, Huntsman 1971, 1979, Huntsman & Hooper 1976, Simona 1986)

II.11.2. Ellicean Outliers

II.11.2.1. Kapingamarangi (Kap): (Emory 1965:111–118)

II.11.2.2. Luangiua (Ontong Java) (Oja): (Hogbin 1931b)

II.11.2.3. Nukuoro (Nuk): (Carroll & Tobias 1973)

II.11.2.4. Sikaiana (Sik): (Biggs 1994a)

II.11.2.5. Takuu (Tak): Biggs (1994a)

II.11.2.6.A. Tuvalu (Tuv) (Vaitupu: Vai): (Kennedy 1931, Besnier 2000)

II.11.2.6.B. Tuvalu (Tuv) (Nanumea: Nan): (Ranby 1980, Keith Chambers & Anne Chambers pers. comm.)

II.11.3. East Polynesian (EP)

II.11.3.1. Rapa Nui (Easter Island) (Eas): (Metraux 1940:98–101, Churchill 1912, Englert 1938, Fuentes 1960)

II.11.3.2. Marquesic (Mq)

II.11.3.2.1. Hawai'i (Haw): (Pukui & Elbert 1986)

II.11.3.2.2. Mangareva (Mva): (Hiroa 1938b:130–140, Tregear 1899, Rensch 1991)

II.11.3.2.3. Marquesas (Mqa): (Handy 1923:67–71, Kirkpatrick 1979, Dordillon 1931, 1932)

II.11.3.3. Tahitic (Ta)

II.11.3.3.1. Mangaia (S. Cooks) (Mia): (Hiroa 1934)

II.11.3.3.2. Manihiki and Rakahanga (N. Cooks) (Man): (Hiroa 1932a:29–36)

II.11.3.3.3. New Zealand Maori (Mao): (Williams 1957)

II.11.3.3.4. Rangiroa (N.W. Tuamotus) (Rng): (Ottino 1972)

II.11.3.3.5. Rapa (Australs) (Rap): (Hanson 1970)

II.11.3.3.6. Rarotonga (S. Cooks) (Rar): (Marshall 1956, Savage 1983)

II.11.3.3.7. Tahiti (Tah): (Oliver 1974:688–748, 828–830, Handy 1930:22–24, Hooper 1970, 1976, Andrews & Andrews 1944, Lemaître 1973)

II.11.3.3.8. Tongareva (Penrhyn) (N. Cooks) (Pen): (Hiroa 1932b:17–30)

II.11.3.3.9. Tuamotus (general) (Tua): (Stimson & Marshall 1964)

II.11.3.3.10. Tubuai (Tub): (Aitken 1930:26–29)

The kinship database is a file available for copying over the Internet: http://rspas.anu.edu.au/linguistics/archives.

8.2 Notes on the social context of early Polynesian kin terms

We might ask whether Proto Polynesian kin terms occurred within a patrilineal or matrilineal system, both, or neither, or whether there were named descent groups, and so forth. The answers are not readily apparent. Polynesian societies commonly lack rigidly construed clans. The ethnographers have often been loath to call such groups as are encountered "clans" without qualification, because they diverge from classical notions in anthropology of what clans should be. Often they do not call them "clans" at all, where flexible systems variously called "ambilateral" and "nonunilineal" occur.[9] Marshall (1983:3–4) mentions something of the history of anthropology that tended to see such Oceanic systems as "fragile", "transient", and "lacking in internal order". Those more familiar with Pacific Island societies know that this is not so, because they understand what those more accustomed to African and other systems once missed: that the land itself is the centre of the system and that identification with that asset systematically emerges from living on it, working it, and participating in decisions surrounding its use and resources.

8.2.1 PPn *kaainga 'the land of a social group' and *kainanga 'social group'

It is not the purpose of the present work to reconstruct family affiliation or residence rules for Proto Polynesian, and such a reconstruction may be beyond the ability of linguistic methods. Still, we can ask what named components of the ancestral social system might be reconstructed. Clear results were not obtained on this matter, but before moving on to the kin terms themselves, I shall lay out briefly the data and main possibilities concerning the two main terms, PPn *kaainga* and *kainanga*.[10,11]

PPn *kaainga* probably referred to agricultural and especially residential land of people belonging to a social group, and the dwellings thereon. The word is reflected with those meanings here and there throughout Polynesia and the Outliers. The modern word commonly refers to the inhabitants of such lands in Western Polynesia (including Tuvalu and Tokelau), but this seems to be a Post Proto Ellicean development, and that sense for the word is not known from Niue, the Outliers, or East Polynesia. The people themselves or the social group to which they belong are often called by reflexes of PPn *kainanga*. Pawley (1985:96) reconstructs PPn *kainanga* 'lineage or clan, people acknowledging same ancestor and chief'. I would reconstruct a meaning of 'clan' along with the following secondary senses: 1. 'worshippers or attendants of a deity' (Sam, Ren), 2. 'subjects of a chief' (Ren, PMq), and 3. 'commoners' (Ton, EUv, PMq).

These senses become comprehensible in the context of Polynesian social and religious practices whereby the most commonly worshipped deities were family ancestors, and the most common kind of chief was the ranking male of the kin group (however that group was constructed). Thus if PPn *did* have clans called *kainanga*, it is not difficult to imagine that they were subject to the same chief, and gathered together to worship the same deities under

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[9] Although Polynesians themselves often do use the word "clan," because there is no other English word that captures the notion, other than "family" or "extended family."

[10] As with the kin terms, the various spellings and definitions known to me are given and linked to their sources in the kinship database.

[11] Kirch and Green (1999) reconstruct more PPn terms for social units but PPn *kainanga* seems to have been the general 'clan' term.

the leadership of that (clan) chief.[12] The 'commoner' sense may have developed over time: the most senior lineages of the *kainanga* came to be remote and extremely tabu chiefly people, and so the old name for the group itself came to refer to the mass of its members who were of common rank.

Biggs (1994a) reconstructs PPn *kaainga* 'place of residence, home; people of the place' and PPn *kainanga* 'some social group, perhaps commoners as opposed to aristocracy'. My own more particular definitions and wider evidence for those reconstructions are given in Tables 8.3 and 8.4.[13,14] The 'people of a place' sense for *kaainga* is limited to the area from Tonga to Tuvalu and Tokelau, and I do not believe this meaning should be attributed to Proto Polynesian.

Table 8.3: PPn *kaainga* 'place, premises, house and homestead such as of a family and the dwellings thereon'[1]

PPN[2] *kaainga*[3]	'place, premises, house and homestead such as of a family and the dwellings thereon'
PTo[1] *kaainga*	's.r.'
Ton *kaainga*	'relation, relative'
Niu *kaina*	'premises; house and land adjoining'
PNP[1] *kaainga*	's.r.'
Anu *kainga*	'home (Yen); not used (Fbg)'
EFu *kaaiga*	'maison, habitation, famille, parente'
EUv *kaaiga*	'parent, ami, allie'
Mae *kaiga*	'yard, home (Clk)'
MFa *kaiga*	'village, home'
Pil *kaena*	'village'
Puk *kaainga*	'sibling of opposite sex; paternal lineage (Bge)'
Ren *kaainga*	'sleeping place, bed'
Tik *kaainga*	'village (Fth)'
PEc *kaainga*	'land, such as a family might own; the place of that land'
Sam 'aaiga*	'family, lineage, kin, relatives, home'
Tok *kaaiga*	'family, relative'
PEcO *kaainga*	'land, such as a family might own; the place of that land'
Tuv *kaaiga*	'family, relative'
Kap *keina*	'property, division, section of land'
Nuk *gaainga*	'temporary dwelling'
Sik *kaaina*	'place'

[12] Genealogies often go back to first-order anthropomorphic gods or lesser contemporary gods who were rarely worshipped directly. Departed ancestors were the more common object of propitiation, because, in their intermediate position, they were viewed as genealogically closer both to the living people and to the ancestral god, and they were possessed of divine power in their own right, independent of the founding god of the genealogy.

[13] Those terms as they exist in contemporary Polynesian languages are often suggested by ethnographers to have something to do with food and eating (from PPn *kai* 'to eat'). However, Pawley (1985:96–97) has shown that Proto Oceanic *kai* was a root having to do with people and kinds of people. It seems that these Polynesian forms come from that base rather than the base for 'eat(ing)' (POc *kani* > PPn *kai*). For instance, POc *kani* 'to eat' is found with the nasal in Nuclear Micronesian, a sound that was lost in PPn *-ani-* forms. However, Nuclear Micronesian agrees with PPn *kainanga*, the kin group word, in *not* having a nasal between the first two vowels. Thus a base *kai* and not *kani* must have been involved at the Proto Oceanic level.

[14] Data from languages for which I had no ethnographic sources (kinship database) are from Biggs (1994a) or from dictionaries of those languages.

Table 8.3 (continued): PPn *kaainga* 'place, premises, house and homestead such as of a family and the dwellings thereon'[1]

PEP *kaainga*	'family land such as one might inherit, esp. the homestead (the land one calls or thinks of as "home")'
Eas *kainga*	'uterus, womb (Fts); la tierra; pais, isla (Egt)'
PCE *kaainga*	'family land such as one might inherit, esp. the homestead (the land one calls or thinks of as "home")'
PMq *kaainga*	'land, property, abode'
Haw *'aaina*	'land, earth'
Mqa *aika*	'terre, propriete, domicile, richesses, manoir, foyer domestique'
Mva *kaiga*	'land, property'
PTa *kaainga*	'home and garden, inherited land'
Mao *kaainga*	'place of abode, country, home'
Mia *kainga*	'home, residence, house and garden (Chn)'
Pen *kaainga*	'home'
Rar *kaainga*	'home land which one owns, place'
Tah *aia*	'place where one makes his abode, inheritance, portion of land'
Tua *kaainga*	'homeland, inherited land'

Notes: 1. Languages and protolanguages are given in the same order as in Table 8.2. The abbreviation 's.r.' marks words whose definition is the same as the main reconstruction of the table. 2. The PPn semantic reconstruction and that of PTo and PNP is based on the agreement of Niu and PEcO. 3. Pre-PPn *(C)a(C)V(C)V* often become *(C)aa(C)V(C)V* in PPn and more often in PNP. This occurred for phonological reasons (§3.3.4).

From the agreements in Table 8.3—the reconstruction of PPn *kaainga*—it is clear that we can reconstruct the Proto Central East Polynesian, Proto Marquesic and Proto Tahitic forms and meanings given. The Proto Marquesic and Proto Tahitic senses are reconstructed on the basis of evidence internal to those groups. The Proto Nuclear Polynesian, Proto Ellicean, Proto East Polynesian and Proto Central East Polynesian senses are reconstructed on the basis of the Proto Tahitic agreement with Pukapukan, Tikopian, and Anutan. On the other hand, we see in Table 8.4 that the PPn 'social group' meaning was carried by *kainanga* as Pawley (1985) argued, rather than by *kaainga* as Goodenough (1955) suggested. We see this on the basis of the agreement of Proto Tahitic, Pukapukan, Tikopian, and Anutan with external evidence such as Proto Chuukic (Nuclear Micronesian) *kainanga* 'matrilineal clan'. Note that 'social group' is a term of convenience for the present work. We will not argue precisely what kind of social group it was, but simply note that such groups seem to have had a name from Proto Polynesian times that continued into all the major subgroups other than Ellicean Outlier. It seems commonly to have been lost in "Futunic" Outliers, but does *not* seem a late prehistoric introduction to Tikopian and Anutan by way of East Uvean and Tongan influence, because the semantics are distinct. Although internal evidence is equivocal for the highest level Polynesian protolanguages, the cognates in Micronesia make local innovations (to the same form and general meaning) seem less likely.

Goodenough (1955:77–78) noted the agreement of Micronesian Kiribati[15] *kainga* to the Proto Polynesian *kaainga* as regular and indicative of inheritance from a common ancestral form, but I consider the Kiribatese form a likely borrowing from Polynesian on distributional

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[15] Kiribati: the former Gilbert Islands. Immediately north of Tuvalu, its language is riddled with loans from a Polynesian source closely resembling Samoan or Tuvalu (Marck 1975) and the oral traditions of the group recall only coming from Samoa (Grimble 1989:255).

grounds. Aside from Kiribati, the *kainga* form seems otherwise absent in Micronesia, and it does not seem so clearly a variant of *kainanga* as Goodenough (1955:77) suggested. The Kiribati definition of *kainanga* is also suspiciously identical to much of Western Polynesia: 'a nonunilinear descent group based on parental residence', and contrasts with the exogamous matrilineal clans of the rest of Nuclear Micronesian-speaking groups.

Table 8.4: PPn *kainanga* 'social group'

Proto Chuukic (MC) *kainanga*	'exogomous matrilineal clan'
PPn *kainanga*	'social group'
PTo *kainanga*	(semantics indeterminate: probably referred to a social group)
Ton *kainanga*	'populace, people without chiefly rank (Cwd)'
Niu[1] *(mata-)kainanga*	'a man's brother, a woman's sister (McE)'
PNP *kainanga*	'social group'
Anu *kainanga*	'clan (the closest thing to a group whose membership is based, strictly on descent (patrilineal))'
EUv[2] *kainanga*	'people not of chiefly rank'
Puk *keinanga*	'maternal sub-lineage in a grouping of maternal lineages (Bge)'
Ren *kainanga*	'worshipper of a deity, subject of a chief, devotee, servant'
Tik *kainanga*	'a kind of non-exogamous patrilineal clan'
PEc *kainanga*	'social group'
Sam *ainaga*	'1. child given to the gods of chief 2. attendants and ministers of, the aitu (spirits, gods)' (P.) (irregular: initial glottal stop expected)
PEP *(mata)-kainanga*	'social group'
PCE *mata-kainanga*	'social group'
PMq *mata-kainanga*	'people (in general), subjects (of people in power), commoner'
Mqa *mata-'eina'a, mata-'einana*	'peuple, gens, sujets; suite (people, subjects (as to a sovereign); retinue'
Mva *mata-keinaga*	'assembly, a congregation of persons'
Haw *maka-'aainana*	'commoner, populace, people in general;, citizen, subject. Lit., people that attend the land'
PTa *mata-k(a,e)inanga*	'a land and the clan, sub-clan that owns it'
Tah *mata-'eina'a*	'district (la campagne) (Mte)' '1. higher order, ramage, 2. district in which the ramage is located (Pawley 1985:97)'
Rar *mata-keinanga*	'settlement, inhabitants of a district or, neighbourhood (Bse)'
Tua *mata-keinanga*	'division of an army; a lands division; a sub-clan'

Notes: 1. Marked "not counted as cognate" by Biggs (1994a), possibly due to the semantic distance, the possibility of independent development or the fact that it has the *mata-* prefix otherwise known only from East Polynesian and may be a borrowing. 2. Semantics suggest borrowing from Ton.

The forms *kainanga* and *kainga* clearly have distinct histories in Polynesia. It is only from Tonga to Tokelau/Tuvalu that the former term was lost and replaced by the latter (which retained its old meaning as well). Pawley (1985:96–97) shows that both seem to derive from a POc base *kai(n)* "meaning something like 'person'".[16] PPn *-(Ca)nga* was a common noun-deriving suffix and is seen in both PPn *kainga* and *kainanga*. According to Pawley's (1985:97) arguments, *kainanga* is an old form, because it retains the Proto Oceanic final consonant and was derived by *-anga* rather than *-nga*. Applying the same logic, PPn *kainga* developed later, after the loss of the final consonant,

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[16] Where the ethnographic sources commonly relate it to the word for 'eat' (PPn *kai*), if they speculate about the origin of the form.

possibly in Proto Polynesian itself. Because these phonological observations suggest that *kainanga* developed in early Oceanic, we can support Goodenough's (1955) original interpretation,[17] that is, that Nuclear Micronesian and Polynesian have descendants of this form due to common ancestry, and that it was used to name some kind of kin group. Forms regularly agreeing with an early MC *kainanga* 'matrilineal clan' occur in Chuukic (Bender et al. 1983), and there are also matrilineal clans in Pohnpei, the Marshalls, and Kosrae,[18] Pohnpeian having an irregularly agreeing form *keinek*.[19] But we hold *kaainga* to be distinct and uniquely Polynesian, except for the Kiribatese borrowing.

That is more or less the limit of what linguistic analysis has to offer regarding the forms the two words had in Proto Polynesian, and we are left with Goodenough's (1955:78) original question of how *kainanga* were constituted in the ancestral society.[20] He thought the solution might be to suggest an ancestral affiliation system like Kiribati (the Gilberts) "which was derived from parental residence where the residence rule was bilocal" and that "in those societies shifting to regular patrilocal residence, the group automatically became patrilineal. Where matrilocal residence became the rule, the group became equally automatically matrilineal" (Goodenough 1955:78).

The evidence now suggests that the *kainanga* in Proto Nuclear Micronesian meant specifically 'matrilineal clan', and probably 'exogamous matrilineal clan'. The modern term in Pukapuka also refers to matrilineal lineages. While it is possible that this represents a relic of the original sense in Proto Polynesian, Pukapuka also has patrilineal lineages and bilateral kin groups (Beaglehole & Beaglehole 1938:219–233). The cautious linguist is loath to attribute a precise semantic reconstruction to Proto Polynesian on the basis of the Pukapukan agreement with Micronesian in the context of what seem fluid kin group concepts in Polynesia. Rather, I think the ravages of time have worn down the agreements to a point where we cannot offer a more specific reconstruction than Pawley's (1985:96) Proto Polynesian semantic reconstruction of 'lineage or clan'. Whether to reconstruct it as patrilineal, matrilineal, non-unilineal, ambilineal, or something else seems beyond the linguistic evidence which remains at this time and must be argued by the social anthropologists on other grounds. In response to Marck (1996d) they have begun to do so, Hage (1998:189) suggesting that, on the basis of the terms considered immediately below, the PPn *kainanga* were "almost certainly unilineal... and probably patrilineal rather than matrilineal". Surely there will be other opinions over time.

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[17]   Albeit erroneously tied to *kainga* rather than *kainanga*.

[18]   The names of many of the clans themselves are cognate through that whole area and constitute, perchance, some of the oldest family names in the non-literate world. Such agreement of clan names within Polynesia seems lacking except, perhaps, among a few "Futunic" Outliers. (This is an impressionistic statement, for I have not attempted to organise those materials. However, I noticed no agreements when working with related materials, and none have been previously noted in the literature.)

[19]   **keineng* is expected.

[20]   Which was: "Clearly there was some kind of descent group associated with land in the society from which both Polynesian and Micronesian peoples are jointly descended. But how in the course of history could this ancestral descent group come to be nonunilinear in some places and unilinear in others? And where it is unilinear, how could it become patrilineal here and matrilineal there?"

8.2.2 *The father's sister, the mother's brother, and the man's sister's child*

Before proceeding to consider Polynesian kin terms by generation I will consider PPn **qilamutu* 'man's sister's child',[21] **masaki-tanga* 'father's sister', and **tuqa-tina* 'mother's brother', terms that constitute elaborations to the mainly generational system. Kuroiwa (1975) reconstructs these three terms and discusses the first and third in detail. That work is unpublished and remains the only source for the forms other than Biggs (1994a), which is cryptic and also unpublished.

In Tonga, a man's sister's children (*'ilamutu*) have special licence whereby they may appropriate the portable property of the mother's brother (*tu'asina*), take possession of gifts given to him at weddings, and exercise other privileges that tested the mother's brother's generosity (Gifford 1929:23). There is a word for this license, *fahu*, which Beaglehole and Beaglehole (1941:74) define more or less as "one who is above the law" and "the nature of the relationship between *'ilmutu* and their *tu'asina*". Rogers (1977:167–168) reports on Tongan *fahu* practices at a later time, and makes certain clarifications. This practice and the word for it are matched throughout Fiji (*vasu*). The word and custom together are not found elsewhere in Polynesia, except in East Uvea, where the *fahu* privilege is "restricted to members of one lineage related to that of the king" (Burrows 1937:63); East Futuna, where the word is *vasu*[22] and the custom is a prerogative, not of all men's sister's children, but of all male relatives of the king, and applies only to food brought for distribution to a feast (Burrows 1936:72); and in the Marquesas where *pahupahu* means "parents' cross-sex siblings and their spouses" (Handy 1923:68).[23]

Elsewhere in Polynesia, the mother's-brother/sister's-child relationship is marked by ritual relations whereby the mother's brother has ceremonial rights and obligations toward the sister's children. The relationship is characterised by affection of the child for the uncle rather than licence. For example, Firth's (1963:200–206) description of the relationship in Tikopia centres around ritual connections where the *tuatina* is the *iramutu*'s sponsor in certain rites of passage and is the principal in the burial of an *iramutu* who precedes him in death, while the *iramutu* is the principal in the burial of a *tuatina* in the more common circumstance of the *tuatina* preceding the *iramutu* in death.

Hogbin describes the situation in Ontong Java as one in which the mother's brother "owes it to his sister's son to see that he does not lack anything with which he can provide him".

> He is on the best of terms with his sister's children and they look upon him as an indulgent relative who assists them whenever they require it. He may, if he wishes, take an active share in their education, and frequently he teaches them religious formulae that their own father does not happen to know. It is not perhaps regarded as strictly the mother's brother's duty to provide for his sister's children when their father is poor, but it is thought highly desirable that he should do so, and he is liable to be regarded by the community as mean if he does not. Sometimes he actually adopts them

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[21] Kuroiwa (1975) and Biggs (1994a) reconstruct a long second vowel for PPn. I do not, for reasons explained in §3.3.4. It is a part of a larger problem of the interpretation of a lengthening process that affected antepenultimate **a* in NP more than To (and therefore, I argue, not always PPn).

[22] PPn **fVs-* > EFu *vVs-*.

[23] Marck (1996d) did not recognize the Mqa cognate and this paragraph ended with the erroneous suggestion that: "Given the long history of contact between Tonga and Fiji, it seems likely the word and surrounding customs were borrowed by Tongans from Fiji, with East Uveans and East Futunans also borrowing the word and elements of the practices associated with it, either directly from Fiji, or by way of Tonga." I now consider the Mqa word regularly descended from PPn, PNP, PEc, PEP, PCE and PMq.

into his own joint family. When such an adoption occurs, we have an exception to the normal rule of patrilineal descent (Hogbin 1931a:417).

Far away in East Polynesia, the relationship is echoed in the Marquesas, but there extended to the children of all cross-sex siblings:

> The cross relationships were among the most interesting features in the native system. There was a close ceremonial bond between every child and the father's sisters (*tuehine*) and brothers-in-law (*toete*) and the mother's brothers (*tunane*) and sisters-in-law (*toete*), all of whom were called by the child his *pahupahu*. They in turn spoke of the child as their *i'amutu*. Ceremonially the bond between *pahupahu* and *i'amutu* was closer than that between parents and children (Handy 1923:68).

Kuroiwa (1975) mentioned that many Polynesian languages reflect **masaki-tanga* 'father's sister', but he did not give evidence or discuss the possible content of the role like he did for 'mother's brother' or 'man's sister's child'. Biggs (1994a) does not yet include the reconstruction in his materials. Evidence was developed here for Kuroiwa's reconstruction, but its origin was not immediately clear to me. Pawley (pers. comm.) suggests that the form almost certainly comes from PPn **masaki* 'sick' + **-Canga* 'nominaliser' and relates to the common cursing power of the father's sister over her brothers and his children.[24] Subsequently, I found specific reference to such powers of the father's sister for Tonga (Rogers 1977:162–163), Samoa (Mead 1930:137, 139–146), Tokelau (Huntsman & Hooper 1976), and Tikopia (Firth 1963:197, 207–208).[25] Aside from her cursing powers, there are often clear statements about the elevated rank and status of the father's sister around Western Polynesia and for Tikopia. This may continue some pre-Polynesian institutions (cf. Rivers 1910) and seems to have been a feature of Proto Polynesian society. Possibly it was abandoned in East Polynesia as part of the general relaxation of constraints in the relations of cross-sex siblings. Douaire-Marsandon (1996) has recently reviewed the matter for Tonga. Here we are simply concerned with the reconstruction of terminologies and the general reasons for why certain terms may have existed beyond the generational core. The evidence for the reconstruction is discussed in some detail in §8.3.2.4 on first-ascending-generation consanguines (see Table 8.17).

8.3 Terms for consanguines

The organisation of the following subsections is by generation. The data cited in support of the reconstructions in the various datasets come from the kinship database, wherein the data are linked to their sources.

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[24] As Rogers (1977:163 fn. 23) mentions in relation to pers. comm. from R. Clark.

[25] Beaglehole and Beaglehole (1938:237–239) and Hecht (1977:196–199) relate a custom on Pukapuka that seems unique in Polynesia, whereby the *mayakitanga* is a "sacred maid", secluded, celibate, and a symbol of the burial lineage. Rather than a father's sister, she was more often the lineage chief's eldest daughter (Hecht 1977:196).

8.3.1 Consanguines of the grandparents' generation (–2)

8.3.1.1 PPn *tupuna 'grandparent'

The 'grandparent' term, PPn *tupuna*, follows the pattern of many Proto Polynesian kin terms: it has added the Proto Oceanic third person singular possessive marker to an old root, POc *tubu* in this case. Many other Proto Polynesian kinship terms show the same addition (see Table 8.5). Tables 8.6–8 give the reconstructions for 'grandparent', 'grandfather', and 'grandmother'.

Table 8.5: The common addition of PPn *-na* to kinship terms

	'grandparent'	'father'	'mother'	'child-in-law'	'grandchild'
POc	*tubu*	*tama*	*tina*	*pungao*	*makubu*
PCP	*tupu*	*tama*	*tina*	*vungao*	*makubu*
PPn	*tupuna*	*tama(na)*	*tina(na)*	*fungaona*	*makupuna*

Table 8.6: PPn *tupuna* 'grandparent'

PPn *tupuna* 'grandparent', PTo *tupuna* 's.r.', Niu *tupuna* 's.r.', PNP *tupuna* 's.r.', Anu *tupuna* 's.r.', Anu (var.) *tapuna* 's.r.', Bel *tupuna* 's.r.', EFu *tupuna* 's.r.', Puk *tupuna* 's.r.', Ren *tupuna* 's.r.', Tik *tapuna* 's.r.', PEc *tupuna* 's.r.', Tok *tupuna* 's.r.', PEcO *tupuna* 's.r.', Oja *kipunga* 's.r.', Vai *tupuna* 's.r.', PEP *tupuna* 's.r.', Eas *tupuna* 's.r.', PCE *tupuna* 's.r.', PMq *tupuna* 's.r.', Haw *kupuna* 's.r.', Mqa *tupuna* 's.r.', Mva *tupuna* 's.r.', PTa *tupuna* 's.r.', Man *tupuna* 's.r.', Mia *tupuna* 's.r.', Pen *tupuna* 's.r.', Rap *tupuna* 'great-grandparent'., Rar *tupuna* 's.r.', Rng *tupuna* 's.r.', Tah *tupuna* 's.r.', Tub *tupuna* 's.r.'.

There are no other reconstructable terms for the "grandparent" and ascending generations for Proto Polynesian, although there are for some East Polynesian protolanguages. These are mentioned after the materials on terms for "grandfather" and "grandmother".

Table 8.7: Polynesian terms for "grandfather"

PPN,[1] PTo,[2] Niu[3] *tupuna taane* 'grandfather', Ton *(kui)* 'grandparent', PNP *tupuna tangata* 's.r.', Anu *tapuna tangata* 's.r.', EFu *tupuna tangata* 's.r.', EUv[4] *(kui) tagata* 's.r.', Puk[5] *tupuna tane* 's.r.', Ren *tupuna tangata* 's.r.', Tik *pu tangata* 's.r.', PEc *tupuna tangata* 's.r.', PEcO *tupuna tangata* 's.r.', Vai *tupuna tangata* 's.r.', PEP[6] *tupuna* (adj.), PCE[7] *tupuna* (adj.), PMq[8] *tupuna* (adj.), Haw *kupuna kaane* 's.r.', Mqa *tupuna (ahana)* 's.r.', PTa *tupuna taane* 's.r.', Man *tupuna tane* 's.r.', Mia *tupuna tane* 's.r.', Rar *tupuna taane* 's.r.', Tah *tupuna taane* 's.r.', Tua *tupuna taane* 's.r.', Tub *tupuna tane* 's.r.'.

Notes: 1. Indeterminate due to lack of agreement between Ton and PNP and possibility of borrowing from EP in Niu. 2. Indeterminate due to lack of agreement between Ton and Niu and possibility of borrowing from EP in Niu. 3. Possible borrowing from EP. 4. "Grandparent" word borrowed from Ton. 5. Not counted as cognate (Biggs 1994a) possibly due to chance of East Polynesian loan, c.f. Clark (1980) and §4.3.4. 6. Indeterminate adjective due to lack of agreement between Eas and PTa or PMq and lack of agreement of any of them with external evidence. 7. Indeterminate adjective due to lack of agreement between PTa and PMq or either with external evidence. 8. Indeterminate adjective due to lack of agreement between Haw and Mqa and possibility of Haw borrowing from Ta.

Proto Nuclear Polynesian, Proto Elliecan, Proto Elliecan Outlier, and Proto Tahitic terms for 'grandfather' are reconstructed in Table 8.7 above. No complete "grandfather" term can be reconstructed to Proto Polynesian, Proto Tongic, Proto East Polynesian, Proto Central East Polynesian or Proto Marquesic due to various critical failures to agree, especially in Tongic, Marquesic and Rapanui. The Niuean agreement with Tahitic could be an independent development or borrowing from East Polynesian. On the other hand, 'grandmother' was

clearly *tupuna fafine* in all the protolanguages other than Proto Tongic (where the pronunciation was *tupuna fefine*) (Table 8.8).

Table 8.8: PPn *tupuna fafine* 'grandmother'

PPn *tupuna fafine* 'grandmother', PTo *tupuna fefine* 's.r.', Niu tupuna fifine 's.r.', PNP *tupuna fafine* 's.r.', Anu tupuna papine 's.r.', EFu tupuna fafine 's.r.', EUv[1] *(kui) fafine* 's.r.', Puk tupuna wawine 's.r.', Ren tupuna hahine 's.r.', Tik pufine *(pu+fine)* 's.r.', PEc *tupuna fafine* 's.r.', PEcO *tupuna fafine* 's.r.', Vai tupuna fafine 's.r.', PEP *tupuna fafine* 's.r.', PCE *tupuna fafine* 's.r.', PMq *tupuna fafine* 's.r.', Haw kupuna wahine 's.r.', Mqa tupuna vehine 's.r.', PTa *tupuna wahine* 's.r.', Man tupuna wahine 's.r.', Mia tupuna va'ine 's.r.', Rar tupuna va'ine 's.r.', Tah tupuna vahine 's.r.', Tua tupuna (mukuahine) 's.r.', Tub tupuna vahine 's.r.'.

Notes: 1. "Grandparent" word borrowed from Ton.

In all instances where the sources have commented on the issue, *tupuna* reflexes translate most generally as 'grandparents and ancestors of higher generations along with collaterals of grandparents' and higher generations'. Specifications of which generation or line is involved are made by stating 'father's father's brother' or whatever the exact relationship is.[26]

8.3.1.2 (Great)-great-grandparents

There is an exact agreement between Hawaiian and Manihiki concerning the naming of great- and great-great-grandparents, and a partial agreement between these and Tongan (see Table 8.9).

Table 8.9: A few great-grandparent terms of the "second", "third" grandparent type

	'great-grandparent'	'great-great-grandparent'
Ton	kui[1]-ua	kui-tolu
Man	tupuna tua-rua	tupuna tua-teru
Haw	kupuna kua-lua	kupuna kua-kolu

Notes: 1. PPn *kui* 'elderly or barren female' (Biggs 1994a).

The final morphemes in each construction are the numbers 'two' in the case of the *rua* reflexes, and 'three' in the case of the *tolu* reflexes. Thus the constructions translate freely as 'second grandparent' and 'third grandparent', and literally so in the cases of Manihiki and Hawaiian (PPn *tuqa* 'ordinalising prefix'). Fijian has similar constructions (*tubu-vaka-rua*, *tubu-vaka-tolu*). Sources for other languages are often vague at this level, incomplete, or state flatly that the local *tupuna* form refers to grandparents and all higher order ancestors. The result in each instance is an absence of further agreeing forms. The simple addition of 'second' or 'number two' qualifiers could easily have occurred independently, and distributional evidence suggests this is possible in the case of Hawaiian and Manihiki, for there is a competing East Polynesian form.

[26] The sources commonly relate that this is how Polynesians specify exact relationships (e.g., Mead 1930:126). It can be a bit amusing when they seem to imply that English is able to accomplish such tasks with greater ease. Mead provides an example: "endless circumlocutory phrases are resorted to" being her words, but in fact English is no better equipped to exactly specify "the sister of the father of my mother" (one of her examples) than the typical Polynesian language. All English consistently does "better" than a typical Polynesian system is to distinguish lineals from collaterals. However, the context of such remarks on the part of such authors was the existence of the relatively "exact" systems being discovered in Africa, North America, and Australia.

The competing reconstruction involves the agreements of a number of East Polynesian language compounds involving reflexes of PPn *sina > PNP > PEc > PEcO, PEP > PCE *sina 'grey hair' (see Table 8.10). The term may have referred to the colour of hair of the senior generations, or *faka-sina 'to make grey' may have been an early Central East Polynesian idiom having to do with grandchildren (e.g., NZ Maori *whaka-hina* 'poetical expression for grandchildren'). The situation is confused by the more common contemporary use of these terms for great- and great-great-grandchildren around East Polynesia. Possibly there was a term that developed around the senior generations, became a reciprocal term, and then came to be more commonly used in reference to descendants than to ancestors. The agreements naming people from ascending generations are given immediately below.

Table 8.10: Some Central Eastern words for "(great-)great-grandparent" based on PCE *sina

Mqa	*hina, hina tau*	'great-great-grandparent'
Rng	*hina*	'great-grandparent'
	hina-rere	'great-great-grandparent'
	hina-tapu	'great-great-great-grandparent'

Rangiroa is one of the Tuamotus geographically closest to the Marquesas, so this application of the *hina terms to ascending generations may be local diffusion of some sort. Marquesan *tau* and Rangiroa *tapu* disagree in Rangiroa's second consonant. Since addition or loss of PPn *p is otherwise unknown (§2.2.1), the words are probably from different historical developments.

8.3.1.3 Related forms

There are some words similar to *tupuna found only in Western Polynesia (including the Tokelaus) that may have developed and spread there after the divergence of East Polynesian and the Outliers. The forms are not presently known from any Outlier or East Polynesian language (other than Anutan, which has borrowed from East Uvean and Tongan), and one of the Samoan forms shows an unexpected agreement with the Ton/EFu/EUv glottal stop.[27] The forms concerned are given in Table 8.11.

Table 8.11: Some terms for "ancestor" and "age set"

	'ancestor'	'age set, generational group'
Ton	*tupu-'anga*	
Sam	*tupu-'aga*	*tupu-laga*
EUv	*tupu-'aga*	*tupu-laga*
EFu	*tupu-'aga*	*tuupu-laga*
Tok	*tupu-aga*	*tuupu-laga*
Anu		*tupu-ranga*

The sources commonly give *tupunga* as a doublet of *tupu-'anga*, and there may be some confusion over two different words. In every case, they are said to mean 'source, cause, ancestor', among other things, and when one member of a doublet is said to have the specific 'ancestor' meaning, it is usually said to be *tupunga*,[28] which is a meaning commonly

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[27] Pawley (pers. comm.) notes that Sam sometimes adds glottal stop irregularly, usually before stressed vowels, such as in the dual pronouns, and that borrowings from Ton are probably not the cause in those instances.

[28] But vice-versa for Ton.

attributed to **tupuna* reflexes around Polynesia. Thus there is the question as to whether PPn had **tupuna* 'grandparent' and **tupunga* 'ancestor'. But reflexes of **tupunga* are not currently known outside of Western Polynesia (including Tokelau). With the unexpected Samoan agreement with the Tongan, East Futunan, and East Uvean glottal stop, and the absence of the term in Outliers and East Polynesia, it is reasonable to suspect a borrowing of this social terminology around Western Polynesia after the divergence of East Polynesian and the Outliers.

The second word in Table 8.11, **tupu-langa*, means 'adolescent' in East Futunan and East Uvean, while it means, more generally, age sets or generations in Samoan, Tokelauan, and Anutan. There are many reconstructed meanings for **langa* or **ranga* in Biggs (1994a), including 'weave', 'raise (up)', and 'cultivate soil'. Pawley (pers. comm.) notes the similarity to NZ Maori *whaka-tupu-ranga* 'generational group', and wonders whether *-ranga* is from the nominaliser PPn **-nga* or **-Canga* coupled to PPn **tupu* 'grow'. Since at least Proto Oceanic times (POc **tubu*), **tupu* has been polysemous, meaning both 'grandparent' and 'grow', and there seems a tendency in Polynesian languages to develop new forms around one or the other sense and apply them to origin, growth, generations, ancestry, and the like. The absence of other known East Polynesian agreements, or agreements in the Outliers other than Anutan, raises the possibility that the **tupu-ranga* word developed independently in Western Polynesia and in NZ Maori.

This may seem a tedious discussion, but it speaks to two issues: the question as to whether there was a PPn **tupunga* 'ancestor' (there may not have been), and the question as to whether social terminologies were being shared around Western Polynesia after the divergence of East Polynesian and the Outliers (in this particular case, it seems quite likely that such took place).

8.3.2 *Consanguines of the parents' generation (–1)*

For the parental generation in Proto Polynesian, there were 'parent' and 'father' and 'mother' terms, and there seem also to have been special terms for the parents' cross-sex siblings (where parents' same-sex siblings were simply called 'father' and 'mother'). The 'father's sister' and 'mother's brother' social roles were discussed earlier in this chapter.

Proto Polynesian seems not to have had an equation of 'mother's brother' with 'parent-in-law' such as there may have been in Proto Malayo-Polynesian (PMPn **ma-tuqah* '1. mother's brother, mother's brother's wife, 2. wife's father, wife's mother'[29] > POc **matuqa* 'mother's brother' > PPn **matuqa*[30] '1. parents, 2. collaterals of parent's generation and their spouses, 3. mature people in general'). Reflexes of POc **matuqa* seem not to be reported as a kin term for Fiji (Capell & Lester 1945, Geraghty 1983, Nayacakalou 1971, Pawley forthcoming). There is often an equivalence of 'mother's brother' and 'wife's father' in Fijian languages, and the term employed is often of the form *vuga-* or *g(w)adina-* (Capell & Lester 1945). Neither is cognate with any Polynesian kin term, and Polynesian and Fijian kin terms seem to have become somewhat distinct from early times. The Proto Polynesian term for 'mother's brother' continues the Proto Oceanic 'mother's brother' term, but in the Polynesian languages this form does not have the meaning 'wife's father', except in West Futuna and Rennellese, which seem to have developed that meaning independently. In fact,

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there are problems with reconstructing the "wife's father" portion of the meaning for Proto Malayo-Polynesian and Proto Oceanic and I consider them questionable, due to the likely convergence amongst the small number of languages cited in support of the reconstruction.

8.3.2.1 PPn *matuqa 'parent' and PPn *maatuqa 'parents'

We will now consider the individual reconstructions, starting with the most general term for people of the first ascending generation (–1), PPn *matuqa* 'parent and collaterals of that generation; spouses of the parental generation's lineals and collaterals; parents' age mates'. More generally, PPn *matuqa* meant 'mature, old (of people)' and had this meaning in earlier ancestral languages (Biggs 1994a). I would also suggest it meant 'ripe, of fruit' in Proto Polynesian.

The evidence internal to Polynesian for PPn *matuqa* 'parent' is at least that seen in Table 8.12. There was a PPn plural *maatuqa* '(human) parents' (Biggs 1994a), with reflexes reported from enough languages to suggest that it existed in Proto Tongic, Proto Nuclear Polynesian, Proto Ellicean, Proto East Polynesian, Proto Marquesic and Proto Tahitic. The known reflexes of the plural have more stable form and meaning correspondences than the singular (it always means 'parents').

Table 8.12: PPn *matuqa* 'parent'

PPn *matuqa* 'parent', PTo[1] *motuqa* 's.r.', Ton *motu'a* 's.r.', PNP *matua* 's.r.', Anu *matua* 'husband', EFu *matu'a* 'old', EUv *matu'a* 'father, uncle', Puk *matua* 's.r.', Ren *matu'a* 'husband', Tau *matua* 'husband', Tik *matua* 'mature', PEc *matuqa* 's.r.', Sam *matua* 's.r.', Tok *maatua* 'mother', PEcO *matua* 's.r.', Nan *maatua* 'mother', Oja *matua* 's.r.', Vai *maatua* 'mother', Tak *maatua* 'clan head', PEP *matuqa* 's.r.', Eas *matu'a* 's.r.', PCE *matua* 's.r.', PMq *matua* 's.r.', Haw *makua* 's.r.', Mqa[1] *motua* 'father', Mva[1] *motua* 'father', PTa *matua* 's.r.', Mao *matua* 's.r.', Rar *matua* 's.r.', Rar[2] (var.) *metua* 's.r.', Tah[2] *metua* 's.r.', Tua[2] *metua* 's.r.'.

Note: 1. These are regular vowel changes for these languages. 2. These are common sporadic vowel changes for these languages and occurred after the divergence of Mao.

PPn *matuqa* is commonly retained in East Polynesian where the Proto Polynesian words for 'mother' and 'father' were abandoned, and 'mother' and 'father' seem to have been called 'female parent' and 'male parent' by Proto East Polynesian times (see Table 8.13).

Table 8.13: East Polynesian "parent" constructions using masculine and feminine markers for "father" and "mother"

Eas *matu'a tama-hahine*, Haw *makua-hine*, Tah, Tua, Rng, Tub, Rar, Mia, Pen *metua vahine*, Rap *metuua vahine*, Tua (obs.), Mao *matua wahine* 'mother'. (Mqa, Mva *kui* from PPn "old woman").

Eas *matu'a tamaaroa*, Haw *makua kaane*, Tah, Tua, Rng, Tub, Rar *metua taane*, Mia, Pen *metua tane*, Rap *metuua taane*, Tua (obs.), Mao *matua taane* 'father'. (Mqa, Mva *motua* from PPn "parent").

It is clear that we should reconstruct PTa *m(a,e)tua*[31] *wahine* 'mother' and *m(a,e)tua*[32] *taane* 'father'. For Proto East Polynesina, Proto Central East Polynesian and Proto Marquesic

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[31] At least two Ta languages have the older first-vowel pattern (Mao, Tua [obs.] *matua*), but this may have been a return to the former pattern under the influence of the plural PTa *maatua*.

[32] See previous note.

we formally reconstruct *matua-* (masc. modifier) 'father' and *matua-* (fem. modifier) 'mother' with the modifiers indeterminate. Possibly they were **matuqa ta(q)ane* and **matuqa fafine* in Proto East Polynesian and the others, but there is no external evidence for those exact reconstructions.[33] There are some formal difficulties with the precise reconstruction of the 'mother' and 'father' constructions for Proto East Polynesian, Proto Central East Polynesian and Proto Marquesic. This is due to the general possibility of borrowing from Tahitic in Rapanui and Hawaiian, and the idiosyncratic forms common to Marquesan and Mangarevan (*motua* 'father' and *kui* 'mother'). We have reason to believe that Rapanui did *not* borrow from Tahitian in this instance, because (1) the vowels do not show the Tahitian change (*matua* > *metua*), (2) *hahine* rather than *wahine* occurs and (3) because Rapanui uses the 'male child' and 'female child' terms as gender modifiers, where Tahitian uses the simple 'male' and 'female' words. Similarly, we also have reason to believe that Hawaiian did *not* borrow from Tahitian, because it uses the feminine suffix *-hine* rather than the full word for 'woman'. Still, it is possible that Tahitic influenced Hawaiian, and that Proto Central East Polynesian and Proto Marquesic had some system of naming the male and female parent that is not reconstructable from present-day evidence.

When modern *matua* forms mean 'parent', they are usually specified to have the more general sense, in the extreme, of '(all) people of the parental generation' and we can assign this sense to the protolanguage reconstructions. In the narrow sense, it meant 'biological parent', but in modern usages modifiers are often mentioned in the sources that single out the biological parents, 'true mother', and so forth, while the unmodified term might mean 'people of the next elder generation', depending upon context.

8.3.2.2 PPn *tama(na) *'father' and* *tina(na) *'mother'*

Reconstruction of PPn **tamana* 'father' and **tinana* 'mother' would be based on the assumption that POc *tama* and *tina* were continued into Proto Polynesian, and that *-na* was added to these and other kin terms during the Pre Polynesian period. PPn *tama(na)* '(human) father' and *tina(na)* '(human) mother' are reconstructed on the basis of agreements of Western[34] and Outlier Polynesian languages with external evidence (see Tables 8.14 and 8.15). PNP *tamana* is not known from East Polynesia, and *tinana* there refers only to mothers of broods and the female parent of animals. Since Tongan has *tamai*[35] and Niuean *matua taane*[36] 'father', Biggs (1994a) reconstructs *tamana* only to Proto Samoic-Outlier,[37] because it is not found in Tongic or East Polynesian. Biggs's PNP *tinana* 'mother' is supported by evidence from "Futunic" Outliers, Ellicean Outliers, East Futunan, and East Polynesian.

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[33] Except in Niu, which may be a borrowing from EP.

[34] See previous note.

[35] Possibly from an old vocative. Cf. Ren *tamau* 'classificatory father (voc.)'.

[36] In the EP fashion (possibly a convergent development, but a possilbe borrowing from EP; probably *not* common inheritance).

[37] A subgroup here abandoned.

Table 8.14: PPn *tama(na)* 'father and classificatory father'

PPn *tama(na)* 'father', PTo *tama(na,i)* 's.r.', Ton[1] *tamai* 's.r.', PNP *tamana* 's.r.', Anu *tamana* 's.r.', EFu *tamana* 's.r.', EUv[2] *tamai* 's.r.', Mae *tamana* 's.r.', Tau *hama* 's.r.', Tik *tamana* 's.r.', WFu *tamana* 's.r.', PEc *tamana* 's.r.', Sam[3] *tamaa* 's.r.', Tok *tamana* 's.r.', PEcO *tamana* 's.r.', Kap *damana* 's.r.', Nan *tamana* 's.r.', Nuk *damana* 's.r.', Oja *kamanga* 's.r.', Tak *tamana* 's.r.', Vai *tamana* 's.r.'.

Notes: 1. Difference in final syllable possibly a PPn difference in the vocative. 2. Borrowing from Ton. 3. In every instance where a word final *-na* is reconstructed for a kin term in PPn, PNP or PEc, Sam losses the *-na* and lengthens the final vowel.

Table 8.15: PPn *tina(na)* 'mother'

PPn *tina(na)* 'mother', PNP *tinana* 's.r.', EFu *tinana* 's.r.', Mae *tinana* 's.r.', Ren *tinana* 's.r.', Tau *hina* 's.r.', Tik *tinana* 's.r.', WFu *tsinana* 's.r.', WUv *tinana* 's.r.', PEc *tinana* 's.r.', Sam *tinaa* 's.r.', PEcO *tinana* 's.r.', Kap *dinana* 's.r.', Nuk *dinana* 's.r.', Oja *kiinga* 's.r.', Tak *tinnaa* 's.r.', Sik *tinna* 's.r.', PEP *tinana* 'indeterminate: possibly "mother of brood" or "parents"', PCE *tinana* 'indeterminate: possibly "mother of brood" or "parents"', PMq[1] *tinana* 'indeterminate: possibly "parents"', Haw[2] *kiinana* 'mother bird and brood', Mva *tinana* 'parent who cares well for children; parents generally', PTa[3] *tinana* 'indeterminate: possibly "mother of brood" or "dam (of, animals)"', Pen *tinana* 'dam (of animals)', Rar *tinana* 'dam (of animals)'.

Notes: 1. Indeterminate for lack of internal or external agreements with Mqa. 2. Semantics seem more Ta than Mq. Possible borrowing from Tahitic. 3. Indeterminate for lack of other internal agreements with these Cook Island languages or external.

8.3.2.3 *PPn* *tuqa-tina* 'mother's brother'

We now move on to the question of the degree to which terms for biological parents were extended to collaterals, especially the parents' true siblings. Kuroiwa (1975) treated terms for the collaterals in considerable detail. The comparisons and reconstructions in Table 8.16 are based on his study, the evidence being expanded from Biggs (1994a) and the kinship database.

Table 8.16: PPn *tuqa-tina* 'mother's brother'

PPn *tuqa-tina* 'mother's brother', PTo *tuqa-tina* 's.r.', Ton *tu'a-sina* 's.r.', PNP *tuqa-tina* 's.r.', Anu *tua-tina* 's.r.', EFu *tu'a-tinana* 's.r.', EUv[1] *tu'a-sina* 's.r.', Ren *tu'aa-tina* 's.r.', Tik *tua-tina* 's.r.', WFu *tua-sina* 's.r.', PEc *tuqa-tina* 's.r.', Tok *tua-tina* 's.r.', PEcO[2] *tua-tina* 's.r.', Nan *tuaa-tina* 's.r.', Vai *tua-tina* 's.r.'.

Notes: 1. Seems a borrowing from Ton due to the unexpected change of *t to s. 2. Lost in all the Melanesian and Micronesian Ellicean Outliers but suggested as retention from PEcO in Tuv and Tok due to morphological history of the word. (There is reason to believe it existed in PPn so this is not necessarily taken as part of the Western Polynesia culture area influence on Tuv and Tok. Regularly agreeing words in those languages are taken to be retentions from their direct line to PPn but could be undetectable borrowings).

The evidence for PPn *tuqa-tina* comes from Western Polynesia, "Futunic" Outliers, and Tuvalu/Tokelau, but not from the other Ellicean Outliers or East Polynesian. It seems composed of *tuqa-* and *tina* 'mother'. Pawley (pers. comm.) suggests *tuqa-* derived from POc *matuqa* 'mother's brother'.[38] It apparently survived as a distinct meaning by adding the

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[38] Geraghty (pers. comm.) suggests PCP *tuxa-*.

'mother' modifier. Aside from the distributional evidence for this term existing in Proto Polynesian, the use of *tina* rather than *tinana* suggests some antiquity within Polynesian, for it was Pre Polynesian *tina* and not the possible Proto Polynesian *tina(na)* or the more certain Proto Nuclear Polynesian *tinana* that was used in the form.

Kuroiwa (1975) and Biggs (1994a) reconstruct PPn *tuqaa-tina* (with a long second vowel). Some vowels, but especially the "*a*" vowel, are susceptible to lengthening in the antepenultimate position in most Polynesian languages (§3.3.4). I believe the better reconstruction is with a short vowel for this word, because only a few Nuclear Polynesian languages show length with any certainty.

8.3.2.4 PPn *masaki-tanga 'father's sister'[39]

Table 8.17: PPn *masaki-tanga* 'father's sister'

PPn *masaki-tanga* 'father's sister', PTo *masaki-tanga* 's.r.', Niu[1] *mahaki-tanga* 'man's sister', Ton *meheki-tanga* 's.r.', PNP *masaki-tanga* 's.r.', Anu[2] *maki-tanga* 's.r.', EFu[3] *masaki-tanga* 's.r.', EUv[4] *mahiki-tanga* 's.r.', Puk[5] *mayaki-tanga* 'sacred maid', Tik *masaki-tanga*, *masiki-tanga*[6] 's.r.'.

Notes: 1. Evidence of the antiquity of the word in Ton and To. The Niu form agrees in form and has a slightly different meaning than Ton. 2. Possible borrowing from EUv. 3. Some kin terms in EFu seem clearly borrowed from EUv, Ton or Fij. The present word needs to be viewed as a possible loan because Puk is the only independent evidence beyond To and languages (Anu and Tik) that have borrowed from To or To by way of EUv. 4. Possible borrowing from Ton. 5. Puk is NP but not EC. Thus it counts something like a "Futunic" Outlier: a language whose divergence seems to be early. Puk specifically has not borrowed from To so far as is presently known and contrasts with EUv, Anu and Tik which can be shown to have borrowings from To. 6. Borrowing from EUv suggested on basis of second vowel.

This word, briefly discussed in §8.2.2 of this chapter, seems composed of *masaki* 'sick' and *-Canga* 'nominaliser'. Tikopian has both the form expected from regular inheritance from Proto Nuclear Polynesian and a doublet which may be a borrowing from East Uvean, judging from the irregular vowel in the second syllable. There is also WFu *maha-vae* 'father's sister', but this seems to be based upon different roots,[40] as is Tok *maatua haa* 'father's sister', the first word meaning 'parent' and the second 'sacred'. The latter is said by Macgregor (1937:45–47) to refer specifically to the father's eldest sister. Samoa also has a word for this relative in all the sources, *ilamutu* 'father's sister', but Samoans interviewed in Canberra in 1995 think of this specifically in relation to the senior female line of a title, and not in reference to such relatives in general. The Samoan word is a retention, with semantic change, from PPn *qilamutu* 'man's sister's child'.

There is, therefore, only minimal[41] evidence for reconstructing *masaki-tanga* 'father's sister' to Proto Polynesian. It is found in (1) Tongic, (2) East Futunan, (3) East Uvean along with Anutan and Tikopian (with one doublet of Tikopian showing an otherwise uniquely East Uvean vowel development and Anutan having lost the syllable concerned), and (4) Pukapukan. The "Futunic" Outlier evidence involves only two languages, which may have borrowed the word from East Uvean, but Tikopiean has both an apparent borrowing and apparently regularly reflected form, the latter giving good evidence for the form in Proto

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[39]   Marck (1996d) made this reconstruction with a double asterisk but I now believe it is secure enough to forego that convention.

[40]   The *vae* possibly coming from an old vocative for 'mother'.

[41]   Marck (1996d:216) read "less than convincing".

Nuclear Polynesian. There are no East Polynesian or Ellicean agreements of any kind, and Rennellese, which is commonly conservative in kin terms, is not known to have the term. While East Uvean has borrowed extensively from Tongan language and culture, East Futunan has done so only marginally.[42] Pukapukan is an unclassified Nuclear Polynesian language, so the term's occurrence there is seen as evidence that it was present in Proto Nuclear Polynesian, but does not shed light on Proto Ellicean. Thus, the term is reconstructed provisionally to Proto Nuclear Polynesian and Proto Polynesian. Revision would be necessary if we came to suspect that Pukapukan has borrowed from Tongan, East Uvean, or East Futunan, something that we presently have no reason to do. The reconstruction to Proto Tongic, on the other hand, seems quite secure.

It may seem odd to linguists that there may have been no term for 'father's sister' in some Polynesian protolanguages when there was so clearly a term for 'mother's brother', but this is the situation in several of the modern languages, and I am informed (J. Fox pers. comm.) that such asymmetry (my usage, not Fox's) is common in kin terms in Austronesian. There seems to be little special content in the relationship with the father's sister compared to that of the relationship with the mother's brother in many of the modern societies. We can also note that there was a reciprocal term for 'mother's brother', that is, a term for 'man's sister's child', while there is no evidence of a special term for 'woman's brother's child' for many of the protolanguages.[43]

8.3.2.5 Discussion

These are the limits of the reconstructable terms for consanguines of the parents' generation at the PPn level (*matuqa* 'parent', *maatuqa* 'parents', *tama(na)* 'father', *tina(na)* 'mother', *tuqa-tina* 'mother's brother' and the less certain *masaki-tanga* 'father's sister'). Proto Nuclear Polynesian seems to have retained this same set of distinctions. There is no evidence in Ellicean for *masaki-tanga* 'father's sister'. Lack of retention of the *masaki-tanga* form for 'father's sister' is curious in Samoan and Tokelauan, where the father's eldest sister has special cursing power that is suggestive of the meaning of the reconstructed word. So either this power survived without the old term for the person wielding it, or the behaviour is due to areal diffusion in the Tonga-to-Samoa area post-dating Proto Polynesian, Proto Nuclear Polynesian, Proto Ellicean and Proto Ellicean Outlier, with local terms for the relationship being adopted. Either way, the Pukapukan evidence is striking because it does not otherwise share any of the non-generational kin terms.

The PPn 'mother's brother' term (*tuqa-tina*) is not known from Outlier Ellicean (except Tuvalu and Tokelau), while it was retained in the "Futunic" Outliers, and Western Polynesia other than Samoa. East Polynesian not only lost the terms for 'mother's brother' and 'father's sister', but also the Proto Polynesian terms for 'mother' and 'father', replacing the latter with 'female parent' and 'male parent' constructions, respectively.

Where there are no special terms for 'father's sister' and 'mother's brother', such seem universally to be called respectively 'mother' and 'father' (along with the mother's sister and

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[42] There was no late prehistoric intrusion of Tongans, as there was on East Uvea, and the potential borrowings seem more a function of social contacts with East Uvea and possibly Tonga and Fiji than a matter of invasion, or whatever other word we might use to characterise the social and demographic background of East Uvean borrowings from Tongan.

[43] Ton, EUv, and EFu share words of the form *faka-fotu* 'woman's brother's child', but this is unique in Pn and a possible Post PPn borrowing around the area.

father's brother), and there are no special modifiers reconstructable to Proto Polynesian to distinguish a maternal aunt from the mother, or a paternal uncle from the father. Most commonly, special modifiers are used to distinguish the "true" mother or father. The sources for Western Polynesia and the Outliers consistently specify, for instance, 'mother, mother's sister' for the 'mother' term when there is a separate term for 'father's sister', and they specify 'mother, mother's sister, father's sister' for the 'mother' term when there is no separate 'father's sister' term. 'Mother's brother' is given among the 'father' meanings in every instance where there is no special 'mother's brother' term. Similarly, the East Polynesian sources indicate that the 'mother' and 'father' terms are generational and apply to all people of that sex and generation as a whole. There are no exceptions in the Outliers, Western Polynesia, and East Polynesia. The sources, as a group, no matter how cryptically, name all the parents and parents' siblings with specific terms, and in no case are we left to wonder.

8.3.3 Consanguines of ego's own generation (+0)

Firth (1970:273) observed that "[f]ew Polynesian societies seem to have a general term equivalent to 'sibling' without further specification". Clark (1975) reconstructed PPn *tuakana* 'elder same-sex sibling', *tahina* 'younger same-sex sibling', *tua-ngaqane* 'woman's brother' and *tua-fafine* 'man's sister'. Here I add PPn *taqo-kete* 'same-sex sibling' and *kawe* 'cross-sex sibling'.

It is clear that all (first) cousins were named in the same manner as siblings in all the Polynesian protolanguages under consideration here. Where special 'cousin' terms developed (always in the context of groups that permit cross-cousin marriage), the terms are idiosyncratic local developments. The only exceptions are where *fai-* or *faka-* are sometimes prefixed to the sibling terms to render 'cousin'. Even in those societies that had terminological distinctions for some siblings' children versus one's own children, the children themselves referred to each other with the (own) sibling terms.

Sibling terms have received considerable attention in Polynesian and Oceanic as a whole. Papers by Epling, Kirk, and Boyd (1973) and Marshall (1984) allowed reconstruction based upon typological observations to run counter to reconstruction based on standard linguistic methods (especially those based upon shared retentions and shared innovations), and their suggestions about prehistoric systems were soon dismissed (Clark 1975, and Bender 1984, Blust 1984, Chowning 1984, Clark 1984, respectively).[44]

Reconstructions at variance with the linguistic reconstructions are not necessarily doomed but, as Blust (1984:626) notes, the anthropologists have tended to view various kinds of typological change as equally "costly", and have not taken full stock of how "costly" typological solutions become when they result in having multiple (sometimes dozens of) languages *all* having to make the same typological changes with *identical* terminological results. This is not to imply that only one linguistic interpretation is possible in every instance, but sibling term reconstructions for Proto Oceanic and Proto Polynesian have not been problematic or controversial within linguistics.

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[44] Kirk and Epling's (1972) work was part of a broader interest in Polynesian taxonomy and lexicostatistics (Epling, Kirk and Boyd, 1973). In the other works, something resembling lexicostatistics was involved to produce taxonomies of Polynesian languages.

The most common Polynesian sibling term system is as shown in Figure 8.1 (after Epling, Kirk, & Boyd 1973, Clark 1975, Marshall 1984).

| //e | | |
| //y | xm | xf |

PPn, PTo, PNP, PEc
PEP, PCE, PMq, PTa,
Ton, Niu, EUv, Ren,
Tau, all EP
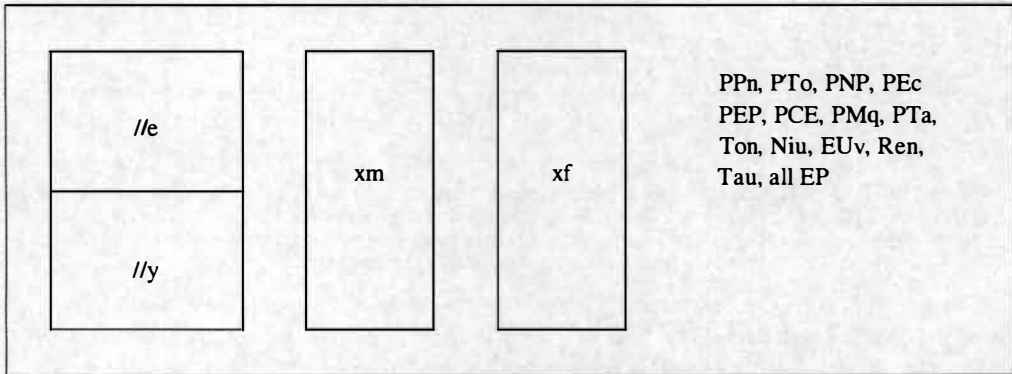
Figure 8.1: Epling, Kirk and Boyd's (1973) Type 20 sibling terms
Key: // 'same-sex', x 'cross-sex', e 'elder', y 'younger'

This diagram is meant to show that a system has terminological distinctions between elder "e" and younger "y" same-sex (or parallel) "//" siblings, and special terms for the cross-sex "x" sibling of a female (woman's brother) "m" and male (man's sister) "f". This is the system in the great majority of historic Polynesian societies. Samoan, Pukapukan, East Futunan, and the Outliers (including Tuvalu and Tokelau, but not Rennell, Bellona, and Taumako) are among the exceptions, and have simpler systems that are diagrammed in Figures 8.2, 8.3 and 8.4.

| // | xm | xf |

Puk, Sam[1], Tok, Nan, Vai
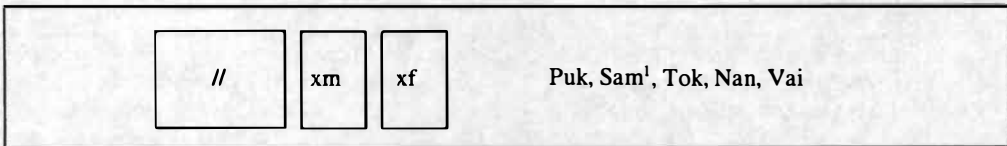
Figure 8.2: Epling, Kirk and Boyd's (1973) Types 3 and 4 (after Clark 1975)
Key: // 'same-sex', x 'cross-sex', e 'elder', y 'younger'
Note: 1. Sam *tua'aa* "//". There is also Sam *tei* "y(x&//)" whose semantics seem unique in Pn.

| // | x |

EFu, Oja, Sik, Tik, Anu,
Mfa, WFu, Ani
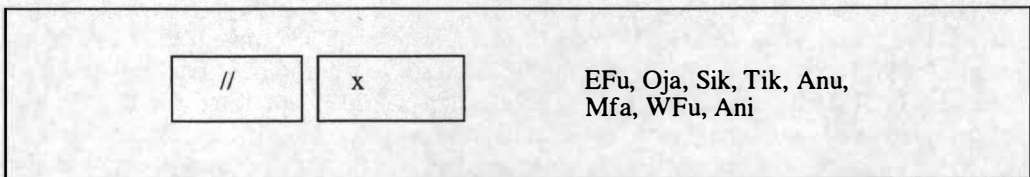
Figure 8.3: Epling, Kirk and Boyd's (1973) Type 2 (after Clark 1975)
Key: // 'same-sex', x 'cross-sex', e 'elder', y 'younger'. Mfa: Mele-Fila.

"sibling"	Nuk, Kap[1]
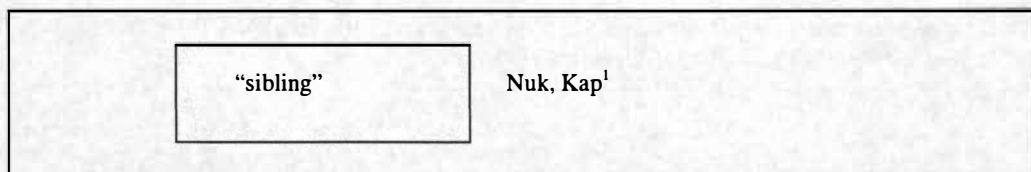
Figure 8.4: Epling, Kirk and Boyd's (1973) Type 1 (after Clark 1975)

Key: // 'same-sex', x 'cross-sex', e 'elder', y 'younger'

Note 1: Clark (1975:87) includes Rapanui in this group under the assumption that the Type 20 terms (Figure 8.1) found in that language may be borrowings from Tahitian. In the present work I accept those Rapanui terms as native to that language. Rapanui kin terms follow a distinct pattern from Tahitian in those instances where it is feasible to evaluate the possibility of borrowings.

The evidence for the reconstructions of terms for ego's generation consanguines is discussed in the subsections that follow. PPn *tuakana* and *taqo-kete* are discussed last, because the latter presents special problems and, at first glance, would seem to have had the same meaning as the former ('elder same-sex sibling').

8.3.3.1 PPn *tua-fafine *'man's sister'* and *tua-ngaqane *'woman's brother'*

The evidence for PPn *tua-fafine* 'man's sister' can be seen in Table 8.18. The change in the second morpheme from PEc *tua-fafine* to PEP *tua-hine* may be viewed as a replacement rather than a reduction. PPn > PNP > PEc *-fine* > PEP *-hine* 'feminine suffix' is reconstructed (Biggs 1994a) and the probable source of the change.

Table 8.18: PPn *tua-fafine* 'man's sister'

PPn *tua-fafine* 'man's sister (xf)', PTo *tu(a,o)-fefine* 's.r.', Ton *tuo-fefine* 's.r.', PNP *tua-fafine* 's.r.', EUv *tua-fafine* 's.r.', Puk *tua-wawine* 's.r.', Ren *tu-hahine* 's.r.', Tau *tua-fafine* 's.r.', PEc *tua-fafine* 's.r.', Sam *tua-fafine* 's.r.', Tok *tua-fafine* 's.r.', PEP *tua-hine* 's.r.', Eas *tua-hine* 's.r.', PCE *tua-hine* 's.r.', PMq *tua-hine* 's.r.', Haw *(kai)-kua-hine* 's.r.', Mqa *tue-hine* 's.r.', Mva *tue-'ine* 's.r.', PTa *tua-hine* 's.r.', Man *tua-hine* 's.r.', Mao *tua-hine* 's.r.', Mia *tua-'ine* 's.r.', Pen *tua-hine* 's.r.', Rap *tua-hine* 's.r.', Rar *tua-'ine* 's.r.', Rng *tua-hine* 's.r.', Tah *tua-hine* 's.r.', Tua *tuua-hiine* 's.r.'., Tub *tua-hine* 's.r.'.

The Proto Polynesian form regularly continues POc *papine* 'man's sister' (cf. Chowning 1991:66,[45] Pawley 1981:284) with the addition of *tua-*. Biggs (1994a) attributes the origin of the PPn *tua-* prefix to POc *tuRang* 'companion', giving Chowning (1991:69) as his source for Proto Oceanic, and Geraghty (1990:76) as his source for Proto Eastern Oceanic.[46] Geraghty (1990) notes evidence for the reconstruction of PEO *tuRa* 'same-sex sibling', and Chowning (1991) considers some of its possible uses as a kin term in Proto Oceanic, referring to Grace and Lincoln (1979) as the original source of the reconstruction with the meaning 'companion'. PPn *tua-fafine* seems to have meant 'man's sister', and the word for 'woman's brother' developed out of Proto Oceanic in a similar way (see Table 8.19).

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[45] Chowning there states that "the first syllable is absent... in most Polynesian languages." As we have seen above, this is true only of EP languages, and the first syllable is reconstructed to all Pn protolanguages other than PEP and its daughters.

[46] Although Pawley, who first made formal arguments for an Eastern Oceanic subgroup, and others have abandoned the subgroup, it remains a convenient label for reconstructions made on the basis of witnesses restricted to eastern Melanesia, Polynesia, and Nuclear Micronesia (which was Biggs's (1965) original purpose in naming such a group).

Table 8.19: PPn **tua-ngaqane* 'woman's brother (xm)'

PPn **tua-ngaqane* 'woman's brother (xm)', PTo **tu(a,o)-ngaqane* 's.r.', Niu *tu-ngaane* 's.r.', Ton *tuo-nga'ane* 's.r.', PNP **tua-ngaqane* 's.r.', EFu *tua-nga'ane* 'cross-sex sibling (x)', EUv *tua-nga'ane* 's.r.', Ren *tu-nga'ane* 's.r.', Tau¹ *tu-ngane* 's.r.', PEc **tua-ngaqane* 's.r.', Sam *tua-gane* 's.r.', Tok *tua-gaane* 's.r.', PEcO² **tua-ngaqane* 's.r.', Nan *tua-gane* 'cross-sex sibling (x)', Vai *tua-gane* 'cross-sex sibling (x)', PEP **tua-nga(q)ane* 's.r.', PCE **tua-ngaane* 's.r.', PMq **tu-ngaane* 's.r.', Haw³ *(kai)-ku-naane* 's.r.', Mqa *tu-kane, tu-nane, tu-'ane* 's.r.', Mva *tu-gane* 's.r.', PTa **tua-ngaane* 's.r.', Man *tua-ngane* 's.r.', Mao *tu-ngaane* 's.r.', Mia *tu-ngane* 's.r.', Pen *tua-ngane* 's.r.', Rap *tu-'aane* 's.r.', Rar *tu-ngane* 's.r.', Rng *tua-'ane* 's.r.', Tah *tua-'aane, tu-'aane* 's.r.', Tua *tu-ngaane* 's.r.', Tub *tu-ane* 's.r.'.

Notes: 1. There is also *ngane* as a term of address for cross-sex siblings, cross-sex parallel-cousins, and same-sex siblings-in-law. 2. PEcO is here considered to have retained all the PPn sibling terms with their original meanings. See EcO retentions of **kawe* 'cross-sex sibling' in Table 8.21. 3. Haw follows Mqa and Mva but vowel loss is also common in Ta (but was not a PTa feature).

PPn **-ngaqane* continued a Proto Oceanic word of the same meaning ('woman's brother'), which is reconstructed as **maRuqane* or **mwaqane* by Blust (1980) and Pawley (1985) as cited in Chowning (1991:66). There is a general sporadic tendency in Polynesian languages for the second vowel of the sibling prefix **tua-* to be lost. That vowel would always have been unstressed, and independent loss can be observed from this and other kin terms.

Reflexes of PPn **tua-ngaqane* 'woman's brother' occur in more languages than reflexes of PPn **tua-fafine* 'man's sister', but have changed meaning more often, always to 'cross-sex sibling (xm&f)'. When a language eliminates the 'man's sister'/'woman's brother' distinction and goes to a single 'cross-sex sibling' term, it often employs the old 'woman's brother' term (Clark 1975:86), but never the 'man's sister' term. As noted below, this is what happened in the early Fijian system. Alternatively, some Nuclear Polynesian languages lose both gendered terms and retain PNP **kawe* 'cross-sex sibling' (Table 8.21).

8.3.3.2 PPn **tahina* 'younger same-sex sibling'

PPn **tahina* 'younger same-sex sibling' (Table 8.20) can be observed to be widely reflected in Polynesian and descends from POc **taci*[47] 'younger same-sex sibling'. As noted by Clark (1975:86), there are two common developments among the reflexes. The first is the tendency of **tahina* to take meaning 'same-sex sibling' when differences of age are abandoned, and the second is for the term to be taken as the general word for 'sibling' when all distinctions of age and sex are abandoned.

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[47] Ross (1988). It was **tazi* in PCP (P. Geraghty, pers. comm.).

Table 8.20: PPn *tahina* 'younger same-sex sibling (//y)'

PPn *tahina* 'younger same-sex sibling (//y)', PTo *tehina* 's.r.', Ton *tehina* 's.r.', Niu *tehina* 's.r.', PNP *taina* 's.r.', Anu *taina* '//(e&y), // sibling-in-law', EUv[1] *tehina* 's.r.', EFu *taina* "//(e&y)", Ren *taina* 's.r.', Puk *taina* '//(e&y)', Tau *teina*[2] 's.r.', Tik *taina* '//(e&y), x sibling-in-law', PEc *taina* 's.r.', Sam[3] *tei* 'y(//&x)', Tok *taina* '//(e&y)', PEcO *taina* '//(e&y)', Nan *taina* '//(e&y)', Nuk *daina* 'sibling', Oja *kasinga* '//(e&y)', Sik *taina* '//(e&y)', Tak *taina* '//(e&y)', Vai *taina* '//(e&y)', PEP *taina* 's.r.', Eas *taina* 's.r.', PCE *taina* 's.r.', PMq *taina* 's.r.', Haw *(kai)-kaina* 's.r.', Mqa *teina* 's.r.', Mva *teina* 's.r.', PTa *t(e,a)ina* 's.r.', Man *teina* 's.r.', Mao-E *taina* 's.r.', Mao-W *teina* 's.r.', Mia *teina* 's.r.', Pen *teina* 's.r.', Rap *teina* 's.r.', Rar *teina* 's.r.', Rng *teina* 's.r.', Tah *teina*, 's.r.', Tua *teeina* 's.r.', Tub *teina* 's.r.'.

Notes: 1. Borrowing from Ton on basis of assimilation of *-a-* and retention of *-h-*. 2. There is also Tau *taina* 'woman's daughter' which may have its origin in this word, a woman's younger sister being something like a daughter in terms of affection and nurturing. 3. Sam commonly loses *-na* of PPn > PNP > PEc kin terms.

A noteworthy characteristic of these correspondences is the change of the first vowel to *e* (reflecting *teina*) in every East Polynesian language except those at the margins: Rapanui, Hawaiian, and a regional dialect of NZ Maori. This may be testimony to the degree of linguistic interaction in the Central East Polynesian heartland after the divergence of other languages to the margins. It is especially striking that every known Tahitic language and dialect, except for the eastern NZ Maori dialect chain, has made this assimilation. On the other hand, *something* often happens to the first vowel of similar trisyllabic words (where there is a low first vowel and a high second vowel), such as the change of PPn *fanua* 'land, placenta' to *(f,h)enua*, the change of PPn *matuqa* to *metu(')a*, and the general tendency of the low vowel to raise in the *(#,-)ai(#,-)* diphthongs. Still, the first vowel in the majority of similar forms neither assimilated nor lengthened in Proto East Polynesian, Proto Central East Polynesian, Proto Marquesic[48] and Proto Tahitic. It is a singular phenomenon to have the ancient pronunciation so well preserved on the margins and so thoroughly replaced in the middle. It is consistent with a profound areal effect from Tahiti but, as mentioned, may simply have to do with the phonetics of the word.

8.3.3.3 PPn *kawe 'cross-sex sibling'

The evidence in Table 8.21 is from Biggs (1994a) in the case of most Outliers, my own search of the sources in the case of Taumako and East Polynesian, and Melenaite Taumoefolau by way of P. Geraghty (pers. comm.) in the case of Tongan. Biggs also notes the resemblance to Moala (Fijian) *weka* 'sibling of the opposite sex'. Elsewhere, Geraghty (1983:375) makes a Fijian reconstruction of the form *weka* 'opposite sex sibling', mentioning evidence from Kadavu, the Lau islands of Fiji, and southeastern Viti Levu. He notes the similarity to PNP *kawe*. Abundant evidence for Geraghty's reconstruction can be seen in Nayacakalou (1971).

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[48] Although Mqa and Mva (but not Haw) often do.

Table 8.21: PPn **weka* or **kawe* 'cross-sex sibling'

Lau-Fij **weka* 'cross-sex sibling'
PPn **kawe* or **weka* 'cross-sex sibling', PNP **kawe* 's.r.', Anu *kave* 's.r.', EFu *kave* 'relation parentale entre les beaux-parents (Bgs: Mfr)', MFa *kave* 's.r.', Tau *kave*[1] 'same-sex cross-cousin', Tik *kave* 's.r.', WFu *kave* 's.r.', PEc **kawe* 's.r.', PEcO **kawe* 's.r.', Tuv *kave* 'sibling (Bgs: Rby)', Oja *'ave* 's.r.', Sik *kave* 's.r.', Tak *kave* 's.r.', PEP **kawe* 'unsp. relative(s)', PMq **kawe* 'unsp. relative(s)', Mva *kakave* 'parents; parents-in-law', PTa **kawe* 'unsp. relative(s)', Tua *kave* 'consanguineous relatives; to become friends'.

Note: 1. The cross-sex cross-cousins are given as: *tungane-kave* 'male cross-sex cross-cousin', *tahini-kave* 'female cross-sex cross-cousin' (Davenport 1968:162).

Fijian **weka* and PPn **kawe* are clearly cognate but in the absence of evidence external to Central Pacific, it is impossible to say which metathesised. The PPn **kawe* word seems to have been lost or to have lost the 'cross-sex' meaning in all languages that retain distinct terms for the male versus the female cross-sex sibling, other than in Taumako, where it names same-sex cross-cousins. It seems that Proto Polynesian had words for cross-sex siblings in general, the male cross-sex sibling, and the female cross-sex sibling, but this terminological situation may have been inherently unstable, a little redundant perhaps. Similarly, no example can be found of a contemporary Polynesian language that has a term for 'same-sex' sibling and also distinguishes same-sex siblings by relative age.

8.3.3.4 *Older same-sex sibling:* **tuaka(na)* *or* **taqo-kete?*

We now consider what word or words meant 'older same-sex sibling' in Proto Polynesian. There are two candidates: **tuaka(na)* and **taqo-kete*. The first seems quite clearly to have meant 'older same-sex sibling' in Proto Polynesian on the basis of Nuclear Polynesian agreements with external evidence. The second seems also to have that meaning in Proto Polynesian, based upon agreement of Tongic, languages that have borrowed from Tongic, and Rennellese, although the Rennellese could have been a convergent independent development. I consider the evidence for the two forms in turn.

The internal evidence for PPn **tuaka(na)* 'elder same-sex sibling' in Table 8.22 comes from East Polynesian, Samoan, and the Outlier Taumako. There are abundant external cognates with the same meaning.

Table 8.22: PPn **tuaka(na)* 'elder same-sex sibling (//e)'

Fij *tuaka-* '(//e)'
PPn **tuaka(na)* 'elder same-sex sibling (//e)', PNP **tuakana* 's.r.', Tau *tokana* 's.r.', PEc **tuakana* 's.r.', Sam *tua'aa* 'same sex sibling (//)', PEP **tuakana* 's.r.', Eas *tuakana* 's.r.', PCE **tuakana* 's.r.', PMq **tuakana* 's.r.', Haw *(kai)-kua'ana* 's.r.', Mqa *tuakana* 's.r.', Mva *tuakana* 's.r.', PTa **tuakana* 's.r.', Man *tuakana* 's.r.', Mao *tuakana* 's.r.', Mia *tuakana* 's.r.', Pen *tuakana* 's.r.', Rap *tua'ana* 's.r.', Rar *tuakana* 's.r.', Rng *tua'ana* 's.r.', Tah *tua'ana* 's.r.', Tua *tuakana* 's.r.', Tub *tuaana* 's.r.'.

All of the data reviewed for Fiji agree with a reconstruction of Proto Central Pacific **tuaka-* 'elder same-sex sibling',[49] and all the Fijian sound changes are either regular or

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[49] POc and PCP **tuka-* have been proposed as alternate reconstructions, but I am inclined to believe that the lost second vowel is from reduction, as occurs occasionally in Polynesian languages, rather than an old doublet.

involve the occasional loss of the second vowel, something also seen occasionally in the Polynesian cross-sex sibling prefix *tua-* (but only once in the present construction).[50] The Fijian agreement with PEP *tuakana* '//e' and (the Outlier) Taumako *tokana* '//e' is the basis for reconstructing PPn *tuaka(na)* and PNP > PEc > PEP *tuakana* 'elder same-sex sibling'. The word goes back further in Oceanic with the same meaning. Because the *tua-* of PPn *tuaka(na)* is from the base of the historical root, I have not parsed it as I do the cross-sex sibling terms. Biggs (1994a), however, does so in his PPn *tua-kana* 'elder same-sex sibling' reconstruction, possibly under the assumption that PPn *tua-fafine* 'man's sister' and *tua-ngaqane* 'woman's brother' would have resulted in a situation where the different historical origins would not have been obvious, and *tuaka(na)* would have been reinterpreted as *tua-ka(na)*. We can also suggest that Pre Pn *tuakana* may have been reinterpreted as *tua-kana* and may have become the model for *tua-ngaqane* and *tua-fafine*.

Taken together, certain Western Polynesian and "Futunic" Outlier evidence suggests PPn **taqo-kete* 'elder same-sex sibling'. However, in East Polynesian, *taqo-kete* reflexes always refer to same-sex siblings-in-law or siblings-in-law in general.

Kuroiwa (1975) wondered if there was a difference in Proto Polynesian whereby *tuaka(na)* referred to such things as primogeniture and socio-political rank, and *taqo-kete* referred simply to relative age of siblings. He posited a diminution in the extreme respect behaviour between same-sex siblings-in-law to have occurred between the Proto Polynesian community and the Proto East Polynesian community. He suggested that Proto East Polynesian speakers continued to employ the old Proto Polynesian term for primogeniture, *tuaka(na)*, which fell out of use in Western Polynesia and the Outliers.[51]

While Kuroiwa's work is most elegant on other matters, I do not agree with his theory about the difference between *tuaka(na)* and *taqo-kete* in Proto Polynesian. There is no direct evidence that the former carried a primogeniture sense, and little that the latter carried the relative age sense. Also, this is contrary to the agreement of Proto East Polynesian and Taumako with external evidence on the meaning of PPn *tuaka(na)* as 'elder same-sex sibling'.

Table 8.23: Biggs' (1994a) reconstruction of PPn *taqo-kete* 'older same-sex sibling'

.Pn	*taqo-kete*. A
Pn	:Older sibling of the same sex.
Ece	*takete*. :Sibling of the same sex.
EFu	*ta`okete*. :Sibling of same sex (Bgs).
EUv	*ta`okete*. :Older sibling of same sex.
Niu	*taokete*. :Elder sibling of the same sex (Mce).
Ren	*ta`okete*. :Older sibling same sex (Ebt).
Ton	*ta`okete*. :Older sibling of the same sex (Cwd).

Source: Biggs (1994a) non-EP data. See also Biggs (1994a) PEP *ta(q)o-kete* 'same-sex sibling-in-law'.

Table 8.23 gives the non-East Polynesian evidence from Biggs (1994a) for reconstruction *taqo-kete*. I found no further cognates in Outlier languages or Samoan. The '*elder* same-sex sibling' sense is limited to Tongic (Tongan and Niuean), plus East Uvean (which has borrowed a great deal from Tongan) and Rennellese. Therefore, there are only two clearly independent witnesses to the 'elder' meaning. Reflexes of *taqo-kete* are said to simply mean

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[50]   In Tau, which may be a case of coalescence, if the vowel is actually long.

[51]   He seems not to have been aware of the Tau cognate.

'same-sex' sibling in East Futunan and Tuvalu (Ece). Other sources suggest that either the form is specifically masculine in East Futunan, or concerns the firstborn, or both. Burrows (1936) has it meaning 'firstborn brother', Rensch (1984) has it meaning 'premier-né de la parenté, ainé (first born of the parents, eldest)', and Moyse-Faurie (1993) has it meaning 'frère ainé; ainé des garçons (eldest brother, eldest of boys)'. The core East Futunan sibling terms distinguish only sex and not age (Burrows 1936) and the terms used are *taina* 'same-sex sibling' and *tua-nga'ane* 'cross-sex sibling'. Biggs (1994a) lists himself[52] as the source for his East Futunan data, but *ta'o-kete* otherwise seems to be a primogeniture term, and the usage he lists may be a recent development. The *takete* 'same-sex sibling' of Nanumea (Tuvalu (Ece)) most likely comes from *taqo-kete*.

Proto Polynesian seems to have been a language with dialects in the north that gave rise to the modern Nuclear Polynesian languages, and dialects in the south that gave rise to the Tongic languages (Pawley 1996). Whether social organisation was homogeneous over the whole area is a matter for investigation.

I see no merit in proposing a single narrow solution for the semantic reconstruction of PPn *taqo-kete*, when the evidence today is so ambiguous. But a good possibility is that it meant "same-sex sibling". As we will see below, it does not seem to have meant "same-sex sibling-in-law" in Proto Polynesian, like it did in Proto East Polynesian. There is another form reconstructable with great confidence for that meaning in Proto Polynesian (PPn *maqa* 'same-sex sibling-in-law', see Table 8.52). A Proto Polynesian sense of "same-sex sibling" is appealing as: 1. there was PPn *kawe* 'cross-sex sibling'; 2. *taqokete* now means "same-sex sibling" in Tuvalu and East Futunan; 3. the "same-sex sibling" sense was part of the word's meaning in Proto East Polynesian (where it meant "same-sex sibling-in-law") and Proto Tongic (where it meant "elder same-sex sibling"); and 4. it is part of the present meaning in Rennellese ("elder same-sex sibling"). The coincidence of meanings between Proto Tongic and Rennellese might be due to undetected Tongan influences in Rennellese or due to convergence. The latter possibility may be due to some general tendency of the "same-sex sibling" term to replace the "elder same-sex sibling" term, when a system is in the process of abandoning the generic same-sex and cross-sex terms but keeping same-sex terms that specify relative age.

The resulting model is one which has all the languages dropping either the generic terms or dropping the relative terms. Those languages which dropped the relative age terms took various routes. If they dropped the relative *age* terms they may have kept the old generic or one of the relative terms, most commonly the "younger" term. If they dropped the relative *sex* terms they may have kept the old generic or one of the sex-specific terms, most commonly the "woman's brother" term.

The reconstruction I suggest, then, is an Epling, Kirk, and Boyd (1973) "Type 20" Proto Polynesian sibling system: one in which reference was to same-sex siblings by relative age and to cross-sex siblings by special terms for male and female overlaid by generic terms for same-sex siblings and cross-sex siblings. As Kuroiwa (1975) and Clark (1975) have noted, where Polynesian sibling systems have changed they have simplified. This has occurred mainly on smaller islands such as most of the Outliers, East Futuna and East Uvea but also, for some reason, on Samoa.

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[52] Having done fieldwork there 1967–1971.

8.3.3.5 *The extension of sibling terms to cousins*

We will now consider how sibling terms are extended to cousins, and the case for differential cross- and parallel-cousin terminologies in the protolanguages. It is most convenient to do so by first considering the situation in Central East Polynesian, where there is little variation. Reference to Rapanui is not made here, because the sources I have seen do not provide the requisite data.

In Central East Polynesian languages, there is always wholesale application of the sibling terms to all first cousins. Most notably, even in the case of Marquesan, a society with clear preferences for cross-cousin marriage, there were no differences in the naming of cross- and parallel-cousins, and all were named as siblings (Handy 1923:68–69).

The Tongic evidence (Gifford 1929:28–29) agrees with Central East Polynesian concerning the application of the sibling terms equally to cross- and parallel-cousins. Cross-cousin marriage occurred in Tonga but was not formally preferential. Special family councils met to consider such unions and "a man and a woman who could not come into close proximity to each other by their own initiative may be married by the will of those who have the ordering of them" (Gifford 1929:22). Niuean sources (Loeb 1926:62) state specifically that both cross- and parallel-cousins are named with the sibling terms.

East Uvean (Burrows 1937:62–66) has a special affix for first cousins and another for more distant cousins. These have not been found to be cognate with other such Polynesian affixes. Otherwise, the terms for cross-cousins are the same as the terms for parallel-cousins, and these are the sibling terms. Burrows (1937:62) was not able to suggest what the traditional rules of marriage may have been, due to generations of missionary influence. East Futunan (Burrows 1936:73–76) applies sibling terms to "all recognized relatives of the same generation", and there is no indication that cross- or parallel-cousins have special terms. As with East Uvean, Burrows (1936:71) comments that missionary influence made traditional marriage patterns difficult to sort out. In East Uvea and East Futuna there are neither differences in naming cross- and parallel-cousins, nor is there the suggestion that cross-cousin marriage was practised, or that it was not.

The "Futunic" Outliers have a number of distinct systems, and generalisation is difficult. Rennellese (Birket-Smith 1956:113) named parallel cousins as siblings but called cross-sex cross-cousins *ha'anga*, a term I have found in no other Polynesian language with a related meaning, except in neighboring Bellona. Cross-cousin marriage is practised and common on Rennell (Birket-Smith 1956:112). Bellona also practises cross-cousin marriage, but

> according to Bellonese traditions, marriages of cross-cousins were taboo until about 11 generations ago when the population of Bellona thinned out due to excessive interlineage fighting, and intermarriage of closer kinsmen became necessary for the further survival of the population. Cross-cousins who were previously labelled tu-hahine 'real or classificatory sisters' were now labelled ha'anga and thus became marriageable (Monberg 1976:249).

Terms for parallel-cousins in West Futuna-Aniwa are said by the sources (kinship database) to be the same as the sibling terms. In the case of the cross-cousins, cross-nephews/nieces, and cross-aunts/uncles, the whole terminological system seems transformed toward the equivalence of consanguinal and affinal relatives, where cross-cousin marriage makes them the same. That is, the term for 'man's sister's son' is extended to 'son-in-law'. The extensions run straight through the system, but do not have the affinal sense elsewhere, and therefore appear to be local developments.

Tikopian distinguishes parallel- and cross-cousins with compounds of the basic sibling terms (see Table 8.24). "Marriage with cross-cousins is not common in Tikopia and is not favored, being placed on exactly the same footing as the union of parallel cousins" (Firth 1963:208–209).

Table 8.24: Some terms for parallel and cross-cousins in Tikopian

	'same-sex'	'cross-sex'
'parallel-cousins'	*taina faka-laui*	*kave faka-laui*
'cross-cousins'	*taina faka-pariki*	*kave faka-pariki*

Source: Firth (1963:229); (said to be the same for Anutan (Feinberg pers. comm.))

Anutan resembles Tikopian in a number of ways, but no terminological distinction is given in the sources for cross-cousins versus parallel-cousins. All are said to be named according to the sibling terms: *kave* 'cross-sex sibling' and *taina* 'same-sex sibling'. Feinberg (1979a:328) would seem to imply that cross-cousin marriage is not practised, but does not say so directly.

The survey of "Futunic" Outlier terminological systems gave much the same result as for Central East Polynesian, Tongic, East Uvean and East Futunan: there are no cognate terms distinguishing cross- from parallel-cousins, or (first) cousins of any kind from siblings,[53] and we are left with the notion that the common ancestral language of "Futunic" Outliers named cousins in the same manner as siblings.[54]

Terms for cousins in Pukapuka are quite unique and seem to alternate between generations (Beaglehole & Beaglehole 1938:259–263), but make no distinctions between cross- and parallel-cousins. Marriage between (first) cousins was prohibited, whether cross- or parallel-cousins (Beaglehole & Beaglehole 1938:260).

Samoa and the Ellicean Outliers seem to have no reconstructable system. Samoan sibling terms are applied to cousins (Mead 1930:126–146), and no terminological distinction is mentioned for cross- and parallel-cousins. Neither Mead nor other sources mention cross-cousin marriage; Shore (1976:276) says specifically that sibling incest rules cover all cousins as well.

Kennedy (1931), who worked on Vaitupu in Tuvalu, is quite specific that same-sex and cross-sex parallel- and cross-cousins are all called by the sibling terms, *taina* 'same-sex sibling' and *tua-ngane* 'cross-sex sibling'. He mentions two special terms, *taina-sala* 'father's brother's same-sex child' and *tua-ngane-sala* 'father's brother's cross-sex child', but cognates were not found in other Polynesian languages. Ranby (1980) does not specify cousin terms for Nanumea.

Table 8.25: Terms for cross-sex parallel and cross-cousins in Tokelauan

faka-tua-fafine 'female parallel first cousin (of male)'
fai-tua-fafine 'female cross first cousin (of male)'
faka-tua-gane 'male parallel first cousin (of female)'
fai-tua-gane 'male cross first cousin (of female)'

Source: Huntsman (1971:337).

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[53] Except the *ha'anga* 'cross-sex cross-cousin' of Ren and nearby Bel.

[54] "Futunic" Outliers are unclassified Nuclear Polynesian languages, and their common ancestor is here taken to be PNP.

Table 8.25 gives some distinctive terms for cross-sex parallel- and cross-cousins for Tokelauan. The **faka-* prefix to kin terms occurs in other Polynesian languages and generally involves the extension of a basic term to a broader category of people (with a sense of 'in the manner of, as if (but not the real thing)'), but I know of no exact cognates for the particular constructions above. Similarly, **fai-* is a relationship prefix in other languages (e.g., Oja, Ren *hai-* 'relational prefix', Sam *fai-* 'fostered or adopted'), but in these languages I find (kinship database) no cognates of the Tokelauan forms in Table 8.25. Macgregor (1937) recorded a different set of terms at an earlier time for Tokelau (and possibly on a different island: *taina fetau taina* 'cross-sex parallel cousins on the father's side' and *tuafafine fetau taina* 'cross-sex parallel cousins on the mother's side'). Those compounds seem to have no external cognates. Marriage to first or second cousins in the late 1960s was proscribed (Huntsman 1971:328), and no distinction seems to be made between cross- and parallel-cousins in this regard. Whether the latter was the case in former times is not easily recoverable due to long missionary influence and lack of ethnographic work until recent decades.

Luangiua (Ontong Java) has only two sibling terms, *'ave* 'cross-sex sibling' and *kainga* 'same-sex sibling' (from PEc **kave* and **taina*), and these are extended to both cross- and parallel-cousins. Marriage between these classificatory siblings is said to be prohibited (Hogbin 1931a). Kapingamarangi (Emory 1965:111–118) has lost all distinctions of age and sex in kin terms, and has a single term, *tua-hin(a)*, which designates all siblings and (first) cousins. Emory (1965:170) states that it was "considered tabu to have intercourse with a relative nearer than a third cousin," and this is also the rule for marriage (Emory 1965:173). This may have been the traditional rule, since Christianity did not come to Kapingamarangi until after about 1910, and Emory took pains to learn as much about the pre-Christian period as possible, including documenting histories of polygyny and polyandry.[55] It seems there was a pre-Christian notion that offspring of close relatives would not be normal (Emory 1965:173).

Our purpose here has been to investigate patterns of naming cousins, and it seems clear that, in contrast to the situation in most of Fiji, Proto Polynesian and all the later interstages had no terms for cross- or parallel-cousins distinct from the sibling terms themselves. We cannot presently reconstruct systems of affixing sibling terms to specify either true siblings or cousins to any of the Polynesian protolanguages. This is not to say that they did not exist in some or all of the protolanguages, although one is left with that impression on the basis of current data. Rather it may be that such systems were not stable.

Cross-cousin marriage is and was practised in few Polynesian societies. Where it occurs, there is evidence that the associated terminologies have arisen independently. While the absence of such marriage may be due to Christian missionary influence, the common absence of cousin terms, especially cross-cousin terms, is intriguing, because the end of cross-cousin marriage would not necessarily result in the abandonment of cross-cousin terminologies.[56] Or if there were no special terms, we would still expect some confusion in the daughter languages as to whether a term named affines or consanguines. Yet we find no reconstructable cousin terms of any kind, and affinal and consanguinal terms are not confused or merged.

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[55]   The fieldwork was in 1947 and 1950.

[56]   Although this seems a general trend in world cultures (R. Feinberg, pers. comm.).

The prehistory of sibling terms in Polynesia thus seems to have been one that involved the "Hawaiian" type (where all cousins were called 'sibling'), and all Polynesian languages that diverge from this pattern seem to have done so individually. We must admit an absence of relevant materials and data in the case of some "Futunic" and many Ellicean Outliers, so there may be some low-level agreements in the naming of cousins that are presently unknown. But the overall evidence points without exception to an Hawaiian pattern for Proto Polynesian, Proto Tongic, Proto Nuclear Polynesian, Proto Ellicean, Proto East Polynesian, Proto Central East Polynesian, Proto Marquesic and Proto Tahitic.

In the Marquesas, this very sibling-terminology type *does* occur with preferential cross-cousin marriage.[57] So Polynesian evidence provides at least one case of a terminological system that does *not* have a term for cousin or cross-cousin occurring in the context of a society with preferential cross-cousin marriage.

There is sometimes an equivalence of 'spouse' and 'cross-sex cross-cousin' in cases where cross-cousin marriage is common (e.g., Hocart (1929) for Lau Fijian and Dougherty (1983:636) for West Futunan). But the terminological equivalence of 'spouse' and 'cross-sex cross-cousin' is not common in Fijian (see Capell & Lester 1945). I know of no Proto Fijian, Proto Central Pacific or Proto Oceanic reconstructions in which there is an equivalence (cf. Chowning's (1991) recent work on POc).

The foregoing terminological evidence does not mean that cross-cousin marriage was not practised in Proto Polynesian times. Such evidence does *not* come from the status of cousins or cross-cousins as terminologically equivalent to siblings. Such equivalence existed in some of the Polynesian societies that are known to have practised cross-cousin marriage.[58] There are gradations in the societies concerned: West Futunan names the spouse with the same term as cross-sex cross-cousins (and the term is not known from elsewhere), Rennellese has a special term for cross-sex cross-cousins (and the term is not known from elsewhere) that was different from the words for spouse, husband, or wife. Marquesan, like most other Polynesian languages, had no special term for cross-cousins. Tongan is like Marquesan in having cross-cousin marriage but no special terms for cross- or other cousins. It is necessary to be careful about mentioning these two societies in the same breath, for the Marquesas had preferential cross-cousin marriage, whereas on Tonga it was a prerogative of a couple's parents to arrange such a marriage, but it was not a prerogative of cross-cousins to ask for one or to otherwise develop a romantic interest.

8.3.4 *Consanguines of the children's generation (+1)*

Because there are so many reconstructed terms in this section, I summarise their distributions in the protolanguages (see Table 8.26). The generational patterning of Proto Polynesian kin terms applied to consanguines of one's child's generation, all one's sibling's children being one's classificatory children, with the exception of a man's sister's children (PPn *qilamutu*), but probably not a woman's brother's children (PPn **faka-fotu*). The evidence for the special 'man's sister's child' term is quite compelling (Kuroiwa 1975, Biggs 1994a) and is expanded here. The evidence for the special 'woman's brother's child' term is limited to Tongan, East Uvean, and East Futunan, and may be a later development in those languages, rather than a Proto Polynesian characteristic.

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[57] As expressed in some idealised descriptions. The frequency of such marriages has not been documented.

[58] Ignoring rules that applied or did not apply to the highest chiefly lines.

Table 8.26: Occurrence of reconstructed child's generation kin terms for Polynesian protolanguages

	PPn	PTo	PNP	PEc	PEP	PCE	PMq	PTa
tama 'woman or couple's son'	+	+	+	+	+	+	+	+
**fosa* 'man's son'	?	?	?					
ata-liki 'man's son'			+	+	+	+	+	+
tama-qa-fine 'woman or couple's daughter'	+	+	+	+	+	+	+	+
taqa-hine 'girl'	+	+	+	+				
**((q)a,qo)fafine* 'man's daughter'	?	?	?	?				
qilaamutu 'man's sister's child'	+	+	+	+	+	+	+	+
tama-qiti 'child'	+	+	+	+	+	+	?	+
taiti 'child'						?	+	?
tamaa-loa PNP 'young man', PEP 'boy'			+	+	+	+	+	+
tama-riki 'children'	+	+	+	+	+	+	+	+
ma-fine 'daughter (endearment)'		+	+	+	+	+	+	
qulu-matuqa 'firstborn'	+	+	+	+				
mata-hiapo 'firstborn'						?	?	+

The Proto Polynesian form for 'man's sister's child', *qilaamutu*, persisted into Proto Tongic, Proto Nuclear Polynesian, Proto Ellicean, Proto East Polynesian, Proto Central East Polynesian, Proto Marquesic and Proto Tahitic. It was lost in some Outliers. The meaning may have been somewhat different in some of the East Polynesian protolanguages. It was generalised to include all a person's cross-sex sibling's children in at least one instance (Marquesan), and meant any nephew or niece in Mangarevan and NZ Maori (but has a sense of "esp. sister's children" in NZ Maori). In Samoan it came to refer to the father's sister rather than a man's sister's child.

There were also terms for a son when a man was speaking or being referred to, as opposed to when a woman was speaking or being referred to. PPn *tama* referred to the son of a woman or couple, while PPn *fosa* seems to have referred to the son of a man. Daughters may not have had distinct terms of reference according to parent, apparently being called PPn *tama-qa-fine* by both parents. The distinction of 'man's son' versus 'woman's son' has generally been lost, except in Western Polynesia, Tokelau, and a few of the "Futunic" Outliers. It is entirely lacking in East Polynesian and the few Ellicean Outliers (other than Tok) for which there are data. The Samoan/Tokelauan term for 'man's son' (*ata-liki*) is distinct from that used in Tongan, East Uvean, East Futunan, Rennellese, Anutan and Tikopian (*fosa*), but because the Samoan/Tokelauan term agrees in form and meaning with West Futunan it may also be quite ancient.

8.3.4.1 Lineals

In Table 8.27 there is abundant evidence for PPn, PTo, PNP, and PEc *tama* referring to the children or sons of women or couples. It paired with a male-oriented counterpart for each of these protolanguages (*fosa* or *ata-liki*). This contrast seems entirely absent in East Polynesian languages.

Table 8.27: PPn *tama* 'woman or couple's child or classificatory child, esp. son'

PPn *tama* 'woman or couple's child or classificatory child, esp. son', PTo *tama* 's.r.', Niu *tama* 'child, offspring', Ton *tama* '1. woman or couple's child or classificatory, esp. son 2. woman's sister's child, 3. husband's sibling's child 4. fellow, lad, chap, man (colloquial)', PNP *tama* 's.r.', Anu *tama* 'son, daughter; sibling's children other than *iraamutu*', Bel *tama* 'woman's real or classificatory son', EFu *tama* 'son, nephew, young man', EUv *tama* '1. woman's son, son of a woman's sister 2. boy', Ren *tama* '1. classificatory son of a female 2. child (general term)', Tau *ilamotu* 'man's sister's child', Tik *tama* 'child, son; sibling's children other than *iraamutu*', WFu *tama* 'one's own children, same-sex sibling's children, same-sex parallel cousin's, children', PEc *tama* 's.r.', Sam *tama* '1. woman's child or grandchild 2. Child, boy 3. chief', Tok *tama* '1. woman or couple's child 2. boy', PEcO *tama* 's.r.', Kap *dama* 'son, daughter, niece, nephew', Nan *tama* 'son daughter; sibling's children other than *ilamutu*', Nuk *dama* 'child (offspring)', Oja *kama* 'son, daughter; sibling's children other than *ilaamoku*', Vai *tama* 'son daughter; sibling's children other than *ilamutu*', PEP *tama* 'man or woman's child or classificatory child, esp. son', Eas *tama* 'sugarcane root or sprout', PCE *tama* 'man or woman's child or classificatory child, esp. son', PTa *tama* 'man or woman's child or classificatory child, esp. son', Man *tama* 'son', Mao '1. Son, nephew 2. eldest son 3. child (son or daughter)', Pen *tama* 'child, son', Rar *tama* 'child', Tah *tama* 'child, young people in general', Tua *tama* 'child', Tub *tama* 'child, son', PMq *tama* '1. man or woman's child or classificatory child 2. child in general', Haw *kama* 'child, person', Mqa *tama* 'children of both sexes from birth up to adolescence', Mva *tama* 'child(ren)'.

Use of *tama* forms for one's sibling's children occurs in enough instances to make it clear that PPn, PTo, PNP, and PEc 'own child' terms were extended to all sibling's children other than a man's sister's child (PPn *qilamutu*). I will discuss *qilamutu* presently. The point for the moment is that all sibling's children in all Polynesian protolanguages seem to have been called by the 'own child' terms, with the exception of those sibling's children named with PPn *qilamutu* reflexes (but see **f aka-f otu* 'woman's brother's child' in Table 8.36 below).

The forms reconstructed in Tables 8.28 and 8.29 show a distribution whereby Tongan, East Futunan, East Uvean, Rennellese, Anutan, and Tikopian appear to retain a Proto Polynesian form, while Proto Ellicean has innovated and some "Futunic" Outliers share the Proto Ellicean innovation. Such a distribution is not strictly consistent with present subgrouping hypotheses and suggests borrowing around both Western Polynesia and the "Futunic" Outliers after Proto Polynesian and Proto Nuclear Polynesian times.

Table 8.28: PPn *f osa*[1] 'man's son or classificatory son'

PPn *fosa* 'man's son or classificatory son', PTo *fosa* 's.r.', Ton *foha* 'man's son, man's brother's son, wife's sibling's son', PNP *fosa* 's.r.', Anu[2] *pota* 'child (offspring)', EFu[2] *vosa* 'man's son', EUv *foha* 'man's son, man's brother's son', Ren *hosa* 'man's classificatory son', Tik *fosa* 'child, son (held by some authorities that *fosa* applied only to brother's son/daughter, and not to own child). (Firth 1985)'.

Notes: 1. Marck (1996d) made this reconstruction with double asterisks but I now consider the reconstruction secure due to the Ren evidence. 2. Although Anu has borrowed much from EUv and Ton the Ren cognate suggests PNP (and PPn) antiquity. 2. PPN *f Vs- > EFu vVs-.

Table 8.29: PNP *ata-liki* 'man's son or classificatory son'

PNP *ata-liki* 'man's son or classificatory son' (R. Clark is credited with first reconstructing this sense of the word (Biggs 1994a); see Pawley (1985) for a discussion of the word's history in Oceanic), MFa *ta-riki* 'man's child', Tau *ata-liki* 'man's son/nephew', WFu *tariki* 'man's son/nephew', PEc *ata-liki* 's.r.', Sam *ata-li'i* 'man's son (Milner 1993)', 'son (commoners) (Pratt 1984)', Tok *ata-liki* 'man's son', PEcO *ata-liki* 'indet.', Kap *ada* 'be first, older', PEP[1] *ata-riki* 'firstborn son', Eas *ata-riki* 'elder son, the firstborn', PCE *ata-riki* 'firstborn son', PMq[2] *ata-riki* 'firstborn son', Mqa *ata-'iki* 'chef (chief)', Mva *ata-riki* 'eldest son', PTa[3]*taa-riki* '(indet.)', Rar *taa-riki* 'the young or children'.

Notes: 1. The PEP semantic reconstruction seems secure on the basis of Eas, Mqa and Mva evidence. 2. Biggs (1994a) also notes Haw *kaa-li'i* 'hurl spears at a chief so that he may demonstrate his ability to dodge them'. 3. Biggs (1994a) also notes Mao *Taa-riki* 'a man's name (father of Taonui)' and Tua *taa-riki* 'set apart for, acted upon by the nobles; hence noble, chiefly, princely (Stn)'.

From the agreement of Tongan and Rennellese in Table 8.28 we can suggest that PPn *fosa* meant 'man's son'. The agreement of Tongan, East Uvean, East Futunan, Anutan, and Tikopian might be attributed to Post Proto Polynesian borrowing, but the agreement of Rennellese suggests that a Proto Polynesian form is involved, for there is no generally accepted thesis of borrowings by Rennellese from the Tongan/East Uvean/East Futunan area. Following standard tree-model assertions, we would have to reconstruct *fosa* 'man's son' to Proto Nuclear Polynesian, but there is the agreement of West Futunan, Mele-Fila, Taumako, Samoan, and Tokelauan on the form and meaning: PNP *ata-liki* 'man's son'. This is a case of distributions overlapping subgroups. Possibly there were two words for 'man's son' in Proto Nuclear Polynesian, but it seems more a case of the kind of distribution that has long plagued attempts at subgrouping the Outliers, especially the "Futunic" Outliers. Such distributions seem to occur due to multiple cultural inputs (mixing of vocabulary between groups of people who had distinct, but (easily) mutually intelligible dialects).

It is possible to explain the distributions by positing independent development—*fosa*, *ata-liki*, or both coming into use independently in two or more localities (especially *ata-liki*, which is morphologically complex). The *ata-* or *ta-* prefix is found in many words having to do with people and relationships (see Pawley 1985).

Overall, the *fosa* and *ata-liki* distributions leave me wondering about the internal diversity of Proto Nuclear Polynesian, especially with respect to the vocabulary of specific cultural systems. Here we have seen evidence that East Uvean and East Futunan, the likely source or sources of Rennellese, have a Tongan rather than Samoan cognate. Another possibility is that *fosa* and *ata-liki* were in use on East Futuna and East Uvea at different times, thus the occurrence of both amongst the "Futunic" Outliers. Possibly there was PNP *fosa*, and *ata-liki* came into use after the divergence of Rennellese.

The 'firstborn son' sense of *ata-riki* reconstructed for Proto East Polynesian seems quite secure and also agrees to some extent with the single Ellicean Outlier cognate of which I am aware (Kap 'first, older'). The term is not known to have the 'firstborn son' sense in Tahitic, so that sense in Rapanui is probably the directly inherited meaning,[59] and it agrees with Mangarevan and Marquesan.

The terms for naming 'daughter' versus 'girl' and 'man's daughter' versus 'woman or couple's daughter' is not immediately clear for the Proto Polynesian level. For 'girl' and 'daughter' terms in general, Biggs (1994a) reconstructs the terms in Table 8.30.

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[59]   As opposed to "indirectly inherited", that is, borrowed (from Tahitian missionaries).

Table 8.30: Biggs (1994a) terms for "daughter", "female child", and "girl"

PPn *tama-qa*-fine 'daughter'
PPn *tama-fafine* 'female child'
PPn *taqa-hine* 'girl'

If we consider the distribution of these forms and their meanings (Table 8.31), I believe a different interpretation is possible(see Table 8.32).

Table 8.31: Distribution and meanings of three Polynesian words for girls and daughters.

	taqa-hine	*tama-qa-fine*	*tama-fafine*
Ton	G	–	D
Niu	–	D	D
EUv	G,D	–	–
EFu	G,D	–	–
Ren	D¹	D	–
WFu	–	G,D	–
Anu	–	D	G
Tik	–	D	G
Sam	G	–	D
Tok	G	–	D
Nan	–	D	D
Nuk	–	G,D	–
Kap	–	G	–
Eas	–	F	F
Mqa	?	?	?
Mva	–	D	–
Haw	–	D	F
Tah	–	D,G	–
Tua	–	D,G	–
Mao	–	D,G	–
Rar	–	D,G	–

Notes: D = "daughter", G = "girl", F = "female". 1. Honorific.

Table 8.32: PPn ****(qo,(q)a)-fafine* 'man's daughter' and ***tama-fafine* 'woman or couple's daughter'

	man's daughter	woman or couple's daughter
PPn	***(q)a-fafine*	***tama-fafine*
Ton	*'o-fefine*	*tama-fefine*
EUv	*'o-fafine*	
Tau	*a-hahine*	
Sam	*a-fafine*	*tama-fafine*
Tok	*a-fafine*	*tama-fafine*

The reconstructions of the main terms for 'daughter' and 'girl' are made on the basis of the agreements in Tables 8.33 and 8.34.

Table 8.33: PPn **tama-qa-fine* 'daughter or classificatory daughter'

PPn **tama-qa-fine*[1] 'daughter or classificatory daughter', PTo **tama-qa-fine* 's.r.', Niu *tamaa-fine* 'daughter', PNP **tama-qa-fine* 's.r.', Anu *tamaa-pine* 'daughter', Bel *tama-'a-hine* 'man's daughter or classificatory daughter', Ren *tama-'a-hine* 'man's daughter or classificatory daughter', Tik *tamaa-fine* 'daughter', WFu *tama fine* 'daughter', PEc **tama-qa-fine* 's.r.', PEcO **tama-qa-fine* 's.r.', Nan *tamaa-fine* 'daughter', Kap *dama ahina* 'girl, maiden', Nuk *damaa hine* 'girl, daughter', PEP **tama-(q)a-fine* 's.r.', Eas *tamaa-hine* 'daughter, niece', PCE **tamaa-fine* 's.r.', PMq **tama(a)-fine* 's.r.', Haw *(kai)-kama-hine* 'girl, daughter, niece', Mva *tama-'ine* 'oldest daughter', PTa **tamaa-fine* 's.r.', Rap *tama-hine* 'daughter', Rng *tama-hine* 'daughter', Man *tama-hine* 'daughter', Mao *tamaa-hine* 'daughter, girl', Mia *tama-'ine* 'daughter'., Pen *tama-hine* 'daughter', Rar *tamaa-'ine* 'daughter', Tah *tamaa-hine* 'daughter, girl', Tua *tama-hiine* 'daughter', Tub *tama-hine* 'daughter'.

Note: 1. Lit.: 'child of (a) woman' but apparently the common term for 'daughter (of man or woman)'.

Table 8.34: PPn **taqa-sine* 'girl'

PPn **taqa-sine* 'girl', PTo **taqa-hine* 's.r.', Ton *ta'a-hine* 'girl or young woman; daughter of a chief', PNP **taqa-sine* 's.r.', EFu *ta'ine* 'girl, daughter, niece', EUv *ta'a-hine* 'girl, woman's daughter, woman's niece', Ren *ta'a-hine* 'honor. term of ref. for sister, daughter, niece', PEc **taqine* 's.r.', Sam *teine* 'girl, virgin', Tok *teine* 'girl, lass'.

'Daughter' has apparently come to mean 'girl' at various times, and vice versa. The only form with agreements that allow a precise reconstruction of both form and meaning to the Proto Polynesian level is **tama-qa-fine*. The semantics of the reflexes and its etymology indicate that it meant 'daughter' in Proto Polynesian. The bulk of the evidence for **taqa-sine* suggests a Proto Polynesian meaning of 'girl'. East Uvean and East Futunan combine the 'girl' and 'daughter' meanings (and lose PPn **tama-qa-fine* 'daughter'), while Tongan, Samoan, and Tokelauan have the (original) sense 'girl'. It is again curious that Rennellese agrees with a form found only in Western Polynesia, with its **taqa-sine* reflex meaning 'sister, daughter, niece (honorific)'.

Proto Polynesian may have distinguished a woman's versus a man's daughter distinction, but such a distinction could have been a Post Proto Polynesian development around Western Polynesia. The distinction between a 'man's daughter' and 'woman or couple's daughter' is found mainly in Western Polynesia, but also in Taumako (Table 8.34). I have therefore reconstructed PPn ***(q)a-fafine* 'man's daughter'. I reconstruct the meaning of ***tama-fafine* '(**woman or) couple's daughter' provisionally in the case of the term referring primarily to the mother. This seems a reasonable distinction on the basis of the Taumako agreement with the others, but the formal reconstruction is problematic; thus my use of double asterisks to indicate uncertainty.

We might ask if people would distinguish 'man's son' and 'woman's son' but have no such distinction for daughters. In fact, this seems to be the situation in modern West Futunan, Mele-Fila, Rennellese, and East Uvean.

8.3.4.2 Collaterals

The reconstruction of the Proto Polynesian 'man's sister's child' term is made on the basis of the agreements in Table 8.35. We might ask whether the term applied to children of all cross-sex siblings and whether it also meant 'child-in-law'. Clear answers are obtained in both

instances. The term applied only to a man's sister's children, and it did *not* also refer to children-in-law.

The evidence is quite compelling. The occurrence of the 'man's sister's child' meaning in Tongic, and most of Nuclear Polynesian other than East Polynesian, clearly points to this as the meaning in Proto Polynesian. Only Marquesan applies the term to all cross-sex sibling's children, and only a few others apply the term to all children of all siblings (e.g., some Tahitic, and Mangarevan).

Table 8.35: PPn **qilamutu* 'man's sister's child'

PPn **qilamutu* 'man's sister's child', PTo **qilamutu* 's.r.', Ton *'ilamutu* 's.r.', PNP **qilaamutu* 's.r.', Anu *iraamutu* 's.r.', EUv *'ilaamutu* 's.r.', EFu *'ilaamutu* 's.r.', Puk *ilamutu* 'child adopted by man from his sister', Ren *'igaamutu* '1. man's sister's child 2. son-in-law, daughter-in-law', Tik *iramutu, iraamutu* 's.r.', WFu *raimutu* 's.r.', PEc **qilaamutu* 's.r.', Sam *ilaamutu* 'father's sister; descendants in female line', Tok *ilaamutu* 's.r.', PEcO **qilaamutu* 's.r.', Nan *ilaamutu* 'mother's brother, sister's child', Oja *ilaamoku* 'sister's son' , Tak *ilaamotu* 'mother's brother, man's sister's child', Vai *ilamutu* 's.r.', PEP **(q)iraamutu* 'indeterminate: either a man's sister's child or any, person's cross-sex sibling's child', Eas *iramutu* 'neighbour, fellow being', PCE **iraamutu* 'indeterminate: either a man's sister's child or any person's, cross-sex sibling's child', PMq **iraamutu* 'indeterminate: either a man's sister's child or any person's, cross-sex sibling's child', Haw *ilaamuku* 'executive officer, marshal, sheriff', Mqa *i'amutu* 'child of cross-sex sibling or spouse's cross-sex sibling', Mva *iraamutu* 'nephew, niece', PTa **iraamutu* 'indeterminate: either a man's sister's child or any person's, sister's child', Mao *iraamutu* 'nephew, niece, especially sister's[1] child (Bgs)'.

Note: There is also Tah *mootua* 'nephew, niece'. 1. The Mao source does not specify man's sister's child.

West Futunan and Rennellese use their PPn **qilamutu* reflexes to name children-in-law, but these seem independent developments associated with their individual adoption of cross-cousin marriage. The third clear example of a Polynesian society that practised cross-cousin marriage is the Marquesas, but there *i'amutu* is not said to have the 'child-in-law' meaning.

We cannot reconstruct with confidence a term for woman's brother's child because supporting evidence is limited to Tongan, East Uvean, and East Futunan (Table 8.36), which are adjacent and subject to borrowing from one another.

Table 8.36: Pn ***faka-fotu* 'woman's brother's child'

Pn ***faka-fotu* 'woman's brother's child': Ton, EUv, EFu *faka-fotu* 's.r.'.

Few languages have special terms for man's brother's child or woman's sister's child, and certainly these were referred to in Proto Polynesian as one's own children.

In Proto Polynesian, parents' cross-sex siblings were specifically *not* terminologically merged with parents-in-law. Cross-sex cross-cousins (along with all other cousins) were terminologically merged with siblings, rather than spouses or potential spouses. Although there was a special term for a 'man's sister's child', this was not the same term as for '(man's) child-in-law'.

What then was the nature of the relationship between a man's sister's children and a mother's brother in Proto Polynesian society, if it was not that of a potential child-in-law? This question was touched on in §8.2.2 of the present chapter. Seemingly the Proto Polynesian relationship entailed ritual rights and obligations, as outlined by Kuroiwa (1975), and material support (as mentioned in §8.2.2). Marck (1996d:Table 37) included a note with

the *fahu/fasu* discussion that a reconstruction was not justified for Proto Polynesian on distributional grounds. But since then my attention has been drawn to a Marquesan cognate, *pahupahu* 'parent's cross-sex sibling and parent's cross-sex sibling's spouse', so the form is apparently Proto Polynesian in age and is reconstructed in Table 8.37.[60]

Table 8.37: PPn *fasu* 'having to do with the rights of a man's sister's child or the content of the relationship'

Bau, Way *vasu* 'be related to a man or groups through one's mother and the rights to food and goods from such kinsmen', PPn *fasu* 'having to do with the rights of a man's sister's child or the content of the relationship', Ton *fahu* 'rights or license of the *'ilamutu* to food and property of mother's brother', EUv *fahu* 'chief on the mother's side', EFu *vasu* 'right of king's male relatives to food brought for distribution at a feast over which the king presides', Mqa *pahupahu* 'parent's cross sex sibling and parent's cross-sex sibling's spouse'.

The Proto Polynesian term *qilamutu* 'man's sister's child' and special behaviours surrounding that relationship, PPn *fasu*, seem to have persisted independently in numerous Polynesian societies for some two thousand years. Except for Pukapuka, this persistence occurred in the absence of matrilineal groups or cross-cousin marriage—two institutions that give special significance to the relationship of a man's sister's child to its mother's brother. Possibly the ritual relationship itself was the source of conservatism, rather than some social structure pressure to focus on, name, and assign behaviours to that particular kin relationship.

8.3.4.3 Child, children, young man and daughter

Residual reconstructions for 'child', 'children', 'young man' and 'daughter' are presented in Tables 8.38–41 respectively. The first two show clearly that there was a common, distinct plural for "child".

Table 8.38: PPn *tama-qiti* 'child (boy or girl)'

PPn *tama-qiti* 'child (boy or girl)', PTo *tama-(qiti, tiqi)* 's.r.', Ton *tama-si'i* 'child or young person', PNP *tama-qiti* 's.r.', Anu[1] *tama-ti* 'child, young person', EUv[2] *tama-si'i* ' child', Ren *tama-'iti-'iti* 'child, infant, baby', WFu *tama sisi* 'little child', PEc *tama-(q)iti* 's.r.', Sam *tama-iti* 'children (not in the sense of offspring)', Tok *tama-iti* '1. child, offspring 2. child (not in sense of offspring), 3. childhood, youth', PEP *tama-(q)iti* 's.r.', Eas *tama-iti* 'child, son, nephew', PCE *tama-iti* 's.r.', PMq *ta-iti* 's.r.', Haw *keiki* 'child', *kama-iki* 'small child (rare)', Mva *teiti* 'child', PTa *tama-iti* 's.r.', Man *tama-iti* 'collaterals beyond the degree of nieces and nephews', Mao *tama-iti* 'child (sing.)', Mia *tama-iti* 'child (offspring)', Pen *tama-iti* 'son, child', Rar *tama-iti* 'son, child', Rar[3] *taiti* 'fellow, person, term of endearment for child', Rng *tama-iti* 'son, child', Tah *tama-iti* 'son, child', Tua *tama-iti* 'a little boy', Tua[3] *taaiti* 'young boy or girl', Tub *tama-iti* 'son, child'.

Notes: 1. Borrowing from EUv. 2. Borrowing from Ton. 3. The loss of *-ma-* in Rar and Tua is taken to be independent of the apparent loss in pre-Marquesic. It is possible there was an old doublet but since only Haw has a doublet today, the doublet solution for the protolanguage(s) becomes more difficult to support. Independent development also seems plausible in such circumstances (*tama-iti* is, literally, "small child" and could have been coined independently in Haw).

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[60] The correspondence of the initial consonant is not regular but is a common sort of diffused change (§2.3.1).

Table 8.39: PPn *tama-riki* 'children (boys and girls)'

PPn *tama-riki* 'children', PTo *tama-iki* 's.r.', Niu *tama-iki-iki* 's.r.', Ton *tama-iki* 'sometimes hon. for *faanau* (children, offspring)', PNP *tama-liki* 's.r.' , Anu *tama-riki* 's.r.', EUv *tama-liki* 's.r.', EFu *tama-liki* 's.r.', Ren *tama-giki* 's.r.', Tik *tama-riki* 'child, children', WFu *tama-rikriki* 's.r.', PEc *tama-liki* 's.r.', PEcO *tama-liki* 's.r.', Kap *dama lligi* 'young children', Nan *tama-liki* 'child', PEP *tama-riki* 's.r.', PCE *tama-riki* 's.r.', PMq *tama-riki* 'children; progeny (?)', Haw[1] *kama-li'i* 'children, progeny', PTa *tama-riki* 's.r.', Mao *tama-riki* 's.r.', Rar *tama-riki* 's.r.', Rng *tama-riki* 's.r.', Tah *tama-riki* 's.r.', Tua *tama-riki* 's.r.'.

Note: 1. Possible borrowing from Ta. No other Mq cognates or irregular developments in Ta or Haw to make determination.

The following is included because it is an important kin term in East Polynesian:

Table 8.40: PNP *tamaa-loa* 'young man'

PNP *tamaa-loa* 'young man', Anu *tamaaroa* 'bachelor', Tik *tamaa-roa* 'bachelor', PEc *tamaa-loa* 's.r.' , Sam *tamaa-loa* 'mature man, married man', Tok *tamaa-loa* 'man, a male person', PEP *tamaa-roa* 'man or woman's son or classificatory son', Eas *(poki)-tamaa-roa* 'son, nephew', *tamaa-roa* 'masculine marker', PCE *tamaa-roa* 'man or woman's son or classificatory son' , PMq *tama(a)-roa*, Mqa *tama-'oa* 'boy', Mva *tama-roa* 'son, nephew', PTa *tamaa-roa* 'man or woman's son or classificatory son', Mao *tamaa-roa* 'son, possibly only first-born', Mia *tama-roa* 'son', Rar *tama-roa* 'son', Rng *tama-roa* 'son', Tah *tamaa-roa* 'boy, male', Tua *tama-roa* 'son'.

Table 8.41: PNP *ma(a)-fine* 'daughter (**term of endearment)'

PNP *ma(a)-fine* 'daughter (**term of endearment)' (possibly a contraction of *tama-qa-fine*), Tik *ma-hine* 'daughter', PEc *ma(a)-fine* 'daughter (term of endearment)', Sam *maa-fine* 'woman, girl (term conveying sympathy or endearment)', PEP *ma(a)-hine* 'daughter (term of endearment)', PCE[1] *ma(a)-hine* 'daughter (term of endearment)', PMq[1] *ma(a)-hine* 'daughter (term of endearment)', Mva[2] *ma-'ine* 'daughter (term of affection), PTa[1] *ma(a)-hine* 'daughter (**term of endearment)', Tah *ma-hine* 'young daughter'.

Note: 1. The vowel length in PCE, PMq, and PTa is uncertain due to the quality of the Mva and Tah sources (which do not indicate vowel length). 2. From Biggs (1994a) citing Hiroa. My own reading of Hiroa (1938a) revealed only *mo-'ine*.

8.3.4.4 Eldest and firstborn

The last terms to be considered in this section are terms for eldest or firstborn child. The evidence for PPn *qulu-matuqa* and PTA *mata-siapo* is summarised in Tables 8.42 and 8.43. For the evidence on PEP *ata-riki* 'firstborn son', see Table 8.29. The Hawaiian agreement with *mata-siapo* in Table 8.43 is not matched by other Marquesic, and may be a borrowing from Tahitic. An unusual aspect of the distribution is that the languages with *mata-siapo* forms have all lost PCE *siapo* 'bark cloth (plant)'. It leaves us to wonder why Hawaiian would follow Tahitic in both respects.

Table 8.42: PPn *qulu-matuqa* 'firstborn child'

Bau *ulu-matua* 'firstborn child'
Way *ulu-matua* 'firstborn child'
PPn *qulu-matuqa* 'firstborn child', PTo *qulu-motuqa* 's.r.', Ton *'ulu-motu'a* 'head of family or tribe', PNP *qulu-matuqa* 's.r.', Anu *uru-matua* 'firstborn', Ren *'ugu matu'a* 'firstborn', Tik *uru-matuua* 'eldest of family', WFu *uru matua* 'firstborn', PEc *qulu-matuqa* 's.r.', Sam *ulu matua* 'firstborn', Tok *ulu matua* 'firstborn', PEcO *qulu-matuqa* 's.r.', Kap *ulu madua* 'firstborn'.

Table 8.43: PTa *mata-siapo* 'firstborn child'

Haw[1] *maka-hiapo* 'firstborn child', PTa[2] *mata-siapo* 's.r.', Tah *mata-hiapo* 's.r.', Tua *mata-hiapo* 's.r.', Rar *mata-'iapo* 's.r.', Mao *mata-hiapo* 'precious, prized'.

Notes: 1. Possible borrowing from Ta since it is not otherwise known in Pn. 2. Pawley (pers. comm.) notes that this is literally "tapa-cloth-face", perhaps connected with the custom of giving tapa cloth to a first born child.

8.3.5 Consanguines of the grandchild's generation (+2)

8.3.5.1 Grandchildren

In Table 8.44 there was a tendency for PPn *maku-* to become *moko-* or *mo'o*. The agreement of PNP *makupuna* with PCP *makubu-* (Geraghty 1983) makes clear the Proto Polynesian vowel situation. But there was clearly a Proto Polynesian alternate pronunciation:[61] *mokopuna*. None of the living languages continue the old doublets, having either one or the other pronunciation. Proto Tongic, Proto Ellicean Outlier and Proto Tahitic apparently had only the alternate pronunciation and had lost the older pronunciation altogether. Proto Polynesian, Proto Nuclear Polynesian, Proto Ellicean, Proto East Polynesian, and Proto Central East Polynesian all sustained both pronunciations.

Table 8.44: PPn *makupuna* 'grandchild and collaterals of that generation'

PPn *makupuna* 'grandchild and collaterals of that generation', PTo *mokopuna* 's.r.' , Niu *mokopuna* 'infant grandchild', Ton *mokopuna* '(great) grandchild and collaterals of those generations', PNP *makupuna* 's.r.', Anu *mokopuna* 's.r.', EFu[1] *mokopuna* 'any relative of two or more generations younger than the speaker', EUv[2] *mokopuna* 'any relative of two or more generations younger than the speaker', Puk *mokopuna* 'classificatory grandchild', Ren *makupuna* 's.r.', Tau *makupu* 'grandchild', Tik *makopuna* 's.r.', WFu *mpupuna* 's.r.', PEc *makupuna* 's.r.', Sam *ma'upuu* 'man's sister's son', Tok *makupuna* '(great) grandchild', PEcO *mokopuna* 's.r.', Kap *mokopuna* 'guardian of the gods, magician', Nan *mokopuna* 's.r.', *mokopuu* 'great grandchild and collaterals of that generation', Nuk *mogobuna* 'grandchild', Oja *mopunga* 's.r.', Vai *mokopuna* 'grandchild', PEP *makupuna* 's.r.', Eas *makupuna* 'any relative two or more generations younger than speaker', PCE *makupuna* 's.r.', PMq *makupuna* 's.r.', Haw[3] *mo'opuna* 's.r.', Mqa *moupuna* 'grandchild', Mva *makupuna* 'grandchild', PTa[4] *mokopuna* 's.r.', Man, Mao, Mia, Pen, Rar *mokopuna* 's.r.', Rap *mo'o(tua)* 's.r.', Rng *mo'o(tua)* 's.r.', Tah *mo'o(tua)* 's.r.', Tua *mokopuna* 's.r.', Tub *mo'o(tua)* 's.r.'.

Notes: 1. Follows the Ton vowel pattern. 2. Follows the Ton vowel pattern. 3. Follows PTa vowel pattern. 4. There was a Post PTa innovation to *mokotua* that emanated from the Tahiti area and affected Rng, suggesting that the kinship system there was being affected by Tah by the time of Ottino's (1972) work. ("Tua" is always from Stimson and Marshall (1964) who captured various dialects earlier in the century).

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[61] Marck (1996d:237–238) suggested that the various *mokopuna* and *mo'opuna* pronunciations developed independently, but the necessary assimilation is otherwise rare and the suggestion of a PPn alternate pronunciation now seems to me more likely.

Proto Tahitic seems only to have had the **mokopuna* pronunciation. Later there was another change, to **moko-tua*, that only affected Tahitian and nearby languages (Rapa and Tubuai). The change is also seen in a remote Tuamotuan language, Rangiroa, but its description is rather recent (Ottino 1972), and its kin terms seem otherwise influenced by Neo-Tahitian.

8.3.5.2   (Great)-great-grandchildren

Special words and constructions for great-grandparents and more senior relatives are not often cognate around Polynesia, and the simple grandparent term is often used for more senior generations (see §8.2.1 above). Similarly, in some Polynesian languages, reflexes of PPn **makupuna* 'grandchild' also specify (great)-great-grandchildren. In those languages, there are no special terms for relatives more junior than grandchildren, and this may have been the case in Proto Polynesian and other Polynesian protolanguages. The living languages that show this pattern include at least East Uvean, East Futunan, Anutan, Tokelauan, and Rapanui. This is a small number, but none of my sources for Niuean, Rennellese, Tikopian, Pukapukan, Samoan, Vaitupu, Kapingamarangi, and Nukuoro specify how (great-)great-grandchildren are named and it is possible that some of them follow the pattern of simply using the 'grandchild' term.

Another pattern is one in which there are compounds consisting of the 'grandchild' term plus a number. These occur in at least Tongan, Mangaian, Manihiki, and Hawaiian, as well as in at least some Fijian dialects, but there are formal differences between the number terms (see Table 8.45).

Table 8.45: Some patterns of naming (great-)great-grandparents using numbers

	'g.c.'	'g.-g.c.'	'g.-g.-g.c.'	'g.-g.-g.-g.c.'
Tokatoka Fijian	*makubu*	*m. vaka-rua*	*m. vaka-tolu*	
Tongan	*mokopuna*	*m. ua*	*m. tolu*	
Mangaian	*mokopuna*	*m. rua*	*m. tolu*	
N.Z Maori	*mokopuna*	*m. tua-rua*		
Manihiki	*mokopuna*	*m. tua-rua*	*m. tua-teru*	
Hawaiian	*mo'opuna*	*m. kua-kahi*	*m. kua-lua*	*m. kua-kolu*

The Tongan pattern is formally different from the Fijian, which uses a number term with the prefix **vaka-*. The Tongan pattern is identical to nothing else within Polynesian except Mangaian. This makes Tongan and Mangaian seem to be independent developments. A few East Polynesian languages (Mao, Man and Haw) agree in the use of ordinal numbers (PEP **tua-* 'ordinal prefix') except for the skewing of Hawaiian which starts with 'one', where the others with similar systems start with 'two'.

Recall that numerous Tahitic languages reflect **moko-tua* for 'grandchild', rather than **mokopuna*. Possibly the second element is the PPn **tua-* 'ordinal prefix' seen in the NZ Maori, Manihiki, and Hawaiian constructions. The Hawaiian agreement with the others would seem to be the result of Hawaiian borrowing from Tahitic or a convergence, since there is agreement between Rapanui, other Tahitic, and other Marquesic languages for a competing type of reconstruction meaning (great-)great-grandchild and such. The second group of agreements involve the use of PEP **sina*, which otherwise meant 'grey, grey hair'. This is mentioned in §8.3.1 above, where the '(great-)great-grandparent' terms are used as reciprocals in some languages. The agreements consist of at least those seen in Table 8.46.

Table 8.46: PCE *hina* 'great-grandchild' and *hina-rere* 'great-great-grandchild'

PEP **hina '(great-)great-grandchild'
PEP **hina-rere '(great-)great-great-grandchild'
Eas *hina-rere* 'great-grandchild'
PCE *hina 'great-grandchild'
PCE *hina-rere 'great-great-grandchild'
PMq *hina 'great-grandchild'
PMq *hina-rere 'great-great-grandchild'
Mqa *hina* 'great-great-grandparent'
Mva *'ina* 'great-grandchild', *'ina-rere* 'great-great-grandchild'
PTa *hina 'great-grandchild'
PTa *hina-rere 'great-great-grandchild'
Tah *hina* 'great-great-grandchild', *hina-rere* 'great-great-great-grandchild'
Tub *hina* 'great-great-grandchild', *hina-rere* 'great-great-great-grandchild'
Rap *'ina* 'great-grandchild', *'ina-rere* 'great-great-grandchild' (this language otherwise regularly reflects PCE *h as h and this may be a borrowing from Mva or Rar)
Rar *'ina* 'great-grandchild', *'ina-rere* 'great-great-grandchild'
Mao (*whaka*)-*hina* 'poetical expression for "grandchildren"'

The NZ Maori form *whaka-hina* suggests an origin for the term: 'to make grey' (PPn **faka-* 'causative prefix' + *sina 'grey hair'). Rapanui agrees with the Proto Central East Polynesian reconstruction of *sina-rere, but reconstruction to Proto East Polynesian in the absence of external evidence is problematic, because this could be a borrowing from Tahitian.

8.4 Terms for affinal relatives

8.4.1 Spouses and marriage

There are very few special terms for affines. The general term for spouse and marriage is given in Table 8.47. Tongic languages contain the string *(#,-)hoa-*, which may have come from coalescence of PPn **-hawa-* or may be due to reanalysis of that segment as coming from PPn *soa > PTo *hoa 'friend, companion'. The Proto Polynesian reconstruction is supported by external evidence (PAn *qasawa 'spouse' (Blust 1994)) with the addition of the PPn **-na* common to many kin terms.

Table 8.47: PPn *qahawana 'marry, spouse'

PPn *qahawana 'marry, spouse', PTo **q(a,o)hoana* 's.r.', Niu *hoana* 'wife, marry (of a man)', Ton *'ohoana* 'spouse, husband, wife', PNP *qaawanga 's.r.' , Anu *aavanga* 'marry', EFu *'aavaga* 'spouse, marry', EUv *'aavaga* 'spouse, marry', Mae *avaga(ina)* 'marry', MFa *avaga* 'married', Ren *'aabanga* 'marry, elope, spouse', Tik *aavanga* 'marry', WFu *avanga* 'marry', WUv *avanga* 'marry', PEc *qaawanga 's.r.', Sam *avaa* 'wife', *aavaga* 'elope', PEcO *qaawanga 's.r.', Tuv *aavaga* 's.r.', Kap *awanga* 'wife', Nan *aavaga* 's.r.', Sik *aavana* 'spouse, marry', Tak *avana̠* 'marry', *aavana* 'spouse', Vai *aavaga* 's.r.'.

Note: There are also the irregular Mq correspondences: Mqa *'ahana*, *vahana* 'spouse, marry', Mva *ahana* 'husband'.

Biggs (1994a) gives most of the evidence cited in Table 8.47 and reconstructs PPn **qa-hawa(n,ng)a* 'marry, spouse', while I here assert that it ended in the common **-na* kin suffix of Proto Polynesian, rather than the PPn **-nga* 'nominaliser'. Proto Nuclear Polynesian seems

to have changed to the *-nga* ending (Samoan drops the final *-na* and lengthens the remaining final vowel, like it does in other kin terms). We might wonder if there were competing forms *qaahawanga* and *qaahawana* in Proto Nuclear Polynesian with some difference in meaning, but it is not clear to me what those differences may have been.

Whether the Marquesic forms are related to the others is difficult to say. It is a curious agreement, with both Marquesan and Mangarevan having irregular retention of PPn *h*, metathesis and loss of the round vowel (if they are related).

Some Tahitic languages, Mangarevan and Hawaiian use reflexes of **fafine* 'woman' to mean 'wife, wife's sisters, man's brother's wives; women eligible to become ego's wife'; and some Tahitic and Hawaiian use reflexes of **taqane* 'man' to mean 'husband, husband's brothers, woman's sister's husbands; men eligible to become ego's husband' (Tables 8.48 and 8.49).

Table 8.48: PCE **taane 'husband, etc.'

PCE **taane 'husband, husband's brothers, woman's sister's husband; men whom a woman is potentially eligible to marry (men not called by some consanguineous term)', PMq **taane 's.r.', Haw[1] *kaane* 'man, husband, brother-in-law of a woman', PTa **taane* 's.r.', Tah *taane* 'male, husband, husband's brothers and male cousins', Mao *taane* 'man, male, husband'.

See also Sam *taane* 'husband' (possibly a convergent development).
Note: 1. PCE and PMq, reconstructions cannot be made since (i) neither Mqa nor Mva have reflexes of a would-be PCE and PMq **taane 'husband, man' and (ii) the Haw form is a possible borrowing from TA.

Table 8.49: PCE **wahine 'wife, etc.'

EFu *fafine* 'femme (woman, wife), man's sister-in-law'
Nan *fafine* 'woman, wife'
PCE **wahine 'wife, wife's sisters, man's brother's sisters; women whom a man is potentially eligible to marry (women not called by some consanguineous term)', PMq **wahine 'wife, wife's sisters, man's brother's sisters; women whom a man is potentially eligible to marry (women not called by some consanguineous term)', Haw *wahine* 'woman, wife; sister-in-law or female cousin-in-law of a man', Mva *ve'ine* 'wife', PTa **wahine* 'wife, wife's sisters, man's brother's wife; women whom a man is potentially eligible to marry', Tah *vahine* 'female, wife', *vehine* 'wife's sisters and female cousins', Mao *wahine* 'woman, female, wife'.

This is also true of Samoan but is there somewhat restricted and not considered polite (used in familiar styles, such as between the spouses themselves). The **fafine* reflexes are used for 'wife' in East Futuan and Nanumea. Since these could so easily be convergent developments, I have not made any reconstructions higher than the Proto Tahitic level.

The common "Futunic" Outlier term is found in at least the languages given in Table 8.50.

Table 8.50: "Futunic" Outlier **nofine* 'wife'

P?? **nofine* 'wife'
 Anu *nopine* 'wife'
 MFa *nufine* 'old woman, wife'
 Pil *nofine* 'wife'
 Tik *nofine* 'wife'
 Tau *nohine* 'wife'
 WFu *nofune* 'old woman'

Note: R. Clark as cited in Biggs (1994a) with additional data from Tau. Marck (1996d:Table 50) read "**nopine*".

Since there are no cognates outside the "Futunic" Outliers, borrowing becomes an appealing explanation for the distribution; it may have occurred in the context of wives being exchanged between the various groups.

Special terms are given by some sources for co-spouses, which normally meant co-wives, but in some instances referred to co-husbands. It is only between Central East Polynesian languages, however, that agreements allow for reconstruction (Table 8.51).

Table 8.51: PCE *puna-rua* 'having two spouses; polygamy'

PCE *puna-rua* 'having two spouses; polygamy' (Biggs 1994a)
PMq *puna-rua* 's.r.'
Haw *punalua* 'spouses sharing a spouse'
Mva *punarua* 'one who does not like children of first wife'
PTa *puna-rua* 's.r.'
Mao *punarua* 'polygyny'
Rar *punarua* 'having two wives or husbands'
Tah *punarua* 'person with two spouses'
Tua *punarua* 'pair together, bring together'

8.4.2 Siblings-in-law

Ego's same-sex siblings-in-law were named with a special word in all the main protolanguages, and one's behaviour toward them approximated the restraint and avoidance shown to cross-sex siblings in those Polynesian societies that had brother-sister avoidance (Firth 1970:282–285). The Proto Polynesian reconstruction in Table 8.52 and the Proto East Polynesian reconstruction in Table 8.53 for 'ego's same-sex sibling-in-law' were made by Kuroiwa (1975). My own reconstructions for the other protolanguages are also given in those tables, with further supporting evidence from Biggs (1994a) and the kinship database.

Table 8.52: PPn *maqa* 'ego's same-sex sibling-in-law'

PPn *maqa* 'ego's same-sex sibling-in-law', PTo *maqa* 's.r.', Niu *maa* 'spouse's siblings and spouse's siblings' spouses', Ton *ma'a* 'woman's brother's wife, wife's brother', PNP *maqa* 's.r.', Anu *maa* 's.r.', EUv *ma'a* 's.r.', EFu *ma'a* 's.r.', Ren *ma'a* 's.r.', Tau *maa* 's.r.', Tik *maa* 's.r.', PEc *maqa* 's.r.', Tok *maa* 's.r.', PEcO *maqa* 's.r.', Nan *maa* 's.r.', Nuk *maa* 's.r.', Oja *maa* 's.r.', Vai *maa* 's.r.'.

The resemblance of PPn *maqa* 'ego's same-sex sibling-in-law' to PPn *maa* 'feel shame' has been noted by Kuroiwa (1975), and the resemblance of their pronunciations in modern languages was earlier noted by numerous ethnographers (the words have no difference in pronunciation in the many languages that lose the PPn glottal stop). We have no other example of PPn glottal stop being inserted to create a minimal pair, and cannot, on linguistic grounds, show a regular derivational process whereby the term for "feel shame" would be the origin of the Proto Polynesian word for "ego's same-sex sibling-in-law". Still, it is a reasonable possibility and the *maqa* term is absent in East Polynesia where extreme avoidance behaviours are also absent.

Table 8.53: PEP *ta(q)okete* 'ego's same-sex sibling-in-law'

PEP *ta(q)okete* 'ego's same-sex sibling-in-law', Eas *taokete*[1] 's.r.', PCE *taokete* 's.r.', PMq *taokete* 's.r.', Haw *(kai-)ko'eke* 's.r.', Mqa *tokete* 's.r.', Mva *tokete* 'sibling-in-law', PTa *taokete* 's.r.', Mao *taokete* 's.r.', Mia *taokete* 'sibling-in-law', Rap *tau-ate* (possibly *tao'ete*) 's.r.', Rar *taokete* 's.r.', Rng *tao'ete* 'sibling-in-law', Tah *tao'ete* 's.r.', Tua *taokete* 's.r.', Tub *tao'ete* 'sibling-in-law'.

Note: 1. The Eas form is suspected of being a borrowing from Tah because it lacks the glottal stop. However, Eas commonly loses the glottal stop between low vowels and a low and a mid vowel (see §2.3.5) so this Eas form is not necessarily a borrowing. More generally, it is a conclusion of this chapter that Eas kin terms have been little affected by Tah as seen in those instances when history has left us some way to tell the difference.

The East Polynesian form for "same-sex sibling-in-law" (Table 8.53) is a continuation of PPn *taqo-kete* 'same-sex sibling' which was previously discussed in §8.3.3.4 of this chapter.

8.4.3 Children- and parents-in-law

The evidence for PPn *fungaona* 'child-in-law' is given in Table 8.54. Geraghty and Pawley (1981) reconstruct PCP *vugao-* 'parent/child-in-law', and there is evidence from Western Polynesian and Outlier languages that it may have remained a reciprocal term in Proto Polynesian, Proto Nuclear Polynesian and Proto Ellicean (see Table 8.55). But there is also good evidence that a related term, PPn *fungawai* 'parent-in-law' (see Table 8.56), had come into use, and that the older term referred more commonly to 'child-in-law' in its primary usage (but may have meant 'parent-in-law' in a secondary or perhaps reciprocal sense).

Table 8.54: PPn *fungaona* 'child-in-law'

PPn *fungaona* 'child-in-law', PTo *f(u,i)ng(a)ona* 's.r.', Niu *figona* 's.r.', PNP *fungaona* 's.r.', EFu *fugaao* 's.r.', Ren *hunga* 's.r.', Tau *hungo* 's.r.', Tik *fongoona* 's.r.', WFu *fugona* 'child-in-law; niece, nephew', PEc *fungaona* 's.r.', Tok *funaoga* 's.r.', PEP *hungaona* 's.r.', PCE *hungaona* 's.r.', PMq *hungo(o)na* 's.r.', Haw *huunoona* 's.r.', Mqa *hukona* 's.r.', Mva *'ungona* 's.r.', PTa[1] *hunaonga* 's.r.', Man *hunonga* 's.r.', Mao *hunaonga* 's.r.', Mia *'unonga* 's.r.', Pen *hunonga* 's.r.', Rap *huno'a* 's.r.', Rng *huno'a* 's.r.', Tah *hunoo'a* 's.r.', Tua *hunoonga* 's.r.', Tub *huno'a* 's.r.'.

Note: 1. Ta other than Mao reflects *hunoonga*.

Table 8.55: Reflexes of PPn *fungaona* 'in-law' as a reciprocal

EFu *fugao* 'affine'
Anu *pungona* 'parent-in-law, child-in-law'
Sik *hunaauna* 'parent/child-in-law'
Oja *hingaunga* 'parent/child-in-law'
Haw *huunoo-* 'relationship between parent and child-in-law'.

Table 8.56: PPn *fungawai* 'parent-in-law'

PPn *fungawai* 'parent-in-law', PTo *fungawai* 's.r.', Niu *fungavai* 's.r.', PNP *fungawai* 's.r.', Ren *hungabai* 's.r.', Tau *hongovae* 's.r.', Tik *fongovai* 's.r.', WFu *(shina)-havai* 'mother-in-law', PEc *fungawai* 's.r.', PEP *hungawai* 's.r.', PCE *hungowai* 's.r.', PMq *hungoai* 's.r.', Mqa *(mot)ukoai* 's.r.', Haw *huunooai* 's.r.', PTa *hungowai* 's.r.', Mao *hungawai* 's.r.', Rar *oongai* 's.r.', Tah *ho'ovai* 's.r.', Tub *hoovai* 's.r.'.

Note: *-u(C)o-* > Mao *-u(C)a-* (Biggs 1994a).

Although Biggs (1994a) reconstructs PPn **fungaona* 'affine', I think we can say that 'child-in-law' was its primary sense and that it contrasted with PPn **fungawai* 'parent-in-law'. Pawley (pers. comm.) notes that it is suspicious that whenever PPn **fungawai* was replaced, the replacement was with a reflex of **fungaona*. Thus it seems that PPn **fungaona* continued to have a secondary sense of 'parent-in-law' or the reciprocal relationship.

There are no reconstructable terms for affines of the second or greater ascending or descending generations. There are no reconstructable terms for 'child's spouse's parents'.

8.5 Conclusions

Clark (1975:86), commenting on the history of the sibling terms in Polynesian languages, relates that:

> all the developments in the attested languages can be accounted for in terms of two processes: (1) replacement of terms by forms other than the original four;[62] (2) elimination of semantic distinctions. The semantic simplifications...seem to follow a single sequence: the elder-younger distinction for same-sex siblings is lost first, then the male-female distinction for cross-sex; and finally the same-different sex distinction, leaving a single term.

These generalisations about Polynesian sibling terms can be applied in a general way to Polynesian kin terms as a whole. The ancestral system seems to have been more complex than that presently found in East Polynesia, many Outliers, and Samoa. By "complex" I simply refer to a situation in which one language has more distinctions than another.

Some distributions involving more complex distinctions are limited to Tongic and languages that have been influenced by Tongic. James Fox's (pers. comm.) suggestion to me that Tikopian may have some borrowings of East Uvean and Tongan kin vocabulary, like Anutan (see Feinberg 1989), led me to examine Tikopian vocabulary in general. This resulted in the finding that Tikopian shares about twenty-five percent of the probable Anutan borrowings from East Uvean and Tongan (§4.3.3). This may be due to Tikopian borrowing from Anutan, or to Tikopian borrowing directly from East Uvean or Tongan.

Then there is another group of words that are found mainly in Tongic, or in languages known to have borrowed from Tongic, but that are also found in Rennellese. The agreements consist of apparent reflexes of PPn **taqo-kete* 'same-sex sibling', **fosa* 'man's son', and **taqa-hine* 'girl'. The fact that Rennellese has these forms suggests that they should be reconstructed for Proto Polynesian, as well as for Proto Tongic and Proto Nuclear Polynesian. Either Rennellese has a splendidly conservative kin term system or, like Anutan and Tikopian, it has borrowed from a language more similar to Tongic, East Futunan, or East Uvean, than to Ellicean. The situation invites continuing study of the specific genetic relations of Rennellese. My present impression is that these distributions are best explained as shared losses of other "Futunic" Outliers or that Rennellese diverged earlier than the rest.

Like all other areas of vocabulary, East Uvean shows borrowing from Tongan in its kin terms. But whereas doublets are often to be found in the other areas of vocabulary, I know of no doublets among the kin terms.

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[62]   Note that I have here suggested an additional two: PPn **taqo-kete* 'same-sex sibling' and **kawe* or **weka* 'cross-sex sibling'. Some of the replacements of Clark's model are then reclassified as retentions.

There are occasional East Futunan agreements with East Uvean, Tongic, (and Rennellese) where no cognates or loans are known from the rest of Polynesia. But the overall system in East Futunan seems little affected by East Uvean or Tongic, just as Burrows (1936) noted generally about the culture at various points in his ethnography of East Futuna.

Samoan is the most innovative high-island language with respect to kin terms. Most of the changes of Samoan seem to have occurred after the divergence of East Polynesian and Ellicean Outlier and involve loss or semantic change. However, some are shared with Ellicean Outlier and not East Polynesian. Such agreements are usually losses shared by Samoan and Ellicean Outlier that may simply be the result of independent simplifications.

Tokelauan shares some words with Samoan that it does not share with Tuvalu, Ellicean Outliers or East Polynesian. Some of these may be shared retentions. Some may be recent Samoan loans in Tokelauan, but when they follow the Proto Polynesian pattern, it is difficult to determine whether a form is a shared retention or a Post Proto Ellicean borrowing from Samoa. In general, the history of Tokelauan kin terms gives further evidence for the notion (§5.7) that Tokelauan should be grouped with Samoan separate from other Ellicean.

Tuvalu has a reflex of PPn *taqo-kete* 'same-sex sibling' that other Ellicean Outliers do not seem to have.[63] This may be a late borrowing from "Futunic", or it could be direct inheritance. Just as Tokelauan may have late borrowings of kin terms from Samoa, Tuvalu could have Post Proto Polynesian borrowings from Tongic, East Uvean, and/or East Futunan, but regular inheritance from Proto Polynesian, Proto Nuclear Polynesian and Proto Ellicean are possible explanations in every instance.

The "Futunic" Outliers have only the *nofine* 'wife' word, which they share with no other languages. Like the study of shared sporadic sound changes, the impression with kin terms is one of early divergence of these languages from the Nuclear Polynesian homeland area.

The little-documented Taumako was classified by Bayard (1966, 1976:81) as an Ellicean Outlier, but was not so classified by Pawley (1967), Howard (1981), and Wilson (1985:89). It seems on the basis of kin terms and shared sporadic sound changes to be "Futunic" (unclassified) rather than Ellicean or Ellicean Outlier. It retains many Proto Polynesian kin terms not found in Ellicean Outlier, and is thus an important independent witness to Proto Polynesian.

The kin terms of only two Ellicean Outliers were well described by the classic ethnographers: Ontong Java (Luangiua) (Hogbin 1931b) and Kapingamarangi (Emory 1965:111–118). Both of these languages and the bits of other Ellicean kin terms given by Bayard (1976:123–124) suggest massive simplifications in Outlier Ellicean after their divergence from Tuvalu. But some of them are not described, and it is not safe to make such a conclusion at the present time.

Niuean shares two features with Tahitic that may be borrowings.[64] These are the prefixing of *kainanga* 'social group' with *mata-*, and the naming of the grandfather as *tupuna taane*. Still, Niuean retains many elements of Proto Tongic that were inherited from Proto Polynesian, and remains an important witness for Proto Tongic and Proto Polynesian.

Rapanui kin terms seem unaffected by loans from Tahitic or Marquesic when such matters are determinate. In every instance where Tahitian or Marquesan have sporadic sound changes in their kin terms, the corresponding Rapanui term shows only regular correspondences to Proto East Polynesian.

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[63]   Although kin terms are largely unpublished from some of the Ellicean-speaking islands.

[64]   R. Clark (pers. comm.) warned me to be alert for Niuean borrowings from Ta. See McEwen (1970:viii–ix).

Hawaiian has the sporadic sound changes of Marquesic in general: loss of second vowel of *tua-ngaqane* 'woman's brother' *((kai)-ku-naane)*, loss of the second syllable of *tama-qiti* 'child' *(keiki)*, loss of the first vowel of *taqo-kete* 'ego's same-sex sibling-in-law' *((kai)-ko-'eke)* (or coalescence and loss of length), coalescence of the diphthong of *fungaona* 'child-in-law' *(huunoona)*, and coalescence of the second vowel with the semivowel of *fungawai* 'parent-in-law' *(huunooai)*. Some of these changes can also be observed in some Tahitic languages, but none can be attributed to Proto Tahitic. All seem to have been features of Proto Marquesic and the simplest explanation for their presence in Hawaiian is that it is a Proto Marquesic daughter.

There are also some features that Hawaiian shares with Tahitic, normally under circumstances where the situation in Proto Marquesic is not certain, due to lack of Marquesan or Mangarevan cognates.[65] These consist of the use of *kaane* (PPn *taqane*) as the masculine qualifier in the 'grandfather' construction, the use of the *maka-hiapo* construction to indicate the firstborn, the shift of the vowels in the 'grandchild' word from *maku-* to *moko-*, and the use of *taqane* 'man' to also name a husband or woman's brother-in-law.

While we cannot say that Hawaiian has or has not borrowed Tahitic kin terms, it is a very different situation from comparison of terms and motives from comparative cosmogony (Marck 1996b, 1996c and Chapter 7 above). In the instance of the cosmogony study, little could be found of the Marquesic pattern at all, and a Tahitic pattern prevailed. This is consistent with a situation in Hawai'i where the Tahitian immigration of about AD 1200 gave rise to a different cosmogony and general mythical focus validating the status of new chiefs from Tahiti, but did not result in abandonment of idiosyncratic Marquesic pronunciations of kin terms. This reflects, perhaps, a difference in the extent of Tahitic-induced change in Hawaiian political life as opposed to household life.

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[65] So the question of direct inheritance from PCE and PMq, or indirect inheritance from Ta, cannot be resolved.

9 Conclusions

Three elements of Polynesian culture history have been considered: 1. linguistic subgrouping, 2. cosmogony and 3. kin terms. The results have been: 1. a more refined statement of Polynesian language phylogeny and linguistic borrowings, 2. an outline of cosmogonic traditions which seem most likely to have been current amongst speakers of the main protolanguages and 3. a statement of what kin terms seem to have existed in the main protolanguages.

In this concluding chapter I first return to the subject alluded to in the preface and introductory materials (language and archaeology) and blend a synthesis based on those disciplines (and demography as well) and, finally, make a few comments about the findings of Chapters 7 (cosmogony) and 8 (kin terms) in relation to Ancestral Polynesian Society, the socio-cultural complex of the Proto Polynesian speakers.

9.1 Language, archaeology and demography

9.1.1 Western Polynesia

Archaeologists now date the initial appearance of Lapita-making peoples in Fiji (Anderson & Clark 1999) and Tonga (Burley, Nelson & Shutler 1999) to about 2850–2700 B.P.[1] (900–750 BC) and 2850–2800 BP (900–850 BC) respectively. The geomorphology of Samoa presents difficulties for identifying archaeological sites from that period, but occupation at that same time by those same people can be assumed on general systematic grounds. In the case of Tonga these dates were arrived at exclusively through AMS[2] radiocarbon dating on charcoal, and in the instance of Fiji the same method was central to a more general argument. These dates will surely be the continuing benchmark against which linguists will have to measure the time-frame of initial occupation in Fiji and Western Polynesia as they represent the culmination of long and arduous work by the archaeologists in understanding the Oceanic Lapita horizon and refining their methods to date it.

Pawley (1996) gives a standard glottochronological estimate for the divergence of Fijian and Polynesian (according to the rates of word replacement calculated on the basis of Indo-European and Semitic): 1450 BC (with rather large plus or minus ranges at that time depth), something we can now attribute to the centuries immediately following settlement at

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[1]   BP – "before present", the convention for "present" being the year 1950.

[2]   Atomic Mass Spectrometry, an improvement in the basic radiocarbon method that, along with being more accurate, can make age determinations on smaller bits of carbon relative to previous methods.

about 900 BC. So the rate of change for Fijian and Polynesian seems to be slightly faster than in those other cases.

The period of Polynesian linguistic unity prior to substantial internal diversity has been estimated by linguists to be about one thousand years (Grace 1964:366, Pawley 1970, and especially Pawley 1996:391–399). The period of linguistic unity in Western Polynesia occurred from the beginning and well towards the end of what has come to be called "The Pause" or "The Western Polynesian Pause" in Polynesian prehistory. It is that period after which settlement is demonstrable on archaeological grounds in Western Polynesia, and before which settlement is demonstrable in East Polynesia. Like the independently developed estimate of Polynesian linguistic unity, its length is about one thousand years or more.

The outstanding linguistic characteristic of the Western Polynesian Pause was the unity of language through Western Polynesia (Pawley 1996) until some time towards the end of that period. Linguists generally refer to "social contacts" as being responsible for such continuities, that is, the sharing of innovations over space and time (e.g., Pawley 1966:401). By "contacts" they generally mean "migration" in the sense that demographers use that term (a change of residence over some socio-economically significant distance). Languages do not enjoy mystical cohesion. It could only have been face to face relations of people with a vibrant migratory regime that spread linguistic innovations straight through all the dialects of ancient Tonga, Samoa, East Uvea, East Futuna and the smaller islands between them. In such a situation we would be concerned with "internal migration"[3] of sufficient magnitude to have passed the linguistic innovations of the various islands on to the others.

Most types of migration,[4] especially in traditional societies, are organised through kin networks (Anthony 1990:895). We have seen (§8.2.1) that the Proto Polynesian clan, *kainanga*, continued an older Oceanic social group of the same name. While the form and function of kinship groups certainly transformed/evolved during the Pre Proto Polynesian period I am not so concerned with *what* they were as with *where* they were. We can be reasonably confident that some clans were spread over more than one island group in Western Polynesia, just as we find some of the same clans (Proto Micronesian *kainanga*) spread from the Marshalls, through Pohnpei, Chuuk and into the Chuukic-speaking atolls of Western Micronesia. This is of moment because the motives of consanguineous kin for accepting linguistic innovations are ontologically different than accepting those of affinal kin or other social groups. In the latter instances one accepts innovations to affirm the equivalence of groups. In the former one accepts innovations to affirm membership in one's own. I suggest that we must posit substantial circular or stream migration internal to Western Polynesia during the Pause which would have been organised around consanguineous affiliations. Differences in speech that arose over time and space would have been adopted *within* those groups *across* various islands and *between* those groups *upon* any particular island. We might also imagine affinal or more general social motives for internal migration since these are readily apparent from ethnographic analogy, but the consanguineous motives are not.

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[3]   Migration within some (geographical) area of study.

[4]   "Migration", in its usage amongst demographers, is generally a mass noun and not pluralised. One might speak of "periods of migration from A to B and C" but would not usually speak of "migrations from A to B and C".

As time went on there was probably a shift in ethnicity, in the sense that where people may originally have viewed themselves in the first instance as members of a particular clan (which was spread through Western Polynesia as a whole), this identity would have declined in importance over time as one's social world (and language) became more grounded in one's particular island of birth or residence. This would have happened incrementally and as a natural consequence of population growth, but the process seems to have accelerated and rather abruptly ended the Pre Proto Polynesian period just before the period in which East Polynesia was settled.

Figure 9.1 shows what I take to be the general relationship between language unity and demography in Western Polynesia during the first thousand years of the Pause. Kirch (1984) emphasised that evidence of Tongan populations making use of the more marginal land environments does not appear until the early first millennium AD and posited that natural population growth in the first millennium BC was very low. From the evidence of linguistics, it would seem that during that period and while population was low, internal migrants remained above some critical proportion of the population as a whole, and continuities in language through the area were profound. Then, after about a thousand years, local populations began to burgeon and migrants declined absolutely or relatively such that they no longer sustained such a high degree of linguistic unity. As that decline in internal migration occurred only slightly before the effective settlement of East Polynesia (by linguistic reckoning, Chapter 6), one is left to wonder if they both had their basis in larger, more competitive populations.

There were important environmental changes at about that same time (about two thousand years ago) in the form of emerging atoll groups (Nunn 1994), such as Tuvalu, becoming habitable for the first time. These changes may have stimulated and facilitated the end of the Western Polynesian Pause. The divergence of East Polynesian from Samoan occurred at about the same time as the divergence of ancient Tuvaluan, and the settlement of Tuvalu established the northwestern boundary of Western Polynesia with Micronesia. Certain fishhook types are known only from Micronesia and, archaeologically, in Tuvalu and East Polynesia (Anell 1955, Reinman 1970 and Takayama 1987). Possibly this distribution is a result of contacts at about the time of East Polynesian settlement; and we might also wonder if Micronesian navigational techniques had anything to do with stimulating the exploration and settlement of East Polynesia.

Finally, I will mention that there is no obvious linguistic artefact of continuing "stream migration" into Western Polynesia from Fiji or other parts of Melanesia after the initial settlement period. Although contacts with the outside world can be assumed, there is little linguistic evidence of such uncovered to date. We might wonder if the earliest Polynesians rather quickly organised to prevent continuing immigration, but such may not have been necessary. The Lapita horizon in Eastern Melanesia consists of a rather sudden intrusion into the area (Anderson & Clark 1999 summarise current evidence), and the first millennium demographics of the Southeast Solomons, Vanuatu, Fiji, New Caledonia (e.g. Sand 1997) and other potential sources of emigration to Polynesia may have been little more mature than that of early Western Polynesia itself. Possibly there was no advantage in going to Polynesia, it being at the same general point of population growth and expanding environmental exploitation as localities around Eastern Melanesia.
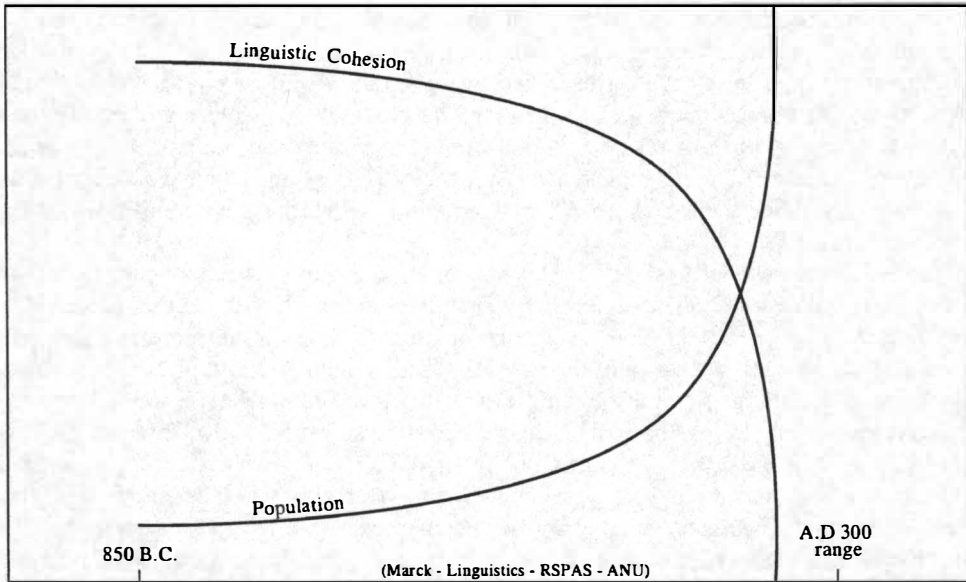
Figure 9.1: Theoretical relationship between linguistic continuity and demography in Western Polynesia

9.1.2 East Polynesia

On the matter of dating the divergence of East Polynesian, there is nothing like the happy situation for Fiji–West Polynesia where the archaeological evidence now seems so clear for the initial period of settlement. Pawley (1996:398), running a standard glottochronological estimate, obtained a most probable date of AD 150–200 for the separation of East Polynesian from other Polynesian, a date which is about one thousand years after the archaeologically defined settlement of Western Polynesia at about 900 BC. We have seen that Polynesian glottochronological scores follow a slightly different curve than used by Pawley, so we might allow that the "corrected" glottochronological age of the East Polynesian divergence is more about AD 300–400.

Spriggs and Anderson (1993) have reviewed the archaeological evidence for the earliest settlement of East Polynesian islands and provide a conservative assessment of radiocarbon dates for the various localities. They conclude that, in the main, East Polynesian localities initially show good evidence of settlement in the period AD 600–950 except for New Zealand which was not settled until AD 1000–1200. They posit a continuing push of population from Western Polynesia once East Polynesia was settled, and a pulling of population about central and then "peripheral" East Polynesia "by continuing expectations of rich, easily exploited reserves of pristine faunal resources" (1993:211, 214).

Spriggs and Anderson's (1993) work asked if the radiocarbon evidence supported such work as Bellwood (1987), Irwin (1992), Kirch and Green (Kirch 1984, 1986, Green 1988 and Kirch & Green 1987) who variously posit settlement in the first millennium BC soon after the settlement of Western Polynesia (Irwin 1992); settlement in the late first millennium BC or early first millennium AD after a pause in Western Polynesia (Kirch 1984, 1986, Kirch & Green 1987); or by about AD 300 (Bellwood 1987). Here I argue that the general

synthesis of archaeological and linguistic evidence favours dates of no later than AD 300–400 for East Polynesian settlement, as does the "corrected" glottochronological estimate (above). I arrive at that synthetic estimate by taking the divergence of NZ Maori from other Tahitic to be about AD 1100. We need a period of seven to eight hundred years before that to account for the innovations of Proto Tahitic (two hundred to three hundred years or more) and Proto East Polynesian/Central East Polynesian (five hundred years, Chapter 6).

Three distinct protolanguages existed in East Polynesia before the divergence of NZ Maori from the rest of Tahitic—Proto East Polynesian, Proto Central East Polynesian and Proto Tahitic—and all took some hundreds of years to develop. The time necessary to account for their individual development easily takes us back to the AD 300–400 period for the effective settlement of East Polynesia by that sort of linguistic reckoning.

The divergence of East Polynesian from the rest of Ellicean no earlier than AD 600 would leave us with an Ellicean group much younger than Romance, and the languages concerned seem certainly to be related at a time depth more on par with Romance. But the relationship of East Polynesian to particular languages in Western Polynesia and the Outliers was not at all obvious and was only teased out gradually (Elbert 1953, then Pawley 1966, then Wilson 1985 and now §5.6 and Marck 1999). If divergence occurred as recently as AD 600 the relationship would have been more obvious.

As in Western Polynesia, the linguistic evidence suggests little "stream migration" into East Polynesia after the initial settlement period. While continuing contacts of various sorts with Western Polynesia can be assumed, there seems to have been early linguistic isolation and a "founder effect" due to a small population (Tables 5.5 and 5.6 and associated discussion).

Subsequent to Spriggs and Anderson (1993), many of the works which comprise Weisler, ed. (1997) give evidence of a period of vibrant material culture exchange through central East Polynesia, and extending over to Samoa, at about AD 900–1500. The same works continue the generally bleak picture for good dates and widespread settlement in the mid-first millennium AD. Exchange seems to have flourished during the later period and then generally ceased, some islands even abandoning the manufacture of canoes by the historic period (e.g. Mangareva (Weisler 1997:170 citing Hiroa 1938b) and Rapanui had not even trees by the time of Western contact). But we can be sure that the period of material culture exchange AD 900–1500 was not also the period of East or Central East Polynesian unity. Any intense diffusion of linguistic innovations through the centre had broken down by that time, at least between the Marquesas and the Societies, and there is no obvious linguistic trace of central East Polynesian trade with Samoa at that time. The only exception to that assertion are the high lexicostatistical scores (Pawley 1996:Table 2) of Rarotongan and NZ Maori (which diverged towards the middle of the period in question) with Western Polynesian in general and Tuvaluan in particular. So possibly there was a corridor from the Tuvalu–Samoa area to the Southern Cooks, with sufficient demographic exchange that there was a bias towards sharing the same retentions (but this is not obvious from loans). But this is not the kind of observation that would impress most linguists and only points the way to further work. Finally, the role of Niue should not be overlooked. If there is any tendency to view Niuean as having been influenced by East Polynesian, and not vice-versa, we need to recall (§4.3.9) that Proto East Polynesian and Proto Central East Polynesian had borrowings from Tongic, and that one of the forms is specifically Niuean.

9.2 Ancestral Polynesian Society

"Ancestral Polynesian Society", as that term is used by certain archaeologists (cf. Kirch 1984), coincides roughly with the culture and society of the Proto Polynesian speakers. The equivalence is not exact for a number of methodological and historical reasons, but, in general, when archaeologists speak of "Ancestral Polynesian Society" they refer to Polynesian society after its long period of common development and before it had substantial internal diversity, rather equivalent to how Proto Polynesian speech is defined.

In this work I have considered the prehistory of cosmogonic traditions and kin terms from a linguist's point of view. In the instance of cosmogony, it was clear that a variety of specific beliefs can be attributed to members of Ancestral Polynesian Society (Chapter 7). In most instances these are specifically Polynesian beliefs, unknown from elsewhere, and so seem to have developed in Polynesia. On the other hand, kin terms (Chapter 8) in the main continue usages extant upon arrival of the earliest Polynesians. The terms for siblings, parents, grandparents and grandchildren, go back to a time before Polynesians arrived in Polynesia. However, by Proto Polynesian times the kin terms included words for which external cognates are not known. Some may simply have been Polynesian replacements for relations that were named previously. But others are suggestive of elaboration since it is not clear Proto Oceanic had special names for such relations. Terms for the father's sister, a man's sister's child, a man's son and man's daughter versus a woman's son and woman's daughter, and terms for "same-sex sibling" (in addition to those which continued distinctions for relative age) and "cross-sex sibling" (in addition to those which continued distinctions for relative sex) fall into this category.

In addition to saying something about the content of tradition and social organisation in Ancestral Polynesian Society, I have made arguments as to how and why it began its internal diversification. We can be reasonably sure that Proto Polynesian disintegrated due to changes in patterns of migration internal to Western Polynesia. For a very long period of time, from about 900 BC to about AD 100–300, migration internal to Western Polynesia (combined with attitudes towards migrants and their speech) was sufficient to sustain a highly unified speech community through Western Polynesia (less Niue, Tuvalu and the Tokelaus). This highly unified linguistic situation broke down due to an absolute or relative (to overall population) decline in migrants and, we might venture, a feedback process where as they declined, so too did the acceptability of linguistic innovations they brought with them.

Appendix A:
The Tongic reflexes of PPn *l *and* *r

In materials that follow, I shall present evidence for the correspondences of the Proto Polynesian liquids to Proto Central Pacific and Proto Oceanic liquids. These observations and conclusions can be represented in tabular form as follows:

Table A.1: Correspondences of the POc, PCP, PPn and PTo liquids

POc	*l	*r	*dr
PCP	*l	*r	*dr
PPn	*l	*r	*l[2]
PTo	*l	*-,l[1]	*l

Notes: 1. *l is the dominant reflex between like vowels where the PPn word began with a stop other than *q. May have become *l in PPn rather than PTo. Our method cannot distinguish. 2. *r is known from a few forms.

Milner (1963) first considered this problem and Geraghty (1986:Table 4) summarises the correspondences of liquids in Central Pacific languages as follows:

Table A.2: Geraghty's (1986) CP liquid correspondences

PCP	*r	*dr	*l
PFJ	*r	*dr	*l
PPn	*r,*l	*r,*l	*l

The PPn *r and *l distinction, in the main, continues a distinction known from Proto Central Pacific, Proto Oceanic and higher order protolanguages. It will be shown here that one of the Proto Oceanic liquids (POc > PCP *dr) generally became PPn *l, a fact not previously recognised in the literature.

A further problem not clarified in the literature is that Tongan and Niuean often have doublets, one of each pair losing PPn *r and one reflecting it as l as was considered in §5.2.1. Biggs (1978:705) alluded to this, Rensch (1987:fn.4) has noted as much, and Biggs (1992, 1993, 1994a) now reconstructs PPn *r in the case of such Tongic doublets.

Tongic evidence concerning PPn *r or *l is necessary for the reconstruction of the precise Proto Polynesian liquid because Nuclear Polynesian merged the two sounds and only Tongic shows a difference, PPn *l going to PTo *l and PPn *r being lost in Tongic, showing doublets with loss in one pair of a doublet and retention as l in another or being retained where Niuean shows loss. Biggs (1992, 1993, 1994a) now reconstructs the Proto Polynesian liquids as follows:

PPn	*l	*r
PTo	*l	*-, *-/*l

Doublets are a common result of borrowing, and the doublets of Proto Tongic are probably due to loans from Nuclear Polynesian.

The evidence for the correspondence of Polynesian liquids to external evidence is considered in the following sections.

A.1 Proto Polynesian *l from Proto Oceanic and Proto Central Pacific *l

We will examine the *Pollex* (Biggs 1992) data by first considering the more regular situations and the reasons for the notion that POc *l > PCP *l > PPn *l. These are based on such agreements as seen in Table A.3.

Table A.3: Correspondences of PPn *l with POc *l

POc *pili(q) 'choose, select' > PBN *vili, PMC, PCP *fili 's.r.[1]' > Bau vili 'pick up scattered
    things', PPn **fili** 'choose, select' > Ton fili, Niu fifili 's.r.'.
POc *jalan 'road, path' > PMC *ala, PBN *thala, PCP *sala > Bau sala, PPn **hala** > Ton, Niu
    hala 's.r.'.
POc *keli(q) 'dig' > PBN *geli, PMC, PCP *keli > Bau keli, PPn **keli** > Ton, Niu keli 's.r.'.
POc *kulit 'skin' > PBN *ghuli, PMC, PCP *kuli > Bau kuli, PPn **kuli** > Ton, Niu kili 's.r.'.
POc *lalo(m) 'inside' > PBN, PMC, PCP *lalo > Bau lalo 's.r.', PPn **lalo** 'below, under' > Ton,
    Niu lalo 's.r.'.
POc *langi(t) 'sky' > PMC, PCP *langi > Bau lagi, PPn **langi**, Ton, Niu langi 's.r.'.
POc *laje 'branching coral' > PMC *laje 'gravel', PCP *laje (Bgg) 'coral' > Bau lase 's.r.', PPn
    lase 'lime (coral)' > Ton lahe 's.r.'.
POc *moli 'citrus' > PCP *moli > Bau moli, PPn **moli** > Ton, Niu moli 's.r.'.
PEO *pwelu 'bend, fold' > PCP *belu > Bau belu(ka), PPn **pelu** > Ton, Niu pelu 's.r.'.
POc *zilak 'shine' > Bau cila 's.r.', PPn **quhila** 'lightning' > Ton 'uhila, Niu uhila 's.r.'.
POc *quling 'steer' > PCP *quli > Bau uli, PPn **quli** > Ton 'uli, Niu uli 's.r.'.

Note: 1. "s.r." indicates "same gloss as main reconstruction".

As can be seen, Proto Oceanic, Proto Central Pacific, Bauan, Proto Polynesian, Tongan and Niuean always show *l* in the above correspondences. In later examples where Bauan and Polynesian correspond less consistently, Wayan Fijian data from Pawley and Sayaba (forthcoming) are added for comparison. Additional examples of the PCP *l > PPn *l correspondence run into the dozens, though not always with Proto Oceanic or other higher order reconstructions associated with them. There seem to be no exceptions. Where there is *l in Proto Oceanic and *l* in Bauan, there is also *l* in Tongan and Niuen when they have related forms.

A.2 Proto Polynesian *l from Proto Oceanic and Proto Central Pacific *dr

This second set of liquid correspondences is also quite regular, consisting of reflexes of POc *dr or correspondences to Bauan *dr* in the absence of data related at a higher order. The Tongic agreement to Bauan is more consistent than that to Wayan which sometimes shows simple *r*. In these corresponding forms PPn *l is found:

Table A.4: Agreements of PPn *l* with Fij *dr* or POc *dr*

POc *dranum* '(fresh) water' > PMC *t'anu*, PCP *dranu* > Bau *dranu*, Way *(wai)dranu* 's.r.' >
 PPn *(faka)lanu* 'rinse in fresh water' > Ton *lanu*, Niu *(faka)lanu* 's.r.'

POc *(d)rau* 'leaf' > PBN *rau*, PMC *t'au*, PCP *drau* > Bau *drau*, Way *rau*, PPn *lau* > Ton, Niu
 lau 'i.d'.[1]

PEO *dram(i,u)* 'lick, chew' > Ngg *ndami* 'chew', PMC *t'am'u* 'lick', PCP *dram(i,u)* 'lick,
 chew' > Way *dram* 'lick', PPn *lamu* 'chew' > Ton, Niu *lamu* 's.r.'.

PCP *drau-ni-qulu* 'hair(s) of head' > Bau *drau-ni-ulu*, Way *rau*, PPn *lau-ni-qulu* > Ton *lou 'ulu*,
 Niu *lau ulu* 's.r.'.

PCP *dreke* 'hollow, cavity, recess' > Bau *dreke* 's.r.', Way *dreke* 'hold of a boat', PPn *leke*
 'hollow, cavity, recess' > Ton *leke* 'small room or recess'.

PCP *dreu* 'ripe' > Bau *dreu*, Way *dreu*, PNP *leu* > Ton *levu*[2] 's.r.'

PCP *dreudreu* 'garment' > Bau *(i vaka-)dreudreu* 'an old dress put on to bathe in, etc.', PPn
 leuleu 'waist garment of bark cloth' > Ton *leuleu* 'soft and limp through long use (of tapa
 cloth)'.

PCP *drii* 'throw, fly off' > Bau *drii(va)* 'fly off (as a chip)', Way *ri(ba)* ' bounce or fly to one
 side', PPn *lii* ' to throw' > Ton *lii* 's.r.'.

PCP *medre* 'speak with difficulty' > Bau *medre* 'i.d.', Way *medre* 'hard to understand (of
 speech)', PPn *mele* 'speak with difficulty' > Ton *mele* 'clear the throat'.

PCP *ngadru* 'obstructed breathing' > Bau *gadru* 'snore', PPn *ngalu* 'obstructed breathing' > Ton
 ngalu ' make a ratting noise when breathing'. (Possibly related to Way *gadro* 'interior of
 mouth').

Notes: 1. There seems to have been a PCP *drau* 'leaf',*rau* 'thatch' contrast that continued into PPn *as
*lau/*rau*. 2. Medial consonant in Ton is apparently epenthetic.

Four exceptions to the PPn *l* agreement with Bau *dr* have been identified. Three appear to
derive from the *dr* sound in POc:

Table A.5: POc *dr* in Tongic

POc *padra(n)* 'pandanus' > PMC *fat'a*, PCP *vadra* > Bau *vadra*, Way *vadra*, PPn *fara* > Ton
 faa 's.r.', *fala* 'mat', Niu *faa* 'pandanus'.[1]

POc *dr(u,o)man(i,e)* 'leech' > PFJ *dr(o,u)mani* 'sea-anemone (Ger)': Bau *drumani* 'a zoophyte
 adhering to rocks (Cap)', Way *dromani* 'small organism adhering to rocks in the sea, prob.
 anemone', PPn *rumane* 'sea-anemone' > Ton *uumana* 's.r.'.

PFJ *makadre* 'resin of the kauri pine' > Bau *makadre*, Way *makadre* 's.r.', PPn *makari* 'tree sp.'
 > Ton *makai* 'Canarium samoense'.

The second example above is cited by Geraghty (1986:295) as part of his evidence for a
common agreement between PCP *dr* and loss in Proto Tongic, but his other examples do not
always show loss in Tongic so I take retention as PTo *l* to be the more general pattern.

 There is a confusing situation involving sets of words having to do with "ripeness" and
"spoilage". All have the form *maCa*.[2] For POc there was: *madra* 'ripe', *mata* 'unripe' and
mara 'spoiled, foul'. For PPn there was: *mara* 'fermented food' and *mata* 'unripe'. Thus it
is not clear whether PPn *mara* came from POc *madra* or POc *mara*. Biggs (1992)

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[1] Biggs (1992, 1993) handles this with a separate PPn reconstruction but I believe it is simply a doublet at the
 PTo level. Perhaps Biggs has not yet combined the two entries as he has done with data showing a similar
 pattern.

[2] Where "C" represents "a consonant".

reconstructs "fermented food" for PPn *mara. Where the meaning in living languages is not specifically "fermented food" it is normally one having to do with bitter and sour tastes, common characteristics of fermented foods. Thus PPn *mara would seem semantically closer to POc *mara 'spoiled, foul' than POc *madra 'ripe'. PPn *mara 'fermented breadfruit' has normally been said to correspond to Bauan *madrai* 'bread, fermented breadfruit' (e.g., Geraghty 1986:295, Biggs 1992, 1993) and now Way *madrai* 'bread, fermented breadfruit'. But there was the old Proto Oceanic or Eastern Oceanic doublet that continued into Proto Central Pacific. Rensch (1987:fn.4) notes that Tongan has a doublet as well, but this seems a result of borrowing from Nuclear Polynesian rather than a retention of the older distinction. I would now organise the correspondences as follows:

Table A.6: POc *madra 'ripe' and POc *mara 'spoiled, foul'

POc *madra 'ripe' > PCM *mada 'ripe' (Ars mada, Bug mada, Kwa mada, Ngg manda 's.r.'),
      PMC *mat'a 'ripe, overripe', PFJ *madra 'very ripe', Way madra 'very ripe'.
POc *mara 'spoiled, foul' > PCM *mara(a) 'spoiled, foul' (Kwa malaa, Lau maraa 's.r.'), PMC
      *mara 'preserved breadfruit', PFJ *mara 'spoiled, foul', Way mara 'stink, rotten', PPn
      *mara 'preserved breadfruit' > Ton maa 'fermented plantain or banana', Ton malamala
      'sour'.

With this solution, the source of the confusion is attributed to Bauan and Wayan having taken their "preserved food" word from the *madra form (Bau *madrai*, Way *madrai* 'preserved breadfruit') while Proto Nuclear Micronesian and Proto Polynesian took theirs from the *mara form. PPn *mara may not have referred specifically to preserved breadfruit but to the general process of fermentation for preservation or enhanced taste.

Another case that is not entirely clear is:

PCM *(tanga)lau 'hundred', Bau *drau*, Way *drau* 'hundred', PPn *rau 'hundred' > Ton *lau* 'large
      indefinite number', *(te)au* 'hundred'.

The Christobal-Malaitan evidence suggests POc *l, Bauan suggests POc *dr and PPn suggests POc *r:

There is at least one case where PFJ seems to have had *dr where external and Tongan evidence suggest PCP had *r:

POc *rano 'lake' > PCP *rano > PFJ *drano, Bau *drano*, Way *drano* > PPn *rano* > Ton *ano* 's.r.'.

A.3 Proto Polynesaian *r and *l from Proto Central Pacific *r

Now we will consider the correspondence of Tongic to POc *r. Loss is the dominant pattern and the following are given as exemplary:

Table A.7: PPn **r* in Tongic

POc **suru(p)* 'enter' > PCP **curu* > Bau, Way *curu*, PPn ***huru** > Ton, Niu *huu* 's.r.'.

PPn ***poro-aki** 'give instructions' > Ton *poaki* 'to apologise for one's absence (Cwd)', Niu *poaki*
     'command'.

PPn ***qariki** 'chief' > Ton *'eiki*, Niu *iki* 's.r.'

PPn ***qarofi-waqe** 'sole of foot' > Ton *'aofi va'e* 's.r.'.

POc **qura(ng)* 'shrimp' > PBN **ura* 'crayfish', PMC **ura* 'lobster', PCP **qura* 'crayfish, prawn'
     > Bau, Way *ura*, PPn ***qura** > Ton *'uo*, Niu *uo* 's.r.'.

PPn ***rafo** 'rod or lath used in construction' > Ton *afo* 'width of a single course of thatch on roof',
     Niu *afo(lau)* 'temporary shelter'.

POc **kar(i,u)s* 'scratch' > PMC **kari*, PCP **kar(i,u)* > Bau *kadru(va)*, Way *kari*, PPn ***raku**[3] > Ton
     (v)aku > Niu *(v)aku(aku)* 's.r.'.

PPn ***raqa-kau** 'wood, tree' > Ton *'akau*, Niu *akau* 's.r.'

PCP **rau* 'thatch' > Bau *rau* 'materials for thatch', Way *rau* 'leaf', PPn ***rau** 'thatch' > Ton, Niu
     au 's.r.'.

POc **rama(r)* 'torch, light' > PCP **rama* 'torch, cast light on' > Bau *raama* 'cast light on', PPn
     *rama 'torch, fish at night with torches' > Ton *ama* 'fishing with torches', Niu *ama* 'search
     for crabs, etc. with a torch'.

PPn ***raqu** 'share (of feast)' > Ton *a'u(sia)* 's.r.'.

PMC **ranga* 'turmeric', PCP **renga* > Bau *(ra)ranga*, Way *(re)regwa*, PPn ***renga** > Ton *enga*
     's.r.'.

PMC **rangaranga* 'yellow', PPn ***rengarenga** > Ton *engeenga*, Niu *enga* 's.r.'.

Bau *droo* 'flee', Way *droo* 'reach, attain', *roo* 'send or go to make a request', PPn ***roo** 'go' > Ton
     oo, Niu *o* 's.r.'.

POc **rofa* 'fathom' > PPn ***rofa** > Ton *ofa*, Niu *ofa* 's.r.'.

PPn ***rofe** 'bend, droop' > Ton *ofe*, Niu *oofe* 's.r.'.

PPn ***rufi** 'fish sp.' > Ton *ufi* 's.r.'.

POc **ruru(ng)* 'sheltered' > PCP **ruru* 'sheltered, calm' > Bau *ruuruu* 'calm', Way *ruru* 'calm,
     abate' PPn ***ruru** 'shelter, calm' > Ton *uu* 'sheltered'.

PPn ***tama-riki** 'children' > Ton *tamaiki* 's.r.'.

POc **taRaq* 'adze' > PMC **taraa* 's.r.', PCM **dara* 'carve', PPn **tara(q)i* 'hew, carve' > Ton
     taa'i, Niu *talai* 'ld.'.

POc **ti(d)ro* 'look at' > PMC **tiro*, PCP **tiro* > Bau *tiro*, Way *tiro*, PPn ***tiro** > Ton *sio*, Niu *tio*
     's.r.'.

The list above includes many sets for which no agreements external to PN are known because it was difficult to find such sets involving only loss in Tongic. Although it has, perhaps, been the traditional assumption that POc **r* > PCP **r* > PPn **r* which was lost in Tongic, a different pattern is very common, one where there are doublets within Tongan, Niuean or both or where Tongan and Niuean reflexes are discordant.[4] Biggs (1992, 1993) now reconstructs PPn **r* for these cases and I have done so in the cases I have added below or combined from *Pollex* doublets:

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[3]   This would be a metathesised form of the higher level reconstructions. There is also POc **raku* 'scrape out
    with hands'. Either potential ancestral form requires an adjustment in the final PPn vowel. That listed in the
    entry is more semantically similar to PPn and is the one cited by Biggs. In either case, the **r* sound is lost in
    Ton and Niu, which is the purpose of the list.

[4]   Discordant: where they "dis"-agree as to loss.

Table A.8: Some Tongic doublets of PPn **r*

POc **piri* 'fold, twist' > PBN **viri* 'turn around', PMC **fira* 'plait', PCP **viri* 'twist, braid' > Bau *viri(bale)* 'cross one thing over another', Way *viri* 'coil a rope', PPn **firi* 'braid, plait' > Ton *fii* 'plait, twist', Niu *fili* 'plait, twist (Mce)'.

PCP **viro* 'crossed twisted, rough' > Bau *viro* 'cross grained of timber', Way *viro(viroa)* 'be rough (of surface)'; PPn **filo* 'twist cord from fibres by rolling them on the thigh', **firo* 'mix, mingle' > Ton *filo* 'thread, make thread', *fio* 'mix, mingle', Niu *filo* 'twist (as rope), *fio* 'mix, mingle'.

POc **raqan* 'branch' > PMC **raa* 's.r.', Bau *dradra(i)* 'suckers from yam tubers', PPn **raqaraqa* 'small branch' > Ton *(v)a'a(va'a)* 'having branches', Niu *laa, laalaa* (pl.) 'small branch'.

POc **rara(ng)* 'heat' > PCP **rara* 'heat', Bau *rara* 'reheat food near fire', Way *rara* 'heated, warmed', PPn **rara* 'heat over fire' > Ton *aa* 'heat leaves over fire', *lala* 'half-cook', Niu *lala* 'roast over fire'.[1]

PCP **rau* 'net made of coconut fronds' > Bau *(yara)rau* 's.r.', Way *(ara)rau* 'communal fish drive', PPn **rau* 'net made of coconut fronds' > Ton *au* 'fishing net', Niu *lau* 'net'.[2,3]

POc **rapu(k)* 'ashes' > PBN, PCP **ravu* > Bau *dravu*, Way *ravu*, PPn > **rofu* > Ton *efu(efu)*, Niu *efu(efu)* 's.r.', Ton *lefulefu* 'bird (greyish in color) (Cwd)'.

POc **riki(t)* 'small' > PMC **t'iki*, PPn **riki* > Ton *(i)iki, -liki*, Niu *iki(iki), liki(liki)* 's.r.'.

POc **rongoR* 'hear' > PBN, PMC, PCP **rongo* > Bau *rogo*, Way *rogo*, PPn **rongo* > Ton *ongo*, Niu *ongo* 's.r.', Ton *longo* 'perceive (by hearing or some sense other than sight) (Mil)', Niu *longo(na)* 'to hear, sense (Mce)'.

POc **rua* 'two' > PBN, PMC, PCP **rua* > Bau *rua*, Way *rua*, PPn **rua* > Ton *ua, -lua* (in some compounds), Niu *ua* 's.r.'

PCP **kora* 'dregs' > Bau, Way *kora*, PPn **kora* 's.r.' > Ton *koa* 'scum, froth', Niu *kola* 'young coconut with little pulp in it'.

POc **maquri(p)* 'alive' > PBN, PMC **mauri*, PCP **maquri* > PPn **maquri* > Ton *ma'ui* 's.r.', *ma'uli* 'to practise midwifery'.[4]

PPn **miro* 'twist (by hand)' > Ton *mio* 'twist', *milo* 'twist by hand', Niu *miomio* 'writhe about', *milo(i)* 'turning about, restless at night'.

POc **muri* 'back, behind, after' > PBN, PMC, PCP **muri* > Bau *muri*, PPn **muri* > Ton *mui* 's.r.', *mooli* 'behind, abaft (Cwd)', *muli(tuku)* '1st item (Rch,Cwd)', Niu *mui* 'back, rear, hind', *muli* 'follow'.

PCP **qa(d)ra* 'awake' > Bau *yadra* 'wake up', Way *adra* 'wake up', PPn **gara* 'awake' > Ton *'aa* 'awake', Niu *ala* 's.r.'.

POc **qaro* 'front' > Way *aro* 'lead', PPn **galo* 'belly, bowels', **garo* 'front' > Ton *'alo* 'belly (of fish)', *'ao* 'front', Niu *(alo)alo* 'belly, bowels', *ao* 'front'.[5]

POc **tur(i,u)* 'knee' > PCP **turu* > Bau *duru*, Way *turu*, PPn **turi* > Ton *tui*, Niu *tuli* 's.r.'.

PCP **waru* 'scrape' > Bau *walu* 's.r.', Way *waru* 'strip leaves', PPn **waru* 'scrape' > Ton *wau*, Niu *volu* 's.r.'.

Notes: 1. Biggs handles the doublet with separate reconstructions and notes under **lala* "'?combine this with **rara*?". 2. See POc doublet **drau* in discussion of the **dr* correspondences. 3. Bau *yara* 'to haul', Way *ara* 'be hauled, dragged'. 4. Rensch's (1987:fn.4) Ton cognates and doublet for Biggs's reconstruction. 5. Biggs handles the To doublet with separate PPn reconstructions and cross references them (**qalo* to **qaro*) to each other.

A.4 The dilemma

The problem in dealing with a zero versus an *l* correspondence in Tongic, when comparing words to other Polynesian with *l* can now be understood clearly. While loss is diagnostic of PPn **r,* one cannot be sure whether Tongic retention reflects PPn **l* or if it is half of an undiscovered doublet whose other member lost a PPn **r*. In many cases there is no doublet

with loss to be found, leaving the impression that PPn had *l*. But such was probably not always the case. In the absence of contrary Polynesian evidence, Biggs has reconstructed PPn *l* in the following cases which seem to have had *r* in higher order protolanguages:

Table A.9: Some possible shifts of POc *r* to PPn *l*

POc *kor(a,o)* 'mountain' > PEO *koro* 'fenced enclosure' > PCP *koro* 'enclosed fortress' > Bau *koro* 's.r.', Way *koro* 'village', PPn *kolo* 'enclosed fortress' > Ton *kolo*, Niu *kolo* 's.r.'.

POc *kuron* 'clay pot' > PCP *kuro* > Bau, Way *kuro* 's.r.', PPn *kulo* 'cooking pot' > Ton *kulo*, Niu *ulo* 's.r.'. The Niu is cited in POLLEX with a question mark in the reference field. In (Mce) it is given as *uulo* and said to be a SAM loan.

POc *raba* 'flat, level' > Bau *rava* 'flat, of nose', *raba* 'broad or flat', Way *raba* 'broad or wide', PPn *lafa-lafa* 'flat' > Ton *lafalafa* 's.r.', Niu *lafalafa* 'flat, level, flat-topped'.

POc *rara* 'Erythrina sp.' > PCP *rara* > Bau *rara*, Way *rara* 's.r.', PPn *lala* 'Vitex sp.' > *lala*, Niu *lala(tea)* 's.r.'.[5]

POc *rapa(r)* 'flat'> PCP *raba* 's.r.' > Bau *raba* 'breadth, width', Way *raba* 'broad, wide', PPn *lapa* 'flat' > Ton *(lapa)lapa* 'square sided, as a bottle', Niu *lapa* 'a board'.

POc *riri(q)* 'boil' > PCP *riri* > Bau *riri* 's.r.', Way *riri* 'cooked', PPn *lili* 'boil' > Ton *lili* 's.r.'.

POc *roku* 'bend, fold' > PMC *roku* 'to bow', PCP *roku* 'bow, bend' > Bau *roko* 'bow', Way *roko* 'bow, bend', PPn *loku* 'bent, bowed down' > Niu *(lo)loku* 'bend'.

POc *nguru(m)* 'grunt, growl' > PCP *nguru* 'grunt, rumble' > Bau *kuru* 'thunder', PPn *ngulu* 'grunt, rumble' > Ton *(ngulu)ngulu* 'grunt, grumble, growl', Niu *ngulu* 'grunt, rumble, growl'. Note that Bau is irregular in its initial consonant.

POc *boro* 'a plant' > PCP *boro* 'Solanum sp.' > Bau *boro*, Way *boro*, PPn *polo* > Ton, Niu *polo* 's.r.'.

POc *qaro(p)* > PCP *qaro* 'like, desire' > Bau, Way *garo* 'desire', PPn *qalo-qopa* 'love, pity, compassion ("aloha")' > Ton *'alo'ofa*, Niu *alofa* 's.r.'. The initial consonants of Bau and Way correspond irregularly.

POc *saru* 'comb' > Bau, Way *seru*, PPn *selu* > Ton *helu* 's.r.'. There is also Niu *hetu* 'comb', *helu* 'scoop'.

POc *turu* 'drip' > PCP *turu* > Bau, Way *turu*, PPn *tulu* > Ton *tulu(taa)*, Niu *tulu* 's.r.'.

A check of the standard sources reveals a set of doublets not recognised by Biggs (1992, 1993): Ton *nguu* 'grunt', Niu *nguu* 'moan, grunt, roar' (see PPn *ngulu* above). The PPn form should, therefore, be changed to *nguru*. There is also an interesting doublet of PPn *selu* 'comb', which goes back to PPn itself rather than just existing within Tongic. It is PPn *seu* 'raking or scooping motion, hence clearing, netting' which, like PPn *selu* 'comb' is widely reflected within Polynesian, both with meanings commonly little changed from the Proto Polynesian. Unlike *selu*, no external correspondences are given for *Pollex *seu*. It is not difficult to imagine a doublet forming about a "comb" versus "rake" semantic contrast. While it is clear that Tongic had doublets associated with PCP *r* forms, this is the only evidence I have so far detected to suggest the same might have been true of Proto Polynesian itself. Possibly *seu* is a Proto Nuclear Polynesian borrowing from Tongic and the doublet did not exist in Proto Polynesian. Our method cannot tell the difference.

To the preceding list we can add thirteen *Pollex* forms where Bauan and Wayan have *r*, only *l* cognates are given for Tongic, and agreements external to Central Pacific are not know.

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[5] Biggs notes: "Name transferred from Erythrina to a Vitex in PPn, perhaps because Erythrina not then present in the Polynesian homeland". (Both are trees).

Table A.10: Some correspondences of Fij *r* to Tongic *l*

Bau *varavara* 'several plants [*Liliaceae*, *Orchidaceae*]', PPn **fala-fala* 'plant sp.' > Ton *falafala* 'yam sp.'.

Bau *riko* 'feel giddy, frightened, paralysed with fear', Way *riko* 'be awesome', PPn **lika* 'fear of falling, have a nightmare (? of falling)' > Ton *lika* 'dream', *(li)lika* 'be giddy, feel like falling from a height', Niu *lika* 'fear, watch in terror'. Note that the final vowels of Bau and PPn do not match.

Bau *ruve* '(Pacific) pigeon', Way *ruve*, PPn **lupe* > Ton, Niu *lupe* 's.r.'.

Bau *merau* 'Sargocentron', PPn **malau* 'squirrelfish [*Holocentridae*]' > Ton *malau* 'fish sp.', Niu *malau* 'fish sp.' (The Bau may be from some other dialect. Entry does not exist in (Cpl). POLLEX source is "(Gty. 1990)", language designation simply is "Fij").

Bau *gari* 'to appeal, attract (of food)', Way *gali* 'be pleasant, nice, amusing, attractive', PPn **ngali* 'attractive, appropriate' > Ton *ngali* 'seemly, suitable, fitting', Niu *ngali* 'look becoming, fetching, attractive'.

Bau *vuravura* 'shoots or suckers of sugarcane', PPn **pulapula* 'seed, seedling, seed yams' > Ton *pulopula* 's.r.'.

Bau *taro* 'ask', PPn **talo* 'pray', Ton *talo(talo)* 'employ divination'.

Bau *tere* 'graze, touch lightly', *dere* 'hone a knife', Way *dere* 'touch, handle, make contact', PPn **tele* 'peel, pare, shave' > Ton *tele* 'peel, pare, whittle, plane'.

Bau *diri* 'break shell of egg, nut or a few other things', Way *diri* 'be smashed, broken up by blows', PPn **tili* 'strike repeatedly as in hammering, adzing' > Niu *tili* 'smash rocks with a hammer'.

Bau *torau* 'white, unopened leaves at the top of a coconut palm', Way *toorau* 'soft, white young leaves at the top of a coconut tree', PPn **tolau* 'central leaf shoot of coconut palm' > Ton *tolau* 'new leaves at the top of a palm while they are still white'. Biggs does not reconstruct this to a particular level. PN cognates are known only from Ton, EFU and EUV. Possibly he was concerned about the possibility of loans.

Bau, Way *toro* 'to shave', PPn **tolo* 'rub, massage' > Ton *tolo* 'treat a woman's breast medically (in native fashion)', *tolo(afi)* 'to produce fire by friction', Niu *tolo(afi)* 'to make fire by friction'. Biggs also cites a PFJ **toro* 'rub one surface against another'.

Bau, Way *toro* 'move', PPn **tolo* 'crawl' > Ton *tolo*, Niu *tolo(tolo)* 's.r.'. There is a possible doublet: Ton *tootoo* 'trot'.

Bau *yaroyaro* 'Premna sp.', Way *araro* 'small coastal tree', PPn **walo-walo* 'a tree (Premna sp.)' > Ton *valovalo* 'a tree', *volovolo* 'Premna sp.'.[1] Possibly related to POc **aru* 'Casuarina'.

Note: 1. Biggs reconstructs PPn **alo-alo* and PNP **walo-walo* both meaning 'Premna sp.' It seems an inconsistency given the Ton data and I have suggested PPn **walo-walo* as well.

Note that Wayan agrees with the PPn **l* rather than Bauan *r* in the case of PPn **ngali*. Also, for the PPn **tili* 'strike repeatedly' set there seems to be the additional correspondence of Ton *sii* 'strike or slap with the palm of the hand (Cwd)' and PPn **tiri* is indicated. These matters are not of great moment as the overall pattern is the same as what was seen in the previous list: a substantial set of agreements remain where there is no evidence of Tongic losing the consonant while external evidence suggests **r* was involved.

The opposite situation also exists: where Bauan and/or Wayan have *l* while Proto Polynesian had **r*—but I noticed only one case:

Bau *moli* 'expression of thanks after kava drinking', Way *moli* '(interjection) expresses thanks or good wishes', PPn **mori* 'to offer, present' > Ton *(mo)moi* 'give back', Niu *mo(moi)* 'portion of feast given to stranger', *(faka)mooli* 'bear witness'.

The semantics are not incompatible and we need not dismiss the possibility of cognation just because the correspondences are not common. There is also a single case where both PFJ and PPn show *l* for an earlier *r*:

POc *porau* 'boat, sea travel' > PCP *volau* 's.r.' > Bau *volau* 'canoe shed', Way *volau* 'boat shed', PPn *folau* 'travel by sea' > Ton, Niu *folau* 'fleet'.[6]

As we are confronted with three Tongic correspondences to what is reconstructed as *r* on the basis of external evidence (loss, doublets of loss and *l*, and *l* alone), we must ask if there is evidence of a phonological environment or environments that have motivated the differing outcomes in Tongic. There may be some condition of associated vowels or consonants that cause the differences.

Examination of the Proto Polynesian vowel environments resulted in little hope of suggesting conditioning factors. The one observation I would present here is that of the twenty-five cases in which only retention as *l* is known for Tongic where external evidence suggests *r*, twelve were cases of word-medial occurrence where the preceding and following vowels were identical: PTo *kolo, *lapa, *lili, *lafa, *malau, *ngulu, *polo, *tele, *tolo, *tulu, *valavalu, *valo-valo*. This is similar to the retentions of PPn "*h*" in Samoan (§2.3.4) (loss did not occur where a long vowel would have resulted). But there are counter examples: PPn *firi* > PTo *fii*, PPn *mara* > PTo *maa*, PPn *ruru* > PTo *uu*, PPn *suru* > PTo *huu* and the doublet PTo *tili, *tii*. Otherwise, no generalisations emerged concerning vowel environments.

There seems to be only one consonantal environment that is associated with more losses, retentions or doublets than any other. This is the case of retention when the word began with a stop other than the glottal stop: PTo *kolo, *kulo, *polo, *tele, *tolau, *tolo, *tulu*. Exceptions are the doublets PTo *tili/*tii* and * tuli/*tui*.

Thus Proto Polynesian words beginning with the stops *p, *t or *k seem never to have lost a word-medial sound corresponding to Bau *r* or POc *r* except in two cases where doublets are involved. *Pollex* was searched exhaustively and there are no other counterexamples in order that something approaching a regular rule could be written. Minimally, we can state that on the basis of Biggs's *Pollex* reconstructions made to 1992, PCP *r* is never completely lost but is retained solely as *l* or as *l* in a doublet in those Proto Polynesian words which began in *p, *t or *k*.

On the basis of the comparisons available for examination, this seems not to have been true of words (beginning with the PPn glottal stop) which show only loss or doublets: POc *qura* > PTo *quo* 'lobster', POc *qaro* > PTo *qao* 'front', *qalo* 'belly', PCP *qa(d)ra* > Ton *qaa*, Niu *ala* 'awake'.

A.5 Summary of liquid correspondences

This section has presented the Biggs (1992) data relevant to the question of what was happening between Proto Oceanic, Proto Central Pacific, Proto Polynesian and Proto Tongic

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[6] Biggs reconstructs a PNP doublet *falau* 'canoe shed' on the basis of a PCE agreement to a few Outliers which show something more like *folau*. While there may be some uncertainty about the number of reconstructions necessary, the quality of the consonant concerned is clear—it is *l* in Fij and at the moment there is only evidence for *l* in PPn.

liquids. The correspondences between POc *l, PCP *l, PPn *l and *PTo *l are predominantly (almost exclusively) regular and this has been known for some time. But we have also seen that the POc > PCP *dr sound was almost always realised as *l in Proto Tongic. Proto Tongic, Bauan and Wayan all have irregularities, but they are occasional and do not always co-occur, so we now have a stronger basis for reconstructing PCP *dr on the basis of internal evidence alone.

We have reviewed data concerning the simple *r sound of PCP and seen that the Tongic correspondences are more diverse than previous published work has generally indicated. Retention and doublets are common. Biggs (1992, 1993) deals with this by reconstructing PPn *r in the case of Tongic doublets and PPn *l in those cases where Tongic is known only to have retention as *l*.

The doublet formation process seems to have been a uniquely Tongic development. A single Proto Polynesian doublet based on the *r retention/loss contrast has been recognised in this work (POc *saru 'comb ' > PPn *seu 'comb', *seu 'rake') and, as mentioned above, it may have been a Proto Nuclear Polynesian borrowing from Tongic rather than a feature of Proto Polynesian. The Tongic doublets are always descended from PCP *r forms, never PCP *l and rarely PCP *dr, so this is clearly something that began to occur while PPn *l and *r were still distinct in Pre Tongic. But what of those PCP *r forms that show only *l for Proto Tongic and no loss? Did this shift to *l happen after Proto Polynesian times or before? In fact, our method cannot distinguish and Biggs (1992) reconstructs the shift to the Proto Polynesian level. As has happened occasionally in the present work, the *Pollex* convention means that some Proto Polynesian reconstructions will need to be revised as doublets are identified in Tongic or loss is found in one language where only retention had been known from the other. But Biggs has apparently chosen reconstruction of PPn *l, when PCP had *r, as a more desirable solution than attributing *r to Proto Polynesian when there is no Polynesian evidence for it.

The realization of Proto Oceanic and Proto Central Pacific *r as PPn *l is common, but Tongan loss or doublets are more common. I can report little progress towards stating the conditions under which Tongic retained PCP *r as PTo *l as opposed to when it shed the sound. If we write rules we are obliged to consider their "naturalness", whether or not they resemble things that languages are otherwise known to do. The retention of PCP *r as PTo *l is common in word-medial position where PPn words began with the stops *p, *t or *k. Two exceptions involve doublets rather than complete loss. It was also observed that word-medial PCP *r tended to be retained as *l in Tongic when the preceding and following vowels were identical. Possibly there was resistance to the loss rule in the case of an outcome that would create a long vowel. In any event, the other environments of the PCP *r > PTo *l correspondences are diverse and show no obvious differences from the cases where PCP *r was lost or split into doublets.

PPn *r, as distinct from PPn *l, has been reconstructed on the basis of internal evidence when there was loss in Tongic. PPn *l shows retention as PTo *l. We must now recognise both an exception (Rensch 1987, Biggs 1992, 1993) and a dilemma. In the first instance Biggs (1992, 1993) reconstructs to PPn *r and the other he reconstructs to PPn *l. The exception involves loss in Tongic (Tongan and Niuean), but side by side are doublets involving retention as Tongan or Niuean *l which are here taken to be borrowings from Nuclear Polynesian. Forms with that distribution are considered in §5.2.1. In the case of the dilemma, PPn *l is reconstructed because only retention is known from the Tongic evidence. It is a dilemma because external evidence is commonly in agreement that the older sound

(PCP, PEO, POc etc.) was *r and not *l, and we are left with the question of whether the change to *l occurred in Proto Polynesian itself or in Pre Tongic. The Nuclear Polynesian evidence is not helpful because *r and *l merged entirely as PNP *l. Biggs (1992) has chosen to represent the changes as having occurred at the Proto Polynesian level.

Appendix B:
Detail of vowel changes in individual languages

Here I list vowel changes not mentioned in Chapter 3. They are the residual cases not covered in discussions of regular or diffused vowel changes of the languages and protolanguages, or listings of sporadic changes for the protolanguages. The languages are given by subgroup.

B.1 Tongic

The Tongic vowel changes are regular and were considered in §3.2.1. I do not know of cases of vowel changes in Proto Tongic, Tongan or Niuean which do not fall into the regular changes considered in those materials.

PPn *ta-fuli > (ma)fuli 'capsize', tafilu 'turn round' (Ton tafuli)

B.2 Nuclear Polynesian

B.2.1 Anutan

PNP *panoko > panauko 'fish sp.'
PPn *kulii > korii 'dog'
PPn *lua > ruo 'hole'
PPn *muka > muko 'growing tip'
PPn *tawake > tavake ~ toake 'Tropic Bird' (Cf. Niu)
PNP *panoko > panauko 'fish sp.'

There are many Anutan forms marked "not counted as cognate" in *Pollex* which follow Tongan and East Uvean vowel patterns and are most certainly borrowings from those languages. The above are the *Pollex* Anutan forms with vowel changes not so marked (see §4.3.3).

B.2.2 East Uvean

Only changes not shared exclusively with Tongan or Tongic are given:

PPn *maoha > moso* 'cooked'
> Shared with many languages. Reconstruction supported mainly by external evidence, Ta and languages that have borrowed from Ta.

PNP *tai-qao > taeao* 'early morning'
> Shared with Sam.

PPn *talu > tali(a)* 'because'
> Shared with EFu and Niu.

PPn *tulaki > tuleki* 'push over'

> Shared with many other languages but a common sort of assimilation and seems to have occurred many times and places.

B.2.3 Mae

PPn *fai > fei(vele)* 'copulate'
PPn *fai > fei(a)* 'make, do'
PPn *fai-tama > feitama* 'pregnant'
PPn *liha > lie* 'nit'

PPn *maoha > moo* 'cooked'
PPn *pilau > puulau* 'decayed'
PPn *tulaki > tureki(na)* 'push over'

PPn *faa-kule > faakure ~ faakuru* 'search for head lice'
PNP *faqi-qawa > feiava* 'passage through reef'
PPn *tokelau > tokolau* 'north'
PNP *kootou > kote* 'second person plural pronoun'

B.2.4 Mele-Fila

PPn *heke > ike* 'mount'
PPn *inu > unu* 'drink'
PPn *isu > usu* 'nose'
PPn *siku > suku* 'tail'

PPn *moana > muana* 'ocean'
PPn *paqaua > pawo* 'fish sp.'
PPn *pilau > purau* 'decayed'

PNP *faqi-qawa > feiova* 'passage through reef'
PPn *fatu-qariki > fitooriki* 'high chief'
PNP *kootou > kooteu* 'second person plural pronoun'
PPn *mohe-miti > memiti* 'dream'
PSO *pakakau > pekkau* 'wing'
PPn *tokelau > tokolau* 'north'
PPn *loo > roa* 'ant'
PPn *mano > manu* 'a thousand'
PPn *paqaua > pawo* 'fish sp.'

PPn *rumane > (a)rumani* 'sea-anemone'

PPn *mafatua > mafetue* 'sneeze'

B.2.5 Pileni

PPn *mauku > mouku* 'grass'

B.2.6 Pukapukan

PPn *fio > wiu* 'whistle'
PPn *papu > papo* 'fish sp.'

PPn *fananga > waanonga* 'tale'
PPn *tulaki > tuleki(ina)* 'push over'
>   Shared with many languages that have the same suffix (vowel stress shifted relative to free form.
>   Probably a PPn alternation).

PPn *kainanga > keinanga* 'social group'
PNP *tai-qao > tayao* 'early morning'
PNP *tau-sinu > taeyinu* 'tree sp.'

B.2.7 Rennellese

PPn *liha > gie* 'nit'
PPn *muka > muko* 'growing tip'
PPn *maoha > moso* 'cooked'
PPn *mafo > mafu* 'heal'
PPn *naqa > na'e* 'lest'
PPn *sunu > suni* 'singe'
PPn *toko- > toka-* 'human prefix'?????

PPn *mauku > mouku* 'grass'
PPn *ma-qene > ma'ine* 'tickle'
PPn *tulaki > tugeki* 'push over'

PPn *fine-matuqa > higimatu'a* 'mature woman'

B.2.8 Tikopia

PPn *fuhi > fui 'tie', fii* 'bunch'
PPn *pau > pou(muri)* 'tree sp.'

PPn *hikofi > uukofi 'tongs'
PPn *matuku > motutu 'reef heron'
PNP *tuahi > tuei 'coconut grater'
PPn *tulaki > tureki 'push over'

PPn *fatu-tili > fatitiri 'thunder'

B.2.9 West Futunan

PPn *liha > rie 'nit'

PNP *faangai > fagei(na) 'to feed'
PPn *feqao > feiao 'escort'
PPn *fuata > fuatu(sisi) 'crop, harvest'
PPn *malino > merino 'calm (of sea)'
PPn *tauqa > toa 'war'
PPn *tamole > tamori 'plant p.'

PPn *fai-tama > feitama 'pregnant'
PNP *faqi-qawa > feiava 'passage through reef'
PPn *tokelau > tokolau 'north'

PPn *faqi-totoka > feitoka 'door'
PCO *mapu-aki > mapuake 'breathe'

PNP *faitili > vehjiri 'thunder'
PPn *kafu-kafu > kafkafu 'diaphram' (Aniwa)

PPn *faka-fetaqi > fafetia 'to thank'

B.2.10 West Uvean

PPn *mafo > mafu 'heal'
            Held here to be independent of the PEC innovation.
PPn *mua > moa 'front, before'
PPn *see > sei 'flower'

PNP *mamae > mai 'pain'
PPn *maoha > moo 'cooked'
PPn *maa-unu > mounu 'bait'
PPn *quhila > wiila 'lightning'

PPn *faa-kule > faaliki 'search for head lice'
P?? *muakina > moa kina 'lead'

PPn *mamafa > momafa 'heavy'
PNP *mamae > mumae 'pain'
PPn *mamaqo > mumao 'distant'

B.2.10 Ellicean

B.2.10.1 Samoan/Tokelauan

B.2.10.1.1 Samoan

PPn *loo > loi* 'ant'
PPn *na'a > ne'i 'lest'*[1]
PPn *nanu > nanu* 'stammer', *nani* 'talk indistinctly'
PPn *sinu > suni* 'shrub' (Cf. PTo)
PPn *toko- > to'a* 'human prefix'????

PNP *ngangie > gigie* 'tree sp.'
PNP *waelo > velo* 'tail'
PPn *fa(a)tai > fetai* 'plant sp.'
PPn *fananga > faagogo* 'story'
PPn *fananga > faagogo* 'tale', *faagono* 'tale with a song'

PPn *mutie > matia* 'grass'
PPn *pilau > pula'uu* 'decayed'[2]
PPn *takua > ta'uo* 'fish sp.'
PPn *tinaqi > tinei* 'extinguish (a flame)'
PPn *wawai > vavae* 'plant sp.'

PPn *taqahine > teine* 'girl'
PPn *ngaofie > -goofie* 'easily'
PPn *fatu-tili > faaititili* 'thunder'
PNP *tai-qao > taeao* 'early morning'

PPn *fai-ngaofie > vaogofie* 'obedient'

B.2.10.1.2 Tokelauan

PPn *fuhi > fui* 'tie', *fii* 'bunch'
PPn *loo > loi* 'ant'
PPn *mafo > mafu* 'heal'
PPn *pau > pou(muri)* 'tree sp.'
PPn *toko- > toka-* 'human prefix'

PNP *kakai > kakaha* 'sharp'
PNP *tuahi > tuei* 'coconut grater'
PPn *faqelu > faailu* 'wipe anus'
PPn *hikofi > uukofi* 'tongs'
PPn *kalia > kalea* 'double canoe'
PPn *malemo > malemu* 'drown'
PPn *maqoli > moonii* 'true'
PPn *matuku > motutu* 'reef heron'

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[1]   Irregular retention of glottal stop in addition to vowel changes.

[2]   Glottal stop and final vowel length unexplained.

PPn *mutie > mutia 'grass'
PPn *takua > takuo 'fish p.'
PPn *tulaki > tureki 'push over'

PNP *tai-qao > taeao 'early morning'
PPn *faa-kule > vaakili 'search for head lice'
PPn *fatu-tili > fatitiri 'thunder'

PPn *fai-ngaofie > faingoofie 'easily'

B.2.10.2 Ellicean Outlier

B.2.10.2.1 Kapingamarangi

Kapingamarangi has numerous regular changes and those forms were covered in §3.2.2.

PPn *isu > uhi 'nose'
PNP *kakai > gaa 'sharp'
PSO *mami > momi 'taste'
PNP *moso > moeho 'bird sp.'
PPn *ngalu > ngolu 'wave (n.)'
PPn *quto > uda 'sprouting coconut'
PPn *sinu > hunu 'oil'
PPn *sopu > hebu 'dive'
PPn *walo > wolo 'shout'
PPn *walo > wolo 'squilla (mollusc)'
PNP *walo-walo > woroworo 'tree sp.'

PPn *kaainga > keina 'home, place of residence'
PPn *qalelo > horore 'tongue'
PPn *ma-lemo > melemu 'drowned'
PPn *ma-wete > mehede 'untied'
PPn *puaka > puaka (Ebt) ~ boaga (Lbr) 'pig'
PPn *qaitu > eidu 'ghost, spirit'
PPn *quhila > ila 'lightning'
PPn *taume > doume 'spathe of coconut palm'
PPn *taautu > doudu 'porcupine fish'

PPn *maa-sanga > maehanga 'twin'
PPn *maa-unu > moounu 'bait'
PPn *ngaofie > ngoohia 'easily'
PSO *qau-kau > uugau 'pus'

B.2.10.2.2 Nukuoro

PPn *amo > amu 'prepare fibre for string making'
PPn *fula > hulo 'run'
PPn *hoka > ogo 'rafter'
PPn *inu > unu 'drink'

PPn *ipu > ubu* 'cup'
PPn *isu > uhu* 'nose'
PPn *fia- > hii* 'desire'
PPn *liha > lie* 'nit'

PNP *falau > holau* 'canoe house'[3]
PPn *faqelu > haelu ~ hailu* 'wipe anus'
PPn *fuqanga > hoohanga* 'whetstone'
PPn *kakai > (ha)kaa* 'sharp'
POc *kimoa > gimoo* 'rat'
PPn *talie > dalia* 'tree sp.'
PPn *faaloo > haale* 'stretch'
PPn *maumau > moumou* 'waste'

PPn *fatu-qariki > hodooligi* 'high chief'
PPn *toko-mahuru > (leia) togo mouli* 'hiccough'

PPn *niu > niu* 'coconut'

B.2.10.2.3 Ongtong Java

PPn *maqunga > mounga* 'mountain'

B.2.10.2.4 Sikaiana

PEc *ufu > uhe* 'masturbate'
PPn *inu > unu* 'drink'
PPn *ipu > upu* 'cup'
PPn *isu > (kai)usu* 'nose'
PPn *mingo > (m)mini* 'wrinkled'
PPn *muka > muko* 'growing tip'
PPn *siwa > sivo* 'nine'
PPn *sopu > hebu* 'dive'
PPn *toko- > toka-* 'human prefix'

PNP *kakai > kaa* 'sharp'
PPn *pilau > pulau* 'decayed'

B.2.10.2.5 Takuu

PNP *ao > aa(moko)* 'fleshless coconut'
PPn *fatu-tili > fatturi* 'thunder'
PPn *fia- > fii* 'desirative prefix'
PPn *inu > unu* 'drink'
PPn *ipu > upu* 'cup'

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[3]   May be from PPn *folau* 'expedition by sea'.

PNP *kakai > kaa 'sharp'
PPn *pane > pani 'blunt projection'
PPn *siwa > sivo 'nine'
PPn *sumu > simu 'triggerfish'
PPn *taki- > tiki- 'distributive prefix'
PPn *toko- > taka- 'human prefix'
PPn *uma > umo(oma) 'shoulder'

PPn *mauku > mouku 'grass'
PPn *pirau > purau 'decayed'
PNP *sakali > sakare 'coconut part'
PPn *tupuqa > kipua 'demon'

PPn *ngaofie > (fai)nofie, -naufie 'easily'
PSO *qau-kau > ukau 'pus'
PPn *tokelau > tokolau 'north'

PPn *siku-mata > sukimata 'outer corner of eye'

B.2.10.2.6 Tuvalu

PPn *fafa > fafo 'carry on back'
PPn *muku > mukomuko 'growing tip'
PPn *papu > papo 'fish sp.'
PPn *saa > hae 'appear'

PPn *fa(a)tai > fetai 'plant sp.'
PPn *faqelu > faailu 'wipe anus'
PPn *maoha > moso 'cooked'
PPn *takua > takuo 'fish sp.'
PPn *wawai > vavae 'plant sp.'
PNP *waelo > velo 'tail'

PPn *fatu-tili > fatitili 'thunder'
PSO *laamanga > laamaga (ngA), laumaga (Nan) 'fish on reef with torch'
PSO *qau-kau > aukau (Bsr) ~ ukau 'pus'

B.2.10.3 East Polynesian

B.2.10.3.1 Easter

PPn *kumi > kimi 'seek'
PPn *loo > roe 'ant'
PPn *me'a > me'e 'thing'
PPn *muka > (muko)muko 'growing tip'
PEP *poti > (potu)potu 'bug sp.'

PPn *mahuku* > *mauka* ~ *mouku* 'grass'
PPn *ma-tofi* > *motohi* 'stage of waning moon'
PPn *suelo* > *huero* 'comet', *hiero* 'Aureola'

B.2.10.3.2 Central East Polynesian

B.2.10.3.2.1 Marquesic

B.2.10.3.2.1.1 Hawaiian

PPn *faaliki* > *heriki* 'floor covering'
PPn *nanafi* > *nehi(nei)* 'yesterday'
PNP *takafi* > *ke'ehi* 'tread on'

PNP *faitili* > *hekili* 'thunder'
PEP *paku-siwi* > *po'ohiwi* 'shoulder'

PCE *karere* > *'alele* ~ *'elele* 'messenger'
PCE *maa-rehurehu* > *maalehulehu* ~ *moolehulehu* 'twilight'
PNP *kaleqa* > *'olee* 'shellfish sp.'
PNP *katafa* > *'aakaha* ~ *'eekaha* 'bird's nest fern'
PPn *masame* > *mehame* 'tree sp.'

PPn *kolili* > *'ulili* 'bird sp.'
PPn *fatu-tili* > *haakikili* 'thunder'
PPn *kumi* > *'imi* 'seek'
PCE *manu-firi* > *malihini* 'stranger, guest'

PPn *uso* > *iho* 'core'

PCE *areare* > *aniani* 'clear'[4]
PEP *aa-nuanua* > *aanuenue* 'rainbow'
PPn *aa* > *hae* 'appear'
PPn *aawaki* > *haawa'e* 'sea-urchin'
PPn *fuafua* > *fuefue* 'pimple'
PPn *mamangi* > *maamane* 'plant sp.'
PPn *ngaofie* > *(wai)nohia* 'easily'
PPn *nonu* > *noni* 'Morinda citrifolia'
PPn *talie* > *kalia* 'tree sp.'

PPn *pee-sau* > *peeheu* 'wing'

PNP *taku* > *ku'u* 'first person singular dominant possessive'

PPn *tawake* > *koa'e* 'Tropic Bird'

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[4]   Biggs (1992) reconstructs PTa *areare*. Haw is the only Mq evidence and Bigg notes it as an irregular agreement (the consonant is irregular as well).

B.2.10.3.2.1.2 Nuclear Marquesic

Proto Nuclear Marquesic had some regular vowel changes which are covered in §3.2.3 and diffused sound changes which are covered in §3.3.1.

B.2.10.3.2.1.2.1 Marquesan

Marquesan had regular sound changes which are covered in §3.2.2 and diffused sound changes which are covered in §3.3.1. Residual cases are given below.

PCE *ata > aate-* 'carefully'
PCE *manu-firi > manihi'i* 'stranger, guest'
PCE *paapuu > papua* 'level'
PCE *pango > panu* 'black'
PNP *waelo > ve'o* 'tail'
PPn *nonu >* MQN *nono,* MQS *noni* 'Morinda citrifolia'
PPn *pau > pao* 'consumed'
PPn *qukoko > unoku* 'bruised'
PPn *rumane > umani* 'sea-anemone'
PPn *songi >* MQN *hoki,* MQS *hone* 'touch noses'
PPn *tawake > to(v)ake* 'Tropic Bird'[5]
PPn *uto > (po)ito* 'float of net'
PPn *wawe > vave ~ veve* 'quick'

B.2.10.3.2.1.2.2 Mangarevan

PCE *pango > pagu* 'black'
PNP *pusaki > puhake* 'scented'
PPn *inu > inu ~ unu* 'drink'
PPn *ma-qene > maine(ine)* 'tickle'
PPn *talie > taria* 'tree sp.'
PPn *tamaki > temeki* 'unfortunate'

B.2.10.3.2.1 Tahitic

B.2.10.3.2.1.1a NZ Maori

As with Hawaiian, a long list of more or less idiosyncratic changes are known, mainly due to the large size of the dictionaries available for them. Most of the assimilated NZ Maori forms are in free variation or dialect variation with historically unchanged forms.

PPn *mai > mei* 'from'
PPn *ngatali > ngatari ~ ngateri* 'shake'
PPn *qati > (kau)ati ~ (kau)eti* 'procure fire'
PNP *sali > mari ~ heri* 'carry'

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[5] The parentheses around the "v" are unexplained in *Pollex* 1992.

PPn *tahina > taina ~ teina 'younger sibling of same sex'
PNP *tinaqi > tinei 'extinguish (a flame)'

PNP *fau-fau > (whaka)hauhau ~ houhou 'disgusting'
PPn *kaukau > kaukau ~ koukou 'bathe'
PPn *fau-sele > houhere 'plant sp.'
PPn *kausanga > koihanga 'groin, crotch'
PPn *mahuku > mauku ~ mouku 'grass'
PPn *maumau > maumau ~ moumou 'waste'
PPn *maa-unu > maaunu ~ moounu 'bait'
PNP *tuukau > tuukou 'handle'

PCE *tahunga > tohunga 'expert, priest'
PEP *paku-siwi > pokohiwi, pakihiwi (E. dialect) 'shoulder'

PPn *faqelu > wheeru 'wipe anus'
PPn *ngaofie > (wai)ngoohia 'easily'
PPn *kalo-ama > koroama 'fish sp.'

PPn *kakala-luu > kekereruu 'roach'
PNP *masalo > maaharo ~ miiharo 'admire'

PPn *inu > unu 'drink' (Eastern dialects)

PEP *aa-nua-nua > aaniwaniwa 'rainbow'

PPn *fatu-tili > whatitiri ~ whaititi 'thunder'

PPn *tupu > tupu, tipu (Eastern dialect) 'grow'
PPn *tupuqa > tupua ~ tipua 'demon'
PPn *uso > uho ~ iho 'core'
PPn *uto > (po)ito 'float of net'

PPn *fuqanga > hooanga 'whetstone'
PPn *puaka > poaka 'pig'

PNP *tuukau > tuukou ~ tiikou 'handle, haft'

PPn *saa > hae 'appear'
PPn *mafuike > mahuika 'earthquake'
PPn *fai-ngaofie > waingoohia 'easy'
PPn *qete-qete > eti 'be careful'
PPn *pakipaki 'Portuguese man-of-war' > pakepake(tai) 'driftwood'.

PNP *ngalafu > ngaarahu ~ ngaarehu 'charcoal'

PPn *fau-uqi > houi 'tree sp.'
PPn[6] *kawe-au > (kawe)kaweau ~ (koe)koeau 'longtailed Cuckoo'

B.2.10.3.2.1.1b Mooriori

PNP *anake > enaki 'alone'
PPn *moso > meho- 'bird sp.'
PEP *aa-nua-nua > aaniniwa 'rainbow'
PNP *anake > enaki 'alone'
PNP *maaqoli > moori(ori) 'true, genuine'

B.2.10.3.2.1.2 Rarotonga

PTa *angi > angi ~ ange 'plant p.'
PPn *mai > mei 'from'
PPn *uso > i'o 'core'
PPn *uto > (po)uto ~ (po)ito 'float of net'
PPn *uku > uuki(i) 'wipe, scrub'

PNP *falau > 'oorau 'canoe house'[7]
PPn *fuqanga > 'oanga 'whetstone'
PNP *maika > meika 'banana'
PNP *soloqi > 'orei 'wash'
PPn *tahina > teina 'younger sibling of same sex'
PPn *ta-kau > takau 'twenty'

PPn *kai-haqa > keiaa 'steal'
PEP *maitaki > meitaki 'good, pleasant'
PPn *maumau > moumou 'waste'
PPn *ngaofie > ngo'ie 'easily'
PEP *paku-siwi > puku'ivi ~ pokoivi 'shoulder'
PPn *paqaua > paue 'fish p.'
PPn *taa-mau > ta-mou 'fasten'
PCE *tai-mafa > teima'a 'heavy'
PNP *tai-qao > taeao 'early morning'

PTa *mata-kainanga > mata-keinanga 'land of a group'

B.2.10.3.2.1.3 Tahitian

PPn *kai-haqa > 'eiaa 'steal'
PPn *lau-qulu > rouru 'hair of the head'

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[6]   The level of reconstruction is here given as PPn but Mao is the only EP evidence and the comparisons are otherwise problematic. Nevertheless, the form shows a synchronic coalescence phenomenon in Mao, which is a point in itself.

[7]   Biggs (1992).

PPn *lomi* > *rumi* 'squeeze', *(tau)romi* ~ *(tau)rumi* 'massage'
PPn *maalolo* > *maarara* 'flying fish'
PPn *mauku* > *moo'uu* 'grass'
PPn *moso* > *meho* 'bird sp.'
PPn *muka* > *muko* 'growing tip'
PPn *quto* > *uto* ~ *ito* 'sprouting coconut'
PPn *saawaki* > *haava'e* 'sea-urchin'
PPn *tangaqu* > *to'au* 'fish sp.'
PPn *te-kau* > *ta'au* 'twenty'
PPn *tia* > *(tia)tia* ~ *(tie)tie* 'take'
PPn *uso* > *iho* 'core'
PPn *uto* > *(po)ito* 'float of net'
PNP *aa-newa-newa* > *aaniania* 'dizzy'
PNP *maika* > *mei'a* 'banana'
PNP *tau-sinu* > *tahinu* 'tree sp.'
PEP *aa-nuanua* > *aanuanua* ~ *aanuenue* 'rainbow'
PCE *manu-firi* > *manuhiri* ~ *manihiri* 'stanger, guest'
PTa *mata-kainanga* > *mata'eina'a* 'land of a group'

B.2.10.3.2.1.4 Tongarevan (Penrhyn)

PPn *kumi* > *kimi* 'seek'
PPn *loo* > *roa* 'ant'
PPn *tao* > *too* 'spear'
PPn *taqo* > *too* 'cook in earth oven'
PPn *taqo* > *taa(mi)* 'weigh down'

PNP *soloqi* > *sorei* 'wash'
PPn *tahina* > *teina* 'younger sibling of same sex'
PNP *waelo* > *vero* 'tail'

PPn *taqo-kete* > *tookete* 'sibling term'
PEP *wai-rua* > *vaerua* 'spirit'
PCE *koo-wari* > *koovarevare* 'lack'

B.2.10.3.2.1.5 Tuamotuan

PPn *loo* > *roo(e)* ~ *roe* 'ant'
PPn *nonu* > *nono* 'Morinda citrifolia'

PNP *falau* > *foorau* ~ *hoorau* 'canoe house'
PPn *mamangi* > *maamangu* 'plant sp.'
PPn *maqunga* > *maaunga* ~ *moounga* 'mountain'
PPn *mauku* > *maauku* ~ *moouku* 'grass'
PPn *tahina* > *teeina* 'younger sibling of same sex'
PPn *takua* > *taakuo* 'fish p.'
PPn *takupu* > *takuupe* 'bird sp.'

PPn *lau-qulu* > *rouru* 'hair of the head'
PEP *maitaki* > *maitaki ~ meitaki* 'good, pleasant'

PPn *maumau* > *mou* 'waste'
PCE *manu-firi* > *manihini* 'stranger, guest'
PEP *paku-siwi* > *pakihui* 'collarbone'????
PEP *paku-siwi* > *pakihivi* 'shoulder'????
PEP *wai-rua* > *vaerua* 'spirit, soul'

PNP *aa-newa-newa* > *aniania* 'dizzy'
PCE *maa-rehurehu* > *maarehurehu ~ moorehu* 'twilight'

Appendix C:
Samoan tooga 'fine mat, esp. gift mat', a problem in lexical borrowing

Tcherkézoff and his colleagues[1] have recently examined notions of "the gift" for parts of Polynesia, and Tcherkézoff's (1996) contribution considered the Samoan gift mats called *tooga* as did that of Schoeffel (1996). Tcherkézoff and I then began to correspond about the origin of the word and I think I must agree with him that it is analysable as "prestation", much in the sense that Mauss (1925) originally introduced the term to anthropology. The word existed in Proto Polynesian as *ta(a)qonga* (Biggs 1994a, Biggs & Clark 1996) and words ending in *-nga* around Polynesia are most commonly nominalisations of a verbal base. The Samoan pronunciation was probably borrowed from Ton, but not with the present meaning of "gift mats" as is explained below.

PPn *taqo* was polysemous, Biggs (1994a, Biggs & Clark 1996) reconstructing meanings of "cook in earth oven", "press down", "conceal, cover" and, in an apparent fixed transitive construction, *taqofi* 'hold back, restrain'. Tcherkézoff has worked on these etymologies for some years and notes that Biggs' "cook in earth oven" sense is the correct reconstruction given the sources. But Tcherkézoff relates that the sources consistently report that meaning for the living languages, when closer questioning of native speakers almost always results in the clarification "covering the oven to cook". Possibly that meaning comes from the "conceal, cover" sense. As neither has much to do with "gift" or "prestation" Tcherkézoff directs our attention to the "press down" sense. The semantic relation of "press (down)" to "gift" may seem opaque but it is an established concept in anthropology since Mauss (1925). It has to do, amongst other things, with the obligation to reciprocate that acceptance of a gift normally implies in traditional societies. As gifts are typically one's most "treasured possessions" in most island societies, we can think of the "thing pressed upon me" sense of the Tcherkézoff's Maussian interpretation as a kind of diminutive usage ("something they made me take", "something I had to accept"). Recourse to a diminutive usage is not necessary, the overall thrust of Mauss (1925) being that the pressing of gifts upon others is formally understood in many or most traditional societies to be the two-edged sword, mentioned above, with a clear and unequivocal obligation to reciprocate, and the "press" sense being one of some gravity rather than diminutive at all.

Central East Polynesian and Niuean cognates make the vowel configuration of the Proto Polynesian form clear, except for the length of the initial vowel:

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[1]   Douaire-Marsaudon (1996), Schoeffel (1996), Tcherkézoff (1996).

Table C.1: PPn *ta(a)qonga* 'prestation'

PPn	*ta(a)qonga*	'treasured possession, especially a garment'
Ton	*tooga*	'fine mats (Bkr)'
Ton1	*too`onga/poo*	'special gift from a lover (Cwd)'
Sam-	*<tooga*	'a fine mat (Mnr); property (an adopted child was regarded as *tooga*)'
Niu	*taonga*	'goods (Tgr)'
Niu-	*<toonga*	'Samoan mat, blanket (McE)>'
PCE	*ta(a)onga*	'a valuable, treasure (esp. woven cloak)'
PMQ	*taonga*	'a valuable, treasure (esp. woven cloak)'
Haw	*kaona*	'a hidden meaning in poetry (Pki)'
PNM	*tonga*	'a valuable, treasure (esp. woven cloak)'
Mqa	*tona*	'mot qui ajoute ... l'expression l'idée de cher, d'agréable, de favorable, d'estimable, de précieux, d'aimable (Dln)'
Mva	*tonga*	'cloak of bark-cloth'
PTa	*ta(a)onga*	'a valuable, treasure (esp. woven cloak)'
Mao	*taonga*	'a valuable (especially greenstone, woven cloak), treasure'
Mao1	*taaonga*	'a valuable (especially greenstone, woven cloak), treasure'
Rar	*taa`onga*	'load, burden, anything carried (Bse); office, rank, position or title; profession, craft, trade (Sve)'
Rar1	*taonga*	'property, possessions (Etn)'
Tah	*tao`a*	'objet, bien, propriete, richesse; riche; etre riche (Mte)'

Source: Adapted and expanded from Biggs (1994a) and Biggs and Clark (1996).

Biggs (1994a, Biggs & Clark 1996) makes the above reconstruction and an alternate reconstruction in a different entry is *t(a,o)qonga* 'valuable, alienable property', but the evidence for the two is essentially the same; they occur in entries indexed as ".Pn TAOGA" and ".Pn TOQOGA" respectively and that evidence is given in Table C.1.

Tcherkézoff questions the first Tongan form (*tooga* 'fine mats') which he has never been able to confirm from Tongans or other sources (Biggs "(Bkr)" as Baker (1897)), and accepts only the second Tongan form (*too'onga/poo* "special gift from a lover (Cwd)") as relevant to the discussion.

Biggs (1994a, Biggs & Clark 1996) marks the second Niuean form (Niu- *toonga* 'Samoan mat') "not counted as cognate" and certainly it is not, both the form and meaning indicating a borrowing from Samoan and with a regularly agreeing form (Niu *taonga* 'goods') otherwise known. But Biggs also marks the Samoan entry "not counted as cognate", probably due to the failure of agreement of the first Samoan vowel with the reconstruction. A borrowing from Tongan is not necessarily implied from the conventions of *Pollex* but this is the strongest possibility *if the Samoan form is actually irregular*. To determine the regular outcomes of such Proto Polynesian words in Samoan and Tongan, the following Biggs (1994a) forms can be examined, all of which have three vowels, the first being PPn *a* and the second being PPn *o*.

In the first set of agreements it can be seen that such words never show assimilations of the initial *a* when it was long:

Table C.2: PPn *(C)(a)a(C)o(C)V* in Samoan and Tongan I

PPn *faangota* 'to obtain seafood by fishing or hunting on the reef'	Sam *faagota* 'to fish, fishing'	Ton *faangota* 'fish, search for shellfish (or any kind of fingota)'
PPn *katoa* *ka(a)toa* 'all, whole	Sam *'aatoa* 'complete, whole, to be'	Ton *kaatoa* 'all, whole, complete, wholly'
PPn *maalosi* 'strong'	Sam *maalosi* 'strong'	Ton *maalohi* 'strong, powerful'
PPn *taa-noqa* 'bowl for kava'	Sam *taanoa* 'wooden bowl reserved for kava'	Ton *taano'a* 'very large kava bowl'

The second set of agreements involves words whose short vowels did not change in either Samoan or Tongan:

Table C.3: PPn *(C)(a)a(C)o(C)V* in Samoan and Tongan II

PPn *ngaofe* 'curved, bent in curve'	Sam *gaofe* 'bending, yielding'	Ton *ngaofe* 'curved, bent in curve'
PPn *GAOHI* 'Evil-doer (Rby).	Sam *gaoi* 'thief'	Ton *ngaohi* 'Ill treat, attack'
PPn *kasoa* 'necklace'	Sam *'asoa* 'necklace'	Ton *kahoa* 'necklace'
PPn *kaponga* 'fin of fish'	Sam *'aponga* 'fins of small fish'	Ton *kaponga* 'back fin'
PPn *ma-fola* 'spread out'	Sam *mafola* 'spread out'	Ton *mafola* 'spread out'
PPn *manongi* 'fragrant, perfumed'	Sam *manongi* 'sweet-smelling'	Ton *manongi* 'give off pleasant odour'
PPn *PAKOO* 'Noise of an explosive nature.	Sam *pa'oo* 'clash, make an unnecessary amount of noise'	Ton *pako* 'slap oneself on arms or buttocks'
PPn *palolo* 'balolo worm'	Sam *palolo* 'balolo worm'	Ton *palolo* 'balolo worm'
PPn *qalongo* 'fish sp.'	Sam *alogo* 'fish sp.'	Ton *'alongo* 'fish sp.'
PPn *sapotu* 'to pant'	Sam *sapotu/vale* 'pant'	Ton *hapotu* 'pant'
PPn *tamole* 'Portulaca sp.'	Sam *tamole* 'Portulaca sp.'	Ton *tamole* 'Portulacea sp.'

The third set involves words whose initial vowel changed only in Tongan:

Table C.4: PPn *(C)(a)a(C)o(C)V* in Samoan and Tongan III

PPn *ka(a)poa* 'catfish'	Sam *'apoa* 'catfish'	Ton *kopoa* 'catfish'
PPn *katofa* 'appoint a time'	Sam *'atofa* 'appoint a time'	Ton *kotofa* 'appoint a time'
PPn *laqoa* 'to be choked '	Sam *laoa* 'to be choked'	Ton *lo'oa* 'to be choked'
PPn *maqota* 'tree sp.''	Sam *maota* 'tree sp.'	Ton *mo'ota* 'bush sp.'
PPn *safole* 'fish sp.'	Sam *safole* 'fish sp.'	Ton *hofole* 'fish sp.'
PPn *takoto* 'lie down'	Sam *ta'oto* 'lie'	Ton *tokoto* 'lie down, sg.', *taakoto* 'lie down, plural'

Finally, there is a residual group of two which do not change in Samoan and for which Tongan cognates are not presently known:

Table C.5: PPn *(C)(a)a(C)o(C)V* in Samoan and Tongan IV

PPn *kalosi* 'flash, shimmer'	Sam *'aloi/afi* 'sparks'
PPn *magoo* 'general term for sharks'	Sam *magoo* 'shark'

As a group, the above forms present us with a problem in accepting the Samoan form *tooga* as regularly descended from PPn **taqonga* as we have no other examples of Samoan regularly or sporadically making such a vowel change (but see below), while Tongan commonly does. The Tongan form (*too'onga/poo* 'special gift from a lover (Cwd)') does not now mean the same as the Samoan form. But they could have both meant something different again at the time of borrowing. The only other form in Samoan that shows such a vowel change is also suspected of being a Tongan loan, as the final consonant has irregularly changed around Western Polynesia and there was clearly a borrowing of an innovative Post Proto Polynesian consonant pronunciation through that area: PPn **maaqoli* 'true, genuine' > Ton *mo'oni* 'true, genuine', Sam *(fa'a)maoni* 'true, loyal', *moni* 'true' (see Chapter 4.3.1).

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