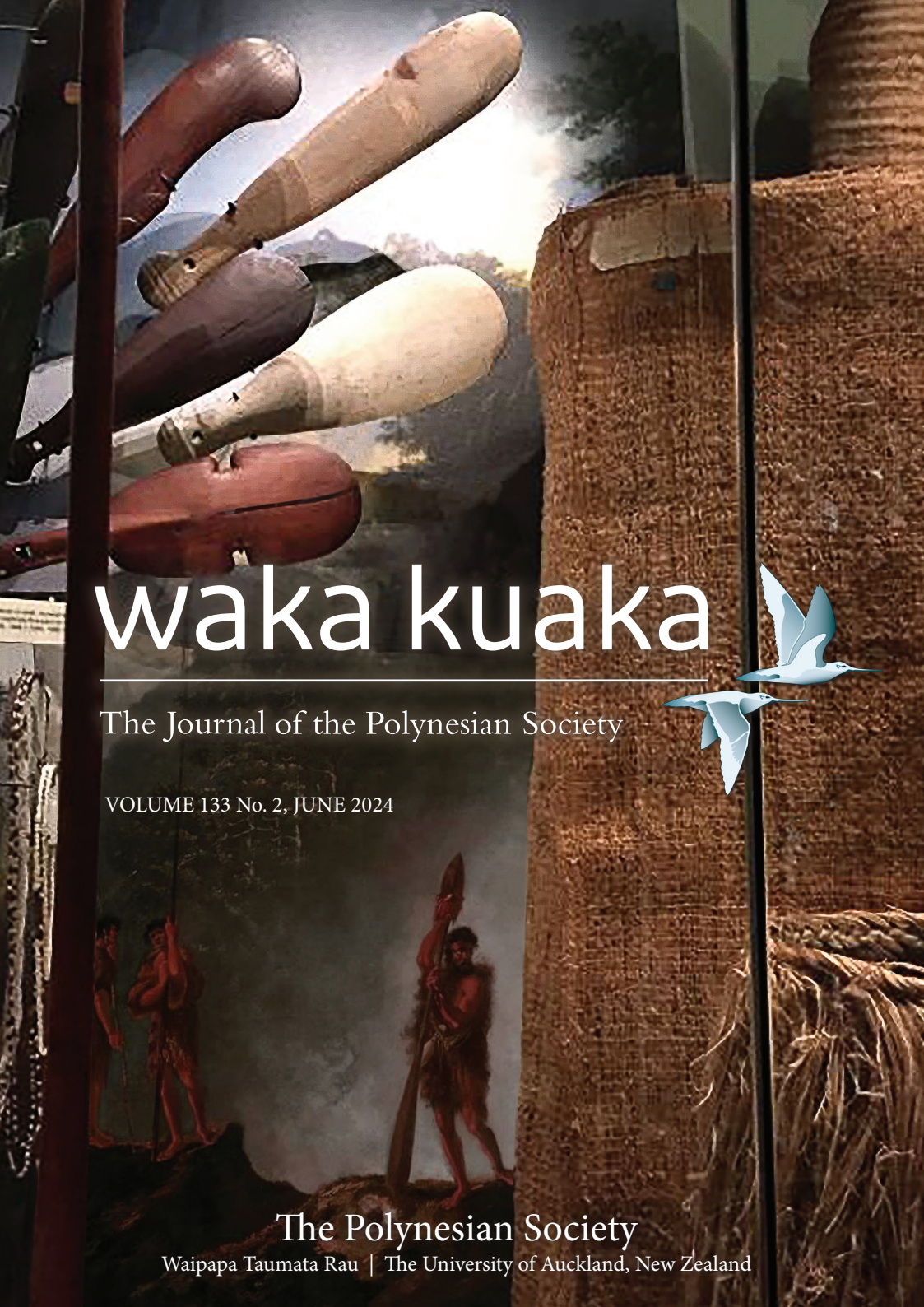




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Cover image: A display cabinet containing items from the Māori collection at the Pitt Rivers Museum in Oxford.
Photograph by Richard Wolfe.

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RETENTION AND LOSS OF PLANT TERMS BETWEEN PROTO-OCEANIC AND MICRONESIAN

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Carleton University

ABSTRACT: What plants did speakers of Proto-Micronesian know about, and what do they tell us about the settlement history of Micronesia? In this paper the Micronesian reflexes of Proto-Oceanic plant terms are surveyed. The data points to a settlement scenario that starts with high islands, and excludes an “island-hopping” scenario via closest low islands.

Keywords: Proto-Micronesian, Proto-Oceanic, plant terms

Micronesian-speaking peoples have been living in the vast area of the Western Pacific spanning over 40 degrees of longitude from Sonsorol to Kiribati over the last two millennia. Language, archaeology, genetics and oral history point to a broad consensus about the timeline of their arrival into the islands (Athens 2018, among others). Still, many details remain open to question, and many aspects of the evidence have not been explored. This paper fills one of the gaps by examining the fate of ancestral plant terms in Micronesian languages.

The argument runs as follows. A term for a plant retained in a modern language from its reconstructed form in the proto-language strongly implies a continuous transmission of knowledge of that plant, and thus direct contact and experience with it. Such a retention, thus, can constrain possible scenarios of deep history: it would exclude a scenario where the speakers lived in an environment where that plant was absent. In particular, a prolonged settlement of a species-poor atoll environment would be incompatible with retention of terms for plants absent on atolls. As I hope to demonstrate in this paper, the Micronesian evidence points to a settlement scenario involving continuous contact with high-island flora, and excluding a prolonged period of settlement on low-lying atolls.

In this study I focus on *linguistic Micronesia*, the territory inhabited by people speaking languages belonging to the Micronesian linguistic subfamily. Micronesian is a well-defined proper subgroup of Oceanic (Bender *et al.* 2023; Bender and Wang 1985; Jackson 1983, 1986; Pawley 2018), and ultimately of Austronesian languages. Geographic Micronesia includes several other linguistic subgroups, reflecting distinct waves of arrivals (Athens 2018; Kirch 2017; Liu *et al.* 2022; Pawley 2018). In addition to Micronesian languages, other members of the Austronesian

family are spoken in geographic Micronesia: two languages more closely related to Western Malayo-Polynesian (Chamorro, spoken on Guam and in the Marianas, and Palauan); Yapese, an Oceanic outlier (Ross 1996); and the two Polynesian outliers, Nukuoro and Kapingamarangi.

Geographically from west to east, Micronesian languages include Chuukic, a dialect continuum extending “from Sonsorol to Chuuk” (Quackenbush 1968); Pohnpeic, including Pohnpeian, Mokilese and Pingelapese; Kosraean; Nauruan; Marshallese and Kiribati (or Gilbertese). In previous literature, Nauruan was considered a coordinate branch with Nuclear Micronesian (Nathan 1973). Following work by Hughes (2020a, 2020b) and Blumenfeld (2022), the nuclear/non-nuclear distinction is no longer necessary: Nauruan is a member of the Micronesian family.

The vast majority of Micronesian islands are low-lying coral atolls. Such are the Marshall Islands, Kiribati and most islands in the Western Carolines. Three high islands are present in the region: Chuuk, consisting of several nearby islands within a reef, Pohnpei and Kosrae. (Yap, Palau and Guam, high islands in geographic Micronesia, are inhabited by speakers of languages outside of the Micronesian family.) There are also several raised coral atolls, notably the isolated Banaba and Nauru.

While the uncontroversial cross-disciplinary consensus is that ancestors of modern Micronesian speakers arrived to the region from some point or points in the Oceanic-speaking area ranging from the Admiralties to northern Vanuatu, the details of how the settlement took place are uncertain; several hypotheses can be entertained. One possibility is the *island-hopping* scenario, where populations gradually settle a new region proceeding via closest land. In the case of Micronesia, such an island-hopping path for settlers from Melanesia would take them in a series of relatively short trips across the atolls of Tuvalu and Kiribati before they arrive at the high islands in the Carolines, implying a lengthy period in a low-island environment. On the other hand, direct settlement of the high islands of Micronesia from island Melanesia would require long-distance voyages. If indeed settlers first arrived on a high island, at least two other possibilities arise. One is *single settlement and radiation*, where a single island is occupied by a community, followed by radiative expansion to other islands over time. Another possibility is *multiple settlement and network breaking*: near-simultaneous arrivals on islands by communities that are interconnected, either from the start or following their arrival, and subsequent breaking or reconfiguring of the network.

The archaeological record appears to point to the last of these scenarios. There are overlapping time estimates for the earliest settlements across Micronesia (Athens 2018; Carson 2013; Kirch 2017; Rainbird 1995, 2004). Both the high islands and the atolls in the Marshalls and Kiribati were “occupied virtually at a single point in time, between about 1,800 and 2,000 years ago” (Athens 2018: 279). While Micronesian pottery styles vary across the three high islands, they are generally related to the style of late Lapita

plainware pottery (Athens 1990a; 1990b; 2018: 284; Intoh 1999; Rainbird 1999). Athens takes this as evidence against an island-hopping pattern of settlement; a more likely scenario is that colonisation of Micronesia originated from several distinct points in the Lapita homeland, and the settlers arrived at multiple points in Micronesia nearly simultaneously. Rainbird (1995) points out other possible scenarios, such as initial settlement of Pohnpei followed by settlement of Chuuk and Kosrae at a later date.

Linguistic evidence tentatively supports near-simultaneous settlement, but both the external connections and internal subgrouping of Micronesian are subject to debate. It is clear that Micronesian languages are related to Oceanic languages to the south, and that Micronesian forms a proper subgroup of Oceanic (Jackson 1986, among others), diagnosed by a number of shared innovations. It is a first-order subgroup in the rake-like, flat Oceanic tree (Ross *et al.* 2023). Such a tree structure suggests rapid expansion and break-up of the Oceanic-speaking community (Pawley 2018; Pawley and Ross 2006), but it also means that the linguistic signal of the geographic origins of Micronesian within Oceanic is weak. Identifying the closest Oceanic relative of Micronesian, and the locus of pre-Micronesian speakers in Melanesia or Remote Oceania, has proved challenging. There are competing claims, all tentative, placing those origins in Malaita-Cristobal (Blust 1984, 1986, 2010; but see Lichtenberk 2010), north-central Vanuatu (Jackson 1986) and the Santa Cruz islands (Song 2009). An interesting underexplored claim first due to Smythe (1970) is that Micronesian shares affinities with languages of Manus Island (see Ross 1988: 326).

Yet, the fact that Micronesian is an innovation-defined subgroup means that a population ancestral to modern Micronesians must have lived as a community separate from the rest of Oceanic, but internally connected, for a sufficient time in which innovations could accumulate. These facts are compatible with a single-settlement and single-origin scenario, where a connected ancestral population settles the new territory and, after a pause, expands outward. But the facts also do not contradict the multiple-points origin and multiple-island settlement advocated by Athens: possibly heterogeneous communities maintain contact between islands spreading shared innovations across the entire network.

The internal structure of the family is also a complicated matter. One model, developed by Jackson (1983), focuses on its arboreal structure, i.e., identifies subgroups defined by linguistic innovations. Jackson's tree, adapted by Bender *et al.* (2003a: 3; 2023) and reproduced here in Figure 1, depicts subsets of languages that underwent common changes. Because, for example, all languages except Kosraean (KSR) form an innovation-defined subgroup in this tree, it suggests that Kosraean was the first to branch off. More generally, the picture implies differentiation from the high islands outward, and a general direction of expansion from east to west. Intermediate nodes in the tree refer to putative interstages in the history of the family. See Bender *et al.* 2023 for details.

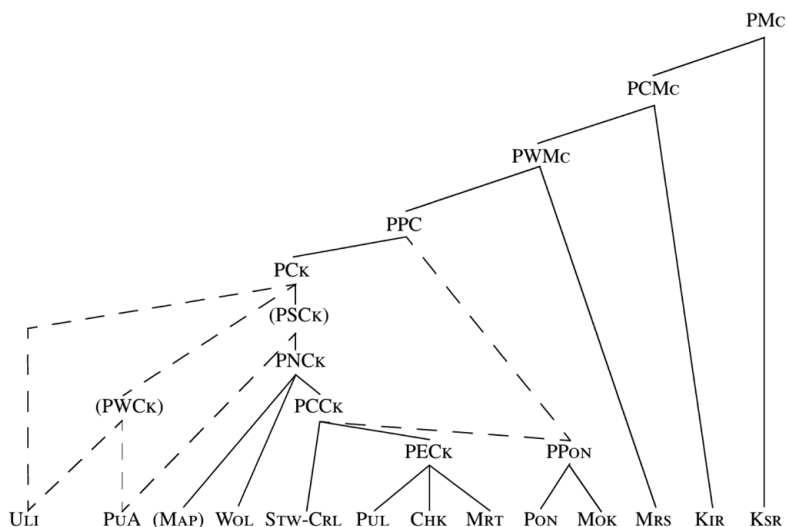


Figure 1. The Micronesian family (Bender *et al.* 2003a: 3; 2023).

A literal reading of the tree implies the initial settlement of Kosrae and subsequent stepwise radiation. As Kenneth Rehg notes, the tree would mean that “Micronesia was settled by a series of discrete moves through the islands, and that at each point where we identify a subgroup, there was a pause of sufficient duration to allow a unique set of innovations to develop by which we can identify the subgroup” (1995: 314). Yet, such a tree cannot be taken unreflectively as a depiction of the historical radiation pattern. The arboreal structure illuminates some aspects of the data: subgroups of languages defined by common sets of innovations. Still, there are other aspects of the data which it hides: situations where sets of languages showing common innovations overlap, as found in dialect continua. In early Oceanic, rapid expansion with subsequent network breaking was “the rule rather than the exception” (Pawley and Ross 2006: 55; see also François 2014; Geraghty 1983; Marck 1986; Pawley and Green 1984; Rehg 1995). Network breaking creates a linguistic signature: a complicated pattern of interlocking innovations giving rise to dialect continua, or linkages. Such a wave structure is not necessarily incompatible with Jackson’s tree, but rather reflects different aspects of the data. Such a continuum is apparent in the Chuukic branch of Micronesian (Jackson 1983; Quackenbush 1968) and remains to be explored for the higher branches (Blumenfeld 2022). In sum, in the state of present knowledge the internal linguistic structure of Micronesian does not definitively exclude any of the settlement scenarios.

Another area is lexical evidence: reconstructed terms for the physical environment, including names of plants and animals, stand as witnesses to the material world with which the speakers interacted. Previous literature on such terms is discussed in the following section. In the main part of the paper I turn to lexical evidence from Micronesian plant terms. In short, the task at hand is to cross-reference data on lexical retention of plant terms with data on plant distribution across the islands. It will be apparent that ancestors of Micronesians knew about high islands.

PREVIOUS WORK ON LEXICAL EVIDENCE

Many Proto-Oceanic terms referring to high-island features do not survive in Micronesian. There are no reflexes of POC *koro ‘mountain, hill’,¹ POC *p^waka(r,R) ‘steep rocky ground, cliff’, POC *rau(n) ‘flat land’, POC *mala ‘valley, ravine’ or POC *waiR ‘fresh water; river, stream’. (Language abbreviations are listed at the end of the paper.)

Still, in a survey of Micronesian physical environment vocabulary, Marck (1994) identified several clear retentions. POC *solos ‘inland mountain country, highland interior’ > PMC *Solo ‘peak, hill’ is reflected in all branches of Micronesian except KIR and NAU, including in languages spoken on atolls, e.g., MRS *te/w* ‘mountain, hill’. Related to it is the verbal sense of the root, *(s,S)olo ‘fade from view, sink, subside’, present at least in Chuukic. Likewise, POC *qutan ‘bushland, hinterland’ > PMC *uta is retained in MOK, MRS, KSR and NAU. Marck (1994: 320) places some significance on KSR *unohn* ‘spring, well’, corresponding, with reduplication, to PPN *puna ‘bubble or well up (of water); a spring’ (Pollex, Greenhill and Clark 2011), POC *puna ‘base of a tree; source, origin’ (ACD, Blust *et al.* 2023). Marck also notes MRS *wūn* ‘base, basis, root’ (Abo *et al.* 2009 [1976]); KIR *un* ‘principal or central root’ (Trussel and Groves 2003). This etymology is important because low islands have no freshwater springs.

At least two animals were identified by Marck (1994) as belonging to high-island fauna. POC *tuna ‘freshwater eel’ is retained in KSR *ton*; it is found only on islands with freshwater streams. POC *b^weka ‘flying fox, large fruit bat’ > PMC *p^weka ‘kind of bat’, retained in KSR, MOK and PON, may also be indicative, but its distribution may also include at least some low islands. However, Marck did not undertake a systematic survey of animal vocabulary in Micronesian, and I likewise leave animals for another day.

Some additional Micronesian retentions relating to physical environment are worth mentioning. There are two words for ‘lagoon’ in Micronesian. The first set contains reflexes of POC *namo ‘lagoon inside a reef; deep pool or hole in reef’ > PMC *nam^wo ‘lagoon, harbour’. The second, smaller set reflects POC *laman ‘deep sea beyond the reef’ > PMC *lama ‘lagoon, lake’, with a meaning shift encroaching on the meaning of *namo, present in MOK, MRS and KIR. This pair of etyma received attention from Blust

because the semantic shift appears parallel with Cristobal–Malaita languages (Blust 1984: 115; 2010: 562; cf. Jackson 1986: 224; Ross *et al.* 2008: 94).

Despite these occasional retentions, Marck expresses the general impression that little high-island vocabulary survives in Micronesian but suggests that the dearth of high-island vocabulary “is less significant than we have long suspected” (Marck 1994: 326–27). Instead of pointing to a low-island homeland, it may be indicative instead of initial settlement of high islands by coastal populations not interested in interiors, a lack of interest shared by Oceanic speakers more generally (Ross *et al.* 2008: 28). A longer quote from Marck, with a call to look at plant vocabulary specifically, will introduce the rest of the paper:

Thus the results of the present work ... relieve us of some pressure to keep producing more [high-island etyma in PMC]. It seems we now have gone from an ambiguous situation with the linguistic evidence slightly favouring an atoll homeland or atoll filter on the way to the homeland to a situation where we are developing reason to believe high islands were at least part of the overall environment where PMC or its dialects were spoken, and that they applied at least some POC terms to high island features. *We need to look at plants, continuities in their vocabularies and which plants cannot be grown on atolls.* But that is work for another day. (Marck 1994: 327; emphasis mine)

Heeding Marck’s call, this paper looks at the fate of Proto-Oceanic plant vocabulary in Micronesian.²

METHODS AND ISSUES

Scope of the Study

Ross *et al.* (2008) document over 200 POC reconstructed plant terms; this paper discusses just over 50 of them. Many of the the plants with Oceanic etymologies are now and appear to have always been absent from Micronesia. While terms for coastal strand vegetation are often retained, terms for plants from the lowland forest ecosystem, covered in Ross *et al.* (2008, chapters 7 and 8), usually are not.

I will not have much to say about terms for widely cultivated staple crops; there appear to be too few Micronesian retentions in this area of the vocabulary to be a useful source of evidence. Instead, the focus will be on terms for wild plants, although, as many authors have noted, the boundary between wild and cultivated can be fuzzy in Oceania (cf. McClatchey 2012; Ross *et al.* 2008: 27; Whistler 2009). As Athens *et al.* (1996) have documented, deliberate establishment of an agroforest appears to have been an early activity, at least on Kosrae (see also Rainbird 1995).

Some terms for plants common elsewhere in Oceania and reconstructed to POC in Ross *et al.* (2008), but absent or only recently introduced in Micronesia, are as follows:

<i>Albizia</i> sp.	<i>Dillenia schlechteri</i>	<i>Licuala</i> sp.
<i>Alphitonia</i> spp.	<i>Donax cannaeformis</i>	<i>Litsea</i> sp.
<i>Alstonia scholaris</i>	<i>Dracontomelon dao</i>	<i>Myristica</i> sp.
<i>Bischofia javanica</i>	<i>Dysoxylum</i> spp.	<i>Octomeles sumatrana</i>
<i>Burckella obovata</i>	<i>Endospermum</i> sp.	<i>Phaleria tree</i> sp.
<i>Calamus</i> spp.	<i>Falcataria moluccana</i>	<i>Semecarpus forstenii</i>
<i>Caryota</i> sp.	<i>Garuga floribunda</i>	<i>Trema orientalis</i>
<i>Coix lacryma-jobi</i>	<i>Gyrocarpus americanus</i>	<i>Trichospermum peekelii</i>
<i>Corynocarpus cribbianus</i>	<i>Hornstedtia lycostoma</i>	<i>Vitex cofassus</i>
<i>Cryptocarya</i> sp.	<i>Imperata cylindrica</i>	

Conversely, plant terms which are covered in this paper are as follows:

<i>Acalypha</i> sp.	<i>Flagellaria indica</i>	<i>Ochrosia oppositifolia</i>
<i>Atuna racemosa</i>	<i>Flueggea flexuosa</i>	<i>Pangium edule</i>
<i>Barringtonia asiatica</i>	<i>Garcinia</i> sp.	<i>Pemphis acidula</i>
<i>Bruguiera</i> spp.	<i>Glochidion philippicum</i>	<i>Pipturus argenteus</i>
<i>Calophyllum inophyllum</i>	<i>Guettarda speciosa</i>	<i>Pisonia</i> spp.
<i>Camptosperma brevipetiolatum</i>		<i>Planchonella</i> spp.
<i>Casuarina equisetifolia</i>	<i>Heritiera littoralis</i>	<i>Pongamia pinnata</i>
<i>Cerbera</i> spp.	<i>Hernandia nymphaeifolia</i>	<i>Premna</i> spp.
<i>Cinnamomum</i> spp.	<i>Hibiscus tiliaceus</i>	<i>Pterocarpus indicus</i>
<i>Commersonia bartramia</i>	<i>Hoya</i> sp.	<i>Rhus taitensis</i>
<i>Cordia subcordata</i>	<i>Intsia bijuga</i>	<i>Scaevola taccada</i>
<i>Decalobanthus peltatus</i>	<i>Ipomoea</i> spp.	<i>Terminalia catappa</i>
<i>Derris</i> sp.	<i>Kleinhovia hospita</i>	<i>Thespesia populnea</i>
<i>Dolichandrone spathacea</i>	<i>Laportea, Dendrocnide</i> spp.	<i>Vitex trifolia</i>
<i>Elaeocarpus angustifolius</i>	<i>Lygodium circinnatum</i>	<i>Wollastonia biflora</i>
<i>Erythrina variegata</i>	<i>Macaranga</i> spp.	<i>Xylocarpus granatum</i>
<i>Fagraea berteroa</i>	<i>Miscanthus floridulus</i>	
<i>Ficus strangler</i> taxon	<i>Nypa fruticans</i>	

The paper focuses on linguistic Micronesia, i.e., geographic Micronesia including Marshall Islands, Nauru and Kiribati but excluding the areas where Chamorro, Palauan, Yapese and the Polynesian Outlier languages are spoken. Banaba, while linguistically Kiribati-speaking, possesses a distinct plant environment. Its plant terms were subject to a separate survey (Thaman and Samuelu 2016), and thus it is treated as its own category in this paper.

Data Sources and Data Presentation

This paper brings together two kinds of data: linguistic data on plant terms and botanical data on plant distribution. Linguistic data consists of vernacular plant terms and etymological hypotheses about cognatehood with other terms and descent from reconstructed protoforms in Proto-Oceanic (POC) and Proto-Micronesian (PMC). It is sourced from general works on Oceanic and Micronesian families, general plant checklists, dictionaries of specific languages and botanical surveys and checklists of individual islands. These linguistic data sources are cited by abbreviation in the data appendix, and the abbreviation list appears at the end of the paper. Etymological claims are discussed and updated in several cases in this paper.

Botanical data consists of information about presence or absence of a given plant at a given location, and claims about its status as indigenous or introduced. This information was obtained from Fosberg (1979, 1987), Wagner *et al.* (2012) and POWO (2023). In addition, many works serve as a source of both linguistic and botanical data; such are Balick (2009), Thaman (1987), Thaman *et al.* (1994) and Thaman and Samuelu (2016). Languages are referred to by the same abbreviations as in the *Micronesian Comparative Dictionary* (Bender *et al.* 2003a, 2003b, archived online as Bender *et al.* 2023) and Ross *et al.* (1998–2023).

Reconstructed POC forms are given in the orthography of Ross *et al.* (1998–2023) and PMC forms in the orthography of Bender *et al.* (2023). Data from spoken languages is shown in the form found in the source. While keeping source orthographies causes the data to be presented in a nonhomogeneous way, it was not practical to bring all data into a uniform transcription system, not just because of the variety of conventions used in sources, but because some key sources lack a transcription system altogether. This is particularly apparent in the case of data from Falanruw *et al.* (1990), which gathers forms from multiple sources, some in standard orthographies, others in ad hoc transcriptions used by nonlinguist fieldworkers.

What Counts as Evidence?

While the task of cross-referencing data on plant distribution with data on protoform retention appears straightforward, there are several complications and limitations.

On the linguistic side, inferences about retention are only as good as the input data. On the whole, data quality for Micronesian and Oceanic plant terms is high, but it varies from language to language, ranging from extremely detailed ethnobotanical and lexicographic work on Pohnpeian (Balick 2009; Sohl *et al.* 2022) to sparser documentation on Kosrae (e.g., the vast majority of tree terms in Lee 1976 are glossed as ‘kind of tree’). There are no doubt some plant term retentions that remain unknown. Sound correspondences for Micronesian and Oceanic are well worked out (Bender *et al.* 2023; Ross *et al.* 1998–2023), such that if a form is known, it is usually possible to tell if it is a reflex of a known protoform or a cognate of another form in a sister language. However, not all data is available in high-quality transcriptions; much data amassed by Falanruw *et al.* (1990), for example, is transcribed impressionistically.

While reconstructions themselves might be secure, more uncertainty lies in what the “words and things” method of inferring prehistory from vocabulary can and cannot do (Blust 1986; Epps 2015; Geraghty 2004, 2022; Heggarty 2015; Mallory 2021). Imputing a reconstructed form to a proto-language is not a mere consequence of observing regular reflexes in daughter languages. As Geraghty (2004: 66) notes, one “irreverent wag” discovered a Proto-Micronesian reconstruction for ‘motorcar’ based on regular sound correspondences;³ another one found the Proto-Algonquian word for ‘whiskey’ (Bloomfield 1946). Lateral influence of certain antiquity—even not very great antiquity—can create false cognate sets. Particularly in situations of intense contact, inheritance from the proto-language might not be distinguishable from later borrowings. Such lateral influence, however, obscures the lower structure of the family tree more so than reconstructions at the family level.

Heggarty’s (2015) criticism of the “words and things” method focuses on terms for technological innovations, whose meanings can develop independently along similar pathways in different branches of the family and create false reconstructions, such as Heggarty’s example of ‘computer mouse’ reconstructible to at least Proto-Germanic, if not Indo-European. Plant terms are not subject to such criticism in an obvious way.

An interesting consequence of the problem of lateral influence is that the weight of evidence of an isolated reflex in a single language is at least as strong, and perhaps even stronger, than the weight of a chain of reflexes across neighbouring languages which may have arisen through lateral influence. An example in the Micronesian data are retentions of the words for *Garcinia* and for *Planchonella* in Pohnpeian and apparently nowhere else in the family.

A related problem is that inference from a protoform to claims about the physical environment are only as strong as our certainty about the meaning of that protoform. Generally for plant terms examined here, there is strong

agreement in the glosses of the descendant languages. Meaning shifts, when they occur, are mostly well motivated, such as the change from *Derris*, a vine used for fish poison, to *Barringtonia*, a tree used for the same purpose, which took place in Marshallese, spoken where *Derris* is absent. For the vast majority of etyma there is little reason to doubt the meanings of the protoforms.

While these general methodological problems complicate the analysis, I believe they do not undermine the basic conclusions of the study. I will return to these issues in the conclusion, asking the following question: what scenarios other than direct inheritance could have produced the observed data?

There are also serious caveats and limitations on the botanical side. Reports of presence and absence of plants in modern checklists and surveys do not guarantee an identical state of affairs at the time of settlement. A plant reported ‘present’ is not necessarily indigenous to an island. Many sources (e.g., Balick 2009; Fosberg *et al.* 1979; POWO 2023; Thaman 1987; Thaman *et al.* 1994) classify plants as indigenous or introduced, but, as Fosberg *et al.* (1979: 44) note, “[i]n many cases it is difficult to be sure how plants got to the islands, and we have used our best judgement”.

Likewise, a plant reported “absent” might have been indigenous to an island at an earlier time and become extinct more recently. No doubt this is the case for at least some species on Nauru and Banaba, whose ecosystems suffered radical disturbance in the last century due to phosphate mining. Ecosystems of other islands, both high and low, are also different today than they were at the time of settlement, due to both modern and aboriginal influence. Both human and natural causes contribute to uncertainty about the indigenous status of a plant on an island. On islands subject to catastrophic droughts, for example, such as Banaba, only the hardiest species survive, and other plants needed to be reintroduced (Alkire 1978: 17). Thus, even plants that appear wild may be brought to a place by humans.

As noted above, the wild/cultivated distinction in Oceania is not a sharp one. In contrast to well-understood recent introductions, it is difficult to distinguish an indigenous plant from an early aboriginal introduction. An example of such uncertainty is *Thespesia populnea*: while adapted to oceanic dispersal, the tree, useful for its wood (Balick 2009: 434), may have been an early canoe plant, and is listed as such for Polynesia in POWO (2023), though not by Fosberg *et al.* (1979). On the other hand, the kou tree in Hawai‘i (*Cordia subcordata*), previously thought to have been an aboriginal introduction, was recently found to be indigenous (Prebble 2008).

Other complexities on both the linguistic and botanical sides arise due to contact between islands, as already mentioned in the introduction. Exchange systems such as the well-known *sawei*, an extensive contact and exchange network in the Western Carolines, as well as smaller interisland systems such as the “hook” *hū* (Alkire 1977: 49; 1978: 119), ensured formalised

contact between distant islands, but also facilitated less formal everyday interactions that no doubt served as a vehicle for both plants and plant terms. Frequency of interisland marriages attests to close contacts (Alkire 1978: 124). Contact between Marshall Islands and Mokil is another example of a long-standing channel of linguistic borrowing (Rehg and Bender 1990), as is the Kiribati–Nauru connection (Blumenfeld 2022). In recent and not-so-recent prehistory, populations of entire atolls in the Western Carolines suffered conflict-driven replacement (Alkire 1978: 116), e.g., Ifaluk–Woleai, Lamotrek–Satawal. Such interactions weaken the inferences that can be drawn from the presence or absence of a plant or term on a single island, particularly low islands with small populations.

To the extent the interisland communication network was present at the time of settlement, as in the *network-breaking* scenario mentioned in the introduction, the methods of historical linguistics run up against a general limitation. In studying linguistic linkages typical of Oceania, terms related by common descent are indistinguishable from terms that are due to contact and borrowing within an early settlement community that was still linguistically uniform between islands in close contact. Linguistic evidence alone cannot distinguish one from the other. Thus, it is probably futile to look for lexical evidence of which of the three high islands (Kosrae, Pohnpei, Chuuk) is a likely first point of settlement. Even if such a first point of settlement did in fact take place, whatever lexical imprint an island may have left on Proto-Micronesian would have been obscured by subsequent contact and borrowing.

Rather, instead of attempting to reconstruct fine-grained settlement scenarios on the basis of noisy data where the signal of individual islands is obscured, we may seek the lexical imprint of an environment *type*, such as that of a high island vs. a low-lying atoll. As I hope to demonstrate below, such a signal is more stable and detectable after two millennia of history.

RESULTS

I now turn to the fate of wild plant terms in Micronesian. The key observation is that retention is possible even in absence of a plant on low islands. Such retentions point to a PMC speech community that was aware of high-island features at the time of initial settlement of the three main high islands.

General Retention Patterns

While retention or loss of any individual etymon is a largely random event, there are some broad expectations. Most obviously, a word is more likely to be retained the more frequently it is used, which in the case of plants is related to the plant’s usefulness to the speakers. As Ross *et al.* (2008: 428) put it, “[t]here appears to be a reasonably high correlation between the durability

of a POC plant name and the plant's frequency of use". Thus plants with many and diverse uses might be denoted by more stable terms. Epps (2015) discusses similar conclusions based on evidence from other language families.

Pawley (in Ross *et al.* 2011: 142), citing personal communication from Malcolm Ross, suggests another factor influencing retention likelihood, orthogonal to frequency. Retention is more likely for those terms whose denotation is sharply distinct from other denotata. In the case of plants, terms for visually or functionally distinct taxa are more likely to be retained than those denoting vague or overlapping categories. Together these and possibly other factors create a hierarchy of retention likelihood. Such a hierarchy for fish terms was investigated by Pawley (Ross *et al.* 2011: 137).

While distinctiveness might be difficult to quantify, the usefulness of a plant has been quantified by Thaman (1992), who simply counted the number of documented uses for the most common taxa. The claim that more useful plant names are more commonly retained can thus be tested by checking the correlation between Thaman's use counts and some measure of how often a term is retained. I computed such a *retention index* (RI) by counting the number of primary branches of Oceanic that show retentions of a given POC etymon, as documented in Ross *et al.* (2008). A total of 28 taxa have both a retention index and a use count in Thaman (1992) (excluding *Cocos nucifera*, an outlier with 127 uses), shown in Table 1. The two measures do indeed correlate, albeit weakly ($r(26)=0.35$, $p=0.07$).

In the remainder of this section I examine approximately 60 plant terms, starting with the most widely distributed and then turning to plants with progressively narrower distribution. For each POC term, information will be provided on its fate in nine Micronesian languages or groups of languages, distinguishing retention, replacement by a new term, absence of data and absence of plant in the locale in question. Full data with notes on some individual terms is given in the Appendices.

Cosmopolitan Species

There are a small number of hardy, pan-tropical, cosmopolitan trees and shrubs found on all island types, including low-lying atolls, and reported present across Micronesia. Reconstructed terms for such plants are well supported for POC and are mostly retained in PMc. While retention of such vocabulary is not informative about settlement history, it serves to introduce general retention tendencies across the Micronesian family.

The data is presented in Table 2. As a reminder, language abbreviations are found at the end of the paper. ECH refers to eastern Chuukic, spoken on the high islands of Chuuk, while WCH are Chuukic varieties spoken on atolls. The following abbreviations are used here and in the rest of the section and summarised under each table: an "R" indicates retention of the POC term; an en dash (–) indicates data absence, i.e., the plant is reported present and

Table 1. Plant uses and retention index.

	Uses	RI
<i>Hibiscus tiliaceus</i>	57	11
<i>Pandanus tectorius</i>	53	11
<i>Calophyllum inophyllum</i>	43	7
<i>Cordia subcordata</i>	40	6
<i>Guettarda speciosa</i>	36	5
<i>Scaevola taccada</i>	32	6
<i>Pemphis acidula</i>	30	7
<i>Thespesia populnea</i>	26	3
<i>Rhizophora</i> spp.	25	3
<i>Casuarina equisetifolia</i>	22	8
<i>Premna serratifolia</i>	22	7
<i>Morinda citrifolia</i>	22	5
<i>Pipturus argenteus</i>	21	8
<i>Terminalia catappa</i>	21	8
<i>Ficus tinctoria</i>	21	9
<i>Erythrina variegata</i>	19	3
<i>Inocarpus fagifer</i>	18	4
<i>Hernandia sonora</i>	18	8
<i>Pisonia grandis</i>	17	6
<i>Bruguiera gymnorhiza</i>	16	11
<i>Nypa fruticans</i>	14	3
<i>Barringtonia asiatica</i>	14	11
<i>Intsia bijuga</i>	13	6
<i>Cycas circinalis</i>	13	5
<i>Cerbera manghas</i>	10	3
<i>Crinum asiaticum</i>	9	4
<i>Neisosperma oppositifolia</i>	8	4
<i>Ipomoea pes-caprae</i>	7	9

appears to be indigenous, but the vernacular name is not available to me; and a blank cell indicates that a term is known but is not a retention from POC. The last two columns show the number of uses from Thaman (1992: 21–22) and the retention index (RI) as described above, where available.

A general observation from this table is that Pohnpeic and Chuukic languages, on the whole, retain more terms, while Kosraean, Nauruan and Marshallese retain fewer, and Kiribati is somewhere in the middle. Most terms are known, with the exception of *Thespesia populnea* in Marshallese and several terms for *Vitex trifolia*.

There are four terms for widely distributed plants with no apparent reflexes in Micronesian languages, listed in Table 3. For the nettles, *Laportea* and *Dendrocnide*, terms in several languages are unknown. While such complete loss of a POC term is not particularly informative, it is interesting that in all but one case there is no PMC-level innovation. The one PMC-level innovation is the word for *Guettarda speciosa*, PMC *uSi (ULI *iuth*, PON *ihd*, KSR *i* ‘kind of tree’, NAU *iut*, KIR *uti*, MRS *wut* (F)).

Additionally, also note that PMC *[ce]ceni ‘*Heliotropium arboreum* (Blanco) Mabb. (syn. *H. foertherianum*, *Messerschmidia argentea*, *Tournefortia argentea*)’ is one example of a pan-tropical plant common in Micronesia and elsewhere on high as well as low islands with a PMC-level reconstruction and no cognates elsewhere and no higher-level reconstruction.

Species Absent on Nauru and Banaba

Nauru and Banaba are species-poor. Apart from their isolation, these islands are subject to periodic droughts that wipe out all but the hardiest species. Many common tropical plants, such as *Pemphis acidula*, *Ficus tinctoria*, *Pipturus argenteus* and *Ochrosia oppositifolia*, are absent on these raised atolls (Thaman *et al.* 1994: 20). According to Thaman *et al.* (1994: 19), dicots on Nauru consist “almost exclusively of salt-tolerant, widely-dispersed, pan-tropical coastal species”. Because the low plant diversity is in part due to the natural environment and isolation, it must have been similar at time of initial settlement, but in addition, both Nauru and Banaba, phosphate-rich raised atolls, have suffered drastic environmental disruption due to mining, which almost certainly exterminated at least some species originally present. Thus, absence of a plant on these islands may be recent.

As Table 4 shows, there are several plants with POC terms that are reported absent on Banaba or Nauru but are otherwise widely distributed. Of these, four terms are clearly retained from POC, while the terms for *Intsia* and *Wollastonia* are not; PCk *adúadú appears related to the POC etymon but is a loan because PCk *-t- is expected from POC *-t-; cf. Ross *et al.* (2008: 133).

Table 2. Retention of POC terms for cosmopolitan species.

POC	Taxon	WCh	ECh	POn	MOK	KSR	NAU	BAN	KIR	Mrs	Uses	RI
*(p,b)anaRo	<i>Thespesia populnea</i>	R	R	R	R	R				–		3
*putun	<i>Barringtonia asiatica</i>			R	R		R		R		14	11
*pitaquR	<i>Calophyllum inophyllum</i>	R		R	R	R	R	R	R	R	43	7
PRO *buka	<i>Pisonia</i> spp.			R?		R?		R?	R?		17	6
*qarop	<i>Premna</i> spp.	R	R	R						R	22	7
*qayawan	<i>Ficus</i> strangler taxon	R?	R	R	R		R	R	R		21	9
*paRu	<i>Hibiscus tiliaceus</i>	R	R		R			R	R		57	11
*na[su]-nasu	<i>Scaevola taccada</i>	R	R	R						R	32	6
*kanawa(n)	<i>Cordia subcordata</i>	R	R		R						40	6
*drala	<i>Vitex trifolia</i>	–	R		–	–					11	4

Note: R: retention of POC term; en dash (–): no term is known; blank cell: term with no POC etymology.

Table 3. Loss of POC terms for cosmopolitan species.

POC	Taxon	WCh	ECh	POn	MOK	KSR	NAU	BAN	KIR	Mrs	Uses	RI
*puRe	<i>Ipomoea</i> spp.										7	9
*[pwano] pwano	<i>Guettarda speciosa</i>										36	5
*talise	<i>Terminalia catappa</i>											8
*[ja]latonj	<i>Laportea & Dendrocnide</i> sp.				–	–	–			–		8

Note: en dash (–): no term is known; blank cell: term with no POC etymology.

Table 4. Retention and loss of POC terms for plants absent on Nauru or Banaba.

POC	Taxon	WCH	ECH	PON	MOK	KSR	NAU	BAN	KIR	MRS	Uses	RI
*biRi-biRi	<i>Hernandia nymphaeifolia</i>			R	R	R		Ø	R	R		8
*toŋoR	<i>Bruguiera</i> sp., mangrove	R	R	R?			R	Ø	R	R	16	11
*ŋiRac	<i>Pemphis acidula</i>	R	R	R	R		Ø	Ø	R	R	30	7
*qaram ^{wa} qi	<i>Pipturus argenteus</i>	R	R		R		Ø	Ø	R	R		8
*(gate-)qate	<i>Wollastonia biflora</i>				–	–	Ø					2
*qipil	<i>Intsia bijuga</i>	–				–	Ø	Ø	Ø		13	5

Note: R: retention of POC term; en dash (–): no term is known; blank cell: term with no POC etymology;
Ø: plant reported either absent or recently introduced.

Table 5. Retention of POC terms for species absent on low islands.

POC	Taxon	WCH	ECH	PON	MOK	KSR	NAU	BAN	KIR	MRS	Uses	RI
*(q,k)atita	<i>Atuna excelsa</i>	ØRS	R	R	ØRS?	R	Ø	Ø	Ø	Ø	5	8
*buRat	<i>Fagraea berteriana</i>	Ø	R?	R	ØRS	R?	Ø?	Ø	Ø	Ø	6	11
*kalaka	<i>Planchonella</i> sp.	Ø	–	RS	Ø		Ø	Ø	Ø	Ø	6	7
PRO *vuba	<i>Derris</i> sp.	RS	R	R	RS	R	–	R?	Ø	ØRS	2	8
*[baR]baR	<i>Erythrina variegata</i>	R	R	R	Ø	–		Ø	Ø	Ø?	3	2

Note: R: retention of POC term; RS: retention with meaning shift; en dash (–): no term is known; blank cell: term with no POC etymology; Ø: plant reported either absent or recently introduced.

Species Absent on All or Most Low Islands

Several POC terms for plants systematically absent on all or almost all low islands are retained in PMC, shown in Table 5. All but one of the plants, *Derris* vine, are also absent on Nauru and Banaba.

The retention of these POC terms in Micronesian languages is significant and indicative of a settler population that was aware of these plants, excluding a long-term low-island bottleneck scenario of settlement.

Perhaps the strongest evidence comes from the retention of **(q,k)atita* ‘*Atuna excelsa* subsp. *racemosa* (syn. *Parinari laurina*), putty nut’. It is systematically absent on low islands (Kiribati, Marshalls, Nauru, Banaba and atolls in the Carolines) and present on all three high islands in the Carolines (Kosrae, Pohnpei and Chuuk). It occurs at upper elevations on Kosrae in dense stands (Maxwell 1982: 116). The POC etymon, **(q,k)atita*, PMC+ **atita* (PPC in Bender *et al.* 2023), is retained on high islands (CHK *ais*, PON *ais*, KSR *aset* (F90)) and retained, sometimes with an apparent shift in meaning, on some low islands where *Atuna* is not found, such as MOK *ayj* ‘tree sp.’, WOL *yaise* ‘tree with fragrant fruit’. NML *eis* is glossed as ‘*P. sp.*’ (Davis 1999: 200), despite the fact that the plant is absent on the island; speakers of Western Caroline islands in close contact with high islands may have retained terms for plants absent in their home.

Likewise, **buRat* ‘*Fagraea berteriana*, pua kenikeni’, present only on high islands, is generally retained there. The situation is complicated by another POC etymon, **p^wi(r,R)a* ‘*Cananga odorata*’; the PON term *pwuhr* covers both trees, and is compatible with both of these POC sources. In fact, Ross *et al.* (2008: 163, 209) list it under both nests. While merger of these two etyma is not out of the question, it is not clear whether *Cananga* is in fact native in Micronesia. It is listed as introduced there by Fosberg *et al.* (1979) and by POWO (2023), and as “cultivated, naturalized” by Balick (2009: 546). Thus, it is more likely that *Cananga* formed a taxon with *Fagraea* after its introduction—while not particularly similar visually, the two trees share the feature of fragrant flowers used in leis—and retentions from POC **buRat* ‘*Fagraea*’ may have been extended to the newly introduced *Cananga*. A similar situation appears to have taken place with newly introduced plumeria in Chuuk. Davis (1999: 210) notes that several terms for *Fagraea*, such as *péngas* and *séúr*, also apply to plumeria. “Interestingly,” Davis writes, “these trees do not closely resemble each other except in the flowers.”

The term for *Planchonella*, POC **kalaka*, appears in PON *kalak* ‘*Palaquium karrak*’, an endemic plant on Pohnpei, also from the family Sapotaceae. It is possible that this term is a loan from Polynesian (an early one, predating final vowel loss in Pohnpeian); however, it is equally compatible with regular retention from POC.

PRO **vuba* ‘*Derris* sp., fish poison vine’ is another telling example of retention of a high-island term. CHK *wúúp*, PON *uhp* ‘*Paraderris elliptica*’,

KSR *op* ‘plant used as fish poison, to poison or kill with the sap of this plant’ are clear retentions, as is MRS *wōp* ‘*Barringtonia asiatica*’, a superficially very different plant (a large tree) which shares with *Derris* its use as fish poison. The Banaba/Kiribati term *obu* (Thaman and Samuelu 2016: 15, 63) may also belong here, but the term is doubtful, and in any case the vowels are irregular. The term is also retained in some locations where *Derris* is not reported present, with a meaning generalisation, such as STW *yúúp* ‘fish poison’ and MOK *ipɔyp* ‘use a repellent to force fish from hiding’.

Erythrina variegata is found in Chuuk and Pohnpei. Similar-looking *E. fusca* is found on Kosrae. The only low islands where *E.* is reported are Woleai and Pulo Anna, possibly introduced there, as well as on Marshall Islands. POC *[baR]baR is clearly retained in both Chuukic and Pohnpeic. In at least some languages its reflexes mean ‘red’.

Alongside these retentions, there are the several losses of plant terms which are only present on high islands. As Table 6 illustrates, the KSR terms are often unknown.

Species Absent on at Least One of the Three High Islands

There are four plants with retained POC terms which are reported absent on at least one of the three high islands, four of them on Kosrae and one on Chuuk. They are listed in Table 7. In at least some of these cases the reported absence may be a data quality issue. In most of these cases the plants are not found on low islands either.

PRO *vaRo ‘*Ochrosia oppositifolia*’ (syn. *Neisosperma oppositifolium*) is reflected in MRS (*kōj*)bar. It is “one of the dominant climax species of the original inland mixed forest of the Marshall Islands” (Vander Velde 2003: 65). The plant is found widely in the Carolines but apparently absent on Kosrae, Nauru and Banaba.

There are three less-certain retentions. First, POC *bulu ‘*Garcinia* sp.’ is possibly reflected in PON (*kehn*)pwil ‘*G. ponapensis*’, where the initial element is a reflex of PMC *kayu ‘wood’ (the vowel is a regular reflex, via PMC *p^wulu > pre-PON *p^wuli > *p^wili > pwil; see Rehg 1984: 303). The plant may have been cultivated in Melanesia (Ross *et al.* 2008: 225).

Second, POC *m^(w)aso(q)u ‘*Cinnamomum* sp., wild cinnamon’ is certainly related to PON *madeu* ‘*C. camphora*, *C. carolinense*’, but the final segment here may be irregular.

Third, Ross *et al.* (2008: 239) reconstruct POC *(k)a(r,l)adroŋa ‘*Acalypha* sp.’, on the strength of two terms, Ulawa (Southeast Solomonian) *aladoŋa* and KIR *aroŋa* ‘*A. amentacea*’, and a few other terms showing the initial element *ka(r,l)a-. The reconstruction is “weakly supported”, as the authors acknowledge.

Most terms for plants with a limited distribution are not reflected in Micronesian, as summarised in Table 8.

Table 6. Losses of POC terms for species absent on low islands.

POC	Taxon	WCH	ECH	PON	MOk	KSR	NAU	BAN	KIR	MRS	RI
*waR[c]	<i>Flagellaria indica</i>	Ø			Ø	–	Ø	Ø	Ø	Ø	4
*kayu qone	<i>Heritiera littoralis</i>	Ø			Ø		Ø	Ø	Ø	Ø	2
*nipaq	<i>Nypa fruticans</i>	Ø			Ø		Ø	Ø	Ø	Ø	3
*api(l)	<i>Xylocarpus granatum</i>	Ø			Ø		Ø	Ø	Ø	Ø	3
*ma(i)tagaR(a)	<i>Kleinohovia hospita</i>	Ø			Ø	–	Ø	Ø	Ø	Ø	3
*paliaRua	<i>Decalobanthus peltatus</i>	Ø			Ø	–	Ø	Ø	Ø	Ø	3
*jamaR	<i>Commersonia bartramia</i>	Ø			Ø	–	Ø	Ø	Ø	Ø	6
*koka	<i>Macaranga</i> spp.	Ø			Ø		Ø	Ø		Ø	3
*pi(y)uŋ	<i>Miscanthus floridulus</i>	Ø			Ø	–	Ø	Ø	Ø	Ø	3

Note: en dash (–): no term is known; blank cell: term with no POC etymology; Ø: plant reported either absent or recently introduced.

Table 7. Retentions of POC terms for plants with narrower distribution.

POC	Taxon	WCH	ECH	PON	MOk	KSR	NAU	BAN	KIR	MRS	RI
PRO *vaRo	<i>Ochrosia oppositifolia</i>					Ø	Ø	Ø		R	4
*bulu	<i>Garcinia</i> sp.	Ø		R?	Ø	Ø	Ø	Ø	Ø	Ø	5
*m ^(w) aso(q)u	<i>Cimamomum</i> sp.	Ø	Ø	R?	Ø		Ø	Ø	Ø	Ø	6
*(k)a(r,l)adrona?	<i>Acalypha</i> sp.	–		–	Ø	Ø	Ø	Ø	R?	Ø?	2

Note: R: retention of POC term; en dash (–): no term is known; blank cell: term with no POC etymology; Ø: plant reported either absent or recently introduced.

Table 8. Loss of POC terms for plants with narrower distribution.

POC	Taxon	WCH	ECh	PON	MOK	KSR	NAU	BAN	KIR	MRS	RI
*dradrap	<i>Hoya</i> spp.	Ø	–		Ø	Ø	Ø	Ø	Ø	Ø	1
*aRu	<i>Casuarina equisetifolia</i>	–			Ø	Ø	Ø	Ø	Ø	Ø	8
*p(w)awa(t)	<i>Cerbera</i> sp.	Ø			Ø					–	3
*olaŋa	<i>Campnosperma brevipetiolatum</i>	Ø	Ø		Ø		Ø	Ø	Ø	Ø	2
PEO *melo	<i>Elaeocarpus</i> spp.	Ø	Ø		Ø		Ø	Ø	Ø	Ø	2
*naRa, *Rigi	<i>Pterocarpus indicus</i>	Ø	–	–	Ø	Ø	Ø	Ø	Ø	Ø	5
*qasam	<i>Lygodium circinnatum</i>	Ø	–	Ø	Ø	Ø	Ø	Ø	Ø	Ø	2
*mwala(q)u	<i>Glochidion</i> spp.	Ø			Ø	Ø	Ø	Ø	Ø	Ø	5
*tawasi	<i>Rhus taitensis</i>	Ø	–	–	Ø	Ø	Ø	Ø	Ø	Ø	4
*pesi	<i>Pongamia pinnata</i>	Ø	–	–	Ø	Ø	Ø	Ø	Ø	Ø	3
*tui	<i>Dolichandrone spathacea</i>	Ø	–	Ø	Ø	Ø	Ø	Ø	Ø	Ø	2
*paRage	<i>Pangium edule</i>	Ø	Ø		Ø	Ø	Ø	Ø	Ø	Ø	2
*mapuqan	<i>Flueggea flexuosa</i>	Ø		Ø	Ø	Ø	Ø	Ø	Ø	Ø	3

Note: en dash (–): no term is known; blank cell: term with no POC etymology; Ø: plant reported either absent or recently introduced.

CONCLUSION

In this paper I compared two broad hypotheses: settlement of Micronesia via closest land, implying a lengthy interstage of settlement on low-lying atolls, vs. direct settlement of one or more high islands. The plant term evidence supports the second hypothesis. In approximate descending order of strength of evidence, POC terms for the following species point to continuous knowledge of high-island flora by speakers of Proto-Micronesian:

<i>Atuna excelsa</i>	<i>Derris</i> sp.	<i>Garcinia</i> sp.
<i>Fagraea berteriana</i>	<i>Ochrosia oppositifolia</i>	<i>Cinnamomum</i> sp.
<i>Erythrina variegata</i>	<i>Planchonella</i> sp.	<i>Acalypha</i> sp.

These retentions are difficult to reconcile with an island-hopping scenario of Micronesian settlement, where populations ancestral to Micronesian speakers spent significant time on species-poor low islands in Kiribati or raised atolls on Banaba and Nauru. Settlement of the three high islands, Kosrae, Pohnpei and Chuuk, must have taken place by a population that had knowledge of the high-island flora of Melanesia from which the population originated.

Heggarty (2015) objects to the entire “words and things” method on the ground that there are often plausible scenarios resulting in the observed picture that do not require cultural reconstruction inference. It is thus useful to ask, what other scenarios could have produced the observed data? Marck (1994: 328) suggests two other possibilities: “The terms could have been retained in the cultural memory on atolls and applied to high island referents upon re-encountering them. It is also possible that the terms could have been forgotten in Pre-Micronesian but reintroduced through continuing immigration from Melanesia.”

The first of these possibilities—“latent” retention of words in absence of referents—would have produced more cases of meaning shifts, where POC terms were applied to visually or functionally similar taxa. Instead, we observe that for the most part meanings are retained faithfully. Marck’s second scenario, reintroduction by later loans, would have produced more cases with apparently phonologically irregular retentions. Instead, we observe that the reflexes are generally formally impeccable.

While the island-hopping scenario is excluded, it is impossible to glean from the data any evidence distinguishing, on the one hand, the scenario of single settlement and radiation, where one high island is initially occupied and the population expands outward while maintaining contact, and, on the other hand, that of multiple settlement and network breaking, where many high islands are occupied nearly simultaneously, and their speakers maintain lateral contacts for a prolonged time. Linguistic evidence alone is probably powerless to tell these two scenarios apart.

ABBREVIATIONS

Language/location abbreviations:

BAN	Kiribati spoken on the island of Banaba
CHK	Chuukese
CRL	Saipan Carolinian
CRN	Saipan Carolinian Tanapag
ECH	Eastern Chuukic, spoken on Chuuk
IFL	Ifaluk
KIR	Kiribati (Gilbertese)
KSR	Kosraean
MC	Micronesian
MOK	Mokilese
MRS	Marshallese
MRT	Mortlockese
NAU	Nauruan
NML	Namolukese
NMN	Namonuito
NMW	Nomwin
PAL	Palauan
PCK	Proto-Chuukic
PCP	Proto-Central Pacific
PEO	Proto-Eastern Oceanic
PMc	Proto-Micronesian
PMM	Proto-Meso Melanesian
PNCV	Proto-North-Central Vanuatu
PNGO	Proto-New Guinea Oceanic
PNG	Pingelapese
POC	Proto-Oceanic
PON	Pohnpeian
PPC	Proto-Pohnpeic-Chuukic
PPN	Proto-Polynesian
PPo	Proto-Pohnpeic
PRO	Proto-Remote Oceanic
PUA	Pulo Annian
PUL	Puluwatese
PWMC	Proto-Western Micronesian

PWO	Proto-Western Oceanic
SNS	Sonsorolese
STW	Satawalese
ULI	Ulithian
WCH	Western Chuukic, spoken on atolls
WOL	Woleaian
YAP	Yapese

Data and source abbreviations (used in Appendices only):

Language(s)	Source	Notes/Abbreviations
General	POWO 2023	POWO
Oceanic	Blust <i>et al.</i> 2023	ACD
Oceanic	Ross <i>et al.</i> 1998–2023	RPO, cited by volume and page, e.g., 3: 112
Micronesian	Falanruw <i>et al.</i> 1990	F90
	Bender <i>et al.</i> 2003a, 2003b, 2023	MCD; the 2023 version is an online archive of the 2003a, 2003b data sets
Woleaian	Sohn and Tawerilmang 1976	ST76
Carolinian	Jackson and Marck 1991	JM91
Puluwatese	Manner and Mallon 1989	MM89
Chuukese	Goodenough and Sugita 1980	GS80
	Davis 1999	D99
Pohnpeian	Balick 2009	B09
	Sohl <i>et al.</i> 2022	S22
Mokilese	Harrison and Albert 1977	HA77
Kosraean	Lee 1976	L76
Nauruan	Thaman <i>et al.</i> 1994	T94
	Blumenfeld 2022	B22
Banaban Kiribati	Thaman and Samuelu 2016	TS16
Kiribati	Thaman 1987	T87
	Trussel and Groves 2003	TG03
Marshallese	Vander Velde 2003	VV03
	Abo <i>et al.</i> 2009 [1976]	A09
Yapese	Jensen 1977	J77

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NOTES

1. Ross *et al.* (2003: 50) and the *Austronesian Comparative Dictionary* (Blust *et al.* 2023) incorrectly place KSR ɔl ‘mountain’ under POc *koro; KSR *k-* would be expected from POc *k-. Instead, KSR ɔl belongs under POc *solos ‘inland mountain country’ (Blust *et al.* 2023; Ross *et al.* 2003: 50), PMC *Solo ‘peak, hill’.
2. Christian (1897) made an early attempt at a survey of Micronesian plant terms. His work includes some valuable forms otherwise not recorded, such as Western Carolinian forms for *Calophyllum inophyllum* showing the reflex of PMC *f-. Still, Christian completed his survey long before serious comparative work on the family, and it shows. For example, he links Chuukic forms for *Barringtonia*, which we now understand to descend from PCk *kulu and ultimately POc *kuluR ‘breadfruit’, with a more distant source: Persian *gul* ‘rose’.
3. PMC *TisooTaa ‘automobile’: WOL *sitoosaa*; PON *sidohsa*; MOK *jidohsa*; MRS *jitoja*; KSR *sitosah*. MOK -s- is irregular.

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APPENDICES: The two appendices organise data in the following ways. Appendix I lists all the species, in alphabetical order by taxa, that have a reconstruction at a level above Micronesian, typically POC, and that are reported indigenous at least somewhere in Micronesia. Appendix II lists all reconstructions at PMC level and below, including those not listed in Appendix I because they have no etymologies outside of Micronesian.

Taxa are arranged in alphabetical order. Within each taxon, data are given by etymological nest: first retentions from POC, if any, then other terms. Within each nest, languages are arranged in approximate west-to-east order. Abbreviations for language names and sources are found at the end of the paper. PMC forms that do are added or updated relative to Bender *et al.* (2023) are marked as “PMC+”

APPENDIX I

Data by Taxon

***Acalypha* sp. (Euphorbiaceae)**

POC *(k)a(r,l)adroŋa. KIR *aroŋa* ‘*Acalypha amentacea*’ (TG03) is a possible retention, but the reconstruction is uncertain, on the strength of only this form and Ulawa (Southeast Solomonic) *aladoŋa* (RPO 3: 329).

Other forms: PUL *luhuealen kaatu* (MM89); CHK *mónnow* (GS80).

***Atuna excelsa* (Jack) Kosterm.; *A. excelsa* subsp. *racemosa* (Raf.) Prance (Chrysobalanaceae)** (syn. *Parinari laurina* A.Gray), putty nut

POC *(q,k)atita; PMC+ *atita:

CHUUKIC: WOL *yaise* ‘a tree with fragrant fruit’ (MCD); PUL *yááyih* (?); (MCD); NML *eis* ‘*P. sp.*’ (D99); CHK *ayis* (D99, GS80);

POHNPEIC: PON *ais* (S22); MOK *aij* ‘tree sp.’ (HA77, MCD);

KSR *aset* (F90).

The etymon shows no reflexes in KIR, NAU or MRS.

Other terms with no MC cognates: POC *tita, POC *maRakita, PCP *sea ‘*P. insularum*’.

***Barringtonia asiatica* (L.) Kurz (Lecythidaceae)**, fish poison tree

POC *putun; PMC+ *wutu (*futu incorrectly in MCD). Some reflexes also denote *B. racemosa* (L.) Spreng.

POHNPEIC: PON *wih* (S22); MOK *wi* (HA77, B09); PNG *wi* (F90, B09);

NAU (*eijin*)*ut* (T94);

KIR *uti* (TG03).

The NAU form alternatively possibly reflects PMC *uS(i,u). Geraghty (2004: 83) notes that that Pingelapese term might be a loan from Fijian *wī* ‘*Spondias dulcis*’.

In Chuukic, reflexes of POC *kuluR ‘breadfruit’ denote *Barringtonia* spp.;

CHUUKIC: SNS *xu:r* (F90); ULI *hul* (F90); STW *kuul* (MCD); WOL *gulu* (ST76); PUL *kuul* (MM89); MRT *kuul* ‘large tree’ (MCD); CRL *ghuul* (JM91); CHK *kuun* (GS80).

The MRS term *wōp* (A09) reflects PMc *upa ‘*Derris* vine’ (VV03), PRO *vuba ‘k. o. vine, probably *D. elliptica*’ (RPO 3: 441). *Derris* is absent on Marshall Islands but shares with *Barringtonia* the use as fish poison.

MCD reconstruct PMc (?) *(t,T)upa ‘fish poison’ < POC *tupa ‘fish poison, *Derris* sp.’ on the strength of WOL *supa* ‘poison, fish poison’ (ST76), but the reconstruction is doubtful because PMc *-f- should give WOL †-f-, not -p- (cf. RPO 3: 410).

Other innovations:

MOK *kange* (F90); cf. PAL *koranges* (F90), YAP *changad* (F90);

KSR *puhspuhs* ‘*B. asiatica*’ (L76, F90), *kanegul* ‘*B. racemosa*’ (F90);

KIR (Banaba): *baireati* (TS16).

Other terms with no MC cognates: PNCV *vuabu.

***Bruguiera* spp. (Rhizophoraceae), mangrove**

POC *toŋoR; PMc *toŋo ‘mangrove’:

CHUUKIC: WOL *soŋo* (ST76); CRL *yoŋŋ* (MCD, JM91); PUL *eong* (MM89);

CHK *woong* ‘*B. conjugata*’ (GS80);

NAU *etam* (MCD, T94);

MRS *joñ* (VV03, A09);

KIR *toŋo* (MCD, TG03).

PON *sohmw* (S22) in place of expected †*sohng* matches the final consonant of NAU, where it is a regular development. PNG *sol* (F90) matches KSR *sral* (F90).

***Calophyllum inophyllum* L. (Calophyllaceae), tamanu, kamani, Alexandrian laurel**

POC *pitaquR; PMc+ *fitau (MCD *itau):

CHUUKIC: ULI *fotoi* (F90); IFL *vitou* (F90);

POHNPEIC: PON *isou* (S22); MOK *ijoau* (B09);

KSR *ituh* ‘kind of tree’ (L76), *ita* ‘*C. inophyllum*’ (MCD);

NAU *ijo* (T94);

MRS *jijo* (A09);

KIR *itai* (TG03, T87).

The ULI and IFL terms appear to be taken from Christian (1897). CHK *ijau* (F90) is a loan from Pohnpeic, where loss of PMc *p- is regular before *i*.

PCk *rakici and reflexes is a likely loan from YAP *ragich* ‘type of tree’ (J77); PUL *rakih*r (MM89). Other sporadic innovations: PPC *tafaŋa; CHK *weengū* ‘a tree (*Calophyllum*)’ (GS80); PNG *sepang* (MCD, B09); CRL *safang* ‘flower of

the Alexandrian laurel'; WOL *sefanga* 'mahogany tree, kamani tree' (ST76); MRS *lukwej* (A09) is claimed by MCD to be a loan from Chuukic, though a source is not identified.

Other terms with no MC cognates: POC *dalo, POC *tamanu 'C. sp.', PCP *dilo, PEO *bakuRa 'C. sp.', PMM *bu(y)ap, PNGO *sabwa(r,R)i 'C. sp.'.

***Campnosperma brevipetiolatum* Volkens (Anacardiaceae)**

POC *olaja; no MC reflexes.

PON *dohng* (S22); KSR *elahk* (F90, L76), *ka* (F90).

***Cananga odorata* (Lam.) Hook.f. & Thomson (Annonaceae), ylang-ylang**

See comments under *Fagraea berteriana*.

***Casuarina equisetifolia* L. (Casuarinaceae)**

POC *aRu, *aRu-tajis, *pila(q)u, *qipil; no MC reflexes. Recent introduction on the low islands (Marshalls, Nauru, Kiribati). All the known terms are loans.

PUL *weeku* (MM89); CHK *weekú* (D99); CRL *weighu* (JM91); PON *wehku* (S22) are suggested by MCD to be loans from YAP *walguw* 'a type of tree'.

Other terms: CHK *machinoki* 'C. sp., not *weekú*' (D99); MOK *masnoki* (HA77), from Japanese *matsunoki* 'pine tree'; NAU *tanenbaum*, from German *Tannenbaum* 'fir tree'.

***Cerbera* spp., probably *C. floribunda* K.Schum. and *C. manghas* L. (Apocynaceae)**

POC *p^(w)awa(t); no MC reflexes.

PUL *raatta* (MM89); PON *kiti* (S22); KSR *sos* (F90); KIR *reiang* (T87); NAU *dereiongo* (T94; a loan from KIR).

Other terms with no MC cognates: PCP *rewa 'C. sp., probably *C. odollam*'.

***Cinnamomum* spp. (Lauraceae), wild cinnamon**

POC *m^(w)aso(q)u; PMC+ (?) *masou:

PON *madeu* 'C. *camphora*, C. *carolinense*' (S22), a possible retention, but the final segment may be irregular.

KSR *masro* (F90) points to PMC †-c- rather than *-s-; L76 lists *mahsro* 'a plant name, sassafras'.

***Commersonia bartramia* (L.) Merr. (Malvaceae)**

POC *jamar; no MC reflexes.

CHK *oun* (F90, D99), *tupuchol* (F90); PON *keil* (S22), *acarido* (F90).

***Cordia subcordata* Lam. (Boraginaceae), kou tree**

POC *kanawa(n); PMC *kanawa:

CHUUKIC: SNS *harawa* (F90); ULi *halau* (F90); WOL *galiuwa* (ST76), *xariiw* (RPO 3: 134); STW *anau* (F90); CRL *aliw* (MCD); PUL *aluw* (MM89); CHK *anaw* (MCD), *alau* (F90);

POHNPEIC: MOK *kanaw* (F90);

NAU *eongo* (T94);

KIR *kanawa* (TG03, T87);

MRS *kōno* (VV03).

PON *ahlew* (F90) is a borrowing from Chuukic (*k- is normally retained in PON).

Another innovation is PMC+ *pikopiko; cf. POC *piko ‘bent, crooked’ (ACD); PWMc *piko, *piko-si ‘bent, twisted’ (MCD):

POHNPEIC: PON *ikoik* (S22); PNG *ikoh ik* (F90);

KSR *ikoak* (F90); cf. *ikoack* ‘leaves used in covering a ground oven’ (L76).

Terms with no Mc cognates: POC *toRu; POC *jasi; PWO *nagi ‘C. sp.’.

***Decalobanthus peltatus* (L.) A.R.Simões & Staples (Convolvulaceae)** (syn. *Merremia peltata* (L.) Merr.)

POC *paliaRua, no Mc reflexes. Introduced in the Caroline Islands according to POWO but native according to Fosberg *et al.* (1979). PON *ioll*, *selioll*, *salomp* (*sahl* ‘rope, cord’) (S22); cf. MOK *iohl* ‘vine sp.’ (HA77); CHK *fitaw* ‘a vine (*M. peltata*)’ (GS80).

***Dendrocide* spp. (Urticaceae):** see *Laportea*

***Derris* sp. (Fabaceae)**

PRO *vuba ‘k.o. vine, probably *Derris elliptica*’; PMC *upa:

CHUUKIC: STW *yúúp* ‘fish poison’ (MCD); PUL *wúúp* (MCD); CRL *úúp* (JM91); CHK *wúúp* (MCD, GS80);

POHNPEIC: PON *uhp* ‘*Paraderris elliptica*’ (S22); MOK *ipoaip* ‘use a repellent to force fish from hiding’ (HA77, MCD);

KSR *op* ‘plant used as fish poison, to poison or kill with the sap of this plant’ (MCD, L76);

MRS *wōp* ‘*Barringtonia asiatica*’ (VV03, A09);

KIR *obu* ? ‘*D. trifoliata* ?’ (TS16).

On PMC (?) *(t,T)upa ‘fish poison’ (MCD), see comments under *Barringtonia asiatica*.

Terms with no Mc cognates: POC *puna(t) ‘vine used for fish poison, probably *D. elliptica*’; PWO *maRi ‘*D.* root’, *m^(w)ali ‘*D.* sp.’.

***Dolichandrone spathacea* (L.f.) K.Schum. (Bignoniaceae)**

POC *tui; no Mc reflexes; no known terms.

***Elaeocarpus* spp. (Elaeocarpaceae)**

PEO *melo; no Mc reflexes.

PON *sadak* (S22), *maratte* (F90), *opop* ‘*E. kusanoi*’ (F90, B09); KSR *nanek* (F90).

***Erythrina variegata* L. (Fabaceae)**, coral tree

POC *[baR]baR; PMC *para (also ‘red’; see MCD):

CHUUKIC: WOL *para* (ST76); PUL *paar* (MM89); CHK *paar* (GS80);

POHNPEIC: PON *pahr* (S22).

An innovation is found in NAU *yora* (T94). Might be a recent introduction in the Marshalls; no MRS term is known.

Other terms with no MC cognates: POC **rarap* ‘*E. spp.*’.

***Fagraea berteriana* A.Gray ex Benth. (Gentianaceae), pua kenikeni**

POC **buRat*; PMC+ **pwuRa*; PPC **p^wure* (MCD):

CHUUKIC: CHK *pwuur* ‘ilangilang tree (*Cananga odorata*)’ (GS80);

POHNPEIC: PON *pwuhr* ‘*F. berteriana*, *Cananga odorata*’ (S22); MOK *pwur* ‘tree sp.’ (HA77, MCD).

Another possible retention is KSR for *kuhlak* ‘a kind of bush with blue or white flowers’; cf. *kuhlak* ‘creep’ (L76).

Fagraea may have formed a taxon with *Cananga odorata*, an introduced plant, both trees having fragrant flowers used in leis. The Pohnpeic terms cover both trees. Contamination with POC **pwi(r,R)a* ‘*Cananga odorata*’ is not out of the question (RPO list PON *pwuhr* under both etyma, 3: 163 and 3: 209), but *Cananga* is likely introduced in Micronesia. More likely, POC **pwi(r,R)a* is not reflected in MC, and reflexes of **buRat* were extended to *Cananga* after its introduction. See additional comments in the text of the paper.

Other terms: CHK *péngas* (GS80); PON *seir* (S22).

***Ficus* strangler taxon (Moraceae)**

POC **qayawan*; PMC+ *ayawa*:

CHUUKIC: STW *aaw* (MCD); WOL (*gili*-)*yawa* ‘a hardwood tree (*F. prolixa*)’ (ST76); CRL *aaw*, (*ghili*-)*aw* (JM91); PUL *yaaw* (MM89); CHK *aaw* ‘*F. carolinensis*’ (GS80);

POHNPEIC: PON *aiau* ‘*F. prolixa* and *F. virens*’ (S22); MOK *au* ‘tree sp., banyan’ (HA77);

NAU *e-aeo* ‘*F. prolixa*’ (T94);

KIR *aiao* (RPO 3: 304; T87), *aioo* (TS16).

MCD suggest the forms may be loans from Yapese, but this is unlikely in view of the NAU and KIR items; more likely YAP *qaaw* (J77) is itself a loan from Chuukic.

Some reflexes are compounded with the initial element, probably related to PMC **kuli*, PCK **kili* ‘skin, bark’ (cf. similar compounding in terms for ‘*Hibiscus tiliaceus*’), listed by MCD under PCK **ki(l,n)i-awa* ‘k. of tree’. See also notes under *Terminalia*. In addition to the items above, cf. CHK *kiniyaw* ‘species of palm native to Chuuk’ (GS80), possibly a loan because **k* > *s* is expected before *i*. KIR *kiriawa* (T87, TG03) is a loan from this source; it is not inherited because **l* > *n* in KIR.

PCK **kawannu* ‘banyan tree (*Ficus tinctoria*)’ is an apparent doublet; RPO (3: 304) suggest it is a loan from a Western Oceanic language that preserves the final consonant of **qayawan*. WOL *gewaniu* ‘*F. tinctoria*’ (ST76); KSR *kohnyac* ‘banyan tree’ (L76) might also belong here.

Another likely retention is POC **nunuk* ‘fig trees, *Ficus* taxon’, PMC+ **nunu*, PON *nihn* ‘*F. tinctoria*’ (S22). The vowel development here is regular (Rehg 1984: 303).

The MRS term *tōpdo* (VV03, A09) is a loan from KIR *te bero* (T87, TG03) (with the definite article and medial syncope); on Majuro said to be an aboriginal introduction from the Gilbert Islands (VV03: 110), though listed as native on Marshall islands by POWO. Also cf. NAU *debero* ‘*F. tinctoria*’ (T94), a loan from the same source.

***Flagellaria indica* L. (Flagellariaceae)**

POC *waR[e]; no Mc reflexes.

CHK *nikésuk* ‘a vine, *F. indica*’ (GS80); PON *idahnwel* (S22).

KSR *oa* ‘a kind of vine’ (L76) could be a retention of POC *waRe, but there is not enough in either the form or the semantics to be certain.

***Flueggea flexuosa* Müll.Arg. (Phyllanthaceae) (syn. *Securinga flexuosa* Müll.Arg.)**

POC *mapuqan; no Mc reflexes.

CHK *afór* ‘a shrub, *Securinga flexuosa* [sic]’.

***Garcinia* sp. (Clusiaceae)**

POC *bulu; PMC+ *p^wulu:

POHNPEIC: PON (*kehn*)*pwil* ‘*G. ponapensis*’ (S22).

Other terms: CHK *aama*, *chamai* ‘*G. ponapensis* var. *trukensis*’ (D99); PON *nikenpiri* (S22).

***Glochidion philippicum* (Cav.) C.B.Rob., other *G. spp.* (Phyllanthaceae)**

POC *m^wala(q)u; no Mc reflexes. CHK *afor* ‘*G. sp.*’ (GS80, D99), *emweses* ‘*G. sp.*’ (D99); PON *luwekidinloal* ‘*G. spp.*’ (G22), *mwehk* ‘*G. ramiflorum*’ (S22); MRS *homosasu* (F90).

The PON form *mwehk* appears related to Chuukic forms for *Pisonia* sp.

***Guettarda speciosa* L. (Rubiaceae)**

POC *[p^wano]p^wano. No Mc reflexes.

The terms are well documented but none reflect the POC form. PMC *us(i,u), possibly related to other Oceanic terms (RPO 3: 199, 212, 346), has the following reflexes, mostly referring to *G. speciosa*. The KSR reflex is doubtful.

CHUUKIC: ULI *iuth* (F90); WOL *utu* (ST76); IFL *wut* (F90); NMW *ood* (F90);

POHNPEIC: PON *ihd* (S22); MOK *eet* (F90);

KSR *i* ‘kind of tree’ (MCD, L76);

NAU *iut* (T94);

KIR *uri* (TG03, T87).

Another nest is found in the following Chuukic forms: CRL *mweesor* (JM91); PUL *mwohor* (MM89); CHK *mwoosor* (GS80).

Other forms referring to *G.*: KSR *koin lahk* (F90); PNG *eles* (B09, F90).

***Heritiera littoralis* Aiton (Malvaceae)**

POC *kayu qone; no MC reflexes.

Other terms: CHK *chéépwech* (D99, GS80); PON *mworop*, *mworopwensed* (S22, B09), *chaiping* (B09); KSR *lum* (F90).

***Hernandia nymphaeifolia* (C.Presl) Kubitzki (Hernandiaceae)**

POC *biRi-biRi; PMC *piŋipiŋi shows a sporadic innovation of the medial consonant (cf. POC *mauRi ‘left’ > PMC *ma(i,u)ŋi-). According to RPO 3: 137, this tree may have formed a taxon with *Thespesia populnea* for early Oceanic speakers; indeed, the Kiribati term applies to both.

POHNPEIC: PON *pingiping* (S22); MOK *pingping* ‘tree sp.’ (HA77);

KSR *pihngpihng* ‘k. of tree’ (L76);

KIR *bingibing* ‘*Thespesia*, *Hernandia*’ (T87, TG03);

MRS *piŋpiŋ* (VV03).

Other Chuukic terms appear related to YAP *guchoel* ‘turmeric’ (F90); ULI *hochol* (F90); WOL *goshali*, *giusheliu* (ST76); IFL *koral* (F90); NMN *ojal* (F90, D99); PUL *orhal* (MM89).

Other innovations: CHK *ékurang* ‘*H. ovigera*’ (GS80) is said to be onomatopoeic of the sound its fruit makes when rattling in the wind; also cf. STW *orang* (F90).

Other forms: CHK *mosul* (F90); NAU *etsiw* (T94); KIR *nimareburebu* (TG03, T87).

Terms with no MC cognates: PRO *buavu ‘*H. sp.*’.

***Hibiscus tiliaceus* L. (Malvaceae)**

POC *paRu; PMC *-fau. In Chuukic it is only retained in compounds together with apparent reflexes of PMC *kuli, PCK *kili ‘skin, bark’ (cf. similar compounding in reflexes of *qayawan ‘*Ficus* strangler fig taxon’; see also notes under *Terminalia*):

CHUUKIC: PUA (*kini*)-*daú* (MCD); WOL (*gili*)-*ŋeo* (ST76); STW (*kili*)-*fě* (MCD);

CRL (*ghúli*)-*fě* (MCD, JM91); PUL (*kili*)-*fě* (D99, MM89, MCD); CHK

(*sini*)-*fě* (MCD, GS80);

POHNPEIC: PON *pah(takai)* ‘a cultivar of *Hibiscus tiliaceus*’ (S22); MOK *pah* (F90);

KIR (*ki*)-*ai-ai* (TG03, T87).

The term is replaced with an assortment of other innovations, including PMC *lawá ‘*H.*’, which MCD links to POC *lawaq ‘spider web’:

POHNPEIC: PON (*ke*)-*leu* (S22); MOK (*ke*)-*leu* (HA77);

KSR *lo* (L76, F90, MCD);

MRS *lɔ* (A09).

Other innovations: CHK *sáápwow* (GS80); PON *koht*, *pahtakai*, *rehr*, *ihdamwahu* (S22); KSR *sikuhk* (L76); NAU *equane* (T94).

Other terms with no MC cognates: PEO *pakalo, *p^wakala (?) ‘*H. sp.*’.

***Hoya* sp. (Apocynaceae)**

POC *dradrap; no MC reflexes. PON *tekitek* ‘*H. schneeii*’ (S22).

***Intsia bijuga* (Colebr.) Kuntze (Fabaceae) and hardwoods**

POC *qipil; no MC reflexes. POC *toRas ‘a taxon of hardwood trees including *I. bijuga*’ appears in PMC *ma-toa ‘firm, hard, strong’, but the prefixed form is reconstructible to POC and beyond (ACD) and thus does not indicate retention of the tree term.

Terms: PUL *pakureng* (MM89); CHK *kuren*, *nityanmis* (F90), *kamachuri* ‘? *I. sp.*’ (D99); PON *joio* (B09); MOK *kebuk* (B09); MRS *kubök* (VV03).

***Ipomoea* spp.; taxon of beach creepers (Convolvulaceae)**

POC *puRe; no MC reflexes.

There are many attested terms forming several nests, none plausibly continuing the POC etymon: WOL *garebaliu* (ST76); WOL *shaiuweliu* (ST76); CRN *rheiwal*; CRL *scheiwal* (JM91); PUL *rhaiwal* (MM89, D99); CHK *aanuu* ‘*I. sp.*, beach morning glory’ (D99); CHK *ruke*, *rukruk* ‘*I. gracilis*’ (GS80); PON *omp* (S22); NAU *erekogo* (T94); KIR *ruku* ‘*I. spp.*’; *maeao* ‘*I. pes-caprae*’ (T87); MRS *markinenjojo* (VV03, A09).

***Kleinhovia hospita* L. (Malvaceae)**

POC *ma(i)tagaR(a), *paqu; no MC reflexes.

CHK *monou* (F90); PON *keleun* (S22), *koloun Ahnd* (B09). The form *keleu-n* also refers to *Hibiscus tiliaceus* (S22).

Other terms with no MC cognates: PNCV *matala; PMM *p(i,u)lakis.

***Laportea* and *Dendrocnide* spp. (Urticaceae); nettles**

POC *[ja]latonj; no MC reflexes.

Reflexes of PCK *kafalafala ‘a plant’ refer to nettles in the western languages: SNS *hafarefare* (MCD); ULI *hafalfal* ‘nettle’ (MCD); WOL *gefalefale* ‘coffee senna (*Fleurya ruderalis*)’ (MCD); STW *afelefele*- ‘nettle (*Laportea ruderalis*)’ (MCD); PUL *afanafana(nikerh)* (MM89); CHK *afanafan* ‘rattle bean (*Crotalaria mucronata*), coffee senna (*Cassia occidentalis*)’ (GS80, MCD). Other terms: PON *soumwehl* ‘*L. spp.*’ (S22), *leles* ‘*D. latifolia*’ (S22); KIR *ukeuke*, *nekeneke* (T87).

***Lygodium circinnatum* (Burm.f.) Sw. (Schizaeaceae)**

POC *qasam; no MC reflexes.

***Macaranga* spp. (Euphorbiaceae)**

POC *koka; POC *pinu(q)an; no MC reflexes.

Other forms: CHK *tuupw*, *ttupw* (GS80); *apwid* (S22); KSR *lo lep*, *lo lap* (F90); KIR *nimatore*, *kimatore* (T87).

***Miscanthus floridulus* (Labill.) Warb. ex K.Schum. & Lauterb. (Poaceae)**

POC *pi(y)uŋ; no MC reflexes. PON *sapeleng* (S22), *alek* (B09); CHK *áset, ene* (GS80).

***Nypa fruticans* Wurmb (Arecaceae)**

CHK *kié* (D99); PON *parem* (S22); KSR *faasha, fals* (F09), *fahsr* ‘a kind of plant’ (L76).

***Ochrosia oppositifolia* (Lam.) K.Schum (Apocynaceae) (syn. *Neisosperma oppositifolium* (Lam.) Fosberg & Sachet)**

POC *paoq (ACD); PRO *vaRo (RPO 3: 167); PMC+ *paro:

MRS (*kōj*)bar (F90, VV03).

The MRS term appears a retention but the first element is unidentified. MOK *kacshpar* (F90) is a loan from MRS (cf. Rehg and Bender 1990 on Marshallese-to-Mokilese loans).

Other terms: PCK *um^wao and reflexes; PON *kite*.

***Pangium edule* Reinw. (Achariaceae)**

POC *paRage; no MC reflexes.

PON *duhrien* (< Eng.), *rawahn* (S22), *manka* (B09).

***Pemphis acidula* J.R.Forst. & G.Forst. (Lythraceae)**

POC *ŋiRac; PMC *-ŋ(e,i)a. The MC terms are generally prefixed with reflexes of *kayu ‘wood’.

CHUUKIC: WOL (*gai*)ngiya (ST76); CRL (*ee*)ngi (JM91); PUL (*e*)ngiy (MM89);
CHK (*ee*)ngi (GS80);

POHNPEIC: PON *ngih* (S22); MOK (*kai*)ngi; PNG (*kai*)nge (B09);

KIR *ngea* (TG03);

MRS (*kō*)ñe (A09).

KSR *kasugel* (F90) is an innovation.

Cf. PCK *ŋŋaú ‘a tree’; WOL *nŋeo* ‘k. of tree, *Allophylus timorensis*’ (MCD);

CHK *ŋŋé* ‘a tree with smooth seeds’ (MCD).

***Pipturus argenteus* (G.Forst.) Wedd. (Urticaceae)**

POC *qaramwaqi; PMC+ *aramwai;

CHUUKIC: ULI *iourama* (F90); WOL *yaromaa* (ST76); IFL *aroma* (F90);
PUL *yoroma* (MM89); CHK *arome* (F90);

POHNPEIC: MOK *ormuh* (F90, B09); PNG *oroma* (F90, B09);

KIR *aroma* (TG03);

MRS *armwe* (A09).

Cf. CHK *aroma* ‘a shrub (*Abutilon*)’ (GS80). Innovations: ULI *iourarha* (F90); CHK *tupwpuwunwén* ‘a shrub; *Macaranga carolinensis*; *Pipturus repandus*) (GS80); MOK *tiwarenga* (F90); KSR *alko* (F90); PON *kehrari* (S22).

***Pisonia* spp.; *P. grandis* R.Br.; taxon of littoral trees (Nyctaginaceae)**

PRO *buka; PMC+ ? *p^wuka:

POHNPEIC: PON *puek* ‘tulip tree species’ (RPO 3: 168);

KSR: *fok srohpoh* ‘kind of plant’; cf. *srohpoh* ‘trunk’ (L76);

KIR *buka*.

None of the retentions are particularly secure. The Pohnpeian form cannot be located in other sources. The KIR form could be a Polynesian loan.

In Chuukic languages reflexes PPC *m^wakú refer to *Pisonia* (MCD): ULI *mokh* (F90); WOL *mwegiu* (ST76); STW *mwéék* (MCD, F90); PUL *mweek* (F90); CRL *mwéégħ* (JM91); PUL *mweek* (MM89); CHK *mwaak* (D99, GS80). The PON reflex of this item appears to be *mwehk* ‘*Glochidion ramiflorum*’ (S22); cf. MOK *mehs* ‘*P. sp.*’ (MCD, F90); PNG *mas* (B09); cf. POC *m^wala(q)u ‘*G. philippicum*’. Other terms: MRS *kañal* (VV03, A09); NAU *yangis* (T94).

Other terms with no MC cognates: POC *[a]ñuliŋ ‘*P. sp.*’

***Planchonella* spp. (Sapotaceae)**

POC *kalaka; PMC+ *kalaka:

POHNPEIC: PON *kalak* ‘*Palaquium karrak*’ (S22, B09, F90).

Cf. KSR *kihrak* ‘kind of tree’ (L76); -r- here indicates it is a loan.

***Pongamia pinnata* (L.) Pierre (Fabaceae)**

POC *pesi; no MC reflexes; no known terms.

***Premna* spp. (Lamiaceae)**

POC *qarop; PMC+ *aro; PCK *aro ‘*P. integrifolia*’;

CHUUKIC: ULI *yaar* (F90); WOL *yaro* (ST76); PUL *yóór* (MCD); CRL *óór* (MCD); MRT *óór* (D99); CHK (ni)yóór ‘*P. obtusifolia*’ (GS80);

POHNPEIC: PON *oahr* ‘*P. serratifolia*’ (S22);

MRS: (k)aar ‘*P. corymbosa*, *P. obtusifolia*’ (A22).

YAP *qaar* ‘kind of tree’ is a loan from Chuukic.

KIR *ajo* ‘*Premna* spp.’ (TG09) is a reflex of PMC *ajo ‘*Curcuma longa*, turmeric’. A Pohnpeic innovation is PPO+ *cep^wukV; cf. PRO *buka ‘taxon of littoral trees, including *Pisonia* spp.’:

POHNPEIC: PON *tepwuk* (B09); MOK *supwuk* (B09); PNG *sobuk* (F90).

Other innovations: PON *tuhkehn amwise* (B09), *awk* (F90); CHK *wumukaw* ‘*P. integrifolia*’ (GS80); KSR *fienkakh* (L76, F90); NAU *idibiner* (T94).

***Pterocarpus indicus* Willd. (Fabaceae)**

POC *naRa, *Rigi; no MC reflexes; no known terms.

***Rhus taitensis* Guill. (Anacardiaceae)**

POC *tawasi; no MC reflexes; no known terms.

***Scaevola taccada* (Gaertn.) Roxb. (Goodeniaceae)**, half-flower, beach naupaka

POC *na[su]-nasu; PMc+ *nanasu (PWMc MCD):

CHUUKIC: SNS *not* (F90); ULi *luth* (F90); WOL *natiu* (ST76); STW *nnat* (MCD);
PUL *nnat* (F90, MM89); CHK *nnét* (GS80);

POHNPEIC: PON *enat* (B09);

MRS (*kō*)*ñnat* (A09).

A parallel innovation with unclear meaning difference is PPC *ramaki ‘*Scaevola* tree’ (MCD); YAP *rimeaq*, *rumeaq* ‘type of tree’ appears to be a loan from this source:

CHUUKIC: WOL *remagi* ‘k. of tree, usually growing on the coast’ (ST76); STW *remak* (MCD);

POHNPEIC: PON *remek* (S22); MOK *roamoak* (HA77, B09); PNG *ramek* (B09).

Other terms: CHK *amolaset* (F09); CHK *fremes* (F09); KSR *kusrosr* (F09); NAU *emet* (T94); KIR *mao* (TG03).

***Terminalia catappa* L. (Combretaceae)**, beach almond

POC *talise; no Mc reflexes.

There are several nests of attested forms, none continuing the POC etymon. Only the first possibly suggests a PMc-level reconstruction: PMc+ *kin[i,a], on the basis of Chuukic and KIR forms. The final vowel doublet is indicated both by WOL and KIR forms. This may be the element that is prefixed in *Ficus* and *Hibiscus* terms. MCD lists some of these as possible loans without providing a source.

PMc+ *kin[i,a]:

CHUUKIC: ULi *kel*, *kil* ‘*T. spp.*’ (F90); WOL *kela*, *kili* ‘*T. catappa*’ (ST76, D99);
IFL *kil* ‘*T. samoensis*’ (F90); STW *kkin* ‘type of tree, *T. samoensis*’ (D99),
kil ‘*T. samoensis*’ (F90); NMN *kon* ‘*T. samoensis*’ (F90); PUL *kin* ‘*T. samoensis*’ (D99); NML *kin* ‘*T. samoensis*’ (F90); NMW *sin* ‘*T. samoensis*’ (F90); ANT *kin* ‘*T. samoensis*’ (F90); CHK *sin* ‘*T. samoensis*’ (F90);

KIR *ukin* ‘*T. spp.*’ (T87); *kunikun* ‘*T. catappa*’; *ukina* ‘*T. samoensis*’ (TG03).

Other nests: PCK *kaata, *kaataata ‘a tree (*T. catappa*)’ (MCD); WOL *gaasaasa* ‘a t. with edible nuts’ (ST76); IFL *kasas* ‘*T. catappa*’ (F90); PUL *ahaah* ‘*T. catappa*’ (D99, MM89); CRL *asass*, *asaas* (MCD, JM91); ANT *uhsass* ‘*T. catappa*’ (F90, B09); CHK *aas*, *aasaas*, *aasse-(n)* ‘*T. tree*’ (MCD). RPO (3: 326) link this nest with POC *qatV ‘*T. sp.* with edible nut’, but WOL *gaasaase* and IFL *kasas* are incompatible with this and point to PCK *kaa[taa]ta, as reconstructed in MCD.

Other assorted nests: PON *dipwoapw* ‘*T. catappa*’ (S22); PNG *tepop* ‘*T. catappa*’ (F90, B09);

MOK *win* ‘*T. samoensis*’ (F90), ‘tree sp.’ (D99); PNG *win* ‘*T. samoensis*’ (F90);

NML *sif* ‘*T. catappa*’ (D99); KSR *sarf*, *shufehf*, *srifaf*, *srofaf* ‘*T. catappa*’ (F90), *srihfacf* ‘kind of tree’ (L76).

Finally, some isolated forms: PON *kehmah* ‘*T. carolinensis*’ (S22); KSR *ka* ‘*T. carolinensis*’ (F90), ‘a kind of plant’ (D99); NAU *eteto* (T94); MRS *kotōl, kōkōñ* ‘*T. spp.*’ (A09).

Other terms with no MC cognates: *tapoRa ‘a nut-bearing tree sp.’, *qatV ‘*T. sp.* with edible nut’.

***Thespesia populnea* (L.) Sol. ex Corrêa (Malvaceae), milo tree**

POC *(p,b)anaRo; PMC+ *panao:

CHUUKIC: PUL *pene* (MM89); CHK *pona, pono* (F90);

POHNPEIC: PON *pone* (S22); MOK *pene* (B09); PNG *pene* (B09);

KSR *pehneh* (F90), *pahnuh* ‘a kind of tree’ (L76).

See also *Hernandia*, with which this tree may have formed a taxon; cf. KIR *bingibing*, which covers both trees. WOL *panao* ‘*Guettarda speciosa*’ (F90) is also a reflex. Other terms: KSR *pakeena* (F90); CHK *likokon, okuran* (F09); the latter appears the same as the CHK word for *Hernandia*.

***Vitex trifolia* L. (Lamiaceae)**

POC *drala; PMC+ *cala:

CHUUKIC: PUL *rhaal* (MM89).

It is surprising that the sole reflex of POC *drala is found on Puluwat and nowhere else, but the reflex is regular.

Other terms: CHK *mengit* (F90); PON *kehamwise* (S22); KIR *kaitu* (T87); NAU *dagaidu* (T94, loan from KIR); MRS *utkanamnam* ‘flower-to-cause-mosquito-mosquito’ (VV03, listed as recent introduction on Majuro, but as indigenous by POWO in the Marshall Islands).

Although T87: 9 suggests that *V. trifolia* is a recent introduction on Kiribati from either Nauru or Banaba, the term for it is clearly borrowed from KIR into NAU, not the other way around, because the KIR determiner *te-* makes its way into the NAU word.

***Wollastonia biflora* (L.) DC. (Asteraceae) (syn. *Wedelia biflora* (L.) DC., *Melanthera biflora* (L.) Wild)**

POC *(qate)-qate has no reflexes.

PCk *adúadú and reflexes, while etymologically related, is a loan (RPO 3: 133), because PCk †-t- would be expected from POC *-t-. Cf. YAP *qadiid* ‘type of plant’, *qaed* ‘flowers of a type of plant’ (J77). Other terms unrelated to this etymon: WOL *waliu* (ST76); PON *ikia, moaresed, ngkahu* (S22); MRS *markūbwebwe* (VV03, A09).

***Xylocarpus granatum* J.Koenig (Meliaceae), puzzlenut tree**

POC *tapi(l); no MC reflexes. CHK *pwunopwun* (GS80); PON *pwulok* (S22); KSR *tui* (F90), *tuhi* ‘a kind of tree’ (L76).

APPENDIX II

Data by PMC Reconstruction

PMC-level reconstructions with POC etymologies:

LEVEL	Protoform	Gloss	Reflexes and POC
PMC+	*aramwai	<i>Pipturus argenteus</i>	ULI <i>iourama</i> ; WOL <i>yaromaa</i> ; IFL <i>aroma</i> ; PUL <i>yoroma</i> ; CHK <i>arome</i> ; MOK <i>ormuh</i> ; PNG <i>oroma</i> ; KIR <i>aroma</i> ; MRS <i>arṃwe</i> . POC *qaram*aqi.
PMC+	*aro	<i>Premna</i> spp.	ULI <i>yaar</i> ; WOL <i>yaro</i> ; PUL <i>yóór</i> ; CRL <i>óór</i> ; MRT <i>óór</i> ; CHK (ni)yóór ‘ <i>P. obtusifolia</i> ’; PON <i>oahr</i> ‘ <i>P. serratifolia</i> ’; MRS (k)aar ‘ <i>P. corymbosa</i> , <i>P. obtusifolia</i> ’. [MCD PCK *aro]. POC *qarop.
PMC+	*atita	<i>Atuna excelsa</i>	WOL <i>yaise</i> ‘a tree with fragrant fruit’; PUL <i>yáyih</i> (?); NML <i>eis</i> ‘ <i>P. sp.</i> ’; CHK <i>ayis</i> ; PON <i>ais</i> ; MOK <i>aij</i> ‘tree sp.’; KSR <i>aset</i> . [MCD PPC *ayita]. POC *(q,k)atita.
PMC+	*ayawa	<i>Ficus</i> strangler taxon	STW <i>aaw</i> ; WOL (gili-)yawa ‘a hardwood tree (<i>F. prolixa</i>)’; CRL <i>aaw</i> , (ghili-)aw; PUL <i>yaaw</i> ; CHK <i>aaw</i> ‘ <i>F. carolinensis</i> ’; PON <i>aiau</i> ‘ <i>F. prolixa</i> and <i>F. virens</i> ’; MOK <i>au</i> ‘tree sp., banyan’; NAU <i>e-aeo</i> ‘ <i>F. prolixa</i> ’; KIR <i>aiao</i> (RPO 3: 304; T87), <i>aioo</i> . [MCD PPC *awa]. POC *qayawan.
PMC+	*cala	<i>Vitex trifolia</i>	PUL <i>rhaal</i> . POC *drala.
PMC	*-fau	<i>Hibiscus tiliaceus</i>	PUA (kini)-daú; WOL (gili-)feo; STW (kili)-fě; CRL (ghúlú)-fě; PUL (kili)-fě; CHK (sini)-fě; MOK <i>pah</i> ; KIR (ki)-ai-ai. POC *paRu.
PMC+	*fitau	<i>Calophyllum inophyllum</i>	ULI <i>fotoi</i> ; IFL <i>vitou</i> ; PON <i>isou</i> ; MOK <i>ijoau</i> ; KSR <i>ituh</i> ‘kind of tree’; ita ‘ <i>C. inophyllum</i> ’; NAU <i>ijo</i> ; MRS <i>jijo</i> ; KIR <i>itai</i> . [MCD *itau]. POC *pitaquR.
PMC+	*kalaka	<i>Planchonella</i> sp.	PON <i>kalak</i> ‘ <i>Palaquium karrak</i> ’. POC *kalaka.
PMC	*kanawa	<i>Cordia subcordata</i>	SNS <i>harawa</i> ; ULI <i>halau</i> ; WOL <i>galiuwa</i> , <i>xariw</i> ; STW <i>anau</i> ; CRL <i>alúw</i> ; PUL <i>aluw</i> ; CHK <i>anaw</i> , <i>alau</i> ; MOK <i>kanaw</i> ; NAU <i>eongo</i> ; KIR <i>kanawa</i> ; MRS <i>kōṇo</i> . POC *kanawa(n).

LEVEL	Protoform	Gloss	Reflexes and POC
PCK	*kulu	<i>Barringtonia asiatica</i>	SNS <i>xu:r</i> ; ULi <i>hul</i> ; STW <i>kuul</i> ; WOL <i>gulu</i> ; PUL <i>kuul</i> ; MRT <i>kuul</i> ‘large tree’; CRL <i>ghuul</i> ; CHK <i>kuun</i> . POC *kuluR ‘breadfruit’.
PMc	*lawa	<i>Hibiscus tiliaceus</i>	PON (<i>ke</i>) <i>leu</i> ; MOK (<i>ke</i>) <i>leu</i> ; KSR <i>lo</i> ; MRS <i>lɔ</i> . POC *lawaq ‘spider web’.
PMc+ ?	*masou	<i>Cinnamomum</i> sp.	PON <i>madeu</i> ‘ <i>C. camphora</i> , <i>C. carolinense</i> ’. POC *m ^(w) aso(q)u.
PMc+	*wutu	<i>Barringtonia asiatica</i>	PON <i>wih</i> ; MOK <i>wi</i> ; PNG <i>wi</i> ; NAU (<i>eijin</i>) <i>ut</i> ; KIR <i>uti</i> . [MCD *futu]. POC *putun.
PMc+	*nanasu	<i>Scaevola taccada</i>	SNS <i>not</i> ; ULi <i>luth</i> ; WOL <i>natiu</i> ; STW <i>nnat</i> ; PUL <i>nnat</i> ; CHK <i>nnét</i> ; PON <i>enat</i> ; MRS (<i>kō</i>) <i>ñnat</i> . [MCD PWMc]. POC *na[su]-nasu.
PMc+ ?	*nunu	<i>Ficus</i> spp.	PON <i>nihn</i> ‘ <i>F. tinctoria</i> ’. POC *nunuk.
PMc	*-ŋ(e,i)a	<i>Pemphis acidula</i>	WOL (<i>gai</i>) <i>ngiya</i> ; CRL (<i>ee</i>) <i>ngi</i> ; PUL (<i>e</i>) <i>ngiy</i> ; CHK (<i>ee</i>) <i>ngi</i> ; PON <i>ngih</i> ; MOK (<i>kai</i>) <i>ngi</i> ; PNG (<i>kai</i>) <i>nge</i> ; KIR <i>ngea</i> ; MRS (<i>kō</i>) <i>ñe</i> . POC *ŋiRac.
PMc+	*panao	<i>Thespesia populnea</i>	PUL <i>pene</i> ; CHK <i>pona</i> , <i>pono</i> ; PON <i>pone</i> ; MOK <i>pene</i> ; PNG <i>pene</i> ; KSR <i>pehneh</i> , <i>pahnuh</i> ‘a kind of tree’. POC *(p,b)anaRo.
PMc	*para	<i>Erythrina variegata</i>	WOL <i>para</i> ; PUL <i>paar</i> ; CHK <i>paar</i> ; PON <i>pahr</i> . POC *[baR]baR.
PMc+	*paro	<i>Ochrosia oppositifolia</i>	MRS (<i>kōj</i>) <i>bar</i> . PRO *vaRo.
PMc	*piŋipiŋi	<i>Hernandia nymphaeifolia</i>	PON <i>pingiping</i> ; MOK <i>pingping</i> ‘tree sp.’; KSR <i>pihngpihng</i> ‘k. of tree’; KIR <i>bingibing</i> ‘ <i>Thespesia</i> , <i>Hernandia</i> ’; MRS <i>piñpiñ</i> . POC *biRi-biRi.
PMc+ ?	*p ^w uka	<i>Pisonia</i> spp.	PON <i>puek</i> ‘tulip tree species’; KSR: <i>fok</i> (<i>srohphoh</i>) ‘kind of plant’; KIR <i>buka</i> . PRO *buka.
PMc+	*p ^w ulu	<i>Garcinia</i> sp.	PON (<i>kehn</i>) <i>pwil</i> ‘ <i>G. ponapensis</i> ’. POC *bulu.
PMc+	*p ^w uRa; *p ^w ure	<i>Fagraea berteriana</i>	CHK <i>pwuur</i> ‘ilangilang tree (<i>Cananga odorata</i>)’; PON <i>pwuhr</i> ‘ <i>F. berteriana</i> , <i>Cananga odorata</i> ’; MOK <i>pwur</i> ‘tree sp.’; KSR ? <i>for</i> (<i>kuhlak</i>) ‘a kind of bush with blue or white flowers’. [MCD PPC *p ^w ure]. POC *buRat.

LEVEL	Protoform	Gloss	Reflexes and POC
PMC	*toŋo	<i>Bruguiera</i> sp., mangrove	WOL <i>soŋo</i> ; CRL <i>yooŋ</i> ; PUL <i>eong</i> ; CHK <i>woong</i> ‘ <i>B. conjugata</i> ’; NAU <i>etam</i> ; MRS <i>joñ</i> ; KIR <i>toŋo</i> . POC *toŋoR.
PMC	*upa	<i>Derris</i> sp.	STW <i>yúup</i> ‘fish poison’; PUL <i>wúup</i> ; CRL <i>úup</i> ; CHK <i>wúup</i> ; PON <i>uhp</i> ‘ <i>Paraderris elliptica</i> ’; MOK <i>ipoaip</i> ‘use a repellent to force fish from hiding’; KSR <i>op</i> ‘plant used as fish poison, to poison or kill with the sap of this plant’; MRS <i>wōp</i> ‘ <i>Barringtonia asiatica</i> ’; KIR <i>obu</i> ? ‘ <i>D. trifoliata</i> ?’. PRO *vuba.

PMC-level reconstructions without POC etymologies:

LEVEL	Protoform	Gloss	Reflexes and POC
PMC+	*kin[i,a]	<i>Terminalia catappa</i>	ULI <i>kel</i> , <i>kil</i> ‘ <i>T. spp.</i> ’; WOL <i>kela</i> , <i>kili</i> ; IFL <i>kil</i> ; STW <i>kkin</i> , <i>kil</i> ; NMN <i>kon</i> ; PUL <i>kin</i> ; NML <i>kin</i> ; NMW <i>sin</i> ; ANT <i>kin</i> ; CHK <i>sin</i> ; KIR <i>ukin</i> , <i>kunikun</i> , <i>ukina</i> .
PMC	*uS(i,u)	<i>Guetarda speciosa</i>	STW <i>wuut</i> ‘small tree with fragrant flowers’; WOL <i>uutu</i> ; PON <i>iht</i> ; MOK <i>eet</i> ; KSR <i>i</i> ‘k. of tree’; KIR <i>uri</i> ; MRS <i>wit</i> .
PMC+	*pikopiko	<i>Cordia subcordata</i>	PON <i>ikoik</i> ; PNG <i>ikoh ik</i> ; KSR <i>ikoak</i> .
PMC	*[ce]ceni	<i>Heliotropium arboreum</i>	WOL <i>chcheli</i> ; ULI <i>ché</i> ; CRL <i>tchel</i> ; CHK <i>chchen</i> ; PON <i>titin</i> ; MOK <i>sisin</i> ; PNG <i>sesen</i> ; KSR <i>srasan</i> ; NAU <i>irin</i> ; KIR <i>ren</i> ; MRS <i>(ki-)den</i> .
PMC+	*p ^w ulap ^w ula	<i>Sonneratia alba</i>	PON <i>pwulaopwul</i> ; KSR <i>folofol</i> ; MRS <i>bułaboł</i> ‘ <i>S. caseolaris</i> ’.
PMC	*kiep ^w u	<i>Crinum asiaticum</i>	CHK <i>siipw</i> ; MRT <i>kiyopw</i> ; PUL <i>kiyopw</i> ; CRL <i>ghiyobw</i> ; STW <i>kiyopwu</i> ; WOL <i>giyebu</i> , <i>giyobu</i> ; PON <i>kiepw</i> ; KSR <i>kiyaf</i> ; KIR <i>kiebwu</i> ; MRS <i>kiyébw</i> .

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MINOR ELEMENTS OF THE MĀUI STORY IN AOTEAROA AND TE WAIPOUNAMU AND THEIR CULTURAL CONNECTIONS TO WIDER POLYNESIA

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ABSTRACT: This paper examines three minor narrative elements in the story of Māui, the trickster hero, as retold in Aotearoa New Zealand: the defeat of Tuna, games of dexterity and speed, and the invention of rope. These story elements are linked with similar narratives found elsewhere in Polynesia. The paper discusses the key cultural themes in each of these texts. Tuna is the source of eels and plants, in particular the coconut, and a phallic symbol. Māui is associated with various games found throughout Polynesia, notably juggling games including jackstones, as well as string figures and dart-throwing. In East Polynesia Māui is the inventor of rope-making. The paper elaborates on these various cultural practices, such as how the different games were played or how rope was actually manufactured, with a view to demonstrating the complexity of these various skills and techniques linked through Māui the trickster to the very beginnings of the Polynesian world. The paper's overall intention is to use these minor elements to show the many threads which connect together the peoples and cultures of Te Moana-nui-a-Kiwa (Pacific Ocean).

Keywords: trickster hero, story of Tuna, juggling games, jackstones, string figures, dart-throwing, rope-making

This paper looks at three minor elements found in the Māui story from the southern Polynesian islands named for him: Te Ika-a-Māui (North Island) and Te Waka-o-Māui (South Island), the principal islands of Aotearoa New Zealand.¹ The three elements are the defeat of Tuna, games of dexterity and speed, and the invention of rope-making. In addition, this paper explores the deeper cultural connections between these local Māui story elements and other Polynesian societies. Such ties reveal how generations of raconteurs in these southern islands, also known as Aotearoa and Te Waipounamu, continue to add new layers to an ancient whakapapa (genealogy) of knowledge and practices that reach back to Hawaiki, the name of the ancestral home islands of the Māori peoples.

These three minor story elements exist in the shadows of the better-known episodes, such as slowing down the sun, obtaining fire or fishing up land. Nonetheless, shining more light upon these minor elements of the Māui story reveals yet more of the cultural innovations by this most famous of Oceania's

trickster heroes, the close kin of the culture hero. Both hero types dwelt in the “indeterminate time of transition and change” as the world came into being out of the creative acts of the spirit powers (Luomala 1949: 104–5). The culture hero introduced important cultural knowledge and practices to human societies, strengthening and enhancing them in relation to the spiritual domain (Bacwaden 1997: 332; Gay 1983: 373; Radin 1956: 166–67). The tricksters also transformed human society, but their acts frequently involved deceptions practised against spirit beings. Other trickster characteristics include a restless urge to seek out new challenges; the ability to change shape into other creatures, including birds, often to escape punishment for their trickery; and, most importantly of all, a need to test and break customary rules or practices so as to ensure that human beings might attain an equivalence to the spirit world (Bacwaden 1997: 332–33, 340; Luomala 1949: 28–35; Radin 1956: x, 155, 165, 167–68). This last trait is shared with the culture hero: both strive to destroy the status quo, for both are champions “not of things become but of things becoming” (Campbell [1949] 1975: 284).

Study of the Māui story in Aotearoa and Te Waipounamu has been possible thanks to the labours of three modern editors and translators: Anaru Reedy (1993), Agathe Thornton (1992) and Christine Tremewan (2002). Publishing and translating Māori language manuscripts found in the archives is a rather neglected field, and I count myself fortunate to be able to follow in the footsteps of three local exponents of this kind of scholarship. Their labours bring light and life to the figures that people the remotest histories of these southern Oceanic islands.

A few technical observations are worth noting concerning this paper. When quoting Indigenous-language texts or using Indigenous names, the appropriate diacritics, such as macrons and glottal stop marks, have been added, where these are known. Unless otherwise indicated, any editorial additions in Māori texts, such as brackets or italics, are reproduced from the quoted sources. Lastly, as author I am responsible for the translations (except those in quotation marks).

MĀUI AND TUNA

The story of Māui and Tuna is told by Kāi Tahu raconteurs. In these accounts Tuna’s exact appearance varies, but in all of them he possesses eel-like features and lives in society alongside Māui and others. The principal version of this story looked at here was told to the missionary Johann Wohlers by various unnamed elders living on Ruapuke Island, in Te Ara-a-Kiwa (Foveaux Strait), and written down about 1850 (Natusch [1990] 2017; Tremewan 2002: xii, xxi). The second version is linked to Charles Creed, a missionary based at Waikouaiti, in coastal Otago, between 1844 and 1852, whose manuscripts appear in John White’s *The Ancient History*

of the *Māori* (1887), incorrectly labelled as from Ngāti Hau (Beaglehole 1966; Tremewan 2002: 99). The third version comes from respected Kāi Tahu scholar Teone Taare Tikao, who lived at Rāpaki, in Canterbury, and in 1920 talked to Herries Beattie, a well-regarded recorder of Kāi Tahu knowledge (Anderson 1994: 27–28; Tikao and Beattie [1939] 1990: n.p.).

In the Ruapuke text, the story about Tuna follows on from Māui's successful catching of his fish, Te Ika-a-Māui. After that momentous deed, he returned to the village where he lived with his older brothers. On reaching there he lived with ("noho") Hine, a daughter of Tuna and Te Repo (Tremewan 2002: 78). This marriage suggests Māui's status in his village had changed. He was no longer the precocious, unattached youth but a man living within a web of social responsibilities and expectations.

In this version, Hine went down to the water from which Tuna emerged and, to quote the Ruapuke elders' words, "ka korepekia te hiku, maua ngā para" (p. 78). Tremewan (p. 85) translates this passage as Tuna "twisted his tail round her, and the slime clung to her", but it might also be interpreted as the tail opened her and the watery sediments stayed on her.² Hine went and spoke to Māui: "Tangata nei, e whakapai tangata nei, māene[e]ne ana te kiri te pānga atu!" (p. 78) (This man, this comely man, whose skin as we connected was so very smooth!).³ Clearly, Tuna had intercourse with her, an intimate encounter that gave her pleasure.

According to Creed's manuscript, Māui had married Hine-a-te-repo, Irawaru's sister. Subsequently, Tuna twice had sex ("aitanga") with her. After the first time Hine kept it concealed ("he mea huna") from her husband, but after the second time she disclosed ("whākina") it to him. The story also describes the sex as adultery ("ka pūremutia a Hine ... e Tuna" [Tuna committed adultery with Hine]), because it involved another male having intercourse with a married woman (Waiti 1887: 76). This was a serious matter that could result in the death of the offending party (Heuer 1972: 48–49). In the Ruapuke story, Tuna not only committed adultery but also incest since he was Hine's father (Tremewan 2002: 94). Tikao describes Tuna, a descendant of Takaroa (or Tangaroa to northern Māori), as a taniwha ("aquatic monster"), or a giant eel, which frightened Māui's two wives, Hine-tu-repo and Hine-te-ngahere, who were Irawaru's sisters (Tikao and Beattie [1939] 1990: 13–14).

The Ruapuke elders had Māui initially pondering what to do ("Me aha rā?") before he decided on a course of action against Tuna (Tremewan 2002: 78). He set about digging a deep channel. Māui then instructed Hine to go and sit at the landing place while he went to the river mouth ("tauaaha"). There he constructed a fence ("patatara") comprising a number of rollers ("roko" in the Kāi Tahu language) which he set in place. The story then repeats the same sentence structure to enumerate the number of rollers that

Māui put in place to construct a weir with which to catch Tuna: “Ko te roko pā tahi, ko te roko pā rua” (The first roller for the weir, the second roller for the weir), and so on until, “Ko te roko pā iwa, ko te roko pā ngahuru” (The ninth roller for the weir, the tenth roller for the weir) (p. 79). This is an example of what Albert Lord (2000: 57) calls the “syntactic parallelisms” typical of the oral style: the formulaic counting gives a sense of the size and scale of Māui’s structure.

Tuna appeared in the river and swam toward the weir (described as made up of “ngā harakeke me ngā paki” [“the flax and the frames”]) (Tremewan 2002: 79, 85). He kept swimming towards Hine before he decided to return. At that moment, Māui hit him with an adze and killed him. In the Ruapuke elders’ words:

[K]a rere te hiku ki te moana nui—koia te kōiro. Ka rere te upoko ki te wai māori—koia te tuna. Ko te roro w[h]ero—koia te pukapuka; ko te roro mā—koia te kōare[a]re. Ko ngā huruhuru o te upoko—koia te aka. (p. 79)

The tail raced to the ocean; it is the conger eel. The head raced to the freshwater stream; it is the freshwater eel. As for the red-coloured brain, it is the pukapuka [rangiora, bushman’s friend, *Brachyglottis repanda*], and the white brain, it is the kōareare [edible rhizome of the raupō, *Typha orientalis*]. As for the hairs of the head, they are the aka [the vines of various climbing plants].⁴

Thus was retribution obtained for Tuna’s pūremu, or sexual misdemeanour, with Māui’s wife.

In the account that Creed recorded, Māui went to the forest and made spears, digging sticks and spades. He dug a channel, Kari-tapu, and drained the water from Tuna’s hiding place in the water hole, Muri-wai-o-hata. Māui then caused it to rain, sweeping Tuna down into Māui’s net set across the river. He severed Tuna’s head with his adze. The head and tail flew to the sea, becoming the conger eel (“kōiro”). From the body grew Puku-tuoro (a taniwha, or water creature of great power, in Aotearoa New Zealand) and the taraheke (bush lawyer, *Rubus* spp.); the sinews became the pirita (mistletoes, *Peraxilla* spp.; supplejack vine, *Ripogonum scandens*); the hairs were the toro (long-leaved māpau, *Myrsine salicina*; *Toronia toru*), aka, kareao (supplejack vine, *Ripogonum scandens*), raupō (bulrush, *Typha orientalis*), kōareare and tītoki (*Alectryon excelsus*). With Tuna’s death, Māui’s offspring multiplied (Waiti 1887: 76–77; White 1887: 83–84).

According to Tikao, Māui hired Haere to build him a hīnaki (eelpot) made of tororaro (wire vine, *Muehlenbeckia complexa*). This was the very first hīnaki ever made. Māui placed it in a stream, caught Tuna, pulled the hīnaki onshore and there cut him into two. Tuna’s head flew off to the rising place of the moon at Pikopiko-i-whiti, before jumping into the sea where

it became the conger eel (kōiro). His tail, containing his heart, flew to the rising place of the sun at Pikopiko-i-rangi, before diving into the Muri-waihoata river, where it became the freshwater eel (tuna) (Tikao and Beattie [1939] 1990: 14).

For southern Māori, this story shows another of Māui's achievements as a trickster hero. By catching and killing Tuna, Māui first created all the types of eel: the seagoing kōiro (ngōiro, conger eel, *Conger verreauxi*) and the freshwater tuna (longfin eel, *Anguilla dieffenbachii*; shortfin eel, *Anguilla australis*). For Ruapuke raconteurs he created several new plants from parts of Tuna's brain: the pukapuka shrub, the kōareare and the aka vines. In Creed's account, further plants originated in this killing, as did the taniwha, Puku-tuoro. According to the Ruapuke text, Māui showed people a way to catch the freshwater eels using weirs built across rivers. For Creed, Māui laid a net to achieve the same outcome. In addition, Māui created the tools needed for constructing the channel to direct Tuna into the net. According to Tikao, the eelpot was invented as part of catching Tuna (and later, eels that grew from parts of his body), but not by Māui.

The Ruapuke raconteurs gave a clear description of Māui's construction of his trap for Tuna. He first dug a deep channel (awa), to help create a current to drive Tuna downstream, and then proceeded to the river mouth, where he built a weir (pā tuna). Judging from descriptions of how such pā were constructed, Māui first set the ten roko into the river bed. These large posts or stakes, typically made from kānuka (white tea tree, *Kunzea* spp.), were placed at intervals across the river, usually in a V shape. These posts held the structure in place. In Te Waipounamu, long sticks of mānuka (tea tree, *Leptospermum scoparium*) were lashed to battens with harakeke (New Zealand flax, *Phormium tenax*), although aka (vines) seem to have been the usual lashing elsewhere. Plants like rauaruhe (fronds of bracken fern, *Pteridium esculentum*) could also be used as fencing materials. This is what the Ruapuke raconteurs call the paki: pakipaki was a term for the wing fence of a pā tuna in Te Ika-a-Māui. Tuna would have travelled down the channel till obstructed by the fence, and then travelled along this obstruction until finding the open space, called the kutu in the south (ngutu in the north), located at the base of the V-shaped fence. There Kāi Tahu people would place their kaitara or hīnaki (eel pot) to catch their supply of eels (Beattie 1994: 146–52, 316–20, 502; Best [1929] 1977: 131–47). Hine may have been sitting near this spot, in order to lure Tuna in. Perhaps sensing danger, he tried to turn back, only to be slain by Māui acting the part of the first eel catcher.

Tremewan (2002: 94–95) points out that this story echoes an important tropical Polynesian narrative concerning the origin of one of the most important Polynesian plants, the coconut (niu, *Cocos nucifera*). Various Polynesian traditions about Hina or 'Ina, variants of Hine, contain some

common themes: Hina's sexual relations with Tuna, Māui's killing of Tuna, the origin of eels and the growth of niu from Tuna's decapitated head. These niu are sometimes differentiated as being red and green in colour: southern Māori transferred the colours (red and white) to the brains.

Several versions of this story come from the Tuamotu Archipelago in French Polynesia. In one, Hina, Tuna's wife, was abducted by Māui, who killed Tuna when he pursued them. The coconut tree grew from his head (Beckwith 1970: 103). A drama recounts how Māui killed Hina's loathsome husband, Tuna, and then buried the head, out of which grew the coconut (Luomala 1949: 81). In a third account, by Fariua-a-Makitua of Fagatau, Hina left her husband, Te Tuna (also known as Tuna-te-vai-roa) who lived beneath the sea; she eventually married Māui. Te Tuna attempted to overwhelm Māui with a storm surge but was defeated and lived with Hina and Māui. There was a subsequent contest when Māui entered Te Tuna's body, killed him and cut off his head. Hua-hega, Māui's mother, took the head and told her son to bury it in the corner of their house: it grew into the sea-green-coloured niu variety. A red-coloured niu had earlier grown from the head of Mahu-ika, which Māui had given to his grandfather, Tāne-te-vai-ora. Thus people acquired the niu as a food (Stimson 1934: 28–35). In a further narrative Hina was first married to Tuna-te-vai-roa, a mighty warrior, before living with Māui. Tuna's storm surges failed to overwhelm Māui, who then proceeded to cut off Tuna's limbs, including his phallus, which he gave to Hina, before decapitating him. Māui threw the body into the sea where it became the conger eel. He gave Tuna's head to his mother, Huahega, who buried it in the corner of their house. There it grew into the niu, which subsequently provided people with delicious-tasting food and water (Stimson 1937: 37–44).

Other Hina traditions appear elsewhere in East Polynesia. Stories from the southern Marquesan islands, in French Polynesia, do not mention the head/niu motif, but Hina is either swallowed or abducted by an eel, which is then killed by her husband, Māui. The chief Vaikau of Fatuiva Island said that Māui killed the eel by throwing heated rocks in the water (Von den Steinen 1988: 125). According to Taua-Hoka-Ani, a woman living in Atuona Village on Hiva 'Oa Island, Māui followed his mother's advice and blocked up the creek, found the eel, slit it open and retrieved his wife, who was still alive (pp. 114–15). The people of Pukapuka, in the northern Cook Islands, reported that a husband who had caught Tuna was told by him to cut off his head and bury it, from which grew the coconut. The rest of Tuna's body was given to the man's wife (Beckwith 1970: 104). Madame Butteaud, a descendant of Hina in Tahiti, recounted how her ancestor was promised in marriage to a chief with an eel body and fled to Māui for help. He caught the eel with his

baited fishhook, pulled it ashore, chopped off its head and gave it to Hina (Beckwith 1970: 102–3; Henry 1928: 615–17). Another Tahitian account says that Māui laid rollers across a path from the sea along which Hina had fled. When Tuna climbed the logs, Māui chopped its body into portions, starting from the tail, and gave Hina the head (Henry 1928: 620–21). A further Tahitian version relates how Taitua fled from the pursuing eel which was caught in a trap (Beckwith 1970: 103). According to a story from Mangaia, in the southern Cook Islands, Tuna (“the god and protector of all fresh-water eels”) actually instructed his lover, ‘Ina-moe-aitu, to cut off his head, which she did (Gill 1876: 77–78). In all these traditions from Tahiti and Mangaia, Hina was responsible for burying Tuna’s head, or leaving it on the ground, from which acts grew the coconut. The Mangaian story explains that from the two halves of Tuna’s brain (“te roro o Tuna”) grew the two varieties of coconut trees: one red and the other deep green in colour (pp. 78–79).

Because the niu could not grow in Aotearoa and Te Waipounamu, southern raconteurs, who had inherited this story from their ancestors, simply replaced that detail with local plant varieties (Luomala 1949: 120; Tremewan 2002: 95). The connection between Hina (or Hine), Tuna and Māui is found only in East Polynesian islands. Elsewhere in Oceania, such as in Sāmoa and Tonga, Māui is absent from the stories (Beckwith 1970: 103; Luomala 1949: 183).

The sexual motif associated with Tuna throughout the Pacific is retained in the Ruapuke and Creed stories. “The shape of the eel and its covering of slime make it an obvious phallic symbol, reflected in expressions such as *hiku rekareka* (tickling tail) used of sexual intercourse” (Tremewan 2002: 94). A similar interpretation applies to the Hina and Tuna story in Polynesia. For example, for Katharine Luomala (1949: 200) Tuna is an “erotic symbol” and “the bogeyman of beautiful girls”. The folklorist Martha Beckwith (1970: 488) considers that in Hawai‘i’s traditions the eel form is a phallic symbol. The anthropologist Christian Clerk (1981: 395–8), noting that in pre-Christian Mangaia women were prohibited from eating the eel, describes it as “a phalliform intruder into the female realm”, that is, into the interior of the island where women worked in the irrigated taro swamps.

MĀUI AND GAMES OF SPEED AND DEXTERITY

In 1875, Mohi Ruatapu, the most respected Ngāti Porou tohunga (priestly expert, scholar) of his generation, wrote a manuscript about Māui for the colonial militia officer Captain Thomas Porter, who had married a Ngāti Porou woman of rank, Here Waka: many of the genealogies in the book end with her name (Reedy 1993: 11–12). Amidst the major narratives, Ruatapu twice touched on Māui’s skills and achievements in a variety of activities, including a number of games.

The first of these passages appears after the youthful Māui had been recognised by his parents. “Tēnei anō tētahi mahi a Māui, he w[h]ai, he makamaka i roto i ō rātou ringaringa. He makamaka kai tētahi mahi a Māui” (p. 79). (This is another of Māui’s accomplishments, performing the string game and throwing from hand to hand. Throwing food is another of Māui’s accomplishments.) The second passage introduces Ruatapu’s concluding story of Māui and Hine-nui-te-pō.

Te mahi, he makamaka kai i roto i ō rātou ringaringa. Ka karanga mai ngā tuākana o Māui ki a ia, “Tauia ake ā mātou kai.” Ka tataua a Māui, kitea katoatia ā rātou kai e ia. Ka mea [a]tu a Māui ki a rātou, “Taua ake hoki taku kai.” Na, ka tataua rātou. Kāore i kitea e rātou te kai a Māui; nāna mārie i w[h]akaaatu ki a rātou. Ko tāna whakataukī tēnei. “Ko te kai a Māui, he ringaringa kau tahanga.” Kāore he kai o roto o tōna ringaringa. Ka karanga mai ngā tuākana o Māui ki a ia, “Māui e, ka w[h]ai taua.” Ka paki[a] atu e Māui, kua tū tāna; ko tana w[h]akataukī tēnei: “Ko te w[h]ai wawe a Māui.” (pp. 87–88)

The task was throwing food from hand to hand. The elder brothers called out to Māui, “Count our food.” Māui counted, seeing all of their food. He said to them, “Count my food too.” Now then, they counted. They could not see Māui’s food, so he carefully showed them. This was his saying: “The food of Māui, the hands are empty.” There was no food in his hands. The elder brothers called out to Māui, “O Māui, play string games.” Māui struck [his hands] together, and his was in place. This was his saying: “The quick string game of Māui.”

As Reedy (p. 245 n58) emphasises, such cultural inventions required considerable manual dexterity. The Māori of Aotearoa and Te Waipounamu named the string game whai after its inventor, Māui. Ruatapu’s name for this game, te whai wawe a Māui, refers to Māui’s quickness and dexterity as a player. The game is also known as te whai wawewawe a Māui, te whai a Māui, māui, hūhi or huhu (Best [1925a] 1976a: 74, 77; Williams 1971: 66). European observers often called whai cat’s cradle, the name of similar string games played in Europe (Andersen [1927] 2005: 1–2; Best [1925a] 1976a: 74–75). Appropriately for a game invented by Māui, it was played throughout Oceania, where it is often known by cognates of whai: ‘ai (Cook Islands), fai (Tahiti, Tonga, Tuamotus), whai (Manihiki, Rakahanga), hei (Hawai’i) and tai (southern Kiribati, Tuvalu); other island names for this game include pe‘e (Mangareva), pehe (Marquesas), tuwanapeti (Kapingamarangi) and wau (northern Kiribati) (Buse with Taringa 1995: 10; Davies 1851: 80; Devonshire 1949: 112; Dickey 1928: 10; Emory and Maude 1979: vii; Handy 1925: 6; Maude and Maude 1936–1938, I: 3; Pukui and Elbert 1986: 64; Savage [1962] 1980: 11; Shibata 1999: 7; Stimson with Marshall 1964: 70; Te Rangi Hiroa 1932a: 197; 1938: 184; 1950a: 272; Tregear [1891] 2001: 604).

Throughout Oceania, people of all ages enjoyed playing these string games. One or more performers manipulated a piece of cord so as to create a series of meaningful shapes, using their hands, sometimes in combination with their feet, mouth or teeth. By this means, performers created a rich and often complex range of images, including significant features of the natural world, such as important mountains, islands, springs, flora and fauna; buildings, boats and other material objects; planets and stars (such as the Pleiades, known as Matariki or its cognates); the spirit domain; episodes concerning the Māui story; narratives about the many ancestral figures who appeared in various island or tribal histories; sexual allusions; parts of the human body; physical activities, such as children playing games; and ritual elements (e.g., Andersen [1927] 2005; Best [1925a] 1976a; Devonshire 1949; Dickey 1928; Handy 1925; Maude and Maude 1936–1938; Shibata 1999: 7).

Some European observers tended to equate the creation of these string figures to children's games, but the evidence indicates that in fact these works were complex performances requiring the rapid manipulation of a cord to form a sequence of visual images while the performer or performers accompanied these actions with short songs, chants or stories linked to the particular images. C.W. Devonshire (1949: 114) noted that a performer had “to work quickly with the fingers to keep time to the beat of the rhyme”. It is thought that formerly each Hawaiian *hei*, or string figure, was accompanied by highly figurative chanted poetry, which Lyle Dickey (1928: 11–12) suggests was “the literature of the common folk”. One of the *hei*, *Hana Ka Uluna*, had a ritual purpose intended to heal the sick, with the priest chanting prayers while manipulating the cord (p. 143). In Kiribati, string figures are said to have been performed during creation, at the setting of the sun, to bring about an eclipse, as part of death ceremonies and on the spirit's journey after death (Maude and Maude 1936–1938, I: 8–12). In the Marquesas and Society Islands, in French Polynesia, each string figure was accompanied by a metrical chant, called *ha'anaunau* and *pāta'uta'u* respectively, which explained the story being illustrated by the performer (e.g., Handy 1925: 10, 44, 67, 75, 84, 89). It seems likely that many string figures recorded here in Aotearoa and Te Waipounamu were accompanied by an explanatory story (Andersen [1927] 2005: 18). Songs and chants also accompanied particular string figures (e.g., pp. 13, 17, 30, 101, 135, 143). Ngāti Porou expert Tuta Nihoniho quoted *whakataukī* (wisdom sayings) praising the skills of those performers able to create the most complex *whai*. He added that such accomplished performers and the art of *whai* were considered worthy of the *whare wānanga* (schools of higher learning): “He *whare wānanga taua mea te whai*” (Andersen [1927] 2005: 3; Best [1925a] 1976a: 78, 80). Such status is perhaps to be expected for an art form originating from Māui.

Reedy (1993: 245 n60) interprets Ruatapu's reference to throwing from hand to hand ("makamaka") as juggling. This most likely alludes to the game that Nihoniho labels kai makamaka. Amongst Tūhoe it is known as ruru. Other names are kōruru, tutukai and tī kai (Best [1925a] 1976a: 55–57; Williams 1971: 88, 353, 414, 463). Best calls it jackstones, a game also known in English as jacks, fivestones, dibs, knucklebones or hucklebones, an ancient game common to many cultures (*Encyclopaedia Britannica* 2014; *Play and Playground Encyclopedia* n.d.; Wikisource Contributors 2023). The older Māori that Best consulted described it as a game normally comprising five pebbles which were picked up, tossed and caught in the hand, or on the back of the hand, through a series of increasingly challenging stages, each requiring more stones to be used. Success was measured by how many stones were kept on or in the hand at the end of the game (Best [1925a] 1976a: 55–60). "These movements call for remarkable dexterity and swiftness of action, not to mention delicacy of touch; and a successful player was much admired" (pp. 58, 60).

This game appears throughout Polynesia. Cook Islanders called it pere or pere tūtī in Rarotonga and Aitutaki, employing the seeds of the candlenut tree (tuitui, tūtī, *Aleurites moluccana*). The game involved players picking up, tossing and catching the candlenut seeds on the back of their hand through a series of increasingly complicated stages (Buse with Taringa 1995: 338; Te Rangi Hiroa 1927: 326–27; 1944: 261). Te Rangihiroa compared it to jackstones or knucklebones, noting it taught "quickness of eye and dexterity of movement" (Te Rangi Hiroa 1927: 327).⁵ The people of Mangaia played a similar pebble throwing game called peipei, pēpēi or tīri pei (Shibata 1999: 211, 325). In Tahiti, timora'a ("stone hitting"), also known as timo, involved throwing and receiving pebbles in the hands (Davies 1851: 270; Henry 1928: 279). Timo (or simo) was also the local name in Niue for the game of jackstones (McEwen 1970: 332). The game was called kimo in the islands of Hawai'i (Pukui *et al.* 1979: 38; Pukui and Elbert 1986: 152). Girls in Sāmoa frequently played the game of sapo, or jackstones, with five stones. It involved a series of increasingly complicated physical movements requiring speed and dexterity while the stone or stones remained in the air (Te Rangi Hiroa 1930: 553–55).

Reedy (1993: 247 n91) thinks that Ruatapu's mention of food-throwing ("makamaka kai"), or throwing of food from hand to hand, also referred to a form of juggling. Elsewhere in Polynesia there are throwing games that resembled makamaka kai and involved food items. For example, the Mangaian culture hero Ngaru defeated female spirit beings at a game of pē'i (ball throwing) and introduced it to humanity (Reilly 2015: 165, 166, 173–74). This game, also called pē'ipē'i or pēpē'i, and described as juggling, involved the tossing and catching in the hand of round objects, such as the seeds, fruit or nuts of various trees. Players threw four or more such objects

(Buse with Taringa 1995: 335, 337; Savage [1962] 1980: 245; Shibata 1999: 211). Victory went to the person who could keep more objects in the air for longer than anyone else (Te Rangi Hiroa 1944: 260). In Ngaru's contest, they threw seven or eight objects (Reilly 2015: 174). Female performers in Mangareva, in the Gambier Islands of French Polynesia, threw up and juggled (*kita'i*, *pei*) up to eight *rama* (round, walnut-sized candlenut tree seeds) at a time from a sitting position. The victor was the one who kept all their *rama* in the air without dropping one (Te Rangi Hiroa 1938: 185–86). Augustin Krämer (1995: 382) refers to juggling or throwing games in Sāmoa that involved wild oranges (*fuaga*, *te'aga*, *tuaefula* [*tia'ifua?*]).

Clearly, the games Ruatapu calls *makamaka* and *makamaka kai* existed throughout Polynesia and might involve small stones, plant seeds or fruit. To keep track of how many objects each player was catching in their hands, others would have kept a count, as shown in Ruatapu's 1875 text. Typically, Māui's food throwing was so quick that no one could see and count the food he caught in his hands. He was the ultimate contestant. Not surprisingly, in a number of Polynesian islands, Māui is associated with various games, either as their inventor or the most able player (Luomala 1949: 76). If it was not Māui, then a culture hero, like Mangaia's Ngaru, was linked to a game's origins.

In Aotearoa and Te Waipounamu, there was another game frequently associated with Māui. It appears in various stories including the ones told by the Ruapuke Island elders, as well as by other Kāi Tahu raconteurs, and by Ruatapu. In these narratives, Māui contrived to meet his family by playing darts with his elder brothers. According to the Ruapuke raconteurs, Māui came upon his brothers playing darts (*"kōkirikiri"*) together. He then joined the game, throwing his dart so far it smashed into his parents' house and broke the *maihi* or bargeboard, thus setting the scene for him to meet his mother (Tremewan 2002: 75). The game of *kōkirikiri* involved using a stick to launch a dart some distance (Beattie 1994: 75–76, 557).

A similar story is told in other Kāi Tahu accounts. The Moeraki-based scholar Matiaha Tiramōrehu has Māui join his brothers' dart-throwing game (*"tīmatamata"*) and break the *maihi* of his father's house with his dart (Waiti 1887: 72–73; White 1887: 80). Creed depicts Māui playing in his brothers' game of darts (*"niti"*). His dart or *niti* hit the parental house and caused his mother's own house to fall down (Waiti 1887: 74; White 1887: 81–82). Several other versions were told to Beattie around 1920. In one the brothers and Māui threw *pukakaho* reeds (*toetoe*, *Cortaderia* spp.). While the brothers' reeds only went a short distance, Māui again threw his so strongly it broke the *matapihi* (gable-end) of his mother's house (Beattie 1994: 556). Another account explains that the brothers were playing a game of *kōkirikiri* (or *kotiritiri* [*kōtiritiri?*]) where a dart (called *kōauau* after the kelp from which it was made) was projected with a stick. Again, his dart went so far it broke the *maihi* of his grandfather's house (pp. 75–76, 557).

Like Māui, another young man of rank named Hutu also astonished other players with his great skills, being able to throw his dart or teka so far that it reached the doorway of the house where Pare, a puhi or young woman ceremonially dedicated by her community, had been watching him. Just as Māui's teka brought about the meeting with his mother, so Hutu's teka was the means by which he met Pare, who promptly declared her love for him (Orbell 1992: 67, 70).

Ruatapu wrote two versions of the dart-throwing game. A few years before the 1875 text for Porter, he had written another manuscript, in 1871, for the great Ngāti Porou leader, Rōpata Wahawaha (Reedy 1993: 12). In this earlier account Ruatapu describes some of Māui's elder brothers trying to launch darts ("kōkirikiri teka") over the backs of some of their siblings, without much success. Māui, still a child, appeared and took one of their teka and successfully launched it over the brothers' backs—a feat he repeated multiple times, to the amazement of his brothers (p. 19). According to Ruatapu's 1875 version (p. 78), Māui called on his brothers to lie face downwards whereupon he threw his teka over their backs: "[K]oia e papa nei te tuarā o te tangata" (and that is why people's backs are flat). Best explains how the repeated hitting of the dart caused a hollow to be formed in human backs (Best [1925a] 1976a: 63). A similar motif is found in the story about Wharematangi, who cast his teka off the hollow of his mother's back in order to successfully search for his father (p. 65).

In Aotearoa and Te Waipounamu, darts were called teka, neti, niti or pehu, and measured around three feet (0.9 m) in length.⁶ They were made from a thin, light and straight piece of wood, typically a stem (kākaka) of rārahu (bracken, *Pteridium esculentum*; also known as mākaka, manehu, mārohi, rahurahu, rarauhe, rarauhe-mahuika, tākaka [Williams 1971: 175, 183, 320, 326, 368]). Teka might sometimes be made from the light wood of the whau tree (*Entelea arborescens*, also known as hauama, houama, whauama [pp. 40, 63, 492]). The front end would be bound by a narrow strip of harakeke to form a knob (pōike). The game, called neti or whakatekateka, was played on a strip of flat land cleared of any plants or other obstructions. This area was known as the marae teka, marae toro teka or papa pere. A player would hold their teka in their right hand, forefinger resting against the butt, and run in a stooping posture towards a mound of earth at a distance of some 30 feet (9.1 m), launching their dart at the mound with an underhand cast (piu teka, toro teka, tekateka). The dart would glance or graze the top of the mound and be launched off into the air. The winner was the one whose teka landed the farthest away (i a ia te piro). The first player to win ten rounds was the winner. Conventional numbering was used for scoring, except for ten, when people would call out, "Ka piro" (Out). To ensure success people performed karakia (formulaic chant, ritual chant) over their teka. In a number

of narratives Māui invented this game, although in the southern kōrero (story, narrative) he seems to have been the victor in the game his brothers had been playing (Best [1925a] 1976a: 61–64; Williams 1971: 221, 222, 410).

This game is found throughout Polynesia, where the dart was known as *tika* in the west and *teka* in the east. In the Polynesian Outlier of Tikopia, in the Solomon Islands, the *tika* had a shaft about three feet in length (0.9 m) with a heavy head (*fue tika*), some five inches (12.7 cm) long and made from the *toa* tree (ironwood, *Casuarina equisetifolia*). Games were played on the *marae tika* (dart pitch), a strip of land some 130 yards long (118.87 m) and just six to seven feet wide (1.8 to 2.1 m) (Firth 1930: 65–66). Before a match the strip was carefully levelled and cleared of vegetation and other obstructions, “like an over-developed cricket pitch” (p. 65). *Tika* games were immensely popular with large crowds attending, comprising all ages and sexes, all dressed up in their finest (p. 64). The game was always considered a sport of the *atua* (gods) and possessed a degree of *tapu* (sacredness), but in the pre-Christian era certain games were marked by more ceremony involving rituals intended to gain divine support for the success of players (pp. 67, 73–77). The games were played by two teams. For players, the objective was to throw their *tika* so that it landed ahead of all the others (*mua tika*). Such a dart was said to eat (*kai*) the others, that is, to gain a point. The team able to achieve ten *kai* (points) was victorious (pp. 67, 69–70). Raymond Firth provides a vivid description of a player’s throw:

Holding the *tika* across his body, the butt in his right hand, with its end pressed hard against the tip of his fore-finger, and supporting the head with his left, he advances with a graceful swaying motion—the *oriori*—looking straight in front of him, his face serious, with a rather self-conscious air. Then he quickens his pace and covers the last few yards in a sudden sprint, the muscles of his calves standing out noticeably with the effort. At the same time he releases his left hand and swings the *tika* round, poising it in the air and drawing back his right arm to the full as he does so. Reaching the throwing stand, with his eyes firmly fixed on his goal, he checks for an instant and hurls the dart forward in a round-arm movement, with all his strength and no little grace. The arm is not bent at the elbow at the moment of projection, but swung from the shoulder, while at the same time an added impetus is given by twisting the body away and down to the left as the shaft leaves the finger. An energetic player will always throw himself off his balance by the effort, and at the completion of the cast be on his hands and knees or even prone on the ground. (Firth 1930: 82–83)

The aim was not to throw high or horizontally, but rather to jerk the throwing hand downwards so as to elevate the *tika*, ensuring that it flew at an angle to the horizontal plane, the head slowly lowering till the *tika* hit the ground and glided along with limited loss of momentum (p. 83). A normal good throw

averaged about 140 yards (128 m). An exceptional throw would have the crowd applauding, calling out and crowding in to gaze at the tika (p. 86). By contrast, players performed silently, a reflection of their anxiety, since a bad throw in front of everyone caused players to experience shame; such failures had been known to prompt a player's suicide (pp. 88–90).

In Sāmoa ti'a (sticks, javelins) were made of various light woods, commonly the fu'afu'a (*Kleinhovia hospita*) or mamala (*Homalanthus* spp.). The ti'a were differentiated by name depending on their length, from the shortest (tapu'u, tafau) at around 20 inches (50.8 cm), followed by tasali (about 30 inches [76.2 cm]), talu, tafua (about four feet [1.2 m]), velo (about four to five feet), to the longest, ulutoa, at about five feet (1.5 m), with a head (ulu) made of toa wood. Ti'a were played by opposing teams in the tāgāti'a (stick or javelin throwing game [Krämer spells it ta'agati'a]). Players would first recite a chant over their ti'a to ensure success. Games were played on a cleared space, about 100 to 150 feet long (30.5 to 45.7 m), such as a road. A sloping ramp (pāga) was constructed at each end. The aim was to strike the pāga with part of the ti'a. For the short tapu'u and tafau players stood beside the pāga, but for longer ti'a a player would make a short run before throwing their ti'a towards the pāga while standing side on, in either an overhand (velo) or underhand (tasali) sweep. Ti'a could also be launched a greater distance with a throwing cord made from the bark fibres of the fau tree (*Hibiscus tiliaceus*) (ti'a fafau). A successful throw was one where the ti'a glanced off the pāga, maintained a straight flight and went farther than all the others. Each ti'a that went farther than those of the other team achieved a point (Krämer 1995: 382–84, 424 nn35–36; Moyle 1970: 233–39; Te Rangi Hiroa 1930: 566–70).⁷

In Niue, locals played the game of tātika (or tāsika), throwing a tika measuring about 5 feet (1.5 m) in length along a malē tika (cleared space for tika playing) (Loeb 1926: 117; McEwen 1970: 185; Smith and Pulekula 1983: 73, 116–17).

In the Cook Islands teka referred to the dart, to the action of throwing it and to the cane-like stems of the kāka'o plant (*Miscanthus floridulus*) from which darts were made (Buse with Taringa 1995: 142, 482). In 1975 I watched some Rarotongan youths launch their teka down a flat, tar-sealed road. The contest was keen and accompanied by shouts and cheers from those watching as each teenager took his turn. These teka were about an arm's length and made of thin bamboo rods.

In Mangaia, the game (teka, tekanga) was played in the pre-Christian era by either men or women in separate competitions. Before a competition, players would gather a bundle of the longest kāka'o stems from growing places in the valleys. They would then set about strengthening the striking end with strong bark, rounding and smoothing the throwing end, and finally, straightening the stems by slightly singeing them over a fire. At a game,

players were organised into teams. Each player would throw (*teka*) their *tao* (javelin, short throwing-spear)—a much longer object than the Rarotongan *teka*—on a *ta'ua* (cleared space, pitch) using either an underhand (*teka'ia nā raro*) or overhand throw (*teka'ia nā runga*).⁸ The player whose *tao* went the farthest gained a point (*kai*). All the *tao* from that player's team that outdistanced the farthest throw of the other team each gained a *kai* (Buse with Taringa 1995: 439, 470; Gill 1876: 119–20; Reilly 2015: 156–57, 168; Savage [1962] 1980: 364; Shibata 1999: 299, 309; Te Rangi Hiroa 1934: 149–50). Tarauri (“the true patron and chief of all reed-players”), a son of the *atua* (god, spirit being) Tangaroa, threw a *tao* that flew into the sky and remained airborne for eight whole days (Gill 1876: 120–21).

Aitutaki had five local types of darts (*okaoka*, *teka kioire*, *teka kōki'i*, *teka tā manu'iri*, *tumutumu*). Most were made from the *teka* of the *kāka'o* plant, although the *okaoka* could also be made from thin rods of the 'au (beach hibiscus, *Hibiscus tiliaceus*) tree. The *okaoka* was the longest at “two spans in length” whereas the other dart types were “much shorter”, measuring about 10 inches to 4 feet long (25.4 cm to 1.2 m) (Te Rangi Hiroa 1927: 335–38). In the *teka* game Te Rangihiroa observed in 1926, most players favoured the *tumutumu*, individual specimens of which varied in length between about 2 to 4 feet (0.6 to 1.2 m), although the more successful ones were the longest (at 3 feet 9 inches or 1.14 m); all were quite thin, measuring three tenths to two thirds of an inch in diameter (0.76 to 10.16 mm). Like other *teka*, the *tumutumu*'s front end was bound by bast or inner bark (*kouma*), usually from the 'au tree or the banana plant (*meika*, *Musa* spp.), and covered in the sap or resin (*tāpao*, *tāpau* or *tāpou*) of the breadfruit tree (*kuru*, *Artocarpus altilis*). This corrected a dart's tendency to fly skywards (*rere tuārangi*) and so lose the all-important distance (Buse with Taringa 1995: 204, 448, 452; Savage [1962] 1980: 352–53; Te Rangi Hiroa 1927: 335–38). Te Rangihiroa's description of a player's throw is arguably the best one for East Polynesia:

The *tumutumu* was held with the right forefinger over the unbound end. This end was trimmed to suit the taste of the owner. Some were cut straight across, others slanted, and others grooved to fit the forefinger. With the forefinger bent over the end, the shaft was gripped between the thumb and middle finger. In advancing to throw, the *teka* was held in a natural position across the breast. The player took his run, and as he neared the mark he brought the right hand back to full stretch, turned sideways, and, stooping, dashed the *teka* forwards and downwards, so that the head struck glancing against the ground immediately to the front. A slight rise in the ground favours the throw, but no artificial mound was made. In fact, the properly cast dart will rise off the level ground. The dart glances off the ground, and the effect is surprising. A good cast will rise in a swift, low trajectory, reach its maximum height like a golf ball, and come gracefully down. It is the straight throw with the right trajectory that denotes skill. A poor throw will not rise, or will rise too

high, and so lose distance. Some strong throws will turn to the right or left, and also lose distance. The competition is for distance. Distance cannot be obtained unless direction is maintained, as well as strength and trajectory. In competitions there are no restrictions as to the length of the dart. [A longer okaoka can compete against the shorter tumutumu.] ... *Scoring*. In matches all the competitors had one throw from a given mark. They could take as long a run as they liked, but crossing the mark disqualified the throw. The longest throw counted one. The first competitor to reach six won. The counting of the numbers is not the usual numeration, but is peculiar to the game. ... [Kereti = 1, Karua = 2, Kiha = 3, Kiono = 4, Ituku = 5, Rē = 6. Rē = victory.] A dead heat between throws is called *mua te kai*. (Te Rangi Hiroa 1927: 338–39; my summaries in brackets)

In the 1926 competition, a young man called Tahunga (Ta‘unga?) won with a throw of 86 yards (78.64 m) (pp. 336, 340). Ngata-ariki, the founder of the game in Aitutaki, recited a chant and cast a dart which disappeared over the horizon (pae o te rangi) (p. 340).

In the Hawaiian Islands the ke‘a was made from the flowering stem (pua) of the sugar cane (kō) (Pukui and Elbert 1986: 156, 344). The ke‘a pua measured about two feet (0.6 m). The game was only played by adults and children during the Makahiki season. As in other islands players would run in and launch their ke‘a at a mound, causing the dart to fly off “with as graceful a trajectory as a well-hit golf ball”. Victory went to the player who first landed their dart farther than any competitor ten times (Te Rangi Hiroa 1957: 377–78). In a tradition paralleling the Māori Pare and Hutu story, a dart belonging to a young man, Hiku (the equivalent Hawaiian name to Hutu), possessed magical powers, which enabled it to travel great distances until it landed at the feet of the chiefly young woman, Kawelu, who fell in love with him (Thornton 1987: 13–15).

In Tahiti, the game appears to have transformed into an elite and sacred sport of archery (te‘ara‘a) played on stone platforms (vāhi te‘a) and associated with much ritual, at least for male players. Women seem to have played in separate competitions. Illustrations of the arrow (te‘a) show how much it resembled the teka of other islands, being made of bamboo (‘ohe, ‘ofe, *Schizostachyum glaucifolium*), measuring between about two feet six inches (0.76 m) and three feet in length (0.9 m), without feathers or barbed point, the latter instead tipped with a hard point of ‘aito (ironwood, *Casuarina equisetifolia*) (Handy 1930: 58–59; Oliver 1974, vol. 1: 320; Wahlroos 2002: 556, 681; Whistler 2009: 55, 187). Even the objective of the game resembles the darts game since shooting an arrow farther than any other competitor, not marksmanship, was the objective. Using a bow enabled te‘a to travel much greater distances, sometimes as far as 300 yards (274.3 m) (Henry 1928: 276; Oliver 1974, vol. 1: 320, 377–78). The similarities are also found in the meanings of the relevant words. Thus te‘a is glossed

as both arrow and dart, while a nineteenth-century synonym, ‘ohe (dart), clearly functioned as an arrow, as suggested in historical words such as ohemoepiha (“dart preserved in a quiver”) (Davies 1851: 160, 263; Wahlroos 2002: 664). The nearby Tuamotu Archipelago resembles Tahiti, defining teka as an arrow (Stimson with Marshall 1964: 520). While in other islands darts were sometimes launched from sticks, here the bow provided an even more effective launching device.

In other East Polynesian islands, dart- or javelin-throwing games used different terminology in place of teka. In Manihiki, in the northern Cook Islands, the to (tō?) or dart measured about six feet (1.8 m), although one specimen was 6 feet 9 inches (2 m) in length. The game was the same as elsewhere except the to was launched using both hands (Te Rangi Hiroa 1927: 340; 1932: 196–97). In Mangareva darts were called pau (Te Rangi Hiroa 1938: 183).

If other islands had their own distinctive inventor or first user of teka, here in Aotearoa and Te Waipounamu that honour was always awarded to Māui. The athleticism, technical virtuosity and competitiveness required for success in this game reflect exactly the attributes of a hero like Māui.

MĀUI AND THE INVENTION OF ROPE

Wiremu Maihi Te Rangikāheke, a young man of rank from the Ngāti Kererū hapū (smaller descent group) of Ngāti Rangiwewehi, had begun by the later 1840s to acquire a reputation for writing down Māori oral traditions and providing them to interested Pākehā (New Zealand European) officials, including the governor, Sir George Grey. Subsequently, Te Rangikāheke began working for Grey from 1849, acting as his tutor in the Māori language. From then until 1853, the year Grey left New Zealand, Te Rangikāheke wrote an enormous body of manuscripts for him (Curnow 1985: 98, 101–5). Around the time he began working for Grey, Te Rangikāheke wrote an account about Māui as the concluding section to a larger narrative, known as “Nga Tama a Rangi” or GNZMMSS 43, which begins with the creation and the conflicts amongst the sons of Rangi and Papa (p. 120).

When recounting the story of how Māui slowed down the sun, Te Rangikāheke explained how this hero made the rope with which the sun was bound while Māui beat him into submission. In this adventure he was accompanied by his four older brothers.

Kātahi rātou ka whiri taura, ka kitea i reira te whiri tāmaka, te tari kākāriki, te whiri pāraharaha, te rino. Ka oti ngā taura te whiri. (Thornton 1992: 22)

Then they plaited rope. There they discovered the round plaited rope with four or more strands, the plaited rope of four strands, the flat plaited rope with three strands and the twisted rope of two or more strands. The plaiting of ropes finished.

Grey's translation of this passage has Māui and his brothers making the rope from harakeke (Grey [1855] 1956: 26). With the aid of his brothers, Māui had invented rope-making: "Theirs was the primal performance of these arts from which all later practice derived" (Thornton 1992: 75 n9). It was another of Māui's innovations that would benefit subsequent generations.

Te Rangikāheke was also the author of another manuscript about the killing of three taniwha by Te Arawa warriors. In December 1849, he gave this document to G.S. Cooper, the governor's assistant private secretary, who was accompanying Grey and his party during the latter's visit to Rotorua (Cooper 1851: 128–29; Curnow 1985: 102). In this text a party out searching for missing travellers came upon the taniwha Hotupuku, which killed many of them (Grey 1971: 126–27). Realising this powerful creature had slain all those people, a large force of warriors ("te rau mā whitu") set out for the plains of Kapenga, where Hotupuku dwelt.⁹ There they stayed,

kei te muru whanake, kei te whiri taura; ka kitea i konei te whiri maha nei, te tari, te tāmaka, te whiri pāharahara, te rinorino; ka rūpeke te whiri. (p. 127)

gathering [or plucking off] leaves of whanake [cabbage tree, *Cordyline australis*] and plaiting rope; they discovered here many [rope] plaitings: the eight-stranded square rope, the five-stranded round rope, the three-stranded flat rope, the twisted rope of two or more strands. The plaiting was completed.

These ropes were subsequently used to catch and hold Hotupuku until the warriors were able to slay it (pp. 127–28).

These two stories by Te Rangikāheke relate different origins for rope-making. In the first story, it is discovered in the era when tricksters and culture heroes were wresting knowledge from the spirit powers and passing practices like rope-making on to humanity. The second story takes place in a later era, soon after the historic migrations of the ancestral waka (ships, vessels, boats) from Hawaiki, a key moment in the histories of Māori iwi (tribes, peoples). Te Rangikāheke locates this story in a world peopled by the sons of Tama-i-hu-toroa, whose own father, Ihenga, the grandson of Tamatekapua, had helped establish descendants from the Te Arawa waka inland around the lakes of the Rotorua region (Grey 1971: 126; Stafford 1967: 24–42). This was a world still under threat from dangerous and very powerful beings in the form of taniwha. Hotupuku is described as being as big as a southern right whale (tohorā) or a sperm whale (parāoa) and having the form of a reptile (ngārara) or a tuatara (*Sphenodon punctatus*) (Grey 1971: 128). The challenge these warriors face resembles Māui's own struggles against the supernatural forces, perhaps explaining why both are linked to the invention of rope, since each has a need of it. The similar

wording of the discovery of rope-making in these stories is a reminder that Te Rangikāheke saw the two narratives as connected: just as Māui was for him a descendant of Tū-mata-uenga, so too were Te Rangikāheke's Te Arawa ancestors descended from Māui (see Thornton 1992: 21, 44). Nor should Te Rangikāheke's two different origins be entirely surprising, since the oral world accepted diversity and difference as part of the art of storytelling. For Te Rangikāheke, as an inheritor of that world, there was never a single, fixed and authoritative origin story for rope-making but rather a range of explanatory accounts in circulation that he set about to record and pass on to interested Pākehā.

The making of rope in Polynesia was a critical cultural invention, for rope literally held things together, enabling and sustaining the economies that allowed these island societies to prosper both on land and at sea. It is not surprising therefore that a hero like Māui was associated with such an important product. In Aotearoa and Te Waipounamu, rope or cord (taura) was manufactured from different plant materials, most commonly from varieties of harakeke but also, as the Hotupuku story reveals, from leaves of the whanake tree (also known as tī kouka), as well as other types of tī (tī pore, *Cordyline fruticosa*; tī ngāhere, *Cordyline banksii*; tī rauriki, *Cordyline pumilio*), and from lacebark (ribbonwood, *Hoheria populnea*; variously known as whauwhi, houhi, hoihere, houhere and houī) (Best 1924, vol. 2: 531; Hamilton 1896: 273; Simpson 2000: 144; Te Rangi Hiroa 1923: 707–9; Williams 1971: 56, 63, 492). Whanake leaves did not shrink in water and were known to be strong and durable. Such qualities meant they were particularly favoured for making multistranded ropes capable of handling heavy weights, such as dragging a waka, holding an anchor in water or tightly clamping house rafters to the wall posts and ridgepole (Best 1924, vol. 2: 565; [1925b] 1976b: 103; Colenso 1891: 467; Simpson 2000: 160–61; Te Rangi Hiroa 1950b: 125–26).

The Māori economy needed a lot of plants to be harvested and processed. Māori communities generally had a pā harakeke (plantation, garden or grove of harakeke) conveniently nearby for this reason (Best 1924, vol. 2: 514; Te Rangi Hiroa 1923: 707). Presumably the Te Arawa warriors stayed on the Kapenga plains to access a good supply of leaves, since the whanake tree preferred such open spaces (Simpson 2000: 52, 56). Māori planted pā tī (groves of cabbage trees) to catch the kererū attracted to the tree's fruit (p. 82), and doubtless such groves also provided the abundance of leaves needed for rope-making.

The manufacturing of rope from whanake is not well described in sources, but a rough and ready rope could be made simply from gathering dead leaves into a bundle ("How to Make Rope" 2020). However, other sources

suggest whanake leaves were subjected to more preparation. According to the nineteenth-century ethnographer William Colenso (1891: 467), unscraped whole leaves were gathered, then laid carefully in the shade so as to wilt them before being soaked in water to make the leaves more pliant, presumably for plaiting (whiri) rope. For modern weaver Erenora Puketapu-Hetet (1989: 14), green leaves gathered from the trees only needed to be boiled (kōhua, kōhue) before being ready for use. Another modern guide recommends separating the fibres of dry, dead leaves and cutting off the leaf bases in readiness for plaiting the split fibres into a rope (Auckland Botanic Gardens n.d.).

The commonest fibre used for making taura was the harakeke, explaining perhaps why Grey assumed Māui and his brothers used this material for rope-making. In preparation the harakeke leaves were split into strips (toetoe), separated (tākirikiri) from the leaf base or butt (pūtake, take) and then softened by scraping (hāpine, hāro, kaku or pīahu). The strips or strands (whenu, io, wenu, whengu, kāwiriwiri, kanoi) were then ready for making taura. Alternatively, to obtain a whitening effect, whenu might also be subjected to additional preparation stages involving boiling (kōhua, kōhue) and drying (whakamaroke). Taura might also be made from muka, although such ropes were not as strong. Muka (also known as whītau or hītau) was the fibrous material exposed by the stripping off of the outer layers of a harakeke leaf. Once cleaned, lengths of muka were then rolled or twisted (miro) on the right thigh to form a cord. Larger ropes of the harakeke or whanake were manufactured by plaiting (whiri) multiple whenu or io together.¹⁰ This required two people: one plaiting by hand and another holding the start of the taura; alternatively, the plaiter held the knotted beginning of the taura between their big and index toes or underfoot ([Ahipene] 2015; Auckland Botanic Gardens n.d.; Best 1924, vol. 2: 514, 516; [1929] 1977: 34; Brown 2008; [Gillbanks] 2018; “How to Make Rope” 2020; Muka Rope 2020; Puketapu-Hetet 1989: 9–10, 20–22, 41–44, 75–78, 86–88; Te Rangi Hiroa 1923: 706–13; Tregear 1904: 231; Williams 1971: 78, 94, 111, 372, 402, 494, 496, 497).¹¹ The preparation and manufacturing processes for whanake and harakeke explain why groups of men were involved: rope-making required a team approach.

As the passages from Te Rangikāheke’s two stories make clear, taura were classified by the number of whenu or io they contained, with more strands making a stronger, larger rope, and by their shape: round (tōpuku), flat (pāharahara) or square (porowhā or tapawhā). The following list of taura, arranged by number of whenu and rope shape, is a testament to the inventiveness of Māui and the early Māori ancestors (list compiled from Best 1898: 652–53; 1924, vol. 2: 531; Hamilton 1896: 295; Puketapu-Hetet 1989: 43; Tregear 1904: 231; Williams 1971: 80, 111, 247, 259, 275, 295, 331, 341, 381, 391, 402, 406, 437, 446).¹²

Two: tāwai (twist);
 Two or more: tōpiki, rino (twist), rinorino, whiri rino;
 Three: whiri kawē, whiri pārahara (both flat), whiri kōrino (round),
 whiri papa (flat; or general term for flat plait);
 Three or more, or five or six: rauru (flat);
 Four: tuapuku, whiri tōpuku, whiri tuapuku (all round), whiri mekameka
 (flat), tari kākāriki, whiri puku;
 Four or more: whiri tāmaka (round);
 Four or eight: iwituna (round);
 Five: tāmaka (round);
 Five or six: tuamaka (round);
 Eight: tari, tari karakia, whiri o Raukatauri or whiri raukatauri (all square),
 whiri tarikarika, whiri tuawaka;
 Eight or more: whakaiwituna (round);
 Eight or nine: whiri pekapeka (flat);
 Ten: whiri taurakaka, whiri taurakeke (square).

Elsewhere in Polynesia, Māui is also linked with the invention of rope-making. In Mangaia, Māui was the child of Puataranga and her husband, Rū. Māui decided to capture the sun in order to lengthen the day (Gill 1876: 51, 61).

Karanga atu a Rū, “E a’a tā’au rāvenga e rauka [a]i?” Karanga atu Māui ē, “E ‘ere i te taura.” Kua ‘iri i te taura. I iri amoamoa ē 6 taura: 2 angaka’a te roa i ngā taura ē 6. (“Tērā mai taua kete ‘amo rā, n.d.”; my brackets, diacritics, punctuation)

Rū said, “What is your plan to achieve it?” Māui said, “Tether him with rope.” He plaited the rope. The six ropes were placed upon a carrying pole: the six ropes were two angaka’a long [about 36 m].¹³

The rendering of this passage by the nineteenth-century missionary ethnographer William Wyatt Gill provides additional details: “Māui now carefully plaited six great ropes of strong cocoa-nut fibre, each composed of four strands, and of great length. These wonderful cords of his were named by the inventor Aei-ariki [‘Ā’ei-ariki], *i.e. royal nooses*” (p. 61; my brackets, italics in original). This name was also rendered “Taei-ariki” (Tā’ei-ariki) (p. 61). Māui’s six ropes caught parts of the sun’s body, with the sixth one catching round his neck. Māui then secured the ropes to a stone. As a result the sun travelled more slowly (Tērā mai taua kete ‘amo rā, n.d.; Gill 1876: 61–62). According to Gill, Māui refused to take the ropes off, and they remain today: “te taura a Māui”, or the rays seen at the sun’s rising and setting (Gill 1876: 62–63; Savage [1962] 1980: 366).

A story recounted by various experts in Porapora and Ra‘iātea, in the Society Islands, describes how Māui responded to the short days by taking ten ropes in order to tie each of the sun’s ten rays to rocks, thus fixing the sun in place so that people could finish their work (Henry 1928: 430). According to experts in Hawai‘i, Māui made strong coconut fibre rope (‘aha) with which he then lassooed the sun’s rays to slow it down (Beckwith 1970: 230–31), an act recalled in the Kumulipo creation chant: “I kipuka ‘ahele a Māui i ka La” (“With the loop of Māui’s snaring-rope” [Beckwith 1972: 136, 238; my diacritics]).

Stories from other islands say that Māui made ropes from local plant materials and human hair. According to several experts in Tahiti, Māui decided to make nooses to catch and slow the sun. He made strong nooses from a variety of plants used to provide cordage: the rō‘ā (*Pipturus argenteus*), considered to have one of the strongest bark fibres in all of Polynesia; the mati (Dyer’s fig, *Ficus tinctoria*), which also had a strong bark fibre; the ‘ie‘ie (*Freycinetia arborea*); the more or bark of the young pūrau tree (fau, hau, beach hibiscus, *Hibiscus tiliaceus*); and nape or cord made from coconut husk fibre (a‘a) (Davies 1851: 146; Henry 1928: 431; Wahlroos 2002: 110, 260, 594, 647; Whistler 2009: 119–20, 132–33, 174). In addition, Māui braided head hair (“firi rouru”) from his sister, Hina-hinatō-tō-io. Māui threw all his nooses over the sun and then fastened them to a nearby stone. The sun was able to burn all the nooses except for the one made from Hina’s hair, which held him, forcing him to go slower. The other ropes, “te taura a [Māui]”, remain on the sun (Henry 1928: 431–32).

In Manihiki, in the northern Cook Islands, Māui made rope from coconut fibre (ka‘a), considered “the strongest rope available to islanders” (Kauraka 1989: 50), and placed it over the opening from which the sun emerged from ‘Avaiki. No matter how strong he made these ropes they all failed. Māui then cut the long hair of his sister, Inaika (‘Ina‘ika?), plaiting (‘iri) it into rope which successfully constrained the sun, forcing him to agree to move more slowly and permit people to do their work (Gill 1876: 70–71). A late twentieth-century version by the elder Tokatina Masters depicts Māui using nets instead of ropes. He first put his sennit net (“pū‘ere ka‘a”) over the hole from which the sun emerged, but it burned. He sought advice from his grandmother, Hina-poraria, who instructed him to make a net from the head hair (“rouru”) of his sister, Hina. He wove (“‘iri”) the strands to form a hair net (“pū‘ere‘ere rouru”), which he then placed over the hole. The net did not burn, and the sun, unable to move, agreed to slow down (Kauraka 1987: 78; 1989: 22–23).

A lament from Fatuiva, in the southern Marquesas Islands, suggests that Māui caught the sun with ropes made from the bark fibre of the fau (beach hibiscus, *Hibiscus tiliaceus*), from coconut fibre or sennit and another made

from human hair mixed with the fibre derived from the bark of the ‘onā (*Pipturus argenteus*), one of the strongest rope fibres in Polynesia (Von den Steinen 1988: 127; Whistler 2009: 132, 135, 174). In an accompanying text by Vaikau, Māui took a rope plaited from the head hairs of all the people in his tribe, stood on the highest mountain (Mouna Nui) and caught the sun around its neck. He only overpowered the sun after breaking one of its legs. Māui then took the sun’s hair, which, after Māui’s death, Hina shared out amongst her various lovers (Von den Steinen 1988: 126–27).

For other islands, Māui is associated solely with the invention of rope made from human hair. In Mangareva Māui successfully slowed the sun by lassoing it with rope made from hair (Luomala 1949: 151, 155). According to Fariua-a-Makitua from Fagatau in the Tuamotu Archipelago, Māui’s mother, Hua-hega, instructed him on how to slow the sun. Following her directions he cut her head hair (“te rouru o taku upoko”) and braided (“firi”) the strands together to form a number of ropes of hair (“taura rouru”): Tahitu-verovero, Te Hihiri-o-te-Ra, Fautumu and Patau-hoe. With these he caught the sun, who, frightened (“mataku”) by Māui’s threat to kill him, agreed to travel more slowly (Stimson 1934: 8–12). In another Tuamotu account, Māui sought rope to slow the sun from Tavaka, but he was instructed that to catch the sun he needed more suitable rope made from his mother’s head hair. When Māui asked Huahega she initially declined, saying the head was sacred, but eventually agreed to his request in order to lengthen the day. He made a series of ropes, Hiti-ma-te-verovero-i-ragi, Tu-verovero-mate-i-toga, Tu-verovero-mate-i-takerau and Tu-verovero-mate-i-Havaiki, which together held the sun. These are known as “Te taura a Māui” (“The rope of Māui”) (Stimson 1937: 25–28; my diacritics).

Huahega’s objection to Māui’s request points to the common Polynesian understanding that the head was the most sacred or tapu part of a person’s body. Since atua fostered growth, be it of plants, human pregnancy or indeed a person’s head hair, this meant the latter was the most tapu part of the head (Hanson 1982: 344–45, 368; Hanson and Hanson 1983: 50). Most stories point out that only female head hair would serve Māui’s purpose; more specifically, only head hair from his nearest female kin (his sister or his mother). In the stories of Māui, his relationship with his mother is the central one: she rejected him at birth but recognised him as a youth and brought him back into his family. Commenting on Māui, Tremewan (2002: 95) points out that brothers in the Māori world “had a very close relationship with their sisters”. The Cook Islands scholar Kauraka Kauraka (1989: 51) adds that a brother “has to respect the sister because she has certain powers”. Only the hair from these women could successfully tame the sun. In the Marquesan story where rope is made from tribal members’ hair, presumably men and

women, it is still not strong enough on its own to subdue the sun. Applying a structuralist analysis to the Manihiki story, Kauraka (1989: 51) points to the male sun being attracted to its opposite, female hair, but being unable to destroy it for that reason, whereas the sun could destroy the sennit as it was the work of men. The tapu of these women's head hair was something the sun, powerful as it might be, was unable to overcome. By contrast, Māui's close kin ties meant he was able to touch and make rope from the head hair of his mother and sister without any such negative consequences.

Later descriptions of the making of rope in East Polynesia give a sense of the strength of "te taura a Māui". According to Gill (1876: 61), the ropes Māui made in Mangaia were of four strands of coconut fibre (ka'a). A strand was variously called 'ēnū (or 'enu) or kata (Buse with Taringa 1995: 100, 160; Savage [1962] 1980: 63, 90; Shibata 1999: 83). A range of taura were manufactured in Mangaia and other Cook Islands by plaiting ('iri) multiple 'ēnū: taura kiri 'au (rope made from bark of the 'au tree), taura ka'a, taura varavara (three-strand rope) and taura viriviri (six-to-eight-strand rope). A three-strand rope was also plaited from ka'a ('iri ka'a) while a two-strand taura was made by rolling strands of ka'a on the thigh with the palm of a hand ('iro [or miro] ka'a) (Buse with Taringa 1995: 132, 250; Savage [1962] 1980: 77, 162, 366; Shibata 1999: 65–66, 301–2).

Using knowledge from Aitutaki and Rarotonga, Te Rangihiroa reports that Māui used the taura rahiri (ra'iri?), or three-strand twisted rope, which was given the name Kurumoumou. This rope was made from the bast, or inner bark, of the 'au tree. Each 'ēnū was twisted (tāviri, takaviri) into the others by the operator, using both their hands, with the rope end either held by someone else or attached to something. This produced a very strong rope (Te Rangi Hiroa 1927: 65–66, 71). Other ropes included a four-strand twisted rope as well as taura made by plaiting ('iri) three or four 'ēnū, including taura puna (four-strand round rope). Besides using ka'a or the inner bark of the 'au (a fibre also known by its Tahitian name, pūrautea), other natural materials used for making taura included the inner bark of the 'ōrongā (*Pipturus argenteus*) and papako (no modern identification found). The bark was soaked in sea water for several days to separate the bast, which was then dried before use (Savage [1962] 1980: 283–84; Te Rangi Hiroa 1927: 62, 66–70).

In the northern Cook Islands of Manihiki and Rakahanga, fishing lines were made from ka'a twisted into three-strand taura. Some lines needed to be a "considerable length" to reach the depths where fish dwell (Te Rangi Hiroa 1932a: 163). In Tongareva, the ka'a or fibres from a coconut husk (puru) were first soaked and beaten to remove any interfibrous materials before being twisted into two-strand cords by rolling (miro) 'ēnū of ka'a

on the operator's thigh. Lengths of ka'a were also braided ('iri) to form three-strand taura (Te Rangi Hiroa 1932b: 136–37, 202).

In Tahiti, as in the Cook Islands, the commonest material used for rope-making was the fibre (a'a) found in coconut husks (puru). Given Māui's role as inventor, it is perhaps not surprising that, as in other parts of the Pacific, making taura was the responsibility of the men in a community. The a'a formed a strong and durable taura. These husks were soaked in seawater for a couple of months (or in muddy water), then beaten so as to detach the a'a before combing them. The smaller fibres were used to make a two-strand fishing line ('ānave), which involved twisting the a'a together by pressing the right-hand palm down upon the strands ('ave) and pushing them to and fro across the operator's thigh, a pan-Polynesian technique called nino or hiro in Tahiti. A taura was also made by twisting together three 'ave of a'a. Longer 'ave would be plaited together (firi), with one end tied to the big toe or a stick, to form a nape, a three-'ave taura made of a'a (also known as sennit): a strong rope well able to handle strain being used, for example, to hold the outrigger in place on a vessel. The next commonest material used for rope-making was the fibres from the more or inner bark of the pūrau tree (beach hibiscus, *Hibiscus tiliaceus*), or taura more. These fibres were extracted by immersion in muddy water followed by a process of cleaning and beating to detach the inner bark followed by combing. Taura of three or four strands (taura firi toru and taura firi maha respectively) would be plaited (firi) from the more, with the operator tying an 'ave to a post and then plaiting the three or four strands towards themselves. The strongest taura in Tahiti was made from the fibres of the rō'ā shrub. Wood would be cut from the tree, the outer skins removed and the inner bark left out in the night for several nights till it became snowy white, at which point it would be combed into fine threads. The nino technique was used to form 'ānave rō'ā, cords much prized for fishing lines and nets. The finest-quality taura were made from the "soft, white, flaxlike fibers" (Handy 1927: 107) of the inner bark of the pipipiri (hibiscus bur, *Urena lobata*). The bark was immersed in mud beside a river for up to two weeks so as to detach the fibrous material, which would then be washed and combed, ready for use. Other materials were also used in taura. Tahitians braided or plaited taura comprised of six or nine 'ave or strands of human hair (firira'a rouru): eighteenth-century examples were said to be up to a mile long. The hair apparently belonged to deceased relations. These taura were worn as headdresses, or sometimes as maro (girdle, loincloth), and were considered very valuable. In the eighteenth century a high-ranking woman once gifted a visiting European friend (taio) a rope of hair. Taura were also made from the mati, fē'i (mountain plantain,

Musa troglodytarum) and aute (paper mulberry, *Broussonetia papyrifera*) (Davies 1851: 105, 155; Handy 1927: 9, 102, 105–9; Oliver 1974, vol. 1: 139–43, 157; vol. 2: 932, 1058; Wahlroos 2002: 73, 385; Whistler 2009: 212).

Kaula (rope, cord) in the Hawaiian Islands was made from several plant materials: the fibre (‘a’a) of the coconut husk (pulu); ‘ahu’awa, a sedge (*Cyperus javanicus*, *Cyperus hypochlorus*); the fibres from the bast or inner bark of the lowland tree, hau (*Hibiscus tiliaceus*); the wauke (paper mulberry, *Broussonetia papyrifera*); and the olonā shrub (*Touchardia latifolia*). As elsewhere, human hair, possibly from deceased kin or friends, was also braided (hili) into kaula. Making kaula from the coconut husk fibres required the latter first to be separated from the husks before being twisted together (hilo, milo [also translated as braiding or spinning]). In Hawai‘i, this pan-Polynesian process was performed by women, who rolled the fibres together across their thighs to form coconut fibre cords (hō‘aha). The men then braided or plaited (hili) these lengths of ‘aha into kaula. These ropes were particularly favoured for lashing outriggers to canoe hulls on account of their durability in salt water and for making carrying nets for calabashes (kōkō). Freshly plucked stems of ‘ahu’awa, found around the kalo (taro) swamps, were compressed between two sticks and then twisted (hilo, milo) into cords (hōaho) for kōkō and tying roof thatch. The other three plants (hau, wauke and olonā) were all steeped in running water and then scrapped with a shell or turtle rib, before apparently undergoing the complementary female hilo and male hili manufacturing processes. The wauke was weaker and favoured for more ornamental uses. The olonā, a stronger material, was preferred for fishing lines and nets. Hau provided a hard fibre and was principally used for making heavy ropes (Andrews [1865] 2003: 155, 394; Pukui and Elbert 1986: 1, 5, 7, 8, 60, 70, 136, 161, 286, 354, 382; Stokes 1906: 105–6; Te Rangi Hiroa 1957: 290).¹⁴

To slow the sun Māui required something that would successfully restrain such a powerful being. He came up with rope, still named te taura a Māui in memory of this heroic inventor of Polynesian culture: an innovation that enabled the development of the Polynesian economy, including the building of great structures, most notably the seagoing waka with which Pacific peoples discovered new lands, such as Te Ika-a-Māui and Te Waka-o-Māui, named in his honour. Māui’s creation of useful flora and fauna and cultural innovations such as sport, along with the invention of rope, together reveal some of the threads that connect the cultures of the many islands of Oceania. They remind us that the history and whakapapa of all the Indigenous peoples of Te Moana-nui-a-Kiwa (Pacific Ocean) are bound together: a rope comprised of many strands, enduring and strong.

NOTES

1. There are several alternative Māori names for the North and South Islands, including the ones that identify these lands with Māui. Today, the South Island is more commonly known as Te Waipounamu. Historically, the North Island was also called Aotearoa, and only in more recent times has this place name been extended to mean the whole country. When naming these islands in this paper I have adapted an older southern Māori phrase, Aotearoa me Te Waipounamu, which recognises the distinctive identities of each land. Aotearoa New Zealand is used as an alternative to the official country name.
2. According to Williams (1971: 141), korepe means “split, tear off, rip up”. Other Māori words glossed as split (see Biggs 1981: 184) include translations such as divide, separate, crack, open in fissures, with sentence examples referring to rock, earth, timber or tree (Williams 1971: 7, 74, 128, 141, 148, 194, 432). All these interpretations suggest that korepe refers to the action of a tail opening, separating or splitting, that is, entering Hine’s vagina. Para here refers to the watery sediment from which Tuna has emerged and which adheres to Hine after coition (Williams 1971: 262).
3. Tremewan (2002: 85) translates this passage: “This man, this pleasing man, the skin so smooth to the touch!”
4. New Zealand plant and fish nomenclature in this paper come from several sources: Moorfield (2011); *Ngā Tipu o Aotearoa: New Zealand Plants*, <https://nzflora.landcareresearch.co.nz>; *Ngā Tipu Whakaoranga: Maori Plant Use*, <https://maoriplantuse.landcareresearch.co.nz>; Strickland (1990); Williams (1971). Pacific plant nomenclature is mostly from Whistler (2009) or relevant island dictionaries.
5. Te Rangihiroa, derived from Te Rangi Ihiroa, is the version of the ancestral name given to Peter Henry Buck by his mother’s people, Ngāti Mutunga. Later on, Buck modified the form to Te Rangi Hiroa, apparently to help Pākehā pronounce it correctly (Condliffe 1971: 20, 244). I have preferred the form accepted by Ngāti Mutunga, but when citing publications I have retained the one found on the title pages: Te Rangi Hiroa.
6. Almost without exception, the historical sources in this paper used imperial units of measurement. I thought it important to retain these so that readers can access the actual figures given by the authors of these sources. These measurements are followed by their metric equivalents in parentheses.
7. Thanks to Tema Alailima-Eteuati, who provided me with the Moyle (1970) reference.
8. A nineteenth-century Mangaian text about the local culture hero Ngaru uses va’a to denote the player and the act of throwing a tao (“te va’a e va’a”) (Reilly 2015: 153, 154, 181 n9).
9. In this passage the number “te rau mā whitu” indicates an army or large body of warriors, irrespective of the actual number involved (Williams 1971: 328). In his translation of this passage Stafford (1967: 68) states that the force numbered 340.

10. Mick Pendergrast (2005: 50, 174) prefers to define whiri as braiding as this technique was used for making long narrow strips of plaiting known as braiding. He reserves plaiting for raranga, a technique for making baskets, mats and other items.
11. No one seems to have written a comprehensive study of Māori rope-making. Te Rangihiroa promised to examine it in his two-part study of Māori plaitwork, but unfortunately he never did (Te Rangi Hiroa 1923: 706).
12. This list of taura may be incomplete and certainly contains some discrepancies regarding the precise number of whenu for some ropes. Best (1898: 652) defines tōpiki as a type of taura, but Williams (1971: 437) says it is a method of plaiting.
13. An angaka'a forms part of a Mangaian system for measuring length. The system was based on the paru (fathom, stride [Shibata 1999: 29], "the outstretched arms of a tall man" [Gill 1876: 325]): 20 paru equalled 2 angaka'a (Shibata 1999: 379). In nineteenth-century Mangaian letters the paru was considered equivalent to six feet or 1.8 m (Reilly 2007: 44, 46, 55 n5).
14. Elsewhere in Polynesia there are extensive descriptions of rope-making in Sāmoa (Te Rangi Hiroa 1930: 231–47) and Kapingamarangi (Te Rangi Hiroa 1950a: 123–32). These have the advantage of being based on contemporary observation rather than historical reconstruction from skimpy, fragmented sources as is often the case with the East Polynesian material used in this paper.

GLOSSARY

The terms in this glossary are New Zealand Māori unless otherwise stated.

a'a	fibre from the coconut husk used for rope-making, sennit (Tahitian)
'a'a	coconut husk fibre used for making rope (Hawaiian)
'aha	cord made from coconut husk fibre, sennit (Hawaiian)
'ahu'awa	a sedge, <i>Cyperus javanicus</i> , <i>Cyperus hypochlorus</i> , used in rope-making (Hawaiian)
aka	vines of various climbing plants
'ānave	fishing line (Tahitian)
atua	gods, god, spirit being (many Polynesian languages)
'au	beach hibiscus, <i>Hibiscus tiliaceus</i> (Cook Islands Māori); also known as fau (Samoan, Marquesan); pūrau, fau, hau (Tahitian); hau (Hawaiian)
'ave	strand of plant material or hair used in rope-making (Tahitian)
'ēnū, 'enu	strand of plant material or hair from which rope was made (Cook Islands Māori) (compare with whenu, New Zealand Māori)
harakeke	New Zealand flax, <i>Phormium tenax</i>
hau	see 'au
hilo	pan-Polynesian process performed by women, who

	rolled the fibres together across their thighs to form coconut fibre cords (Hawaiian) (see also miro)
hīnaki	eelpot
io	strips or strands of harakeke or other plant materials used in rope-making; also known as kanoi, kāwiriwiri, wenu, whengu, whenu
ka‘a	coconut fibre, sennit, strong fibre of the coconut husk (Cook Islands Māori)
kai	eat; point in tika or teka game (various Polynesian languages)
kāka‘o	a plant, <i>Miscanthus floridulus</i> ; stems used to make darts (Cook Islands Māori) (see teka)
karakia	formulaic chant, ritual chant
kaula	rope, cord (Hawaiian); see also taura
kōareare	edible rhizome of the raupō, <i>Typha orientalis</i>
kōiro	conger eel, <i>Conger verreauxi</i> (New Zealand Māori—Kāi Tahu)
kōkirikiri	game in which a dart was launched from a stick (see teka)
kōkō	carrying nets for calabashes made from sennit (Hawaiian)
kōrero	story, narrative
maihi	bargeboard or gable-end of house
makamaka	game of throwing and catching pebbles in the hand, jackstones
makamaka kai	food-throwing or juggling game, throwing of food from hand to hand
mati	Dyer’s fig, <i>Ficus tinctoria</i> , which produced a strong bark fibre used in rope-making (Tahitian)
milo	see hilo, miro
miro	action variously described as rolling or twisting strands of plant material on the thigh to form a cord or rope; known as miro, ‘iro (Cook Islands Māori); nino, hiro (Tahitian); hilo, milo (Hawaiian), in which the action is also translated as braiding or spinning
more	inner bark of the pūrau tree (beach hibiscus, <i>Hibiscus tiliaceus</i>) used for making rope (Tahitian)
muka	the fibrous material exposed by the stripping off of the outer layers of a harakeke leaf; also known as whītau, hītau
nino	see miro
nitī	dart
niu	commonest Polynesian name for coconut, <i>Cocos nucifera</i>
ngōiro	conger eel, <i>Conger verreauxi</i>
okaoka	long dart used in Aitutaki throwing game (Cook Islands Māori) (see teka)
olonā	shrub, <i>Touchardia latifolia</i> , used in rope-making (Hawaiian)

pā (tuna)	weir for catching eels
pāga	the sloping ramp used in ti'a throwing game (Samoan) (see ti'a)
Pākehā	New Zealand European
pukapuka	rangiora, bushman's friend, <i>Brachyglottis repanda</i>
rārahu	bracken, <i>Pteridium esculentum</i>
rauaruhe	fronds of bracken fern, <i>Pteridium esculentum</i>
rō'ā	a shrub, <i>Pipturus argenteus</i> , considered to have one of the strongest bark fibres in all of Polynesia (Tahitian)
roko	rollers, large posts or stakes (New Zealand Māori—Kāi Tahu)
taniwha	aquatic monster, giant eel, water creature of great power, dangerous and very powerful being
tao	a javelin or short throwing-spear used in the game called teka (Mangaian)
tapu	sacred, sacredness
taura	rope, cord (many Polynesian languages); see also kaula
teka	in East Polynesia, a dart of light, straight wood, typically several feet or about a metre long; name of dart-throwing game; cane-like stems of the kāka'o plant (<i>Miscanthus floridulus</i>) from which darts were made (Cook Islands Māori); action of throwing a dart (Cook Islands Māori)
ti'a	stick or javelin used in throwing game (Samoan) (variant of tika)
tika	a dart of light, straight wood, typically several feet or about a metre long (West Polynesian languages)
tohunga	priestly expert, scholar
tumutumu	dart used in throwing game (see teka) and measuring about 3 to 4 feet (1 to 1.2 m) (Cook Islands Māori)
tuna	freshwater eel; longfin eel, <i>Anguilla dieffenbachii</i> ; shortfin eel, <i>Anguilla australis</i>
waka	ship, vessel, boat
wauke	paper mulberry, <i>Broussonetia papyrifera</i> (Hawaiian); also known as aute (Tahitian, Cook Islands Māori, New Zealand Māori)
whai	string game, cat's cradle
whakapapa	genealogy
whanake	cabbage tree, <i>Cordyline australis</i> ; also known as tī kouka
whenu	strips or strands of harakeke or other plant materials used in rope-making; also known as io, kanoi, kāwiriwiri, wenu, whengu; compare 'ēnū, 'enu (Cook Islands Māori)
whiri	plait or braid strands or strips to form rope (see also io, whenu); cognate terms elsewhere in Polynesia for the same manufacturing process include firi (Tahitian, Tuamotan), 'iri (Cook Islands Māori), hili (Hawaiian)

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SHORTER COMMUNICATIONS

A MORIORI TALE: KO TAHOPUNI RAUU KO PAONGA

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ABSTRACT: The Moriori language has no native speakers, so any historical data from the language is invaluable. This paper presents an unpublished Moriori manuscript, with a new morpheme-for-morpheme gloss. The manuscript, *Ko Tahopuni rauu Ko Paonga*, is an eight-page handwritten document detailing the story of Tahopuni and his son Paonga, who invade the land of the monster Tchurawhateitei and eventually kill her. The manuscript was seemingly intended for the *Journal of the Polynesian Society*, where Shand's other narratives were published (1894–1898), but it was not included among those. Unlike the original, this paper unites the Moriori and English translations so that it may be read line for line. This paper therefore presents historical Moriori language data in a modern arrangement.

Keywords: Moriori, Moriori language, legend, myth, Polynesian narratives Alexander Shand, MS-Papers-1187-139

This paper presents a previously unpublished Moriori narrative from the nineteenth century, “Ko Tahopuni rauu Ko Paonga”, together with a linguistic gloss. Moriori is the native language of Rēkohu (Chatham Islands), Aotearoa New Zealand.

Very little original Moriori language data exists, after the last native speaker died in the early twentieth century (King 2017). However, there are at least five well-known documents with original Moriori data: the 1862 petition (Grey 1862) sent by the Moriori to Governor Grey, which contains mostly a list of genealogies but does also have some Moriori prose; Deighton's (1889) wordlist, which only includes a lexicon but no grammatical information; Shand's (1911) book, a compilation of 15 articles published in the *Journal of the Polynesian Society*, between 1894 and 1898; the NZMS-717 manuscript in Auckland Council Libraries, a handwritten copy by John White of a now-lost Shand manuscript, which is said to be partly in Moriori, though it may have been mixed with Māori when being transcribed (Richards 2008); and the Davis papers (MS-Group-0184), which include family records and census data, and are held by the Alexander Turnbull Library (National Library of New Zealand) under restricted access.

Therefore, the existence of another piece of data, *Ko Tahopuni rauu Ko Paonga* (Shand n.d.), is significant for the cultural and linguistic knowledge of the language. This paper publishes the manuscript for the first time, along with a morpheme-to-morpheme gloss. It is hoped that this will be a valuable addition to the larger corpus of Moriori knowledge.

Origin of the Text

The manuscript discussed in this paper, known as MS-Papers-1187-139, can be found in the Alexander Turnbull Library archives, in the Polynesian Society Records (MS-Group-0677), which includes manuscripts of ethnological material relating to the Society from 1814 to 1920. The transcription that appears here has been made using a scanned version of this manuscript, given to me by the Alexander Turnbull Library.

The manuscript is eight pages: the first three are the story in Moriori, the next three have an English translation, and the last two contain notes. The manuscript contains just over 1,500 Moriori words, spread over 89 lines and three sheets of paper. Shand includes 13 notes explaining various idioms and unusual words.

The manuscript has “(Shand, A)” at the top of the first page, indicating the authorship. It is clearly Alexander Shand’s handwriting—this was checked by comparing the manuscript to Shand’s letters (Shand, 1869–1910). It is likely that the story comes from Hirawanu Tapu, Shand’s primary Moriori consultant, although this cannot be confirmed. It can be assumed several Moriori people were consulted, since in note 8, the plural *Morioris* is used when Shand writes about asking people about the meaning of a particular word. The date for this manuscript is not known. The Alexander Turnbull Library records it as “18--”, and we can estimate that it was written in the 1890s, since this is when the majority of Shand’s work on Moriori was originally published.

There is no obvious explanation for why this piece did not get published in the *Journal of the Polynesian Society* when the other Shand articles were. The Alexander Turnbull Library records note it was “possibly intended for publication with his ‘Moriori people of the Chatham Islands’, but not included”. It appears very complete, as if ready for publication, with the story in full and a complete translation and additional notes explaining interesting points. It seems only fitting for this to be published in *Waka Kuaka: The Journal of the Polynesian Society*, even if it is over 120 years late.

Presentation of the Text

Rather than separating the Moriori and the English translation as Shand did, this paper adopts a traditional linguistic three-line gloss, with each clause/sentence having both a morpheme-for-morpheme translation and a full English translation. The Moriori and third-line English translations are transcribed from the manuscript, while the second-line gloss has been added by me, with help from other Moriori narratives (Shand 1911), the *Te Aka* Māori dictionary (Moorfield 2011) and a Māori language expert (the latter two due to Moriori's close similarity with Māori). The notes are the original ones written by Shand and have not been significantly edited.

For one bit of the text, Shand does not provide an English translation, clearly due to the sensitivities of the era. The manuscript line reads as “Tchurawhateitei went out * * * Paonga and party laughed”, but translating the Moriori text, we can glean that Tchurawhateitei went out and urinated in the water vessel, but Paonga and his party recognised the smell of the urine, which caused the subsequent laughter. This had been added to the translation in (49).

Moriōri's phoneme inventory consists of five vowels (/i e a o u/) and ten consonants (/p t k f h m n ŋ r w/) (Clark 2000). The orthography used by Shand (and in this paper) follows Māori in writing /f/ as <wh> and /ŋ/ as <ng>.

One sound, the palatal affricate, is unique to Moriori (among East Polynesian languages), and is written variously as <tch> or <tc>. Clark (2000) notes that palatalised and unpalatalised versions of the same word are found throughout Shand's work (e.g., *korerotii* and *korerotchi* (told of)), which indicates there may be no phonemic contrast between them.

Vowels can be long (with a macron or double letters) or short (without a macron). Word final vowels are often clipped, so they are “hardly pronounced at all” (Shand 1911: 1). This has been represented orthographically by an apostrophe, as in *rangat'* (people), or parentheses, as in *t'whenū(a)* (the land).

The transcript also includes breves over some vowels. A large majority of breves occur on word-final vowels, which suggests a relation to the “hardly pronounced” vowels mentioned above. Shand states that a breve on the last letter of a word means the vowel is “either scarcely or not heard”, in a letter to Percy Smith dated 23 April 1894 (Shand 1869–1910: 14). However, the use of breves on non-final vowels is unexplained (Clark 2000: 25; Middleton 2023: 118). It is noted that the breve is also used in Māori words by Shand, such as in *mātū* (flesh with fat) in note 13.

Shand's handwriting often makes <h> and <k> indistinguishable, and similarly <u> and <n>. Shand himself notes this in the letter to Percy Smith mentioned above, saying “I am afraid that by careless writing I have got into an indistinct way of writing u and n which may be confusing” (Shand 1869–1910: 115). Mistakes of this nature may occur in the transcript following.

KO TAHOPUNI RAUU KO PAONGA
(TAHOPUNI AND PAONGA)

- (1) **I tena hokotipuranga, i tena hokotipuranga k'hērē**
 in DEM generation in DEM generation TA.go
tonu ka waka o ta imi o Tahopuni ma ki
 CONT DEF.PL canoe GEN DEF people GEN Tahopuni and.co to
t'whenū(a) a Tchurawhateitei a, kaare i ora mai
 DEF. land GEN Tchurawhateitei CONJ NEG TA live DIR
itehi, ngaro, ngaro atu ka waka me ka rangat', ka
 one lost lost DIR DEF.PL canoe CONJ DEF.PL people TA
ikī enehī ikī.
 disappear then disappear

“From one generation to another, the canoes of the people of Tahopuni and others went to the land of Tchurawhateitei and none returned (alive). The canoes were lost and the people (crews) likewise they disappeared, disappeared utterly.”

- (2) **Tche rere ra ko'e te me' etehi.**
 NEG escape DIST NEG DEF thing one

“Not a single one of them of them escaped.”

- (3) **Na ka tupū akē ko Tahopuni rauu ko tō'**
 CONJ TA grow DIR FOC Tahopuni 3DU-and FOC his
tamā ko Paonga, ka oti to rauu waka ka
 son FOC Paonga TA finish DEF.GEN 3DU canoe TA
roro rauu k'hokotau i t'whenū a Tchurawhateitei
 go 3DU TA.CAUS.arrive LOC DEF.land GEN Tchurawhateitei
 — **wahine ko Tchurawhateitei.**
 — woman FOC Tchurawhateitei

“Now Tahopuni grew and his son Paonga and when the canoe was finished they went to attempt this land of Tchurawhateitei¹ (Tchurawhateitei was a woman).”

- (4) **Ka tae ki t'whenū o tchia toroēhō nei ka**
 TA arrive to DEF.land GEN DEM monster now TA
puta mai ko Tchurawhateitei ki tch ahangā,
 appear DIR FOC Tchurawhateitei to DEF landing.place

“When they arrived at the land of that monster,² Tchurawhateitei appeared at the landing place,³”

- (5) **karang' ki a ratau, tawhiri mai ki a ratau**
 call to PERS 3PL beckon DIR to PERS 3PL
ka mē mai,
 TA say DIR

“called to them and beckoned to them saying,”

- (6) **“Mangana-a ma tch awa e to tā manino.”**
 by-there by DEF water in inside DEF smooth

““Come in there—by the smooth water channel.””

- (7) **Taupu tā waka o Tahopuni rauu ko**
 rest.at.anchor DEF canoe GEN Tahopuni 3DU-and FOC
tō' tamā hokāro marī, mi ahā tohū.
 DEF.GEN.3SG son consider calmly should do.what ?

“Tahopuni and his son kept their canoe floating and considered carefully, what they should do.”

- (8) **Ka hokorene enehī ku rung' i pohatu ka ek' ki uta.**
 TA let.go then to top LOC rock TA land to shore

“They let her go, (landed) on the rocks and got ashore.”

- (9) **Ka tchiro makutu mai tchia toroēhō na ki**
 TA look evilly DIR DEM monster DEM to
a ratau, kupukupu mai i a ratau ka me,
 PERS 3PL speak-RED DIR OBJ PERS 3PL TA say

“The monster looked evilly at them, and cursed them saying,”

- (10) “**Ka po au e ka kei ka ora marī**
 TA destroyed 1SG by DEF.PL eat TA live INT
ka kai hika.”
 DEF.PL food for.anything

“‘I am beaten by these people to be eaten (for food). These food of the many⁴ have escaped alive.’”

- (11) **Tahuri mai i tchurā o Tchurawhateitei kae hiok’ i kaing’.**
 turn DIR DEF back GEN Tchurawhateitei CONJ return LOC home

“Tchurawhateitei turned her back and returned to her dwelling.”

- (12) “**Heru tē maru kokopu i rung’ tchura—**
 comb DEF article/clothing raised LOC top back
poporoki ingana.”
 ? there

“‘Heru te maru kokopu,⁵ a moment (behold), the huge protuberances of her back.’”

- (13) **Hokohunaungā ki a ratau ka me,**
 CAUS-family-NMLZ to PERS 3PL TA say

“She addressed them there claiming relationships and said,”

- (14) “**Kunei kotau ko a tauu hunau potiki na,**
 here 2PL FOC GEN 1DU.INCL family younger DEM
e me ra ko ro ak’(i) i kaing’.”
 but IMP go.PL DIR LOC home

“‘Stay here and our younger children. Come to the dwellings.’”

- (15) **Korero ko Tahopuni ki tona kiato ka me**
 say FOC Tahopuni to DEF.GEN.3SG people TA say
“Ke tōhū ke tōhū.”
 IMP beware IMP beware

“Tahopuni said to his people, ‘Beware, beware.’”

- (16) **K'kakiro** **i** **kaing'** **ko** **Paonga** **imū**,
 TA-climb-go.PL to dwelling FOC Paonga in.front
muri **mai** **ko** **ta** **imi** **i** **murī** **rāwā** **ko** **Tahopuni**.
 behind DIR FOC DEF people LOC behind INT FOC Tahopuni

“They went to the dwellings Paonga leading, after him the people and after all Tahopuni.”

- (17) **Ka** **tāe** **i** **kaing'** **o** **Tchurawhateitei** **ka** **kite**
 TA arrive LOC dwelling GEN Tchurawhateitei TA find
ratau **i** **o** **ratau** **hunaungā** **e** **iri** **ana** **i** **rung'** **i**
 3PL OBJ GEN 3PL relative TA hang TA LOC top LOC
pauhēre, **i** **rung'** **i** **tchukuaru**.
 wooden.hook LOC top LOC DEF-poles

“When they arrived at the dwellings of Tchurawhateitei they found their relatives hanging on the wood hooks⁶ and on the suspended horizontal poles = Whata.”

- (18) **Ka** **mīhi** **ratau** **i** **roto** **i** **a** **ratau** **ke** **meharā**
 TA sigh 3PL LOC inside LOC GEN 3PL COMP think
ki **a** **ratau**.
 to GEN 3PL

“They sighed amongst themselves and thought of themselves.”

- (19) **Ku** **mouu** **mai** **ko** **ru** **kei** **a** **Tchurawhateitei** **ma**
 TA cook DIR FOC DEF food GEN Tchurawhateitei and
ratau **i** **roto** **rourou**, **kuwai**, **kuwai** **tchia** **kei** **na**, **tchutē** **i**
 3PL LOC inside basket plenty plenty DEM food DEM hung LOC
raro, **rung'** **akī** **kumar(a)** **mutchū** **tchupapaku**, **runga** **rawā**
 below above DIR kumara fat dead.body above INT
ake **huruhuru** **parē(a)**.
 DIR feather pigeon

“Tchurawhateitei’s food was cooked and brought to them in baskets, an immense quantity of food, hung below, above Kumara and dead men’s fat, above that pigeon’s feathers.”

- (20) **Ka kai ratau i a ratau kai akē o to**
 TA eat 3PL OBJ GEN 3PL food DIR GEN DEF.GEN
ratau kainga mai, ko ru kei a Tchurawhateitei ka
 3PL home DIR FOC DEF food GEN Tchurawhateitei TA
tanutanu e ratau.
 bury-PASS by 3PL

“They ate their own food brought from their homes, but they buried Tchurawhateitei’s food.”

- (21) **Ka puta akē ko ro kupu hokowai a Paonga,**
 TA come.out DIR FOC DEF word saying GEN Paonga

“Paonga then made use of this saying,”

- (22) **“Mo Pupaonga nan’ eneti taua kei homai i tchū’(a).”**
 ? Pupaonga by.him again DEF.3SG.GEN food bring LOC afar

““For Pupaonga⁷ who himself brought his food from afar.””

- (23) **Ka whai mai ko Tchurawhateitei, “I ā’ i ā’?”**
 TA follow DIR FOC Tchurawhateitei INDF what INDF what

“Tchurawhateitei enquired (thereupon), ‘What, What?’”

- (24) **Ka me ētū ko Paonga,**
 TA say DIR FOC Paonga

“Paonga replied,”

- (25) **“Kaare, a te mihi ki te hau o ro mae wahnē.”**
 NEG PST.CONT admire to DEF essence GEN DEF ? woman

““Oh nothing, I am (only) admiring the vigour of women’s deeds.”⁸”

- (26) **E rū hokotchuranga o Paonga i tona**
 TA two CAUS-speak-NMLZ GEN Paonga about DEF.3SG.GEN
kupu hokowai mo tana kei homai i tchū’(a).
 word saying about DEF.3SG.GEN food bring LOC afar

“Twice Paonga repeated his saying regarding his food brought from afar.”

- (27) **Khia poro ko ro t'whare imū(a) potēhī ētū**
 COMP go to in DEF.house before discover DIR
ki ka mehēkī a Tchurawhateitei ki anā
 OBJ DEF.PL weapon GEN Tchurawhateitei OBJ 3SG.GEN
rakau pat'(u) tangat'(a), e kata mai tena me,
 wood kill man TA appear DIR DEM thing
e kata mai tena me.
 TA appear DIR DEM thing

“When they went first in to the house they found Tchurawhateitei’s things, her man slaying weapons, this thing appearing,⁹ that thing appearing.”

- (28) **Ka tae ratau ko roto ka tangihī' e ratau ka**
 TA arrive 3PL to inside TA seize-PASS by 3PL DEF.PL
rakau patū tangat' a Tchurawhateitei ka rirō i
 wood kill man GEN Tchurawhateitei TA take by
a ratau waih'(o) ingana ko tch ahū(a) o tena
 PERS 3PL leave there FOC DEF appearance GEN DEM
mē o tena mē(a).
 and GEN DEM thing

“When they got inside they seized Tchurawhateitei’s man slaying weapons and took them leaving there a representation only of this thing and that.”

- (29) **Ko ro me nui rawā i roto ko ro Kuruwhatū.**
 FOC DEF thing great INT LOC inside FOC DEF Kuruwhatu

“The greatest thing (weapon) was the Kuruwhatu.¹⁰”

- (30) **Hhia moe hokehewāhewā ratau, ko Tahopuni i rung'**
 TA sleep CAUS-pretend 3PL FOC Tahopuni LOC top
i tchurongō, ko Paonga i to roro, ko
 LOC end.of.house FOC Paonga at DEF entrance FOC
to rauu kiato i waenganui.
 DEF.GEN 3DU people LOC middle

“Tahopuni made a pretence of sleeping at the end of the house Paonga at the entrance and their people in the middle.”

- (31) **A, ka po ka tomo mai ko Tchurawhateitei ma**
 CONJ TA night TA enter DIR FOC Tchurawhateitei and.co
ko ro tē whare.
 to in DEF house

“When it was night Tchurawhateitei and others came into the house.”

- (32) **Ka tchiro a Tchurawhateitei i ona mē ka me,**
 TA look PERS Tchurawhateitei OBJ 3SG.GEN thing TA say

“Tchurawhateitei looked at her things and said,”

- (33) **“Ka topā, ka topā ke meheau akū me e**
 TA fall TA knock.down COMP scatter DIR thing by
ka kei.”
 DEF.PL eat

“‘My things are knocked down and scattered by these people to be eaten (or kai).’”

- (34) **E huri ake anā a Paonga ma.**
 TA listen DIR TA PERS Paonga and.co

“Paonga and people listened.”

- (35) **K’hokorongō a Tchurawhateitei i ka purungaihu**
 TA-CAUS-sound PERS Tchurawhateitei OBJ DEF.PL nose
o Paonga ma.
 GEN Paonga and.co

“Tchurawhateitei listened to their snoring.”

- (36) **Ka hana ka me Tchurawhateitei, tena a te moe,**
 TA go TA say Tchurawhateitei DEM GEN DEF asleep
kaiore— tena e, a t’hokotoroehō akē.
 NEG DEM VOC GEN DEF-trick DIR

“Tchurawhateitei began to say (think) that they were sleeping (but) no they were playing a trick.”

- (37) **Te whawhatanga ona ko ru Kuruwhatu ka**
 DEF lay.hold.of-NMLZ GEN.3SG to DEF Kuruwhatu TA
hana ka me ko ro waihotāngā ene waih' e ii
 go to think FOC DEF leave-NMLZ again leave by 3SG
kaare ko tch ahū' e tena.
 NEG FOC DEF representation by DEM

“She laid hold of the Kuruwhatu thinking it was as left by her, no it was only a representation.”

- (38) **Ka rir' i tchunu o ro Kuruwhatu i a Paonga.**
 TA take DEF real GEN DEF Kuruwhatu by PERS Paonga

“The real Kuruwhatu had been taken by Paonga.”

- (39) **Ka oro enehi ko ro tch ěhī, Pa-a!**
 TA throw again to in DEF fire crack
Ka ki tchia pa-a!
 TA say DEM crack

“She threw it into the fire, pā-ā—the report sounded.”

- (40) **Na ka oho ko Paonga ka me ake i**
 then TA start.suddenly FOC Paonga TA say DIR about
tona kupu hokotauki,
 DEF.3SG.GEN word saying

“Then Paonga started and spoke his saying,”

- (41) **“E-e, whenū moemoeā tē whenū i Tapērihou.”**
e-e land dream DEF land in Tapērihou

““Oh a land of dreams in the land of Tapērihou.””

- (42) **Ka me ko Tchurawhateitei, “I ā, i ā?”**
 TA say FOC Tchurawhateitei INDF what INDF what

“Tchurawhateitei said, ‘What, What?’”

- (43) **Kaau ko te pao o taku āhī.**
 NEG FOC DEF smoke GEN DEF.1SG.GEN fire

“‘Nothing, it is (only) the smoke of my fire (that troubles one).’”

- (44) **E toru ka panganga o t’Wharekurā ku rung**
 TA three DEF.PL throw-NMLZ GEN DEF-Wharekura to top
i tch ehi, a toru hoki karangatangā o Paonga.
 LOC DEF fire CONJ three again call-NMLZ GEN Paonga

“Three times the Wharekura¹¹ was thrown on to the fire, (and) Paonga called out three times.”

- (45) **A, ka whano ka ao ka me ko Paonga,**
 CONJ TA go DEF dawn TA say FOC Paonga

“When the day began to break Paonga said,”

- (46) **Ka mate au i ri wai.**
 TA need 1SG OBJ DEF water

“‘I am thirsty.’”

- (47) **Ka ki ātū ko Tchurawhateitei,**
 TA say DIR FOC Tchurawhateitei

“Tchurawhateitei said,”

- (48) **Taii, taii ke whano au ke tchiro i taku putoro.**
 wait wait COMP go 1SG COMP look OBJ DEF.1SG.GEN water.vessel

“‘Wait, wait until I go to look at my putoro—water vessel.’”

- (49) **Ka puta ko waho ko Tchurawhateitei ka mimi ko**
 TA appear to outside FOC Tchurawhateitei TA urinate to
ro tē putoro, ka ki te hā o ro
 in DEF water.vessel TA recognise DEF smell GEN DEF
mimi, hhia kata huna ko Paonga ma.
 urinate TA laugh hide FOC Paonga and.co

“Tchurawhateitei went out [and urinated in the water vessel. (They) recognised the smell of the urine and] Paonga and party laughed.”

- (50) **Karanga mai ko Tchurawhateitei ki a Paonga,**
 call DIR FOC Tchurawhateitei to PERS Paonga

“Tchurawhateitei called out,”

- (51) **“Na haramai ki to wai.”**
 IMP come-DIR to DEF water

“‘Come for your water (or drink).’”

- (52) **Ka tae ātū ko Paonga ka ki ētū ki**
 TA arrive DIR FOC Paonga TA say DIR to
a Tchurawhateitei,
 PERS Tchurawhateitei

“When Paonga went he said to Tchurawhateitei,”

- (53) **“Tchiei au makona i ri wai.”**
 NEG 1SG be.satisfied OBJ DEF water

“‘I did not have enough water (was not satisfied).’”

- (54) **Ka me mai ei ki a Paonga,**
 TA say DIR ANP to PERS Paonga

“On which she said,”

- (55) **“Taii, taii ke whano au ke tchiro i taku puna**
 wait wait comp go 1SG COMP look OBJ DEF.GEN.1SG well
i taku puna e kore tē tā ihi o tā
 LOC DEF.1SG.GEN well TA NEG enter DEF beam GEN DEF
rā ko roto.”
 sun to inside

“‘Wait wait until I look at my well. My well into which the beams of the sun never enter.’”

- (56) **I muri i a Tchurawhateitei ka ki ake**
 after OBJ PERS Tchurawhateitei TA say DIR
a Paonga i tana kupu,
 PERS Paonga OBJ DEF.3SG.GEN word

“When Tchurawhateitei had gone Paonga said,”

- (57) “**Mo Pupaonga inumia e ko tē puna na.**”
 ? Pupaonga drink.up-PASS by 2SG DEF well there

“‘Pupaonga drink up that well.’”

- (58) **Ka mimite tchia puna.**
 TA dry.up DEM well

“The well dried up.”

- (59) **Ka me a Tchurawhateitei,**
 TA say PERS Tchurawhateitei

“Tchurawhateitei said,”

- (60) “**A-a, ka mātē. Taii, taii, taii ke whano au**
a-a TA dead wait wait wait COMP go 1SG
ke tchiro i taku awa— i taku awa—
 COMP look OBJ DEF.1SG.GEN stream OBJ DEF.1SG.GEN stream
e kore e tu ta ihi o tā ra ko roto.”
 TA NEG TA stop DEF beam GEN DEF sun to inside

“‘It is dead (dried up). But, wait, wait till I go and look at my stream—at my stream in which the beams of the sun never shine.’”

- (61) **K’hokotchu enehi ko Paonga i tana kupu,**
 TA-CAUS-speak again FOC Paonga OBJ DEF.3SG.GEN word

“Paonga again put forth (set-up) his word,”

- (62) “**Mo Pupaonga inumia ko tch awa.**”
 ? Pupaonga drink.up-PASS FOC DEF stream

“‘Pupaonga drink up the stream.’”

- (63) **A, ka matē ko tch awa.**
 CONJ TA die FOC DEF stream

“The stream died (dried up).”

- (64) **Ka me ko Tchurawhateitei,**
 TA say FOC Tchurawhateitei

“Tchurawhateitei said,”

- (65) **“A ka mātē, a, taii, taii, taii ke whano au**
 CONJ TA dead CONJ wait wait wait COMP go 1SG
ke tchiro i taku roto, i taku rōto,
 COMP look OBJ DEF.1SG.GEN pond OBJ DEF.1SG.GEN pond
e kore e tu tā ihi o tā ra ko roto.”
 TA NEG TA stop DEF beam GEN DEF sun to inside

“It is dried up. But wait, wait, wait till [I] go and look at my lake (or pond), my pond into which the beams of the sun never shine.”

- (66) **A, ka hhiokemei ko Paonga ta’(e) mai ki**
 CONJ TA return.DIR FOC Paonga rejoin DIR to
tona kiato ka me atu,
 DEF.3SG.GEN party TA say DIR

“Then Paonga returned when he rejoined his party he said,”

- (67) **“Kohikohi, kohikohi te hangă.”**
 hasten hasten DEF work

“Be speedy be speedy.”

- (68) **Ka tahuna ka whare i tch ěhi.**
 TA set.fire.to DEF.PL house LOC DEF fire

“They set fire to the houses.”

- (69) **Ka pau ka whare i tch ěhĩ me**
 TA destroyed DEF.PL house LOC DEF fire with
ka aitu, me tc hung’ a Tchurawhateitei.
 DEF.PL god with DEF people GEN Tchurawhateitei

“The houses with the Gods were burnt up and they killed Tchurawhateitei’s people.”

- (70) **Ka patu' e ratau, ka tahuna e ratau i**
 TA kill-PASS by 3PL TA set.fire.to-PASS by 3PL OBJ
tohoro ko ro tchi ěhĩ, ka mutu
 outside.places to in DEF fire TA ended
ka ro i to ratau waka ka utaina ratau.
 TA drag OBJ DEF.GEN 3PL canoe TA load-PASS 3PL

“They set fire to the outside places (=tahora in Maori), which done they dragged their canoe to the sea and got on board.”

- (71) **A, ka pa hē rē'(o) o Paonga ka me**
 CONJ TA call INDF voice GEN Paonga TA say
i tona hokotauki mo Tchurawhateitei,
 OBJ DEF.3SG.GEN proverb about Tchurawhateitei

“When Paonga’s voice was heard to exclaim, using his proverb concerning Tchurawhateitei,”

- (72) **“Tuhia, tuhia tch au ku rung’ i a Tchurawhateitei**
 direct direct DEF smoke to top OBJ PERS Tchurawhateitei
no Tchurawhateitei ki ‘auga mǎi, tuhia.”
 COMP Tchurawhateitei TA turn DIR direct

““Direct, direct the smoke on to Tchurawhateitei in order that Tchurawhateitei may turn hither, direct it.””

- (73) **Ko tc hinganga o tch au o tchĩ ěhĩ ka**
 FOC DEF fall-NMLZ GEN DEF smoke GEN DEF fire TA
ngaro ko Tchurawhateitei i tch au kupukupu mai
 lost FOC Tchurawhateitei OBJ DEF smoke curse DIR
i a Paonga ma ka mē(a),
 OBJ PERS Paonga and.co TA say

“When the smoke of the fire fell Tchurawhateitei was covered with the smoke and cursed Paonga and party saying,”

- (74) **“Mo pupu tchi ate mak’ kotau e ka kei.**
 ? ? DEF liver for.me 2PL VOC DEF food
Ka po i au e ka kei.”
 TA darken OBJ 1SG by DEF food

“‘Mo pupu tchi ate¹² I will eat you oh you people to be eaten (kai). I am troubled with these people to be eaten.’”

- (75) **A, ta’(e) mai a Tchurawhateitei ki ri waka o**
 CONJ arrive DIR PERS Tchurawhateitei to DEF canoe GEN
Tahopuni karangā mai,
 Tahopuni call DIR

“Then Tchurawhateitei arrived at the canoe and called out,”

- (76) **“Taii ra e whāno moku itche hunū(a) o to**
 wait DIST TA go for.me one place GEN DEF.GEN
kotau waka.”
 2PL canoe

“‘Wait a little before leaving. Let me have a place in your canoe.’”

- (77) **Ka me ātū ko Paonga,**
 TA say DIR FOC Paonga

“Paonga answered,”

- (78) **“E kau mai ra, e kau mai ra.”**
 IMP swim DIR DIST IMP swim DIR DIST

“‘Swim hither then, swim hither.’”

- (79) **Ta’(e) mai ki ri waka ka mou ko Paonga i**
 arrive DIR to DEF canoe TA lay.hold.of FOC Paonga OBJ
ana ne’ mē mo te riri.
 3SG.GEN ? weapons for DEF war

“When she got to the canoe Paonga laid hold of his weapons of war.”

- (80) **Ka ingo tenei, ko tō whatu makariri, ko tō**
 TA name DEM FOC DEF stone cold FOC DEF
whatu werewere, ko tō whatu i a Rongomaiwhiti.
 stone hot FOC DEF stone from PERS Rongomaiwhiti

“The names were the cold Whatu, the hot Whatu, and Rongomaiwhiti’s Whatu.”

- (81) **Ka me ki a Tchurawhateitei,**
 TA say to PERS Tchurawhateitei

“He said to Tchurawhateitei,”

- (82) **“Titoko ra te wahā.”**
 open DIST DEF mouth

““Open your mouth then.””

- (83) **Na titoko tā waha o Tchurawhateitei.**
 TA open DEF mouth GEN Tchurawhateitei

“Tchurawhateitei’s mouth was opened.”

- (84) **Ka oro ene ko Paonga imū’ ko tō whatu-makariri,**
 TA throw again FOC Paonga before FOC DEF stone-cold
makariri, makariri, muri mai ko tō whatu-werewere,
 cold cold after DIR FOC DEF stone-hot
werewere, werewere, muri mai ko tō whatu
 hot hot after DIR FOC DEF stone
i a Rongomaiwhiti. Pā-ā. Nghāhā i takapū
 from PERS Rongomaiwhiti crack burst DEF stomach
a Tchurawhateitei.
 GEN Tchurawhateitei

“Paonga first threw the cold Whatu, cold, cold, after that the hot Whatu, hot, hot, after that Rongomaiwhiti’s Whatu pā-ā it burst Tchurawhateitei’s stomach.”

- (85) **Nunei kumē' mei i a Tchurawhateitei ku rung'**
 then drag DIR OBJ PERS Tchurawhateitei to top
i pahii, kotikoti e rauu tū mutū.
 OBJ canoe cut.up by 3DU DEF flesh

“Then they dragged her in to the canoe and cut up her flesh.¹³”

- (86) **Ka put' akē hoki ko Tchurawhateitei o ro**
 TA come.up DIR return FOC Tchurawhateitei GEN in
te wai k'hhiamai ka kai i to ratau pahii.
 DEF sea TA-come TA eat OBJ DEF.GEN 3PL canoe

“Then Tchurawhateitei of the sea came up to devour their canoe.”

- (87) **Ka tang' eneti ko Paonga i tū whatu o**
 TA take again FOC Paonga OBJ DEF stone GEN
Rongomaiwhiti ka ora eneti ko ro te waha o
 Rongomaiwhiti TA throw again to in DEF mouth GEN
Tchurawhateitei i ro tc wai ra. Pā-ā.
 Tchurawhateitei GEN in DEF sea DIST crack

“Paonga took Rongomaiwhiti's Whatu and pitched it into the mouth of Tchurawhateitei of the sea. Pā-ā.”

- (88) **Ngahā i tākūpū.**
 burst DEF stomach

“His stomach burst.”

- (89) **Ita ko t'whenū i Tapeirihou ka riro i**
 so FOC DEF.land GEN Tapeirihou TA take-PASS by
a Tahopuni ma.
 PERS Tahopuni and.co

“So the land of Tapēirihou was taken possession of by Tahopuni and people.”

ABBREVIATIONS

1	first person	INCL	inclusive
2	second person	INDF	indefinite
3	third person	INT	intensifier
ANP	anaphoric pronoun	LOC	locative
CAUS	causative	NEG	negative
COMP	complementiser	NMLZ	nominaliser
CONJ	conjunction	OBJ	object marker
CONT	continuous	PASS	passive
DEF	definite	PERS	person marker
DEM	demonstrative	PL	plural
DIR	directional	PST	past
DIST	distal	RED	reduplicant
DU	dual	SG	singular
FOC	focus	TA	tense/aspect marker
GEN	genitive	VOC	vocative
IMP	imperative		

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NOTES

1. According to the Moriori account, Tchurawhateitei was a huge female monster, apparently of a very evil shape, whose business was the destruction of all who came to her land. Assisted by her people as well as having a counterpart of a similar name in the sea near the landing. As far as can be gathered, the name appears to be equal in Maori to Tuara Whakateitei—a huge back—which with her ungainly appearance was her prominent characteristic.

The story took place some time in the Komatangi-ao period and her dwelling was evidently in an island on a land called Tapeirihou which could only be reached by a sea voyage. This land of Tapeirihou also was Tinirau's residence, see Tohinga o Rangotukiwao.

2. Toroēhō = nanakia in Māori. When applied to persons, having the general meaning of—mischievous, maleficent and tricky.
3. Ahangā is also a bay and the expanse or level surface of the ocean.
4. Ka kai hika. There appears to be some uncertainty as to this word hika—the Maori equivalent given was Nga-kai-a-te-aha = food for anything, an insulting comparison symbolising that even animals or vermin might eat them.
5. Heru te maru kokopu i rung' tchurā—maru kokopu is evidently figurative in this case as it implied something protuberant or buncy and dependant from the back. In clothing, something not hanging in the ordinary manner but raised as with a bustle. What the something was does not appear, but that the maru kokopu waved on her back as she walked—hence the phrase used jestingly at anyone with his garments hunched up awkwardly on his back and overhanging. Heru tē maru kokōpū.
6. Pauhere. A wooden hook used to hang meat or fish up, with the hook being hung by a string from a limb of a tree or anything convenient to prevent the native rat getting at it.
7. Mo Pupaonga. Pupaonga was his name in full, the Mo here used in a curious idiom unknown in Maori.
8. The Morioris appeared unable to give any equivalent in Maori for mae nor so far could I discover its exact equivalent in English.
9. Kata—here has the meaning of to appear—literally laughing—peculiar to the Moriori.
10. Kuruwatu. What this was could not be explained. Literally it would mean a stone to thump or bruise with but possibly it was some weapon of flint which was also in a general way called watu. Ka eke to' watu a Tana ku rung' i to kiri (the flint knife of Tana cuts some skin) and this appears to be borne out by the mention of the Wharekura (a variety of flint). The difficulty however arises why was it thrown? As if a flint knife, it would be held in the hand, but the “bursting” appears to be suggested by one of their methods of getting flint knives or flakes by placing flint in a fire and causing it to explode and so getting what was suitable. Te watu i a Rongomaiwhiti is evidently the flint knife of Rongomaiwhiti as the god of war. The flying Rongomai invoking his assistance. Watu = an islet.
In a stray note I find Tchurawhateitei's land was said to be a great flint locality—apparently where they went to get it.
11. Wharekura. A red or pinkish coloured flint.
12. Mo pupu tchi ate. The old men could not give the meaning of mo pupu, merely saying it was a curse. The meaning appears [to] be your liver shall swell up = fizzle in the fire. Ka po—a peculiar idiom. Nearest equivalent rarea in Maori.
13. Mūchtū = Mātū in Maori. Has in this case, speaking of cutting up bodies, more the meaning of flesh with fat combined than fat alone as in the ordinary Maori acceptance.

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IMAGES OF DISPLACEMENT: PORTRAITS OF MĀORI IN THE PITT RIVERS MUSEUM, OXFORD

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ABSTRACT: A collection of portraits of Māori, painted in Nelson in the early 1840s by English-born Isaac Coates, was rediscovered in 2005 at the Pitt Rivers Museum, Oxford. The subjects include Ngāti Toa rangatira (chief) Te Rauparaha, and while others remain unidentified, the collection—the subject of a 2012 publication—is recognised as an invaluable historical record. It represents a wide range of Māori society, at a time of widespread disruption and demographic change. It is likely the collection entered the Pitt Rivers between 1887 and 1902, a period of British imperial expansion when Indigenous material was being amassed and fitted into European notions of social development. The Pitt Rivers, whose extensive Māori and Pacific holdings include its Cook-Voyage Collections, has recently carried out major changes to displays which reinforced stereotypical attitudes towards Indigenous cultures. More broadly, museums are now recognising the part colonialism played in the formation of their collections. This has resulted in a number of instances of repatriation, as in the return of stolen Māori and Moriori ancestral remains to Te Papa Tongarewa Museum of New Zealand in 2022. Discussions continue, as on such well-known cases as the Parthenon marbles, held in the British Museum, and Benin objects resulting from a British punitive expedition in 1897 and now held in a large number of institutions worldwide.

Keywords: British Museum, Cook-Voyage Collections, Jocelyne Dudding, Isaac Coates, Nelson, Edward Burnett Tylor, repatriation, Indigenous collections

James Cook's three voyages in the eighteenth century drew attention to the material culture of the Pacific, which was soon being sought by the public institutions and private collectors of Europe. A major beneficiary of this influx was the British Museum, which holds the world's largest collections of Māori material outside New Zealand—just over 2,300 objects (Starzecka *et al.* 2010: 7). Its first such acquisitions were made in October 1771, three months after the *Endeavour* had returned to England from its circumnavigation (Starzecka 1996: 150–51), while further donations from this and subsequent voyages were made by Cook himself, Banks and others. The British Admiralty's requirement that its contribution be displayed in a manner that would be “a monument of these national exertions of British munificence and industry” resulted in the “Otaheiti or South Sea Room” (Miller 1973: 75), a popular attraction which was open by August 1781,

and possibly as early as 1775 (Anderson 2012: 58; British Museum 2003: 18; Chambers 2007: 10–12; Miller 1973: 75). No images of it appear to have survived, but an 1803 guide provides a sense of what was surely the earliest display of Māori material in a public institution. It included flax items, combs, greenstone pendants and ornaments, adzes, a canoe bailer and a kotiate, a handclub described as “exactly in the shape of a violin, and all calculated for the most murderous effect.” Reflecting the unsystematic nature of collecting at that time, the walls of the room were hung with “hundreds” of unidentified weapons and paddles sourced from throughout the Pacific (Malcolm 1803: 528–29).

Another major repository of Māori material is the Pitt Rivers Museum in Oxford, established in 1884 and named after the donor of its founding collection, archaeologist Augustus Henry Lane Fox Pitt-Rivers (1827–1900). Two years later Oxford University decided to consolidate its anthropological collections, previously held at both the Ashmolean Museum and the local Natural History Museum, placing them in the Pitt Rivers. Today the museum is distinguished by the richness of its displays, and of special significance is its Cook-Voyage Collections 1772–1775, of Māori and Pacific material gathered on the first two expeditions, on the *Endeavour* in 1768–1771 and the *Resolution* and *Adventure* in 1772–1775.

Among its collection of more than 500,000 objects, the Pitt Rivers holds in excess of 1,000 Māori items (Fig. 1). At the same time as Europeans were acquiring such material, artists—both visiting and, later, resident—set about the challenge of recording Māori society. The resulting imagery includes a series of 52 Māori portraits in the Pitt Rivers Museum, which only came to light in December 2005 when discovered by New Zealand-born Jocelyne Dudding, then senior curatorial assistant (Photograph and Manuscript Collections) and currently collections manager at Cambridge’s Museum of Archaeology and Anthropology. The portraits were found among works on paper and, as Dudding (2006: 115–17) recounts, were stored in an “unpretentious-looking and slightly scruffy folder” labelled simply “New Zealand—Maori watercolours”. Inside it she found 52 “entrancing portraits of Māori individuals, portraits that had a beauty and *mana* (authority) that demanded to be addressed”. She also observed that the portraits were “clearly the work of a trained artist or, at least, a skilled draughtsman” (p. 115). They were also in pristine condition, having never been exposed to daylight for any extensive period. The Pitt Rivers’s records contained no information as to the identity of the artist or the history of the portraits, but a typescript list dating from around the 1960s provided a vital clue, a reference to one Frederick Tuckett (p. 117).

This mention of Tuckett led to the realisation that the portraits were painted by his acquaintance, Isaac Coates, who was born in 1808 near present-day



Figure 1. Examples from the current Maori displays at the Pitt Rivers Museum.

Stockton-on-Tees, in County Durham, England, and emigrated to New Zealand, where he lived for a little over four years. Prior to leaving England Coates had been a partner in a business operating variously as a bookseller, stationer and bookbinder. In January 1841, and perhaps for reasons of his health, he sailed for New Zealand, landing at Port Nicholson (Wellington). By February the following year he was in Nelson, where he reportedly took an active role in local affairs. But before long he had left for Adelaide, where he arrived in late September 1845 (Mitchell and Mitchell 2021: 54, 57).

Coates's subjects—three-quarters of whom were males—were drawn from a cross-section of Māori society, and their portraits have the historical value of recording the sitters' names, place of residence and tribal affiliation. All were affected by the exodus from the northern districts of the North Island resulting from intertribal rivalry. There was further conflict on 17 June 1843 known as the Wairau Affray—or Incident or, earlier, Massacre—some 25 km from Nelson, when an armed party of New Zealand Company settlers clashed with Ngāti Toa over the purchase of land. The first serious confrontation between the new arrivals and Indigenous people after the signing of the Treaty of Waitangi, it resulted in the deaths of 22 settlers and 4 Māori.

The following year Coates was one of nearly 600 citizens—among them future prime minister William Fox and politician Francis Dillon Bell—who petitioned Parliament, expressing criticism of Governor Robert Fitzroy's lack of action regarding Wairau, by “declining to bring before the constitutional tribunals of the law the parties charged with the massacre of so many of her Majesty's faithful subjects” (*Nelson Examiner and New Zealand Chronicle* 1844: 59). The petitioners were also concerned with the establishment of, as they put it, “the authority of British law as supreme and inflexible, alike over the ruler and the ruled, over the native and the European, throughout these islands” (p. 59).

Coates's portraits were probably executed at his base in Nelson, and it is believed that most, if not all, date from the few months prior to the conflict at Wairau. They consistently present the sitters' heads and shoulders in strict and mostly left-facing profile. Close attention was paid to hairstyles and adornment, although moko (tattoos) and facial markings were often less well delineated, possibly because of the artist's unfamiliarity with these traditional practices. The materials used have been identified as pencil, ink and aquarelle, the latter being a type of cake watercolour used by surveyors for making maps and plans, and with the application of gum arabic to impart a sheen to the subjects' hair (Dudding 2006: 119; Mitchell and Mitchell 2021: 80–82, 85, 88).

Little is known of Coates the artist, and the means by which his portraits ended up in Oxford also posed something of a mystery. In late 1845 he left New Zealand for Adelaide, where he was visited by Frederick Tuckett, the

chief surveyor of the New Zealand Company, whom he had known back in Nelson. Tuckett is known to have assisted Coates financially, perhaps by purchasing the folder of paintings. Alternatively, Coates may have gifted it to his friend as a mark of gratitude (Mitchell and Mitchell 2021: 91). The folder subsequently passed to Tuckett's nephew, Francis Fox Tuckett, who was brother-in-law of Anna Tylor, the wife of E.B. (Edward Burnett) Tylor, anthropologist and, from 1883 to 1909, keeper of the University Museum in Oxford, of which the Pitt Rivers Museum began in 1884 as a subdepartment. Tylor was also the author, in 1871, of *Primitive Culture*, a landmark book which defined nineteenth-century ideas on cultural evolution. Francis Fox Tuckett made donations to the Pitt Rivers—of North African and European amulets, pottery and musical instruments—in the period 1887–1902, and in the light of these personal connections it would seem likely that Coates's portraits also arrived at the museum at this time (Dudding 2006: 120; Morton 2013).

Coates spent upwards of six years in Adelaide, but there is no evidence of his having painted any further portraits. During this time he suffered the misfortune of the deaths of both his young daughter and wife, whereupon he appears to have been drawn to the prospects of the Victorian goldfields, where he remained during most of the 1850s. Then in 1860 he returned to England, remarried in 1872 and died six years later at the age of 70 (Mitchell and Mitchell 2021: 354–71).

In 1874, some two years before Coates died, an exhibition of photographs of his portraits was held in Nelson, in the premises of bookseller and stationer J. Hounsell of Trafalgar Street. Described as “sun pictures”—presumably contact prints made using sunlight—they were produced by a photographic firm in Bath. The originals were held in England, and the prints were owned by an S. Strong, quite probably the same S. Strong who had displayed flax twine at the previous year's Nelson Exhibition (*Colonist* 1873: 3). The portraits represented included “Rauperaha” (Te Rauparaha) and one of his wives, as well as “Rangehaetea” (Te Rangihaeata) and his wife, who was a daughter of Te Rauparaha and said to have been the first person to be killed in the clash of 1843 (*Colonist* 1874: 3).

Of the 52 Māori portraits by Coates held by the Pitt Rivers Museum, the best-known subject is Te Rauparaha (ca. 1768–1849), rangatira (chief) and war leader of the Ngāti Toa tribe. Thanks largely to the possession of muskets, he was able to conquer new territories and thereby alter the tribal structure in central New Zealand. Coates's profile of Te Rauparaha (Fig. 2) clearly captures his distinguishing features, the aquiline “hook” nose and overhanging lip. Chiefly status is indicated by a swatch of white feathers—probably albatross—suspended from his left ear, and a single forward-pointing white feather in his hair. Along with Te Rauparaha in the Pitt Rivers's collection of portraits is a depiction of one of his eight



Figure 2. Isaac Coates, *Rauparaha*, ca. 1843–1845, pencil, ink and aquarelle, with gum arabic, on paper, 535 × 350 mm. Pitt Rivers Museum, Oxford.



Figure 3. Isaac Coates, *Cootia*, ca. 1843–1845, pencil, ink and aquarelle, with gum arabic, on paper, 535 × 350 mm. Pitt Rivers Museum, Oxford.

wives, Cootia (Fig. 3), more commonly known as Kutia or Pipi Kutia. She accompanied her husband on many of the tribe's military forays, and—as captured by Coates—was distinguished by her spectacularly large mass of combed-up hair (Mitchell and Mitchell 2021: 107).

Although named, some of Coates's portraits remain unidentified. There is, for example, no record of any such person as Biraka (Fig. 4), or similar, and no known antecedents or descendants. Many of the names reflect varying degrees of European influence, hardly surprising given when the portraits were produced. Thus, Poomip (Fig. 5) is almost certainly a transliteration of Bumby, a result of the visit of Wesleyan missionary John Bumby to the northeast of the South Island in 1839. Similarly, Manu, a chief at Wakapuaka, near Nelson, was also known as Wi Katene, a transliteration of William Cotton, the Anglican missionary who baptised Manu in 1844.

Evidence of settler influence was also apparent in the red sealing wax attached to the shark's-tooth ear ornaments worn by Poomip and Erou. In addition, these head-and-shoulders portraits record examples of European-style dress, such as the black waistcoat or coat and black jacket worn by Manu (Fig. 6) and Erou's (Fig. 7) loose blue blouse tucked into her tartan skirt or blanket (Mitchell and Mitchell 2021: 141, 145, 191, 229). The majority of Coates's subjects also have moko and wear European blankets as capes, while a large number of portraits include a glimpse of the back of a European chair.

Māori art, collected by Joseph Banks, George Forster and those who sailed on Cook's and other voyages, found its way—often by circuitous means—to the Pitt Rivers Museum, as would these portraits by Isaac Coates. If he had seen them, Augustus Pitt-Rivers would have no doubt fitted them into his scheme of social development, which identified universal evolutionary stages, with European societies representing the most advanced rank (Pitt Rivers Museum n.d.). But irrespective of whether they were seen as conforming to nineteenth-century museological and anthropological classifications, Coates's Māori portraits can now be recognised as having much greater significance and relevance. Collectively they have been hailed as representing “an invaluable historical record” and, among other things, reproduction of the original images, in newspapers and other publications, helped bring attention to events in New Zealand to a much wider audience than would have been possible otherwise (Mitchell and Mitchell 2021: 372).

On a personal level, Coates's subjects were drawn from a wide range of Māori society. With a few exceptions, they are now known only by these images, and their personal stories remain mostly unrecorded. Nevertheless, these individuals represent a particularly tumultuous period in the colony's history, and in Māori society and demography in particular. The portraits



Figure 4. Isaac Coates, *Biraka*, ca. 1843–1845, pencil, ink and aquarelle, with gum arabic, on paper, 535 × 350 mm. Pitt Rivers Museum, Oxford.



Figure 5. Isaac Coates, *Poomip*, ca. 1843–1845, pencil, ink and aquarelle, with gum arabic, on paper, 535 × 350 mm. Pitt Rivers Museum, Oxford.

constitute a unique resource, one that resulted from an internal diaspora as groups sought to escape tribal conflict and reestablish themselves in the Cook Strait region. These images, like many other items produced both by and of Indigenous peoples, and which reside in museums on the other side of the world, are now accessible to all, thanks to a magnificent publication by Nelson historians Hilary and John Mitchell, *He ringatoi o ngā tūpuna: Isaac Coates and His Māori Portraits* (2021).

As one of the world's leading and best-known museums of anthropology, ethnography and archaeology, the Pitt Rivers recognises that its history and many of its objects are closely tied to British imperial expansion and colonial collecting practices. As a result it recently carried out some major changes, with a focus on those displays that reinforced stereotypical attitudes towards other cultures or that included looted objects or featured human remains. By its own admission, its initiatives represent “one of the most pioneering approaches to decolonisation at a museum in the UK” (Pitt Rivers Museum n.d.).

Museums worldwide are currently undergoing unprecedented change regarding issues associated with Indigenous material. In late 2022, collections of treasures from Benin, taken when the kingdom (in modern-day Nigeria) was sacked during a British punitive expedition in 1897, were handed over to Nigeria by a group of four German museums and the Smithsonian Institution in Washington (*The Guardian* 2023). At the same time, there were reported “rumblings of frustration” with Britain, which held the single largest Benin collection—at the British Museum—but whose governments had long resisted debates on restitution (Oltermann 2022). Since 1816 the British Museum has also been home to the fifth-century BC Parthenon marbles, obtained in 1801–1812 in contentious circumstances by Lord Elgin. “Preliminary” talks are now taking place between the British Museum and Greek officials on what has been described as “the world’s longest-running cultural dispute” (Smith 2022). In early 2023 English writer and actor Stephen Fry offered his view on the matter, likening the removal of the marbles from Athens to taking the Eiffel Tower away from France or Stonehenge from Britain (Khomami 2023).

Late 2022 also saw the return of stolen Māori and Moriori ancestral remains, from Vienna’s Natural History Museum to the Museum of New Zealand Te Papa Tongarewa in Wellington. Of the 64 sets of remains, 49 had been exhumed and “collected” by Austrian naturalist and taxidermist Andreas Reischek when in New Zealand between 1877 and 1889. Their repatriation was the culmination of 77 years of negotiation with Austria, and followed the recent return of similar material from London’s Natural History Museum and four *toi moko* (tattooed Māori heads) from two separate



Figure 6. Isaac Coates, *Manu*, ca. 1843–1845, pencil, ink and aquarelle, with gum arabic, on paper, 535 × 350 mm. Pitt Rivers Museum, Oxford.



Figure 7. Isaac Coates, *Erou*, ca. 1843–1845, pencil, ink and aquarelle, with gum arabic, on paper, 535 × 350 mm. Pitt Rivers Museum, Oxford.

German institutions (Chumko 2022). More recently, in early 2023 there was a call for the return of taonga Māori (Māori treasures) listed for sale by London auction house Sotheby's. Among the objects was a mere (short club) made of pounamu (greenstone), originally given by Ngāti Whātua chief Pāora Tūhaere to a British vice-admiral in 1886 on condition it remained in the latter's family. As the mere had now passed out of the family's hands, Ngarimu Blair, deputy chair of the Ngāti Whātua Ōrākei Trust, called for it to be returned to the tribe, and hoped a future buyer would consider repatriating it (McClure 2023).

It is not just museums of anthropology and ethnology that are responding to changing attitudes. The Natural History Museum in London is also now committed to becoming a “diverse and inclusive” institution, and a label in a recent (January 2023) display admits that hallmarks of the legacy of “empire, colonialism and exploration” are to be seen in its collections and galleries.

GLOSSARY

The terms in this glossary are New Zealand Māori unless otherwise stated.

kotiate	violin-shaped handclub
mere	short club
moko	tattoo
pounamu	greenstone
rangatira	chief
taonga Māori	Māori treasures
toi moko	tattooed head

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REVIEWS

HOWES, Hilary, Tristen Jones and Matthew Spriggs (eds): *Uncovering Pacific Pasts: Histories of Archaeology in Oceania*. Pacific Series. Canberra: ANU Press, 2022. 577 pp., abbr., append., contribs., figs., index, institutions. AU\$110.00 (softcover).

DEIRDRE HARRISON

Tāmaki Paenga Hira | Auckland War Memorial Museum

This book, in its own words, is a “collection of essays” focusing on the “biographies” (p. 1) of the objects and individuals highlighted in the international exhibition *Uncovering Pacific Pasts: Histories of Archaeology in Oceania*. The exhibition opened in March 2020 simultaneously in 38 participating institutions based in Europe (including the United Kingdom), North and South America, Australia and collecting institutions from across the Pacific.¹ These institutions displayed both well-known and lesser-known Pacific material stored in museums and other institutions around the world.

The exhibition was the culmination of the Collective Biography of Archaeology in the Pacific (CBAP), an Australian Research Council (ARC) funded Laureate research programme based at The Australian National University in Canberra and led by Matthew Spriggs. Spriggs, Jones and Howes² are the three editors of this volume, contributing both chapters and editorial commentary, alongside chapters from 31 other academic or curatorial archaeology professionals associated with one or more of the institutions where the objects are located.

There is already a considerable body of archaeological and anthropological literature on the various cultures of the Pacific, built up over the last few centuries of contact with European visitors, settlers, colonisers and researchers. This book, however, attempts a different approach to synthesising information from this vast region.

The artefacts considered are mostly stone or wooden tools and ceramic objects, but also include documents (chapters 4, 11), pictures/paintings (chapter 6) and linguistics/oral traditions (chapter 7). The discussion is not limited to the artefacts themselves and their originating cultures but also provides additional reflection on what these objects can tell of contemporary collecting ideologies or the individual perspectives of the collectors. Each chapter is based on an object or collector/researcher and is well illustrated with images of the objects discussed and contemporary photographs or sketches. The chapters are arranged into four defined chronological periods to illustrate the “ideological roots of modern archaeology” (p. 2) and its development in

the Pacific region. The commentary by the editor(s) at the beginning of each section provides a (sometimes lengthy) overview of sociopolitical events in the region and the world for context to the Pacific archaeology story. The four sections track the development of archaeological and anthropological enquiry from early exploration and the search for the origins of the Indigenous people to the establishment of a professional scientific field with highly trained practitioners in multiple technical specialties.

Several chapters reference the same events, locations or historical figures, providing an interesting variation in perspective and giving the reader some insights into the people behind the research and an indication of the networks which existed (or not) between contemporary researchers (e.g., Schmidt and Skinner, chapters 22 and 23), as well as some idea of the links and changes through time (e.g., Haast to Skinner to Duff in New Zealand, pp. 404–5). The scholarship, passion and individual focus of the authors of each chapter are a notable feature and contribute to the variety and readability of the book.

The book also uses the current locations of the objects in international institutions to address their histories and their cultural significance to both the culture of origin and the cultures which collected them. The contrast between the collecting practices and priorities of the different European powers is examined by including (translated) research conducted in French (chapter 4), German (chapter 8) and Russian (chapter 5), as well as the English (and American) which makes up the bulk of the work.

The main goals of the exhibition, as stated by Matthew Spriggs, were to construct a “new historiography of Pacific archaeology” (p. 8) to uncover (i) forgotten influences and contributions (in particular by women and Indigenous scholars), (ii) neglected early excavations and (iii) the linked histories of archaeology and anthropology. These goals are clearly achieved. There are several additional themes running through the volume. One of these is the editors’ advocacy for the “reimagining and reinterpreting” (pp. 550–56) of objects and archives by cultural custodians as well as archaeologists and anthropologists using newer technologies and theoretical frameworks.

The widespread international exhibition of these Pacific objects, while consistent with the authors’ hope of encouraging future scholarship, would seem to restrict access to many, including the communities from which the objects originated—particularly as it coincided with the unfortunate timing of a global pandemic and international lockdowns. This book and the exhibition website (www.uncoveringpacificpasts.org) are intended to address that obstacle by providing free access to the information and good-quality illustrations.³

As mentioned in the introduction (p. 8), not all themes or specialties can be represented in one volume. Despite the omission of an examination of the value of DNA studies, particularly given its application to an important

focus of archaeology in this region—that of origins and migrations—this volume does cover a wide range of analytical techniques, information sources, artefact types, geographic regions and chronological span.

This well-selected array of essays has certainly fuelled my interest, and I think this book would be of interest to Pacific researchers in many disciplines. It also emphasises the significance of archaeological collections in museums and other institutions and the varied nature of the information they carry; as such it would also be of interest to museum professionals.

Notes

1. For a full list of participating institutions and authors please see the exhibition website: www.uncoveringpacificpasts.org
2. Emeritus Professor Matthew Spriggs is a retired professor of archaeology from The Australian National University, still active in research. Dr Tristen Jones is a lecturer in the Master of Museum and Heritage Studies programme at the University of Sydney, Australia. Dr Hilary Howes is an ARC DECRA fellow based at The Australian National University.
3. The book and many images may be downloaded for free from ANU Press: <https://press.anu.edu.au/publications/series/pacific/uncovering-pacific-pasts>

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SISSONS, Jeffrey: *The Forgotten Prophet: Tāmāti Te Ito and His Kaingārara Movement*. Wellington: Bridget Williams Books, 2023. 204 pp., ack., ed. note, foreword, illus., index, notes. NZ \$49.99 (softcover), EPUB, PDF.

ROWAN LIGHT

Tāmaki Paenga Hira | Auckland War Memorial Museum
Waipapa Taumata Rau | The University of Auckland

Jeffrey Sissons's *The Forgotten Prophet* is a quiet, sturdy kind of history which deserves careful reading. The book's titular prophet is Tāmāti Te Ito Ngāmoke, born in 1829 of Ngāti Ruanui and Te Āti Awa descent. Te Ito's early life was entwined with the seismic histories of Taranaki hapū (smaller descent groups) who, forced out of their rohe (district) in the 1820s, returned with the Wesleyan Gospel after 1840 to struggle with newly introduced diseases and feuds with other Māori groups in the face of demands for land by settlers and the colonial government. Taranaki was a "spiritually dangerous landscape" (p. 17)—one that was not only "being slashed by survey lines that brought social division" but scattered with the bones and bloodstains of those killed during tribal conflicts a decade earlier.

In this context, Te Ito emerged as a young tohunga (expert), improvising an established custom of expelling ngārara (atua—ancestor deities—embodied

as lizards) from wāhi tapu (sacred sites). By the early 1850s, Te Ito—with a band of 30 mounted followers—was traversing Taranaki sites, overseeing the destruction of mauri (sacred) stones and the burial of Bibles to mark a new dominion over the land. Sometime in late 1855 or early 1856, he announced his ascension as poropiti (prophet) by destroying the taumata atua (resting place) of Maru, one of the supreme Taranaki atua (when Riwia Tītōkōwaru embarked on his hugely successful campaign against colonial forces in 1868, he did so invoking Maru—such was this atua’s power).

As poropiti, Te Ito’s project was pan-tribal: his mission was to make Taranaki whenua (land) safe from conflict and disease, by releasing the tapu (sacred) restrictions laid down by atua and which, when contravened, brought death. This new divine order expelled atua in much the same way as Taranaki Māori had been driven out a generation earlier and, in turn, now faced immense pressures from colonial settlement. A series of large bonfires were organised in 1857 and 1858 into which materials such as taonga (treasured objects) and clothing, as well as ngārara, taken from wāhi tapu were thrown and destroyed. These Kaingārara fires spread to Whanganui in 1862, and to the lower South Island in the mid-1860s under the leadership of Hipa Te Maiharoa.

Sissons interweaves Te Ito’s life with the wider implications of the Kaingārara movement’s cleansing fires. At a time when rangatira (chiefly individuals) throughout Taranaki were seeking to circumscribe settlers through new laws and boundaries, Te Ito offered an ontological justification: acts of material and ecological destruction, symbolically enhanced by the timing with Matariki, the Māori New Year, provided the possibility of new cosmological trajectories. Hopes of political unification were set against a dizzying panorama of change: Te Ito himself had travelled with other Taranaki Māori to the goldfields of Victoria, encountering ethnicities and spiritualities from around the world. Kaingārara offered Taiporohēnuitanga, a west coast identity, slowing the tide of European settlement.

Previously, Sissons has written about the “Polynesian iconoclasm” (Sissons 2014), a process through which chiefly authorities across the Pacific recreated their political power through the destruction of ancestral shrines and figures. In *The Forgotten Prophet*, he shows that similar forces were at play in Taranaki, with Te Ito mediating social conflicts. This is exemplified in the careful contextual translation of correspondence by Te Ito, held at the Alexander Turnbull Library and now digitised for public use, which Sissons uses—with aroha (compassion)—to provide a portrait of the prophet, his personality and his theology. “Great is my love for you all in the midst of perplexity”, Te Ito wrote to would-be land salesman Te Waitere Kātātore in a scolding 1857 letter. “Your confusion has been great in these days. ... [T]he map of the land is destroyed and the correct way of acting for you and I has become lost” (p. 63).

Te Ito, as recovered by Sissons, is a potent example of Māori engagement with Christianity in the vein of Hirini Kaa.¹ Taranaki in the 1850s was an “in-between world” where Kaingārara had begun to “reconfigure their relationships with atua, tapu and missionary teachings” (p. 79). Sissons is attentive to the ways colonial sources have misconstrued the deeply relational system of tapu, instead noting how states of tapu/noa (sacred/profane) were “produced, controlled and negotiated” (p. 80) rather than simply imposed by a divine authority. He also shows how the tikanga hou (new practices) offered by the Kaingārara movement were part of the cacophony of Christianities at play in the nineteenth century (Kaingārara beliefs included three levels of deities, in which the Catholic God ranked second). European missionaries who found themselves marginalised by the new prophet quickly condemned the iconoclasm as a trick of the devil. Above all, Sissons reinstalls Te Ito among the many striking poropiti of nineteenth-century Aotearoa New Zealand, not least Pai Mārire² visionary Te Ua Haumēne, who was Te Ito’s friend and, later, his rival. In a striking contest of mana (spiritual authority), Te Ua recast Te Ito as a pōrewarewa (seer), a term that has taken on a derogative meaning and seems to have diminished Te Ito’s place in subsequent histories (in fact, Sissons implies that Te Ito provided the foundation for Parihaka with an earlier settlement).

More immediately, *The Forgotten Prophet* returns us to the Taranaki raupatu (conquest) that, from 1841 to 1881, encompassed something far more world-ending, as shown by iwi (tribe) historians Danny Keenan and Rachel Buchanan. Crucially, Te Ito was not marginal to these events—Hapurona’s defenders at Te Kōhia pā (defensive fortification site), the site of a British Army attack in 1860, were almost certainly Kaingārara affiliates, and reprisals on settler homesteads, consumed by avenging flames, take on new significance in light of the whakanoa (tapu-removing) bonfires (Te Ito’s own pā at Te Puata was sacked by colonial forces).

If public histories are to make room for Māori collective memories of war and its aftermath, we need to pay attention to the dialogue of customary and Christian symbols, acts and vocabularies that were part of iwi responses to colonial conflict. Sissons reestablishes the “religious and prophetic dimension of a land-holding movement” (p. 65) which historians such as James Belich only tentatively linked to Kaingārara and which subsequent narratives had framed, narrowly, as a “land league”. The activities of Te Ito before 1863—that seminal year of despair for many iwi Māori—recasts the New Zealand Wars as a series of cosmological battles, as much as military campaigns—battles between atua and the Christian God, and different sources of Christian authority, and against a government that increasingly appeared as anti-Christ.

Although Te Ito died sometime in 1907, it was the government invasion of Parihaka in 1881 that hurled Taranaki’s first prophet into obscurity. Through

Sissons's deft writing, this tupuna (ancestor) now steps back into the daylight of history, to remind New Zealanders—tangata whenua (Indigenous people) and tangata tiriti (people of the treaty, non-Māori)—that “[t]he way forward was back, the future lay in the past” (Williams 2015: 38), to borrow Melissa Williams's phrasing. At a time when the mana of Taranaki Maunga has been fully restored, Te Ito might give a new direction, just as he did in the 1850s and 1860s, to our own contemporary cultural, political and religious “in-betweens”.

Notes

1. Theologian and historian Dr Hirini Kaa (Ngāti Porou, Ngāti Kahungunu and Rongowhakaata) is author of *Te Hāhi Mihinare | The Māori Anglican Church* (Bridget Williams Books, 2020).
2. Pai Mārire was the first independent Māori Christian movement and was based on the revelations of Te Ua Haumēne.

Glossary

The terms in this glossary are New Zealand Māori.

aroa	compassion
atua	ancestor deity
hapū	smaller descent group
iwi	tribe
mana	spiritual authority
mauri stone	sacred stone
ngārara	atua embodied as a lizard
noa	profane
pā	defensive fortification site
pōrewarewa	seer
poropiti	prophet
rangatira	chiefly individuals
raupatu	conquest
rohe	district
tangata whenua	Indigenous people
tangata tiriti	people of the treaty, non-Māori
taonga	treasured objects
tapu	sacred
taumata atua	resting place
tikanga hou	new practices
tohunga	expert
tupuna	ancestor
wāhi tapu	sacred site
whakanoa	removal of tapu
whenua	land

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RISEBOROUGH, Hazel: *Days of Darkness: Taranaki, 1878–1884*. 3rd edition. Wellington: Bridget Williams Books, 2023. 300 pp., bib., index, notes. NZ\$49.99 (softcover).

AMY STEWART

Tāmaki Paenga Hira | Auckland War Memorial Museum

Hazel Riseborough's *Days of Darkness: Taranaki, 1878–1884* is an incisive, meticulously researched account of the build-up to and aftermath of the invasion of Parihaka, in Aotearoa New Zealand, in 1881. Most importantly, at 234 core pages it is a well-edited and highly readable account, punctuated by the author's shrewd summaries and, occasionally, her acerbic commentary. Recounting the suppression of official documents, for example, Riseborough remarks that "[t]he ministers' memories a year or two later were as convenient as their consciences at the time" (p. 166).

Riseborough was a wool classer and agricultural researcher as well as a historian and lecturer. The text is based on her PhD thesis, completed in 1987 and originally titled "Policies and Prophets: Aspects of Government Native Policy in Taranaki, 1878–1884". In his obituary for her published by *Stuff*, fellow historian Danny Keenan (Ngāti Te Whiti, Te Āti Awa) noted that Riseborough chose her topic after attending the 1981 centenary of the Parihaka invasion. Incensed by the loose facts cited by Pākehā (New Zealand European) speakers and frustrated by the one-dimensional version of events, her remedy was to produce a text with the documentary thoroughness of pre-trial legal discovery. To create a text dense with quotations but not made heavy by them, Riseborough sorts these receipts—taken from legislation, parliamentary debates, telegrams, Crown correspondence and newspapers—and arranges them into a timeline that is not just comprehensible but dramatic too. The episode describing the passage of the government's infamous proclamation-ultimatum hours before then-governor Arthur Hamilton Gordon's return from Fiji has all the pace and tension of a TV drama (pp. 160–80).

This 2023 edition, published two years after Riseborough's death, is bookended by a new introduction from the Parihaka community at the front, and the preface to the 1989 edition and the introduction to the 2002 edition at the back. All the better to trace the utility of this book through the changing—or is that unchanging?—times. Her 2002 introduction sets her goal out in more detail: “In late 1984 when I began the study on which this book is based, I hoped that in writing about government action that impinged on the people of Parihaka in the 1880s, I might forge a weapon that those of the 1980s could wield in presenting yet another petition to Parliament in their endless search for justice” (p. 239). She succeeded in that aim, but not before earning herself a degree of censure.

The 2023 introduction ends with a *tautoko* (expression of appreciation) from the community: “Ka tā Hazel e kī nei, kia kaua māna ngā kōrero a te iwi Māori e tātari, e tuhituhi. Mā ngā uri, mā ngā reanga e tuhi” (Hazel has resolutely maintained that it is not her role to analyse and communicate tribal histories. These are for descendants and generations to write) (p. xiv). Riseborough was Pākehā, and it was her decision (p. 235) to leave certain stories to “those who have a right to tell [them]” that earned her the rebuke of some of her prominent peers. In their respective contemporaneous reviews, both Dame Judith Binney (1989: 202) and Ian Wards (1990: 74) regretted Riseborough's position, and they both mischaracterised her very deliberate stance as “inhibition”. Wards went further, alleging a lack of objectivity, reminding Riseborough of the challenges that faced the settlers of “forming stable governments” and, in a tone that is difficult not to read as mocking, asks whether “Dr Riseborough made her goodies, all Maori, too good and her baddies, all politicians and those in government service, too bad?” (1990: 74).

In his essay “How Racism Shaped My Critical Eye”, British journalist and professor Gary Younge says he doesn't “believe in objectivity”; growing up black in 1970s Stevenage taught him to doubt any official narrative. He writes, “The emotional labour of empathy, as always, fell primarily to those of us with the least power. We had to see things from other people's point of view, even if we didn't like them, because otherwise it was impossible to fathom what was going on” (Younge 2023: n.d.). At times, *Days of Darkness* becomes a bit like a broken record, but the fault is not with Riseborough; it's with history. The evidence of government representatives' opportunism, inconsistency, hysteria and reluctance to adhere even to their own rules is relentless (for example, in his haste to throw the ploughmen in jail, native minister John Bryce declared that the “Magna Carta and *habeas corpus* were ‘mere legal technicalities’” (p. 92). What makes *Days of Darkness* so valuable is that Riseborough *does* give credit where it is due. Gordon, Bell, Grey and a handful of reporters all have their protestations noted in

Riseborough's record. But what she refrains from doing is contextualising the government's duplicity to the point of equivocation—a common mode of history written by victors. It is not editorialising to square the constancy of Te Whiti against the scheming of Bryce and the government. Te Whiti's "words of 1881 were those of 1871" (p. 158).

There is a phrase Riseborough scatters through *Days of Darkness* that is also the title of her last chapter: "It was a question of mana [spiritual power, prestige]." Her thesis is that Europeans simply could and would not understand or acknowledge mana tangata (the authority of the people). "Victorian notions of racial and cultural superiority meant that a partnership between Māori and European was an impossibility: it was domination or nothing" (p. 224). In her 1989 preface Riseborough wrote, "The present is offspring of the past and the story [of Parihaka] needed re-examining a hundred years later, as a reminder of the issues which lie behind today's attitudes and actions" (p. 237). In these present dark days, it's a story that bears rereading.

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* The inclusion of a publication in this list neither assumes nor precludes its subsequent review.

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