

A journey through Austronesian and Papuan linguistic and cultural space Papers in honour of Andrew Pawley

edited by

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Cover photo by Kevin Murray, Madang, Papua New Guinea, taken at Kalam Guest House, Simbai, 8th November, 2005. Fonj headdress from the Simbai area used for special ceremonial occasions, for example, initiation, pig killing and bride price payment ceremonies. Inside cover photos by Kevin Murray of Raphael from Kaiberim and Stanley from Suosu.

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‘I was so much older then, I’m younger than that now’: why the dates keep changing for the spread of Austronesian languages

MATTHEW SPRIGGS

Linguists have never had a reliable means of dating the break-up of the various early subgroups of Island Southeast Asian and Pacific languages independent of the archaeological signatures associated with the Austronesian expansion (Figures 1 and 2).¹ Glottochronology has come and (largely) gone, but occasionally linguists present a ‘rule of thumb’ and unquantified version of what amounts to the same thing. This is used to say that the differences between nominated successor protolanguages would have been like the difference between languages whose divergence times are known through historical records. The Romance languages are those most often being thought of. On the other hand, the cautionary tale of the very conservative Icelandic language sometimes gets a salutary mention as well.

Pawley (2004:251) has made a very important observation concerning the Austronesian languages in his suggestion that models of linguistic change applied to continental areas may be inappropriate. He notes that Austronesian is the only major language family predominantly spoken on islands, and many of these islands are isolated by hundreds or even thousands of kilometres. Why should one expect similar rates of linguistic change to those found in areas such as Europe when this is the case? Pawley and Ross (1995:65–66) made a similar point in relation to dialect chain models. Such models are perhaps more suited to island situations than the ‘wave models’ used in Indo-European linguistics.

Love them or hate them, it is clearly the archaeologists who have the key to dating Austronesian linguistic change. For areas in Remote Oceania (Andy Pawley’s term for a concept developed by Roger Green: Pawley 2004:269, fn.5) beyond the main Solomons chain it is a very powerful master key indeed. This is because the initial inhabitants of this

¹ This paper was written in 2006 while shifting between Canberra, Vanuatu and the United Kingdom on research funded in part by the Australian Research Council. I would particularly like to thank my parents Joyce and Frank Spriggs for their toleration and hospitality while I was writing the bulk of the text in Petersfield, and Dr Una Strand Viðarsdóttir for providing the space and time for me to finish it at Barnard Castle. The latter also provided helpful grammatical correction. John Bowden and two anonymous referees provided further useful suggestions. Andy Pawley has been a consistent proponent of the need to integrate archaeological and linguistic data in the Pacific region, and I have valued his comradeship and support in the struggle to do so.

area were Austronesian speakers. One can follow the distinctive pottery-using culture of Lapita at the base of archaeological sequences in the western parts of Remote Oceania back to its 'homeland' in the Bismarck Archipelago, and beyond to its antecedent Island Southeast Asian neolithic cultures. There is a high level of cultural continuity displayed by this cultural horizon. Its distinctiveness from what came before in regional cultural sequences allows a rare matching of archaeological and linguistic reconstructions. This then gives us the ability to date the Austronesian spread and the consequent break-up of its various linguistic stages.

Archaeology is able to provide a far clearer picture for this part of the Asia-Pacific region than it can for the spread of Indo-European languages. There are simply too many comparable spreads of archaeological horizons across Europe at too many different times for us ever to be sure whether Indo-European spread at the beginning of the neolithic as Renfrew and others have argued (Renfrew 1987), or whether it is exclusively a Bronze Age phenomenon as is also cogently argued (Mallory 1989).

There are on-going problems of matching the archaeology and the linguistics in our region too. These are in part to do with an undeniable fact: it is more straightforward and much less costly to describe a language to a degree useful for comparative purposes than it is to define a 10,000 or even 3000 years or less archaeological sequence for any comparable area. Many islands that have quite decent dictionaries and grammars (and often the entire Bible translated into their constituent language or languages) have yet to receive the undoubted benefits of a visit by archaeologists. Unsuspecting speakers of a range of languages can be enticed to leave their shores to share their knowledge with linguists in the metropolitan centres; but the archaeology is not at all transportable. The archaeologists have to go to the mountain, it won't come to them. It is usually fairly obvious if there are speakers of a particular language present in an area. It is much harder to find the key archaeological site or sites that will establish a detailed archaeological sequence for the same locale. Needles and haystacks often come to mind during such searches.

1 'It's getting better all the time'

This situation also implies, of course, that things will inevitably improve with time. Just as a lot of new comparative data are generated every year by diligent linguists to prove grist to the historical linguistic mill, so too the dogged persistence of the archaeologists tends to pay off in the end. As well as better sample coverage as new regions are systematically researched, there are ongoing improvements in dating methods for archaeological materials. Radiocarbon dates quoted in the earlier literature tend to fall by the wayside as we understand more about the suitability of particular materials for dating and as the accompanying contextual information is refined. Many important sites have recently been re-dated using the latest refinements in dating technology.

When applied to Pleistocene sites beyond 10,000 year BP ('before present') the general trend has been for human occupation of regions to be found to be older than first thought, but for a range of reasons to be noted here this is not the case for key sites thought to be associated with Austronesian spread. In fact it is the opposite. Yesterday's 4000 year-old Lapita site is today's 3500 or 3300 year-old one, Yesterday's earliest settlement date for the Marquesas of 100 BC is today's 600–1000 AD settlement date, and the much-quoted 800 AD date for the earliest settlement of New Zealand is now looking more like 1250 AD. Why is this?

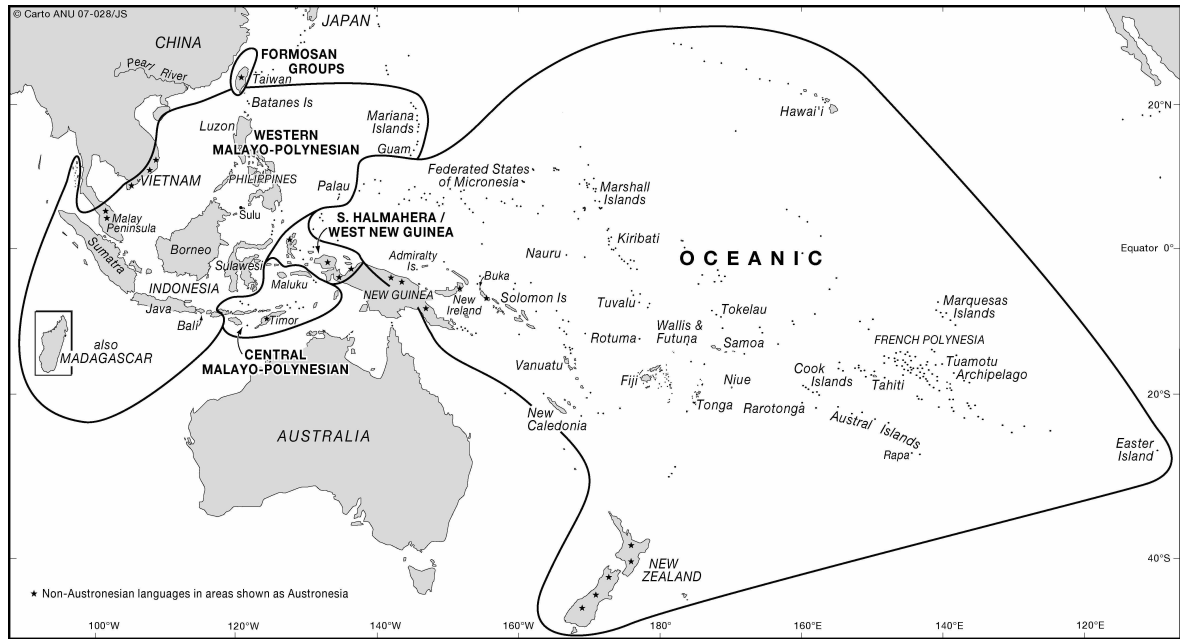


Figure 1: The Austronesian language family and major subgroups (adapted from Ross et al. 2003:xx).

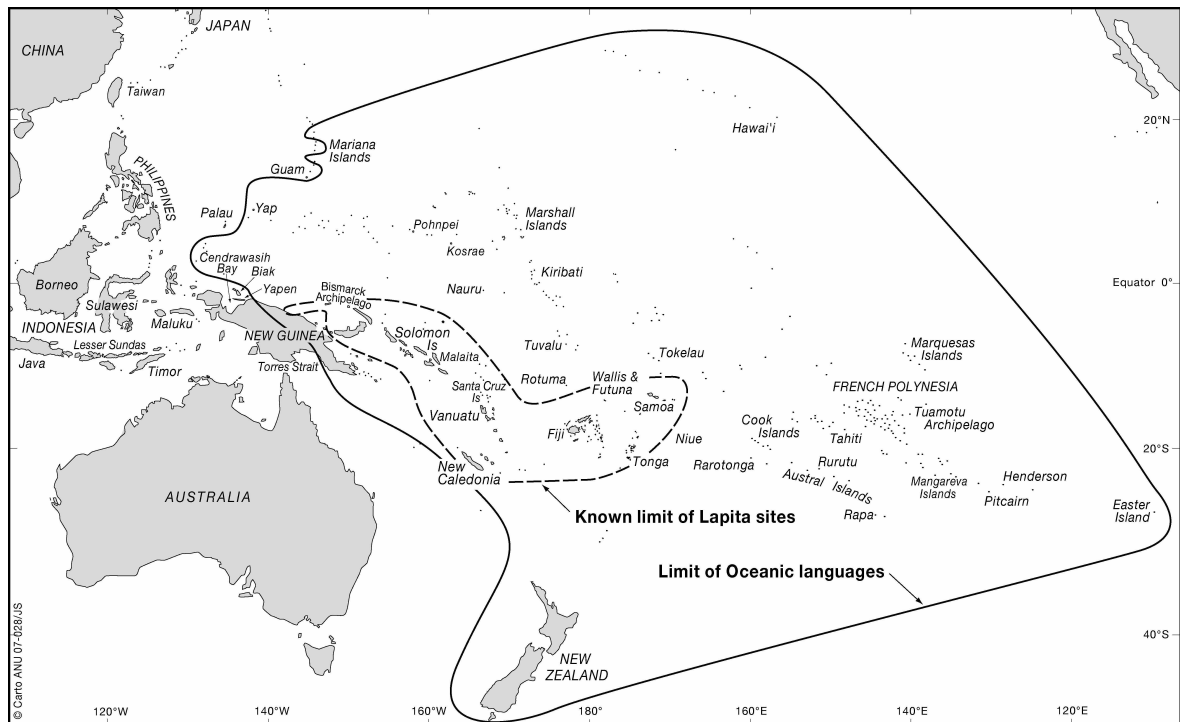


Figure 2: Geographic limits of historically known Oceanic speakers and distribution of Lapita sites (adapted from Ross et al. 2003:xxi).

A major problem, long-recognised but not able to be acted upon due to limitations of expertise and funding, is the 'old wood' problem. Radiocarbon dating does not tell you when a fire was lit on a beach by its first visitors, it tells you when that part of the tree died that was being fed into the fire. Given a tree of any size, the interior of the trunk could have been growing some hundreds of years before the outermost parts or the small branches. There are some long-lived species in the region that present this problem to the archaeologist. For dating analyses the solution is to select only either quick-growing species or small twigs that represent recent growth. Such selection is not always possible, however, if there is no palaeobotanical expertise available to make the necessary species identification.

A related old wood problem is that of the burning of driftwood, some of which can come from long-lived North American species that have drifted out to sea and across the oceans. When people first reached particular Pacific Islands they would have had to climb over large piles of such driftwood to get to the shore. When recognised and dated, even modern driftwood can sometimes be over a thousand years old, as Kenneth Emory and Yosi Sinoto discovered at Ka Lae (South Point) on Hawaii Island nearly 50 years ago (Emory and Sinoto 1969:4). A detailed study of wood charcoal in Kaho'olawe Island (Hawaii) archaeological sites revealed that a significant percentage of all wood being burned there was exotic driftwood with the potential for extensive inbuilt age (Murakami 1987).

Just as sieve size has come down so that small fishbones and other remains can be recovered from the archaeological deposits, so have the thicknesses of excavation units been reduced. This gives less chance for materials of a considerable time range to become mixed together. Much smaller samples are now needed for radiocarbon dating, particularly with the development of Accelerator Mass Spectrometry (AMS) dating; this again means less chance of mixing materials of different ages. There is now a much greater understanding of the stratigraphy of sites and of the many natural and cultural factors that can cause site disturbance, mixing deposits of different ages. Significant in this regard has been a growing recognition that much of the visible stratigraphy of cave sites, particularly the beautiful 'layer-cake' appearance revealed in some rockshelter excavations, is entirely post-depositional (Spriggs 1999). It comes from chemical alteration of the sediments after they have been deposited and buried. The consequence is that the original culturally-altered stratigraphy, with its pits and postholes disturbing and churning lower deposits, has become homogenised, masking such early disturbance features. Many of our sites are significantly disturbed and mixed and there is nothing we can do about that except to try and evaluate and test for such factors after excavation. Careful excavation cannot compensate for this fact.

The radiocarbon laboratories too have improved over time. Some of the early ones were shoestring operations that doubtless meant well but produced erroneous ages, sometimes due to factors such as unstable modern standards to which they were attempting to calibrate the results, or insufficient pretreatment of samples to remove contaminants. Materials such as human and animal bone that were once thought to provide reliable ages are now known to be very tricky to date. Determinations run on these materials before the 1990s have had to be rejected, and samples re-dated (where possible) using modern pretreatment methods.

It was a combination of all these factors and more — the above listing has not attempted to be exhaustive (see Spriggs 1989 and 1999; Spriggs and Anderson 1993 for further

detail) — that produced a run of radiocarbon dates now realised to be too early from a range of key sites in Island Southeast Asia and the Pacific during the 1950s through the 1970s. Simple chance may have been involved in this pattern as well, as in any probabilistic procedure; the roll of the radiocarbon dice. Being the first dates from particular regions or island groups, these tended to be seized upon by the keener linguists and their archaeological congeners. Now long rejected by archaeologists, the news about such dates often seems to take some time to reach linguistic colleagues. An 'old archaeology' problem has thus been created for linguists seeking to match the two data sets.

This has seriously discombobulated some linguists. An archaeologist might point out, say, that Fiji was not settled at 3500 BP as first appeared to be the case archaeologically but only about 3000 BP. What might appear at first sight to be a reasonable response from the linguist could be to suggest that archaeologists have not yet found the earliest site and one of that age will eventually come to light; needles and haystacks again. However, for Remote Oceania at least, there is a constant signature of earliest occupation in the presence in sites of large numbers of bones of extinct birds and other vertebrates, that time and time again have been shown to go extinct within about 200 years or so of initial human settlement of an island. A combination of human predation, habitat disturbance, predation and harassment by introduced rats, pigs and dogs, and avian diseases introduced by the domestic chicken seem to have done for the Pacific birds in what is the greatest vertebrate extinction event ever in terms of species, dinosaurs notwithstanding (Steadman 1999:376). If the bird fauna of a site are what is there today, or was there at least immediately before European contact, then you have not found a site of initial settlement.

A range of other indicators can be used to back up the initial settlement status of sites: further evidence of human environmental impact in the geomorphic and pollen records, the very large size of shell fish in early sites, the presence of large amounts of turtle bone, and so on (Weisler 1998:77–82). In combination they show us when humans first turned up, or at least when agricultural populations with domestic animals showed up. We do not necessarily get these signatures of human impact in Near Oceania at initial settlement way back in the Pleistocene, but we do see important environmental changes with agriculture in that region.

A certain kind of linguist might think he or she finds support here for another proposition, that the features of the languages say of Vanuatu suggest that there was an earlier Papuan-speaking population there which influenced linguistic developments. They weren't agriculturalists so the archaeologists might not find the evidence of human impact that they have been expecting. Maybe not, but enough work has been done in Vanuatu — much of it targeted at the issue of pre-Austronesian settlement — to be reasonably confident that there was no-one in that archipelago (or in Fiji, or in New Caledonia for that matter) before about 3100 BP.

Evidence of Pleistocene settlement in Near Oceania usually comes from cave sites. They form good concentration points for the accumulation of settlement debris generated by mobile hunter-gatherers. In New Ireland six cave sites have been excavated by archaeologists and all of them contain pre-3000 BP material. On Buka in the northern Solomons two cave sites have been excavated. Both of them contain pre-3000 BP occupation; the same is true on Manus Island in the Admiralties (see Spriggs 1997:47, 73). In contrast, across the archipelago of Vanuatu somewhere approaching 30 cave sites have

been dug and none have even Lapita age occupation in them. Cultural sequences generally begin several hundred years later than the Lapita period (Bedford 2006; Bedford et al. 1998).

Areas with very high uplift rates, preserving ancient near-shoreline environments which have otherwise disappeared with rising sea-levels prior to 6000 BP, have been especially investigated in Vanuatu with the aim of finding pre-Lapita settlement — but with no result. Archaeologists really do seem to have established the boundary between pre-Austronesian and Austronesian human settlement, and it is where Pawley and Green (1973) predicted it would be — the Near Oceania/Remote Oceania boundary at the end of the main Solomons chain. If there are indeed Papuan elements in Vanuatu languages they must reflect contacts after first Lapita settlement; it was the Papuan speakers who would have been the later migrants (cf. Pawley 2006).

Linguistic opinion too has of course changed over the last 40 years, so perhaps archaeologists should not be too defensive over changing their minds during the same period. The standard view of Austronesian subgrouping only really firmed up in the late 1960s to early 1970s, through the work of scholars such as Pawley in the Oceanic region and Blust for the Indo-Malaysian parts of the story (see references in Pawley 2004:252–253). Synthesis involving archaeological dates for linguistic stages was only really possible in the early 1970s and can be seen in particular in two early papers by Pawley and Green (1973) and Shutler and Marck (1975).²

I will now examine the use of archaeology in dating various linguistic stages in Pawley and Green's (1973) paper to illustrate the points made earlier about subsequent developments in archaeology that have sometimes contributed to the linguists' 'old archaeology' problem.

2 Proto Austronesian to Proto Oceanic

In 1973 several factors led Pawley and Green to argue for a pre-Lapita spread of Austronesian languages into the Pacific as far at least as Vanuatu and New Caledonia. One was the siren song of glottochronology, in the form of Dyen's (1965, 1971) classification of Austronesian languages. Dyen argued that Proto Austronesian must have broken up by 5000 BP (3000 BC), based on lexicostatistical calculations. It was also considered that Proto Oceanic must have broken up at least a few hundred years afterwards. Taking a conservative estimate derived from Dyen's figures, Pawley and Green suggested a date in excess of 4000 BP for this linguistic stage (1973:27, 54). These authors were well aware of the criticisms made of glottochronology and lexicostatistics, but felt that there was archaeological evidence to back up the dates derived from Dyen's work.

The archaeological back-up consisted of evidence from several dated sites that at the time seemed supportive of Dyen's conclusions, and indeed seemed to push the dates back even further: over 6000 BP for Proto Austronesian and 5000 BP for Proto Oceanic. From

² There are earlier examples where linguists appealed to archaeological evidence provided by radiocarbon dates as an interpretive aid, but these occurred before any generally-agreed model of Austronesian subgrouping had been developed. An example is Grace (1964:366) who cites a radiocarbon date from New Caledonia of '847 BC' in support of his contention — which turned out in fact to be correct — that: 'I find it hard to believe that the Austronesian spread into eastern Melanesia was not completed by 1000 BC' (ibid.). This date comes from his rule of thumb assertion that the development of the innovations forming Proto Polynesian would have taken about 1000 years, and his noting of the date of '122 BC' from the Marquesas — taken from Suggs (1961) — as an anchor point for the break-up of Proto Polynesian.

north and west to south and east the adduced evidence was as follows. Current views on these dates are given immediately after each point.

1. Pawley and Green (1973:fn.20) refer to breaking news of archaeological discoveries in an unidentified conference paper by Solheim. This must refer to the research of Spoehr in Zamboanga and Sulu in the southern Philippines. Solheim (1975:24) interpreted Spoehr (1973:11, Figs. 117d and 180) to have shown that: 'Red-slipped pottery with impressed circles inlaid with lime may be as early as 6650 ± 180 C14 years B.P. on Sanga Sanga Island in the Sulu Archipelago [...] Also from this site come shell adzes and gouges similar to those associated with the early Lapita pottery'. Close examination of Spoehr's text and of the publication of subsequent re-excavation of the Sanga Sanga rockshelter (Ronquillo et al. 1993) convince me that this site is hopelessly disturbed. The visible stratigraphy is entirely post-depositional in origin, to do with chemical alterations of the sediments subsequent to their deposition. Currently acceptable dates for early pottery in this part of Island Southeast Asia all postdate 4000 BP (see below).
2. Pottery in East Timor was dated to 5500–4500 BP (Glover 1969, 1986). Again, site disturbance is now seen to be the reason for this apparent association. No significant archaeology took place in East Timor during the Indonesian occupation 1975–1999 to contradict these initial results. The latest research there suggests a date in the range 3800–3600 BP is much more realistic for the beginning of neolithic, Austronesian occupation (O'Connor and Veth 2005; other sources cited in Spriggs 2006).
3. There was thought to be early evidence for pigs and agriculture in New Guinea: 'Numerous pig bones appear in two of the Highlands sites at about 3,000 BC [5000 BP], while extensive forest clearance took place at about that date in the Western Highlands' (Pawley and Green 1973:6, citing Allen 1972 and Powell 1970; cf. Blust 1976). At that time it was accepted that several important Oceanic crops along with the pig, dog and chicken were introduced by Austronesian speakers. The date of their introduction, with evidence for the agricultural systems that would have gone along with them, would therefore be the date of the spread of Oceanic Austronesian languages. More recent discoveries and reinterpretation of the origin of the New Guinea domesticated crops now suggest that the region was an independent centre of agricultural development preceding by several millennia any Austronesian contacts (Denham et al. 2003, 2004). The early dates for pig have not been confirmed; again unrecognised site disturbance is the most likely explanation (Spriggs 1996a, 1996b). Even had these ages been confirmed, the eventual claims for pig at 10,000 BP were later recognised to relate to putative events long prior to Austronesian spread (cf. Blust 1976:26–27).
4. Pawley and Green (1973:7–8) state that: '[...] between 5,000 and 3,000 years ago quadrangular and planilateral adzes appear in New Guinea ... Quadrangular adzes were almost certainly part of the Proto-Austronesian tool-kit ... Planilateral adzes are also associated with early assemblages in Remote Oceania, and may have been introduced into New Guinea by Austronesian speakers.' Whether there are really fully-polished stone adzes of these or any other shapes in New Guinea at such ages remains in doubt. All such finds were made early in the development of archaeology there and have not been backed up by more recent research (cf. Spriggs 1996a). I

remain skeptical as to the claimed dated associations. Additionally, in relation to the presence of fully-ground stone adzes in Near Oceania, Green (2000) has since concluded that the planilateral adzes were a Lapita culture innovation, rather than having been introduced from Island Southeast Asia.

5. 'The New Caledonia sequence begins with an aceramic tradition which is the oldest yet discovered for any part of Remote Oceania [...] This tradition was seemingly present between 3000 and 1000 BC and perhaps before then (much earlier dates have been obtained but their interpretation is uncertain)' (Pawley and Green 1973:11). The evidence was that from the mysterious 'tumuli' or mounds, but was not fully accepted by the authors even at that time. These mounds are now generally agreed to be natural rather than cultural features (Green 1988).
6. It was also believed that initial occupation of southern Vanuatu had been aceramic, with the dates from 2500 BP onwards being seen as suggesting a significantly earlier date for occupation of that archipelago. Other artefacts recovered from this and later time periods in southern Vanuatu were seen as characteristically Austronesian in association (Pawley and Green 1973:12–13). In 1984 I was able to report the discovery of Lapita pottery in southern Vanuatu, and subsequent work has confirmed that the initial occupation of that region was part of the Lapita spread at about 3100 BP (Bedford 2006; Spriggs 1984).

In 1973 the lack of pottery in what were thought to be the earliest Austronesian sites suggested that there was an (at least in part) aceramic Austronesian spread in the western Pacific as far as New Caledonia around 5000 BP, associated with the spread and break-up of Oceanic Austronesian. It was noted that the earliest Lapita pottery dates were those from the Reefs-Santa Cruz Group in Remote Oceania at about 3250 BP (Pawley and Green 1973:19). It was assumed that dates from the putative Lapita homeland in the Bismarck Archipelago would turn out to be a few hundred years earlier, but such dates were unlikely to go back to the time of initial Oceanic spread suggested by lexicostatistical analysis and seemingly confirmed by early aceramic occupation of archipelagoes such as New Caledonia. Dates for pottery in Vanuatu or the south-east Solomons were seen as: '[...] far too late to account for the kind of linguistic diversity found in these regions. If diversification began by 1,000 BC in the relatively homogeneous Central Pacific region [Fiji, Tonga and Samoa], it must have begun considerably earlier in the island groups further west' (Pawley and Green 1973:49).

Pawley and Green were, however, somewhat equivocal over their interpretation of an early pre-Lapita Austronesian spread. They realised that Proto Central Pacific did appear to have a Lapita association in Fiji, Tonga and Samoa, and that Proto Central Pacific had its most likely antecedents in North/Central Vanuatu languages:

The most likely explanations are (a) that some North Hebridean-Central Pacific speakers adopted a Lapita culture, (b) an immigrant Lapita community adopted a North Hebridean-Central Pacific language. If earlier dates for Lapita in the New Hebrides [Vanuatu] are recovered, dates of the order of 2,000–1,500 B.C., some of the difficulties in associating Lapita with Proto-North Hebridean-Central Pacific would, however, disappear. (Pawley and Green 1973:49–50).

Since 1973 there have been a few additional furphies, such as Egloff's first date for early Lapita in Mussau in the Bismarck Archipelago of 3900 BP (Bafmatuk et al. 1980), and claims for 5000 BP pottery, pig and betel chewing near the north coast of the Sepik

region of New Guinea. This latter claim was believed to attest to an earlier Austronesian spread (Swadling 1996 and 1997; Swadling et al. 1991). These cases are not generally accepted (Lilley 2004:94; Spriggs 2001). Indeed, the early betel nut claims have since been withdrawn (Fairbairn and Swadling 2005).

2.1 Proto Central Pacific and Polynesian languages

Pawley and Green (1973) seemed to be on stronger ground in relating archaeology and linguistics in Fiji and Polynesia. Much more research had taken place in this region by the early 1970s, with a lot more radiocarbon-dated sites able to be considered. However, exactly similar problems as have become apparent further to the west can be seen to be operating in this region too: 'old wood', dodgy radiocarbon dating results, questionable associations between dated samples and cultural materials, and problems in the dating and interpretation of pollen cores. At least in Polynesia, however, these problems have had a much more public airing than in areas to the west. The issues, even if unresolved, are considerably clearer to practitioners. For eastern Polynesia, research programs specifically dedicated to sorting out the chronology of occupation at key sites have been instituted within the last decade and have overturned much of what we thought we knew about the colonisation of eastern Polynesia.

If we go back to 1973, again there were a series of radiocarbon dates from research carried out in the 1960s that set the tone for subsequent interpretations. These gave results often several hundred years older than now seems likely for initial settlement of a range of archipelagoes and islands. Notable among them were:

1. the date for the Natunuku Lapita site in Fiji of 3240 ± 100 BP;
2. for eastern Polynesia, Suggs' (1961) dates for the Marquesas Islands that suggested initial settlement some 200–100 BC; and
3. a date for Easter Island suggesting settlement there around 300–400 AD (Smith 1961).

The settlement of all the main archipelagoes of Polynesia was thought to have been completed by about 800 AD, the generally accepted date for settlement of New Zealand.

Pawley and Green showed a remarkably prescient suspicion of several of these early dates; the presence of pottery at some sites in the Marquesas suggested to them that the initial phase of Marquesan settlement had not yet been found. They considered that a date around 200 BC to 200 AD would one day be confirmed for the first eastern Polynesian landfall, with the Marquesas unlikely to be the first island group reached by settlers from western Polynesia (Pawley and Green 1973:22).

3 The emperor's new raiment

Spriggs and Anderson (1993) were the first to question the by-then conventional model of east Polynesian settlement dates, as Anderson (1991) had already convincingly done for New Zealand. They suggested a model of later settlement of east Polynesia than usually considered. Their argument was that ever-earlier claims for settlement were being accepted uncritically and could not be sustained by the evidence. Prominent among these were the continuous settlement model of Irwin (1992) that suggested no pause between the

settlement of west and east Polynesia, and Kirch's interpretation of his recent excavations and palaeoenvironmental research on Mangaia in the Cook Islands (Kirch et al. 1991). Irwin's model was also criticised on linguistic grounds by Pawley (1996). The latter suggested that there must be a substantial pause after initial settlement of western Polynesia for the many innovations in Proto Polynesian to have developed. These innovations constituted the most strongly-marked Austronesian subgroup between Taiwan and the Tuamotus and implied a significant period of development before eastern Polynesia was settled.

Since publication of Spriggs and Anderson (1993) the trend has been for further research to suggest even later dates for settlement of particular archipelagoes. Indeed there is some reason to believe that this modelling has got a little out of hand. Some of the latest models for east Polynesia would seem seriously at odds with linguistic subgrouping arguments, unless much more rapid linguistic change is to be admitted than currently accepted. There have been some subtle but significant changes on the linguistic subgrouping side within Polynesian as well, particularly the clarification of the position of Mangarevan and the postulation (admittedly controversial: see later discussion) of a south-eastern Polynesian subgroup (Fisher 2000:2001). The previous isolate of Easter Island is now argued to be a part of this subgroup.

Spriggs and Anderson (1993) suggested that the central Polynesian islands (minimally Tahiti and the Marquesas) were settled in the interval 300–600 AD, Hawaii at about 600 AD, Easter Island around 600–900 AD, and New Zealand at about 1200 AD. Although it seemed possible that the Cook Islands were settled early, given their location, these two authors could find no convincing evidence at that time for any occupation prior to about 1000 AD. There was a forthright defence of early settlement models, but no new data, from Kirch and Ellison (1994), but Kirch now seems broadly to have adopted the Spriggs and Anderson model (compare Kirch 2000).

New data have come from various research projects, some specifically designed to test amongst the early and late settlement models for east Polynesia. Many of the data are conveniently summarised in Anderson (2002) who reports on the re-dating of some of the classic sites in French Polynesia, such as Ha'atuatua in the Marquesas — where Suggs had originally produced the 200–100 BC radiocarbon dates — and Vaito'otia-Fa'ahia on Huahine and Motu Paeao on Maupiti in the Tahitian group. Anderson's conclusion on the basis of this new evidence is that:

French Polynesia may not have been colonized earlier than about AD 900–1000. That in turn implies a younger chronology for East Polynesia as a whole [...] Instead of supporting the general conclusion of colonization beginning in East Polynesia at 300–600 AD, reached by Spriggs and Anderson (1993), much less at periods up to 500 BC envisaged by Irwin (1992), Kirch and Ellison (1994) and others, the case which must now be answered proposes initial settlement in Central East Polynesia no earlier than late in the 1st millennium AD. (Anderson 2002:251; see also Anderson and Sinoto (2002) for further data from Hane in the Marquesas.)

Further pertinent dates have come from Easter Island where Steadman et al. (1994) conducted new excavations at Anakena that suggested initial occupation at this key settlement site began about 800–900 AD. A later analysis of the radiocarbon data from Easter Island suggested to Martinsson-Wallin and Crockford (2002) that the island was settled sometime between 800–1200 AD. Weisler and colleagues have been conducting new excavations and reinterpreting old finds from other parts of south-eastern Polynesia,

particularly Henderson, Mangareva and Pitcairn Islands, to provide firm evidence for occupation in these groups by 900–1000 AD (Conte and Kirch 2005; Green and Weisler 2000, 2002; Weisler 1998). As these islands are the obvious stepping-stones between Central Polynesia and Easter Island, such dates imply a rapid colonisation of this whole area.

Most recently, Kennett et al. (2006) have produced an initial settlement date of AD1200 for isolated Rapa Island in the Australs Group. The Rapans speak a language derived from Mangareva after that group was 'invaded' by Southeast Marquesan speakers. Initial material evidence for such an intrusion occurs in the period around 1200 AD on Mangareva (Green and Weisler 2002:233) but could probably be pushed back by about 50 years or so. This date is significant in that it suggests that the recent estimate of 1200 AD for settlement of Easter Island (Hunt and Lipo 2006), derived from new excavations at Anakena and a re-analysis of the corpus of radiocarbon dates from the island, is most likely too young. If Mangareva is the proximate source for Easter Island settlement then on linguistic grounds it must have taken place prior to Marquesan influence on the Mangarevan language. This is because Easter Island shows no trace of such influence. Hunt and Lipo (2006:1605) hedge their bets a bit towards the end of their paper: 'Additional radiocarbon dates will likely change the probability distribution and could reveal colonisation of Rapa Nui sometime slightly earlier than 1200 AD (e.g. circa 1050 to 1150 AD)'. One might add, or even earlier of course!

The further fringes of Eastern Polynesia, Hawaii and New Zealand have also produced new radiocarbon determinations since the early 1990s. Hawaii had long been claimed to have been settled around 3–400 AD on the basis of two sites: Pu'u Ali'i (H1) on Hawaii Island and Bellows Dune (O18) on O'ahu (Kirch 1985). Re-dating of both sites has failed to confirm the earlier determinations: Dye (1992) has re-dated Pu'u Ali'i to around 1400 AD and Tuggle and Spriggs (2001) dated further samples from Bellows Dune to suggest that occupation began around 700–1100 AD, most probably at about 1000 AD. Further analyses of the radiocarbon corpus and other evidence for Hawaii have suggested 700–900 AD as the likely date of first settlement (Masse and Tuggle 1998). The re-dating of the earliest phase site of Wairau Bar in New Zealand, often quoted as proving settlement at around 800 AD, has now produced dates for initial occupation at around 1250–1300 AD (Higham et al. 1999; cf. Hogg et al. 2003).

Anderson's (2002) dating estimates for French Polynesia are unlikely to provide sufficient time for the linguistic changes that distinguish the various subgroups of East Polynesian to have taken place, especially if one assumes that the Tahiti-Marquesas area was where Proto East Polynesian was spoken.³ However, such problems are minor when one compares the shortest of the short chronologies, that of Pearthree and Di Piazza (2003).

These authors wish to pack the entire colonisation of East Polynesia into the period 1100–1400 AD. They believe this period represents the time necessary for the establishment of communities from a homeland in the southern Cooks out as far as New Zealand on one hand and Easter Island on the other. This is largely based on an analysis of

³ The Cook Islands consist of very small islands that may have been initially ignored for permanent settlement in favour of the much larger and more densely-packed islands of the Tahitian and (to a lesser extent) Marquesan chains if they were all discovered at the same time by scouts. There is certainly no mother-daughter relationship evident between Cook Islands' and Tahitian languages as might be expected if the Cooks were the original east Polynesian homeland.

dates for ‘Archaic East Polynesian’ (AEP) material culture, which they believe represents the culture of the earliest inhabitants. There is no space to go into this issue here, but the lack of this culture in Hawaii, for instance, suggests that it is in fact a later, albeit widespread, development.⁴ It should postdate the initial occupation of archipelagoes such as Hawaii and those in south-eastern Polynesia, including Easter Island where its signal is weak (Kirch 1986). In the Cook Islands and New Zealand AEP may well be the basal culture, supporting the evidence that these island groups were settled later rather than earlier in the settlement sequence.

Green and Weisler (2002), on the other hand, are perhaps a bit guilty of trying to force all the east Polynesian dates earlier on somewhat flimsy grounds, in an attempt to accommodate the linguistic evidence. An outlier date on bird bone from Henderson of 1295 ± 50 BP (Weisler 1998:84) is claimed as making a 700 AD date of initial occupation of that island, and by extension the whole region from Mangareva to Easter Island, a ‘distinct possibility’. All other dates begin about 800–900 AD for this area. Green and Weisler also rely on the ‘semi-domesticated’ coconut date from Mo’orea — used to suggest occupation in the Tahitian group began around 600–800 AD — to get the central Polynesia dates back towards the mid-first millennium AD (Lepofsky et al. 1992 [cited in Green 1996:217]). However, as pointed out by Anderson, there is a logical flaw in this argument: the coconut could have drifted from western Polynesia where there were domesticated forms available from about 3000 BP (2002:247).

Green and Weisler subtly nudge even this date back further, as they do the well-attested dates for Hawaii and south-eastern Polynesia. The Society Islands’ date now ‘predates A.D. 600’, while they consider there is ‘strong support’ for colonisation of Hawaii and south-eastern Polynesia ‘in the interval A.D. 700–800’. It is further adjudged on the Tahitian evidence that ‘in the Southern Cook Islands, it should be even earlier’ (2002:236). Expansion into south-eastern Polynesia is again nudged possibly earlier, back to 600–800 AD in the conclusion of their paper (Green and Weisler 2002:237). The primacy of the Cook Islands in east Polynesian settlement at earlier than 600 AD relies on Kirch and Ellison’s (1994) interpretation of the palynological data from Mangaia, an interpretation which has been vigorously challenged by Anderson (1994; 1995).⁵

⁴ Pearthree and Di Piazza do note that the lack of all but one of their supposedly diagnostic Archaic East Polynesian (AEP) artefacts in Hawaii suggests ‘a culture history somewhat different from the rest of East Polynesia’ (2003:330). They offer no interpretation of this difference however. Only in the southern Cooks are they unsure that AEP represents the earliest occupation of the islands, but they do believe that AEP culture arose there, on the basis of geographical propinquity to western Polynesia and because of the presence of abundant pearl shell in the northern Cooks, used for some of the most typical AEP artefact forms (Pearthree and di Piazza 2003:334).

⁵ Although I have pointed out some areas of disagreement over dates with Green and Weisler (2002), it should be pointed out that their general model, the first archaeological presentation to incorporate the linguistic insights of Fischer (2000, 2001) into East Polynesian subgrouping, is extremely significant for any consideration of the archaeology of the region. I am aware that some linguists are extremely dubious on strict linguistic grounds of the reality of Fischer’s Southeastern Polynesian subgroup (Marck 2002, Rutter 2002), but as Marck at least seems to allow, it still remains a — and arguably the most — plausible hypothesis to explain both the linguistic and archaeological evidence that we have for the area.

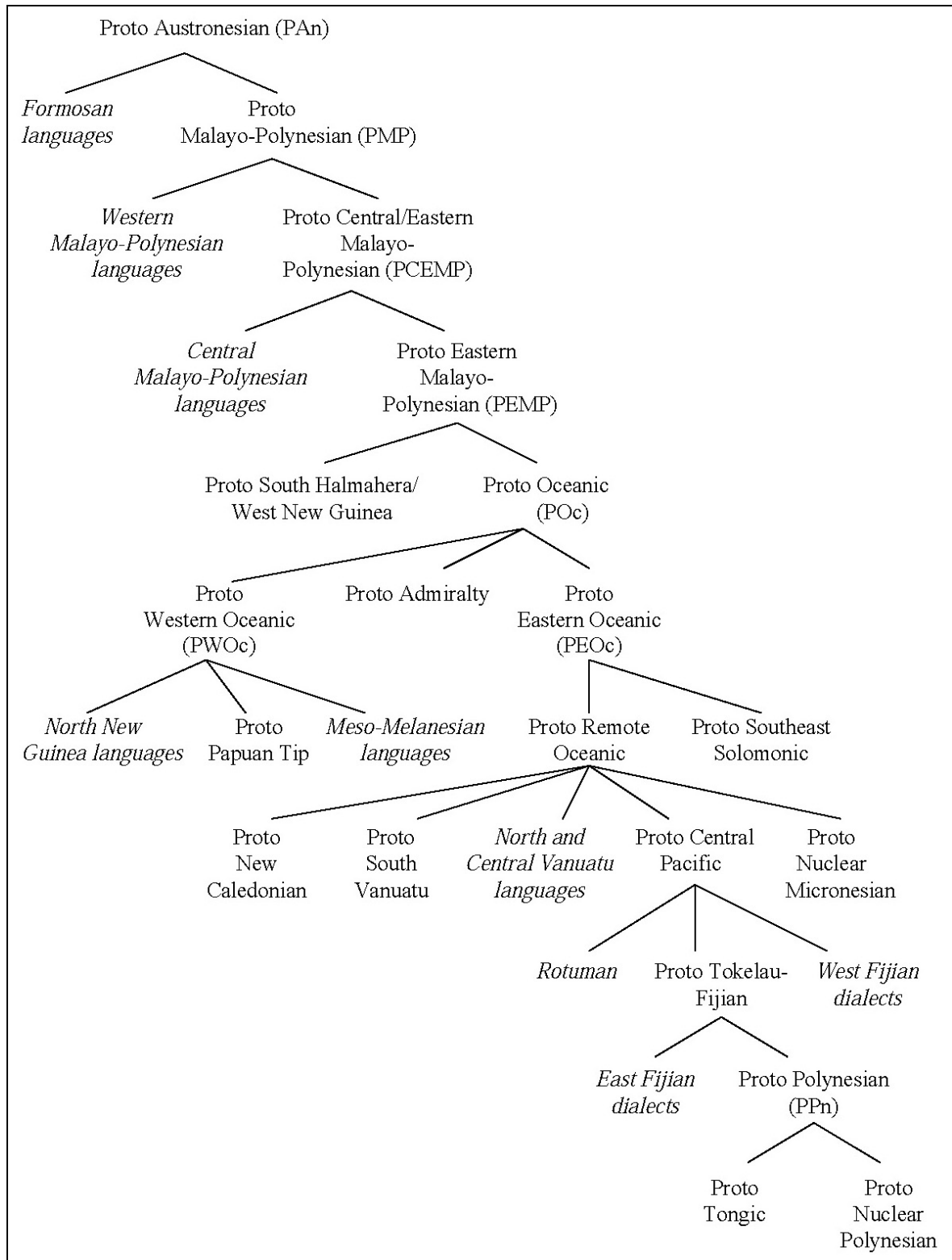


Figure 3: Schematic diagram of the diversification of Austronesian languages (from Ross et al. 2003:7).

4 ‘I read the news today, oh boy’: a summary of the current estimates for the spread of Austronesian languages

Figure 3 presents a schema for the diversification of Austronesian languages, to be discussed in the following sections. The rationale for the dates I provide below has been given elsewhere in relation to Island Southeast Asia and the western Pacific (Spriggs 2003, revised in Spriggs 2006, and references cited therein). For eastern Polynesia it depends upon consideration of recent evidence cited above. I will tie the dates to the relevant linguistic subgroups or language stages, as discussed by Pawley (2004). Further detail on particular linguistic situations and their archaeological correlates is very well covered in Green (1999). He provides a subtle analysis of the processes of linguistic change in the region which I fully support, except (as will be obvious from the discussion above) for the dates given in relation to east Polynesian settlement.

4.1 Proto Austronesian (PAn)

The situation in Taiwan is that the neolithic begins at about 6000–5500 BP and develops from a mainland Chinese source probably in the Pearl River Delta of Guangdong Province (Liu 2006; Tsang 2006). There is extensive occupation throughout Taiwan prior to neolithic settlement to areas further to the south. This is witnessed over a considerable period by the development of the several first-order subgroups of Austronesian within the island.

4.2 Proto Malayo-Polynesian (PMP)

PMP is the ancestor of all Austronesian languages outside Taiwan, and so where it was spoken should also be the area for earliest neolithic settlement in that region. As the other nine primary subgroups of Austronesian were spoken on Taiwan, one would probably not be far wrong in suggesting that PMP developed when a colonising group moved out of that island. Tsang (2006) has noted that red-slipped pottery and other material culture similar to the earliest neolithic assemblages found in northern Luzon in the Philippines occur on the east coast of Taiwan from about 4000 BP and not before. This would therefore suggest a limiting date for further neolithic expansion.

The logical first step in such an expansion was to the Batanes Islands, between Taiwan and Luzon. The most recent evidence from there would suggest that its settlement date may need to be pushed back perhaps as far as 4500 BP on the basis of links with even earlier Taiwanese pottery styles (Peter Bellwood pers. comm. 2006; cf. Bellwood and Dizon 2005). For the time being, however, I will take a conservative line and note that there is no evidence for neolithic occupation beyond the Batanes until around 3800 BP. Over what area the dialects of PMP would have been spoken is unknown. Given the archaeological evidence for early sites and the boundaries of subsequent linguistic subgroups one might suggest it covered the Philippines, Sulawesi and perhaps adjacent parts of eastern Borneo (Pawley 2004:261). PMP broke up into Proto Central/Eastern Malayo Polynesian and the languages of the Western Malayo-Polynesian area.

4.3 Proto Central/Eastern Malayo-Polynesian (PCEMP)

This subgroup would have been formed when Austronesian speakers spread beyond Sulawesi, perhaps initially continuing to the south into the Lesser Sunda Chain, and then moving predominantly anti-clockwise along it and up into central Maluku.⁶ Neolithic occupation of East Timor is first attested in the period 3800–3600 BP, perhaps nearer to the latter date. PCEMP broke up into Proto Central and Proto Eastern Malayo-Polynesian.

4.4 Western Malayo-Polynesian (WMP)

Western Malayo-Polynesian is simply a shorthand for all the Malayo-Polynesian languages which did not descend from PCEMP. It is a residual category and not an innovation-defined subgroup. Some quite extensive subgroups within it are now being identified, however. One of the most recent to be put forward is Malayo-Sumbawan, incorporating languages of Malayic-speaking areas, Chamic, Balinese-Sasak-Sumbawa and Sundanese and Madurese. However, this subgroup is not strongly marked, suggesting a rapid spread of Austronesian speakers into the area after the break-up of PMP (Adelaar 2005). This would have been part of a rapid spread of languages through the Philippines, Borneo, Sumatra, Java and Bali, forming a rake-like pattern of relatively small subgroups. There has also clearly been a lot of subsequent linguistic levelling, for instance in the Philippines, that obscures the original pattern of language spread. The earliest acceptable dates in the western Borneo, Java and Sumatra regions start around 3500 BP, but the situation in Borneo is still somewhat confused.

Bellwood (2005:6) has recently rejected his earlier suggestion (1997:237–238) of a pre-Austronesian neolithic spread encompassing western Borneo, Sumatra and parts of Java. He linked this to a movement of Austroasiatic speakers out of the Malay Peninsula. He now sees the cord-marked pottery of this region as deriving from the Fine Corded Ware of Taiwan of about 4500 BP, although the trail of this pottery does not extend back along the presumed migration route as far as northern Luzon. Given how little neolithic archaeology has been carried out in Sumatra and Java, I find this rejection to be somewhat premature for the region as a whole. Sumatra is directly adjacent to areas of the Malay Peninsula whose neolithic quite clearly does derive from movements of Austroasiatic speakers down the Peninsula. The first modern excavations of neolithic material in Sumatra have produced pottery linked by its excavators to mainland Southeast Asian traditions (Guillaud 2006; Simanjuntak and Forestier 2004). There is a clear change in much of western Indonesia from early cord-marked to later red-slipped pottery that is much more in the mainstream of Island Southeast Asian Austronesian neolithic cultures.⁷

⁶ In postulating this view I take a somewhat different position on the spread of these languages to Pawley (2004:261, 268) who sees the migration stream as moving south-east into Maluku from either the southern Philippines or northern Sulawesi, and then spreading in a clockwise direction through Maluku and west along the Lesser Sunda chain. A spread initially to the Lesser Sundas and subsequently into central Maluku fits better with the currently available archaeological dates — admittedly few in this entire area — and provides a route for the spread of the Pacific clade of pigs along the Lesser Sundas from an ultimately mainland Southeast Asian origin, into Maluku and subsequently out into the Pacific (Larsen et al. 2007).

⁷ Anderson (2005) has recently taken up Bellwood's original formulation, calling the two spreads 'neolithic I' (Austroasiatic-associated) and 'neolithic II' (Austronesian). His further suggestions, phrased disarmingly as questions, are original but in the end unconvincing: '[...] could neolithic I have dispersed sufficiently far eastward to have been connected to possible mid-Holocene pottery in northern New Guinea, and possibly in

An Austroasiatic, neolithic substratum, at least in Sumatra and Java, would also provide a route for the introduction of the Pacific clade of pigs, to which nearly all Pacific island pigs belong, from mainland Southeast Asia along a southern route. This route avoided Taiwan and the Philippines whose pigs have different genetic origins (Larson et al., 2007). A spread of pigs down through Sumatra and Java to be taken up by speakers of PCEMP in the Lesser Sunda Islands, the conduit for further spread of the Pacific clade out into the Pacific, must have taken place prior to about 3600–3500 BP. This date range is required in order to fit with the likely dates for PCEMP and the subsequent interstage language Proto Eastern Malayo-Polynesian (PEMP). It was the break-up of the latter, with the movement of Austronesian speakers along the north New Guinea coast to the Bismarck Archipelago that goes with the introduction of these pigs into the western Pacific.

Beyond Island Southeast Asia, WMP languages are also spoken in the Mariana Islands and Palau in western Micronesia. Not surprisingly the initial dates of occupation for these archipelagoes are comparable to other sites in the WMP area beyond the Philippines and Sulawesi. There is an extensive sequence of dates from the Marianas beginning about 3500 BP, and the earliest acceptable dates from Palau begin at about 3400 BP. They must represent two separate migrations from the WMP area. Dates for WMP languages on the mainland of Southeast Asia are later still and seem to reflect subsequent terminal neolithic or early Metal Age expansions of population into Vietnam and the southern parts of the Malay Peninsula, beginning about 2500 BP.

4.5 Proto Eastern Malayo-Polynesian (PEMP) and Central Malayo-Polynesian (CMP)

The impression from the available neolithic dates is that there is something of a pause between occupation of the Philippines, Sulawesi and the Lesser Sundas and that of areas of northern Maluku just to the east. We might estimate 3500–3300 BP for settlement of northern Maluku and the Cenderawasih Bay area of western New Guinea, to fit with the beginnings of Lapita further east in the Bismarck Archipelago at about 3300 BP (see below). Linguistically it is thought that there was primacy of settlement in Cenderawasih Bay rather than northern Maluku. There are as yet, however, no dated archaeological excavations from the relevant parts of western New Guinea and its offshore islands such as Biak and Japen. PEMP broke up into Proto Oceanic and Proto South Halmahera/West New Guinea.

an interaction that took tuber cultivation back into Island Southeast Asia? [...] Could neolithic I have extended from Borneo into Sulawesi, the Philippines and Maluku, and thereby have facilitated in some way the later and rapid expansion of neolithic II? To what extent does neolithic I represent a dispersal of farmers, as opposed to the movement of fragmented Neolithic technologies and ideas to resident island populations [...]?' (Anderston 2005:39). Claims for 5000 BP pottery in New Guinea have been discussed earlier in this paper. The undoubted spread of tuber cultivation from a New Guinea centre (*sensu lato*) into Island Southeast Asia does not require any necessary stimulus from that latter area, and seems to be a preceramic — and in that sense 'pre-neolithic' — phenomenon (Denham 2004; cf. Spriggs 1996a:335, 338). Anderson provides no evidence and I can find none either for a spread of 'neolithic I' beyond Borneo and Java into the Philippines and eastern Indonesia. At the local level, such as in parts of Sulawesi (Bulbeck et al. 2000), there undoubtedly was neolithic technology transfer (fragmentary or not), but what evidence we have for this in eastern Indonesia — with the exception of the spread of the domestic pig (see later discussion) — seems linked to the spread of 'neolithic II' populations speaking Austronesian languages (cf. Bellwood et al. 1998:262–270).

After the break-up of PCEMP as it spread into northern Maluku and/or parts of western New Guinea around 3500 BP, the languages in the CMP area diverged in situ, forming a linkage rather than a perfectly discrete subgroup.

4.6 Proto Oceanic (POc) and Proto South Halmahera/West New Guinea (PSHWNG)

POc was formed when a group of Eastern Malayo-Polynesian speakers moved along the north New Guinea coast to the Bismarck Archipelago (the New Britain, New Ireland, Mussau and Admiralty Islands area). This spread is associated with the beginning of the Lapita culture in the Bismarcks, now best dated to about 3300 BP (Specht and Gosden 1997). Kirch (2001) has argued for a somewhat earlier start based on five dates from the Mussau or St Matthias Islands, suggesting Lapita beginnings at 3550–3450 BP. The calibrated age ranges of all five dates continue post-3300 BP and this is really an argument around the margins unless it can be shown that the Mussau sites contain a distinctly earlier pottery style associated with these determinations.

POc is not very different from PMP, and according to one linguist's best guess this would imply a period of perhaps 600 years between the two (Pawley 1999:125). A similar period prior to the earliest Lapita sites in the Bismarcks would bring us back to about 3900 BP, and this is indeed at the earliest possible age range of the first neolithic sites identified south of Taiwan and the Batanes. One might suggest that a separation more like 4–500 years between PMP and POc is a better estimate on the basis of the latest archaeological evidence. POc began to break up when speakers spread beyond the Bismarck Archipelago down the Solomons chain to Vanuatu and New Caledonia about 3150–3100 BP, crossing for the first time into Remote Oceania.

Although there were many resultant subgroups,⁸ for the purpose of this paper we will only go on to consider Proto Central Pacific, the ancestor of Fijian, Rotuman and all Polynesian languages, with a short discussion at the end concerning the Nuclear Micronesian languages and Yapese.

⁸ Space precludes dealing with the internal subgrouping of the Oceanic Austronesian languages of Near Oceania, and any associated archaeological evidence. The general view would associate the spread of pottery along the north coast of New Guinea from east back towards the west at about 1700–1500 BP with the spread of the North New Guinea Cluster of Western Oceanic languages along the same axis (for the linguistics see Ross (1988:Ch.5); for the archaeology see Lilley (1999, 2004) — but see also Specht et al. (2006); Terrell and Welsch (1997)).

Similarly, spread of the Papuan Tip Cluster from east to west along the south Papuan coast has been associated with the spread of Lapita-derived pottery-using cultures in the same area at about 2000 BP (Ross (1988:Ch.6, 1998); for the archaeology see Irwin (1991), Lilley (1999)). Most recently, however, pottery has been found as far west as the Torres Strait Islands (Carter et al. 2004; McNiven et al. 2006). Dates for this are thought to go back as far as 2600 BP. This has led to the suggestion that the spread of the Papuan Tip languages may have taken place along this coast up to 600 years earlier than has so far been attested in the archaeology. If this dating is sustained, it would be the only example in the entire region where the neolithic dates are in fact getting older rather than younger with further research!

Sheppard and Walter (2006) have recently considered the archaeology of the main Solomons chain in relation to linguistic boundaries there, particularly the 'Tryon-Hackman line' separating Meso-Melanesian languages of the Northwest Solomonian group from those of the Southeast Solomonian subgroup of Oceanic (Ross 1988:Ch.7). They make many interesting observations but their interpretations would seem to be in considerable conflict with current linguistic models. A linguistic evaluation of their paper would be most welcome.

PSHWNG diverged from Oceanic after about 3300 BP, representing the Eastern Malayo-Polynesian ‘stay at homes’ whose languages diverged in situ after this period.

4.7 Proto Central Pacific (PCP)

By 3000 BP there were Lapita sites in Fiji and Tonga, although stylistically the earliest Lapita pottery found in this region is from Fiji (Clark and Murray 2006). It is Fiji too where PCP is believed to have been spoken initially as a chain of dialects. Then settlement spread rapidly to Tonga and perhaps up to 200 years later to Samoa, although earlier Lapita sites may one day be found in this latter archipelago. PCP split up into an eastern form ancestral to Polynesian and some eastern Fijian dialects and a western form ancestral to Rotuman and some north-west Fijian dialects (see Green 1999:9 for further detail on the break up of PCP).

4.8 Proto Polynesian (PPn) and subsequent interstages

PPn is an extremely well-defined subgroup (see Figure 4), suggesting a long period for its development separate from the other Central Pacific languages to the west. Its distribution clearly included Tonga and Samoa, and probably some other nearby western Polynesian islands. Pawley (2004:255) suggests a period of common development lasting between about 1000 and 1300 years, albeit on somewhat shaky glottochronological calculations and comparison of core vocabulary and grammatical diversity with the Romance languages in western Europe. PPn broke up eventually into Proto Tongic and Proto Nuclear Polynesian (PNP), the latter spoken in the Samoan region. PNP split up when what became (East) Uvean and (East) Futunan started to diverge from what then became Proto Ellicean (PEc). The latter includes the languages of Samoa, Tuvalu and Tokelau. It is from the Samoan area that a group of speakers moved into eastern Polynesia, perhaps via Tuvalu and/or Tokelau.

4.9 Proto Eastern Polynesian (PEP)

The break-up of Proto Nuclear Polynesian has to be dated by the first appearance of people in areas to the east. As we have seen above, the dates for this are controversial. Very little archaeology has been done in either Tuvalu or Tokelau to evaluate the linguistic model for their primacy in settlement of eastern Polynesia. The Cook Islands would seem geographically to be the most likely place for early settlement. Yet they are small islands that may have been leapfrogged over in favour of settlement in Tahiti and/or the Marquesas. If we accept Fischer’s (2001; cf. Green and Weisler 2002) concept of a Southeastern Polynesian subgroup splitting first off the main tree, the PEP homeland could have been in the Tahitian area rather than in the Marquesas, although its successor stage Proto Central Eastern Polynesian (PCE) presumably was spoken in both archipelagoes.

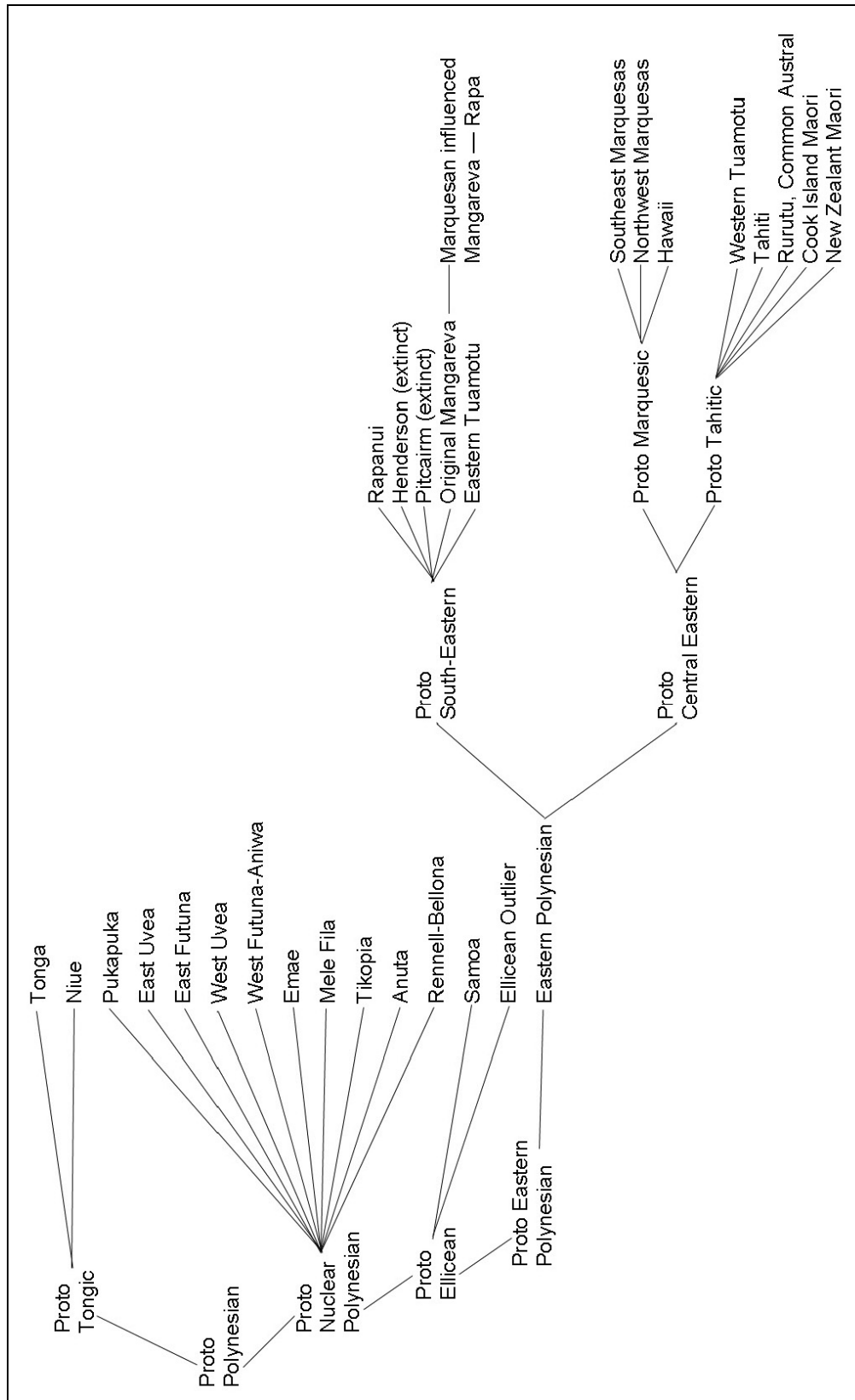


Figure 4: Subgrouping of the Polynesian languages (adapted from Marck 2000 and Green and Weisler 2002)

There is currently no archaeological consensus on when eastern Polynesia was first settled. Spriggs and Anderson (1993) accepted dates in the range 300–600 AD for the Marquesas. Anderson (2002) now suggests Tahiti and the Marquesas were only settled around 900–1000 AD, and Pearthree and Di Piazza (2003) would push settlement of the whole of east Polynesia forward into the 1100–1400 AD bracket. However, if settlements of Hawaii and south-eastern Polynesia are acceptably dated in the interval 700–900 AD, then Pearthree and Di Piazza's estimates are far too late. Anderson's dates for French Polynesia also seem too late by at least a couple of centuries. I would not be surprised if settlements in the 500–800 AD range are one day to be found in either the Cook Islands and/or Tahiti and/or the Marquesas. My only difference with Green and Weisler (2002) on this is that they believe that the evidence has already been found there, whereas I do not.

4.10 Proto Southeastern (PSE) and Proto Central Eastern (PCE) Polynesian

The Southeastern languages consisted of Rapanui (Easter Island), original Mangarevan, (original) Eastern Tuamotuan and the now extinct languages of Pitcairn and Henderson Islands. There is no consensus figure for the ages of these interstages either. Green and Weisler push settlement of the Mangareva, Pitcairn and Henderson area back to 700 AD. There are extremely plausible dates from the region including Easter Island in the range 800–900 AD, but Hunt and Lipo have recently argued for settlement of Easter Island at about 1200 AD, while admitting it could go back to 1050–1150 AD. I would argue for 800 AD being around the right time for the break-up of the PSE subgroup, and similarly for the break-up of Proto Central Eastern (PCE), at a time when regular communication between the Marquesas and Tahiti may have ceased. PCE split into Proto Marquesic and Proto Tahitic.

4.11 Proto Marquesic (PMq) and Proto Tahitic (PTa)

PMq split up when a group of its speakers made the long journey north to discover the Hawaiian Islands, probably somewhere in the interval 800–900 AD. Southeastern Marquesan later came to influence Eastern Tuamotuan and Mangarevan, originally Southeastern Polynesian languages derived from PSE. This influence begins around 1150 AD or slightly earlier. Soon after this, at around 1200 AD, it was the Marquesan-influenced Mangarevan that was introduced to Rapa in the Australs, presumably by its initial inhabitants.

Proto Tahitic started to split up into its constituent languages of Western Tuamotuan, Tahitian, Rurutan, Common Austral, Cook Island Maori and New Zealand Maori some time prior to settlement of New Zealand in the period 1200–1300 AD, probably by the time the Cook Islands may have been first permanently settled at about 1000 AD. Settlement dates for Rurutu and the rest of the Australs (excluding Rapa), and for the Tuamotus have not yet been established, although there are now dates from the Peva site on Rurutu back to 1219–1288 AD (Bollt 2005). Later contacts between Tahiti and Hawaii had given a superficially Tahitian cast to Hawaiian language and culture by about 1400 AD.

4.12 The Micronesian languages

As already mentioned, the languages of the Mariana Islands and Palau are Western Malayo-Polynesian languages, resulting from two direct migrations from somewhere in the Philippines/Sulawesi region at about 3500 and 3400 BP respectively. The language of Yap is clearly a very early offshoot from Proto Oceanic. Although the earliest archaeological sites there only date to within the last 2000 years, it is likely that fully-fledged Lapita culture sites dating to about 3300 BP remain to be discovered. All the other Micronesian languages are derived from Proto Micronesian, a language derived post-Lapita from somewhere in the area between Manus and Central Vanuatu. Blust (1984) once favoured the south-east Solomons, particularly the island of Malaita. There is, however, as yet no archaeological record from that region of the requisite time period with which to compare the earliest assemblages of the Micronesian high islands of Truk, Pohnpei or Kosrae. These at present date to about 2000 BP, no earlier than some of the atolls in Micronesia, but occupation might be expected to go back somewhat further. How much further is as yet unknown.

The pottery found on the high islands is predominantly a plain ware, sometimes with lip notching. Comparable post-Lapita assemblages in northern and central Vanuatu date to the period 2800–2300 BP, at which time they are replaced by more highly decorated wares (Bedford 2006; author's unpublished research). Lapita-derived plain wares of similar age are known from areas to the north-west in the western and northern Solomons and in parts of the Bismarck Archipelago, including Manus. Such assemblages — and similar ones may some day be recovered in the south-east Solomons — would provide suitable ancestors for the Micronesian pottery styles. If so, settlement of at least the high islands there must predate 2300 BP and could be several hundred years earlier.

5 Conclusions

This paper has sought to answer a query once raised with me by Andy Pawley concerning the tendency for archaeologists to argue for ever-younger dates for Austronesian spread within Island Southeast Asia and the Pacific region. I have attempted to explain why this has occurred by giving an historical review of the situation, using Pawley and Green (1973) as a convenient starting point. There is now something approaching a consensus in dating parts of the Austronesian spread, particularly in the region between the Bismarck Archipelago and west Polynesia. For other areas and interstages, however, there is either insufficient evidence to provide any dating framework, for instance in much of the more eastern part of Island Southeast Asia and for Tuvalu and Tokelau, or there are widely divergent interpretations of the data available, as in the whole of East Polynesia. Archaeology is now moving beyond an initial exploratory stage in many island groups. Over the next decade or so we can expect further elucidation of initial neolithic settlement dates. Given the error ranges of many radiocarbon determinations and the exigencies of the calibration curves to convert them to calendar years, however, the fine tuning needed to examine the correlation of archaeology and linguistics in some of the more recently settled parts of the Pacific may never be achieved.

I have already quoted out of context from Bob Dylan and the Beatles, doubtless sixties icons of the young Pawley, in this paper. I shall end by asserting, with Mick Jagger and Keith Richards, that for linguists at least, archaeological evidence may be a case where: ‘You can’t always get what you want, but [...] you get what you need’.

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