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Linguistic, Biological, and Cultural Origins of the Initial Inhabitants of Remote Oceania

R. C. Green[1]

ABSTRACT

The general linguistic, biological and cultural framework within which the prehistory of the human settlement of Remote Oceania may be written is reviewed, and an argument is constructed to make three points. Firstly, there is very little data supporting possible human exploration of, or settlement in, this vast region much before 3300 years B.P. Secondly, there is solid evidence to argue for the region's rapid colonisation after that date by people responsible for sites with assemblages assigned to the Lapita cultural complex. Thirdly, this founding cultural complex is to be associated with the Proto-Eastern Oceanic cluster of Austronesian languages and with biological populations of a 'pre-Polynesian' make-up. Subsequent developments in various parts of Remote Oceania after initial colonisation are briefly discussed.

Keywords: NEAR OCEANIA, REMOTE OCEANIA, LAPITA, COLONISATION, HISTORICAL LINGUISTICS, PALEO-BIOLOGY, ARCHAEOLOGY, CULTURE HISTORY.

INTRODUCTION

Remote Oceania (Fig. 1) is the last and certainly the most vast part of the Pacific to be settled by people, all within the space of the last 3300 years (Green 1991a). This required an exploration strategy involving safe return voyaging (Irwin 1990, 1992), and an ability to navigate out of sight of land over distances of 350 km and more. There was also the necessity for colonising voyages to transport sufficient people to found new colonies as well as transporting the various plants and animals on which they would come to depend, because the natural resource bases of ever smaller and more distant islands diminished as they moved eastwards.

Geographically, Remote Oceania comprises the eastern part of the traditional area of Melanesia, and all of Micronesia and Polynesia. However, of those three nineteenth century terms, only Polynesia has proved to possess internal historical coherence in terms of human biology, language, and culture (Green 1987; Kirch and Green 1987), and even here one needs to distinguish between the Fiji/West Polynesian region and that of Central Eastern and marginal Polynesia (Anderson 1996). The areas of Melanesia and Micronesia retain a certain geographic utility, but in cultural-historical terms, especially when dealing with the exploration, colonisation and settlement of the Pacific, they no longer possess much validity and need to be replaced (Thomas 1989; Terrell 1986: 15–41; Green 1989a, 1989b, 1991a;

[1]Department of Anthropology, University of Auckland, Private Bag 92019, Auckland, New Zealand

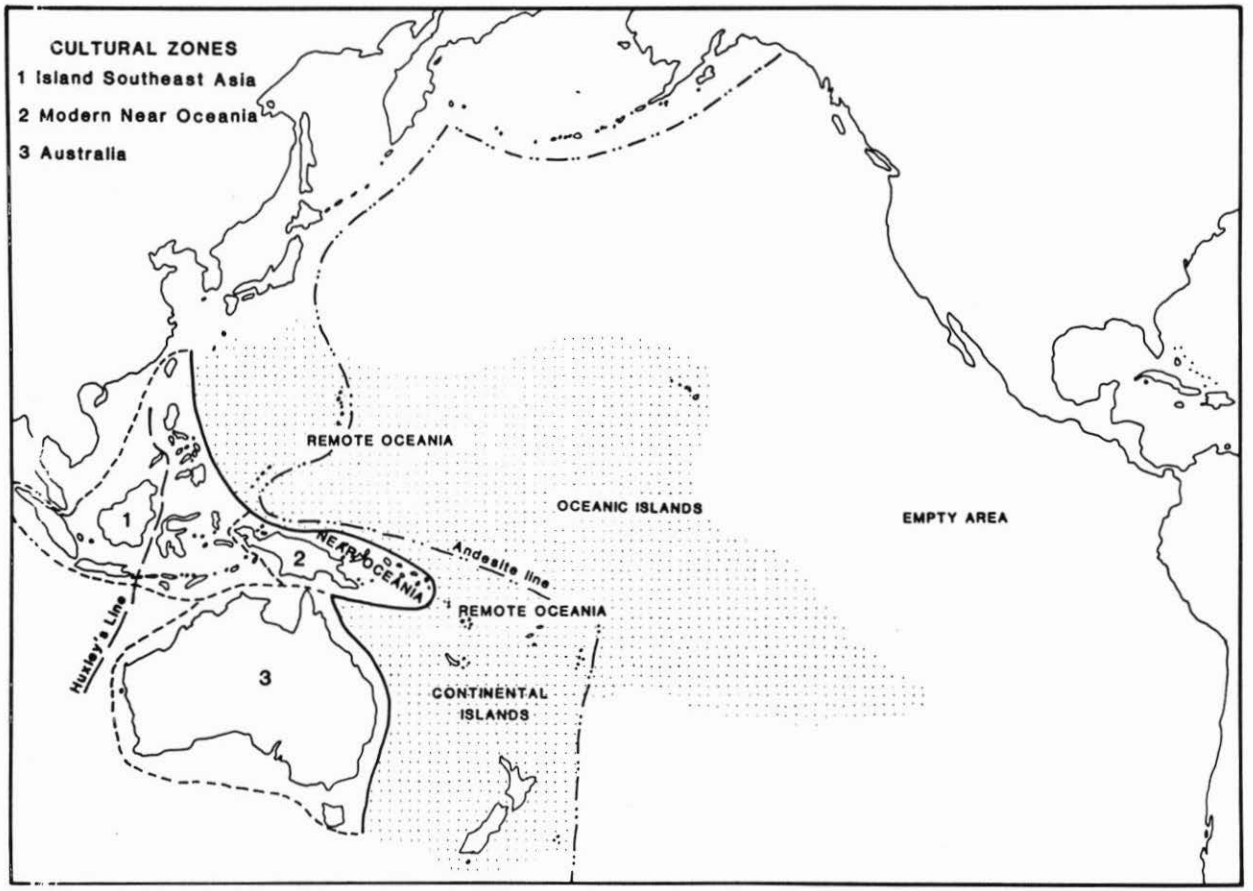

Figure 1: The extent of Pacific settlement and its differentiation into cultural zones between 6000 and 3300–3200 years ago, after which Remote Oceania was rapidly colonised.

Houghton 1991a: 184–86). Unfortunately many writers still use them. Yet, from a historical linguistic, paleo-biological or cultural-historical point of view the categories of Melanesia and Micronesia most often prove to be unjustified analytically and, when they are used, frequently serve to obscure the historical issues. Thus there is no basis for speaking of a unified set of Melanesian (or Micronesian) languages associated with a single ancestral biological population which exhibited some kind of historically-based systemic cultural pattern. Rather, various regions within these two geographic zones had significantly different cultural, linguistic and biological histories.

On the broadest scale, the distinction between Near and Remote Oceania addresses this issue. In modern Near Oceania a very large number of unrelated language families exist (Foley 1986: 3). It is of no help at all to call them Papuan; Indo-Pacific (Ruhlen 1996) is too poorly studied to be convincingly demonstrated, and little is accomplished by calling them non-Austronesian. Only one of the 60 or so unrelated language families in Near Oceania has any relatives outside that region. These are the languages that belong to the Oceanic branch of the Eastern Malayo-Polynesian subgroup of Austronesian languages.

There are also a number of reasonably distinct biological populations of considerable time depth within Near Oceania. One such group is centered in the Highlands of New Guinea (M. Green 1990; Kelly 1990: 207, 216; Serjeantson and Hill 1989: 291; Tsintoff *et al.* 1990: 142) and another is centred on the island of Bougainville (Friedlaender 1987: 354–55). A third is among the speakers of the Austronesian languages (Kelly 1990: 207, 217; Rhoads and Friedlaender 1987: 153; Serjeantson 1989: 162; Serjeantson and Hill 1989: 287–88). Doubtless others will be discovered when appropriate paleo-biological studies are done.

Culturally, the diversity of Near Oceania is bewildering and, as archaeology begins to explore its history, the complexity becomes all too apparent. This is as might be expected in a region which has been settled for 30,000 to 40,000 or more years (White 1996; Spriggs 1996). The contrast, then, is with Remote Oceania where, with the possible exception of some languages in the Reef/Santa Cruz group and those of Guam, Yap and Belau (see below), all the rest belong to one cluster within the Oceanic branch of Austronesian. In a similar fashion the biological populations of the regions of Eastern Micronesia and Polynesia within Remote Oceania share a number of characteristics (Howells 1973; Pietrusewsky 1990: 398; Chen *et al.* 1992: 9) which tend to set them off from those of the area of Eastern Melanesia. Moreover, there is no sign in Remote Oceania of anything like the biological diversity encountered in Near Oceania. Finally, the cultural diversity of this area, too, is far less marked, which is not surprising given that archaeology suggests it was only settled within the last 3300 years or less.

HUMAN COLONISATION OF REMOTE OCEANIA

A temporal framework for human colonisation of Remote Oceania has now been established. Its western part, from the island groups in the Reef/Santa Cruz region southeast through Vanuatu to New Caledonia, all seems to have been settled in the period 3300 to 3200 years ago (Kirch and Hunt 1988; Spriggs 1990; Green 1991b; Galipaud 1990). Occupation of the region of Fiji/West Polynesia followed shortly thereafter. Sequences for Guam, Tinian and Saipan go back some 3500 years, but those for eastern Micronesia are currently only of the order of 2000 years (Bonhomme and Craib 1987; Craib 1993: 126, 132; Butler 1994: 33). Similarly, sequences for central East Polynesia are currently all less than 2000 years (Anderson 1996), while that for New Zealand may be as short as 700 years (Anderson

1991). Everywhere, claims are made for something earlier, at least in the way of exploration, but as yet none have achieved ready acceptance.

In the area from the Reef/Santa Cruz group to New Caledonia there is, for example, dispersed charcoal from a basal dune sand layer on Tikopia dated to between 1800 and 1600 B.C. (Kirch and Yen 1982: 312). Again, some have made claims for pre-pottery human-built tumuli in New Caledonia going back as much as 10,000 years (Green and Mitchell 1983), and for supposed human presence in Fiji in the form of carbonised particles in the pollen record at 4300 years ago (Southern 1986: 174–75). Finally, there are a few radiocarbon dates from sites in West Polynesia that exceed 3200 years by a number of centuries (Spriggs 1990: Table 1). Gosden (1992) has suggested that this kind of evidence represents the possibility of people exploring in advance of any permanent settlement, and Irwin (1992: 42) has made the case that in discussing voyaging we must always be careful to distinguish between exploration and discovery, and colonisation followed by continuous settlement.

However, in each of these instances the evidence is open to other interpretations or the dates may be rejected. Thus Kirch and Yen (1982: 312–14) offer three possible explanations of their early Tikopian date. In Fiji, the earlier evidence of moderately high levels of charcoal is only very tentatively interpreted as evidence for human habitation, whereas the major phase of human-induced landscape alteration does not begin until about 3000 B.P. (Southern 1986: 175). For Vanuatu, Fiji, Tonga and Samoa, Spriggs (1990: Appendix) assembles a number of reasons for rejecting each of the much earlier dates. Finally, in New Caledonia, Green (1988) rejects those tumuli without other cultural associations as human constructions, preferring their interpretation as megapod mounds. This is consistent with pollen evidence for human disturbance (Stevenson and Dodson 1995) and with the presence of an extinct giant megapod, a horned turtle, a terrestrial crocodile, a rail and a land snail in the middens of New Caledonia at the end of the second millennium B.C. (Sand and Ouetcho 1991: 64). Nowhere in Remote Oceania is there even a suggestion of the kind of time depths exceeding 20,000 to 30,000 years that apply in Near Oceania.

In 1984 Spriggs (1984, 1991) proposed that the sites with assemblages of the Lapita cultural complex (distributed from the Reef/Santa Cruz Island group down through Vanuatu and New Caledonia and out into Fiji/West Polynesia) represented the founding inhabitants who first permanently occupied this region (Fig. 2). I critically reviewed this claim in the following year (Green 1985), finding little support for anything pre-Lapita and only some support for possible assemblages contemporary with, or partially overlapping with, Lapita in the zone from the Reef/Santa Cruz region to New Caledonia. There was nothing but Eastern Lapita in the zone of Fiji/West Polynesia. Since then, Galipaud has argued on the basis of temper analysis that the Podtanéan assemblages of New Caledonia, contemporary with Lapita, may simply be a common kind of paddle impressed pottery with simple form and designs, which was used in everyday life and which was made by the same potters who made the elaborate Lapita pottery. Thus he places both in the Koné period dated between 1300 B.C. and A.D. 200 (Galipaud 1988, 1990). Mangaasi assemblages in Vanuatu only partially overlap with Lapita in age. They begin at about 2700 years ago and last much later, into the first millennium (Ward 1989) and perhaps to the twelfth century A.D. (Fig. 3). Spriggs (1984, 1990) claimed to see the development of Mangaasi out of Lapita; in my view the evidence is not at present convincing on this point. Where we agree, however, is that Lapita exhibits an earlier beginning than Mangaasi in Vanuatu, as it almost certainly does in the Reef/Santa Cruz region to which (in Tikopia and Vanikolo) Mangaasi spreads much later, and as it also does in New Caledonia. Thus there is now solid evidence to argue for the rapid colonisation of the whole region from the Reef/Santa Cruz group to Fiji/West

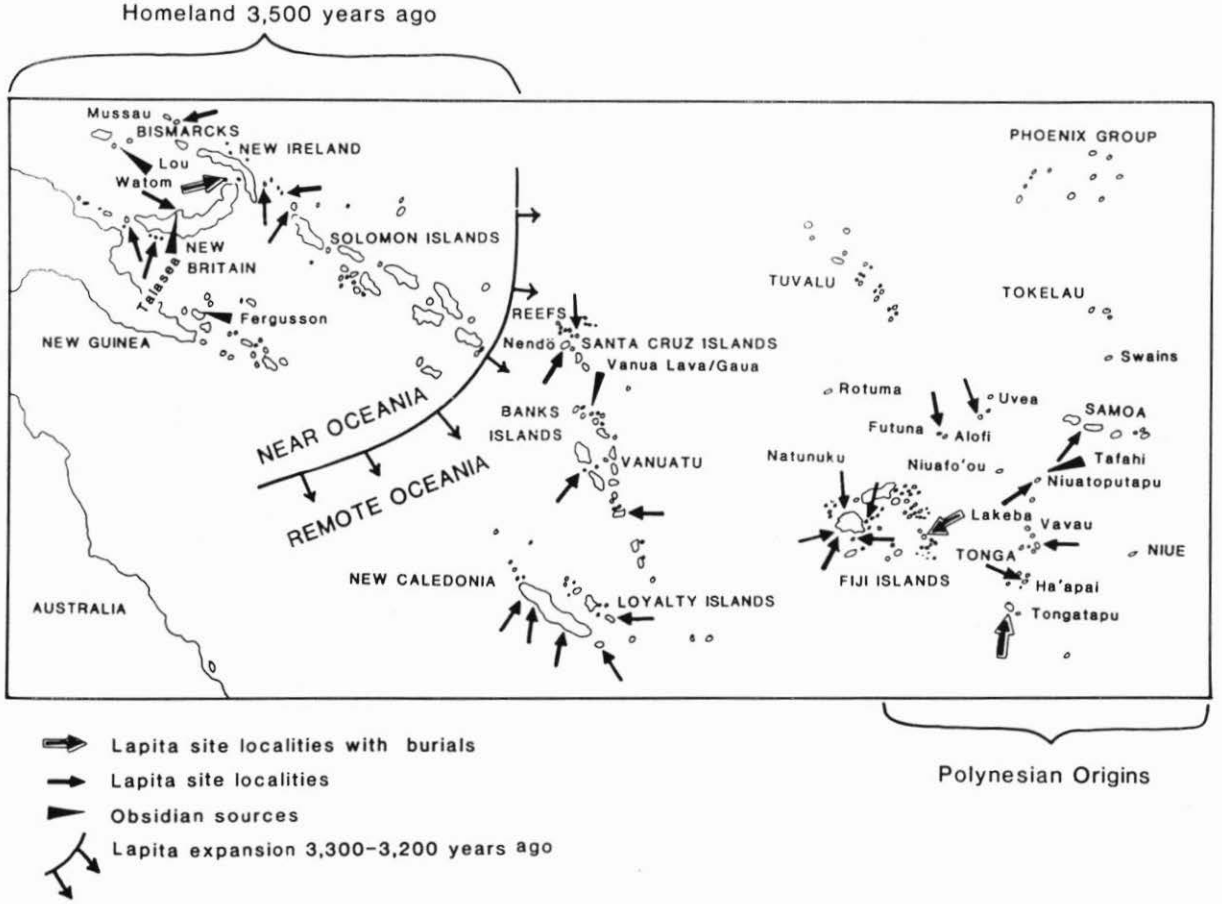

Figure 2: Sites of the Lapita cultural complex, documenting an expansion from modern Near Oceania into Remote Oceania at 3300 to 3200 years ago.

Polynesia by people responsible for sites with assemblages assigned to the Lapita cultural complex.

LANGUAGE HISTORY IN REMOTE OCEANIA

Working from the principles established by Pawley and Green (1973)—where one attempts to establish a connection between the foundation language and the foundation culture, with sufficient continuity thereafter that no full replacement of either one or the other need be contemplated—it is possible to make a case that people speaking a cluster of closely linked languages and sub-groups within the Oceanic subgroup settled almost all the region of Remote Oceania (Fig. 4). This cluster of languages, sometimes called Eastern Oceanic, has only tentative status as a higher level subgroup (Geraghty 1990: 51). It includes the well demonstrated subgroup of Southeast Solomonic (Lichtenberk 1988) centered in the most eastern region of Near Oceania (Nggela, Guadalcanal, Malaita, San Cristobal), and the well-established subgroups in Remote Oceania of Central Pacific (Fiji, Rotuma, Polynesia) (Geraghty 1986), North-Central Vanuatu (Clark 1985), and proto-or Nuclear Micronesian (Bender 1971; Marck 1975; Bender and Wang 1985). From the work of Lynch (1978) and Geraghty (1989), the subgroups of Southern Vanuatu and Southern Oceanic (New Caledonia and the Loyalties) have also been explored and a tentative linkage between them postulated. Thus Geraghty (1989: 147) sets out innovations to show that Southern Oceanic is more closely related to Vanuatu, and especially Southern Vanuatu, than to any other language. Lynch and Tryon (1985) also give as their impression, though with no supporting evidence, that Central Pacific, the two sub-subgroups of Vanuatu, and the Utupua/Vanikolo languages of the Reef/Santa Cruz region may all be placed in a higher level Central Eastern Oceanic sub-group.

In sum, however one reconstructs the details of subgrouping within the Eastern Oceanic cluster, the simplest hypothesis is that it began to differentiate in eastern Near Oceania and was rapidly dispersed throughout Remote Oceania as the foundation dialect language chain from which its various subgroups have since differentiated (Pawley 1981). The best worked out correlation between one of these sub-groups and the foundation Lapita cultural complex (Pawley and Green 1984) has been between Proto-Central Pacific and the Eastern Lapita cultural complex (Pawley and Green 1973; Green 1981, 1994). However, on more general grounds, that correlation would appear to hold throughout the region of Remote Oceania—except for Guam, Yap and Palau (Pawley and Green 1984). Only in the central Reef/Santa Cruz region is there any real problem, probably because of later intrusion of a non-Austronesian language from Near Oceania into that region with extensive borrowing both from pre-existing Austronesian languages and from later arrivals from Polynesia (see below).

BIOLOGICAL HISTORY OF REMOTE OCEANIA (EXCLUDING WESTERN MICRONESIA)

The question of the biological identity of this colonising population is more difficult. Traditionally, as noted above, they would have been separated into three groups: Melanesians, Micronesians, and Polynesians, with some debate over the exact status of Fijians. It is my view that the use of the first two of these general categories is biologically

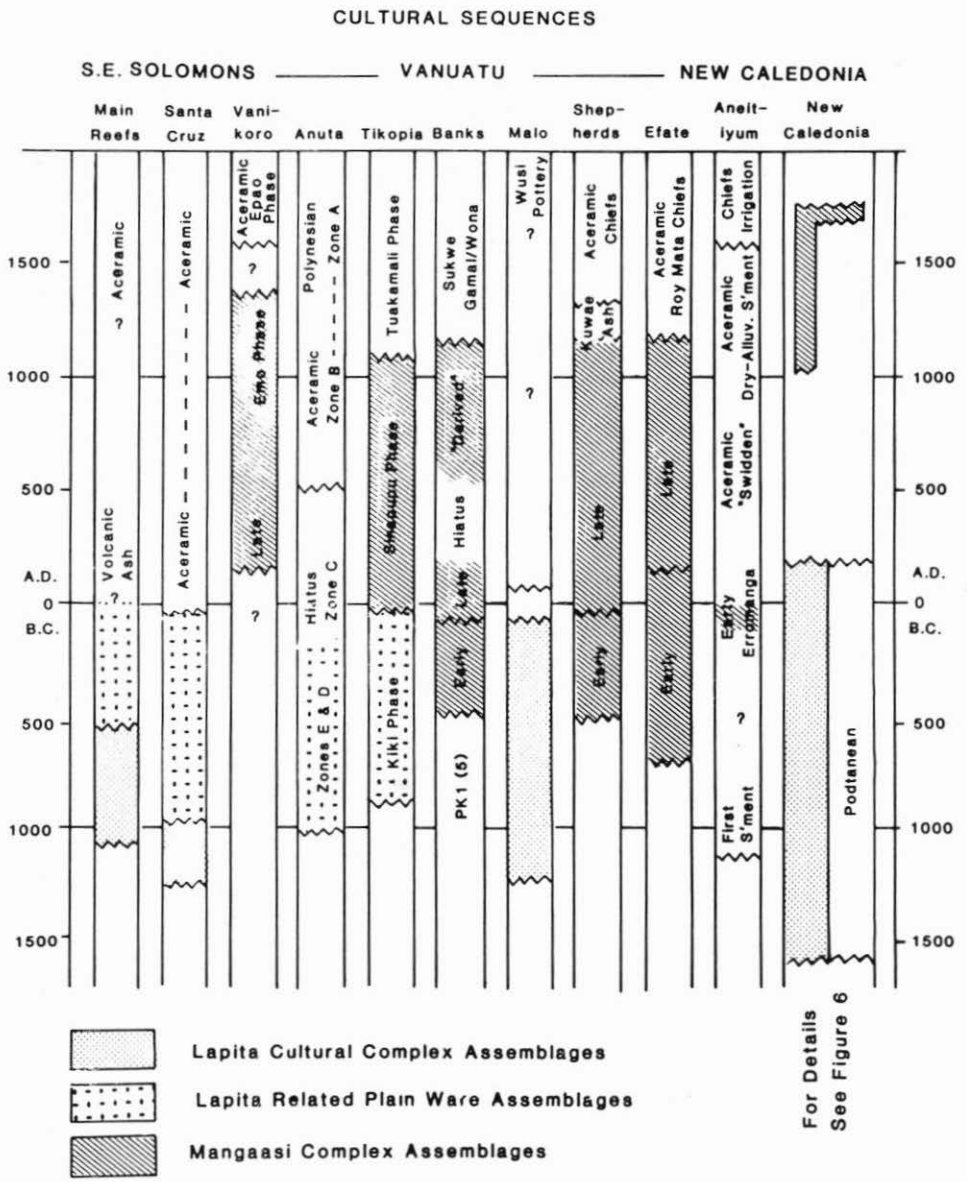

Figure 3: Selected cultural sequences for the part of Remote Oceania (from the Reef/Santa Cruz Group to New Caledonia) exhibiting related cultural horizons.

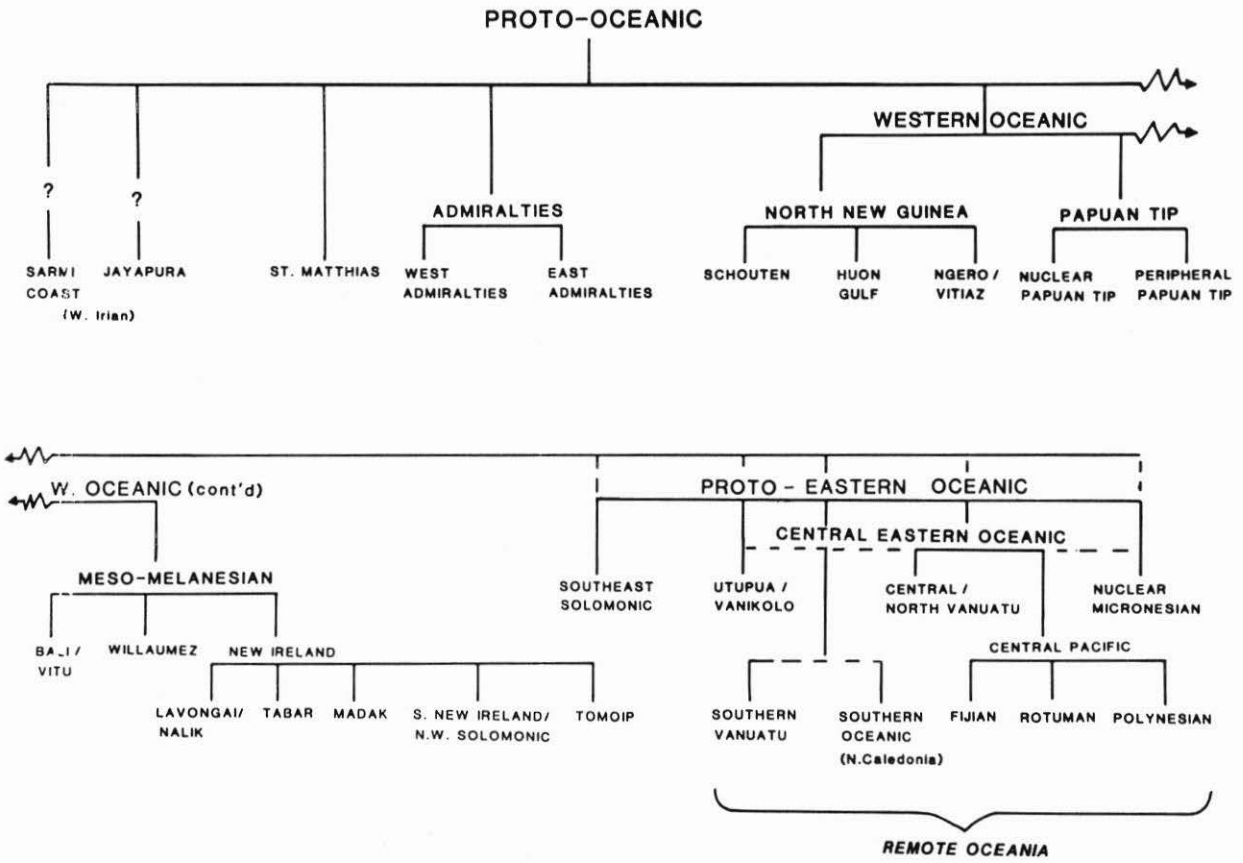

Figure 4: Subgrouping among the Oceanic languages, especially those of Remote Oceania.

and historically very misleading. Rather, what we are seeking in Remote Oceania are the genetic and paleo-physical ancestors to whom Howells (1979: 284) has applied the term "pre-Polynesians".

Unfortunately, with the possible exception of single individuals from Lakeba and Tonga (Spennemann 1987; Houghton 1989a, 1989b), we have few skeletal correlates of these initial inhabitants. The Natunuku skeleton has now been dated to the first few centuries A.D. (Davidson and Leach 1993: 102) and is thus of comparable age to the numerous individuals of the 1700 to 1800 year old Sigatoka burial mound group (Best n.d.). However, all these skeletons are very similar. Thus those from Sigatoka most resemble the Near Oceanic Lapita skeletons of the Watom burial ground, which date towards the end of the first millennium B.C., the contemporary Natunuku and slightly earlier Lakeba and Tongan Lapita skeletons, and other much later skeletal populations from Polynesia (Visser 1994: 195–219, 248–49; see also Pietrusewsky 1989a, 1989b, 1991; Houghton 1989c).

My description of them follows the above authors: a tall (males 170 to 180 cm, females 150 to 165 cm) slender built, well developed, large-bodied people, who had a long frontal bone, a wide and strong mandible (often of rocker form), small teeth, a narrow shoulder, and relatively long upper extremity with very long forearms and long, though quite gracile, hands and feet. The femora display flattened (platymetric) shafts and oval-shaped fovea on the femoral shafts. Univariate features such as relatively tall stature, rocker jaw, slight to moderate degree of incisor shovelling, marked costo-clavicular-sulci, oval shaped fovea on the femoral heads, bowed long limb bones, and squatting facets on the tali and tibiae are indicative of Pacific and especially Polynesian populations (Pietrusewsky 1989a: 244, 1991: 7–8). However, the small tooth size, short mandibular bodies with broad divergent ascending rami, and the slender, differently proportioned, long limb bones separate them from many more recent Pacific Island populations. In my view these earlier skeletal materials indicate a) that a phenotypically somewhat different paleo-population than any of those in the region of Eastern Melanesia and Fiji today were its initial colonisers, b) that there has been more phenotypic change in these populations over the last 3000 years than some would care to admit, and c) that a lot of this change is due to gene flow from Near Oceania as far as Fiji in the last 2500 years, which did not affect the more isolated populations of eastern Micronesia and Polynesia.

I will not attempt to survey in detail the recent genetic evidence bearing on this issue. Suffice it to say that those who have (Serjeantson and Hill 1989: 286–94) would have the pre-Polynesian populations of people derived mainly from those of Southeast Asia before southern Mongoloid expansion, who then moved rapidly through Melanesia and out into Polynesia (Serjeantson and Hill 1989: 287). They would be the initial occupants of Remote Oceania who, in Near Oceania and especially in northern Island Melanesia rather than New Guinea, had already engaged in interbreeding with previously resident populations, signs of which are still detectable in their genetic make-up. A similar view is taken by Clark and Kelly (1993) with respect to GM polymorphisms, one haplotype of which, **(IGHG1*A,F,G3*BO, B1, B3, B4,U)**, gives a certain amount of protection against malaria. They strongly associate this with the spread of the Austronesian speaking populations from Island Southeast Asia to Near Oceania and thence to Remote Oceania. In this last region, people would have had to contend with malaria only in the Reef/Santa Cruz and Vanuatu groups, after which the selection favouring that haplotype would have been greatly reduced. Its lower frequency in Fiji is therefore interesting and expectable (Kelly 1990: 214, 216). Other genetic blood polymorphisms also suggest that ancestors of the Polynesians once passed through an area with endemic malaria such as the Reef/Santa Cruz and Vanuatu

NENDÖ (SANTA CRUZ) SEQUENCE

DATE	CULTURE	SITES	CHARACTERISTIC CONTENT
1500 A.D.	PHASE Ancestral to Ethnographic and Ethnohistoric Society	← Layers 1–8 → Mateone — Dai — Naiavila — • Mendaña	Villages with round and square houses Dance circles Men's houses Trochus shell arm rings Terebra shell adzes Some Banks Island obsidian No pottery manufacture
1000 A.D.			
500 A.D.		Növläo Rockshelter	
1 A.D.	PHASE With largely plain ware pottery assemblages		Round houses, circular stone-lined ovens Plain pottery in simple shapes One-piece & lure shell fishhooks Tridacna and cassis shell adzes Chert and some obsidian flakes
500 B.C.		Layers 21–8 — Mdailu	
1000 B.C.	PHASE With decorated and plain LAPITA assemblages	Nanggu Brangamɛpala Maliü	Lapita style pottery in a variety of vessel shapes Several types of stone adzes Mainly Talasea obsidian flakes and some in chert Other trade items from West

Figure 5: Aspects of a cultural sequence for Nendö (Santa Cruz) Island, suggesting a major change between its colonising Lapita inhabitants and the non-Austronesian speaking populations in residence today.

groups (Hill *et al.* 1985; Trent *et al.* 1986), as did the ancestors of the populations of eastern Micronesia (O'Shaughnessy *et al.* 1990: 149).

DEVELOPMENTS FOLLOWING LAPITA

Lapita cultural sequences in Remote Oceania are of varying lengths, covering from 500 to 1000 years, before assemblages of some other cultural tradition appear in the record. In the Reef/Santa Cruz region this happens in the first millennium A.D. In Nendö and on the main Reef Islands, quite different non-ceramic assemblages appear which exhibit strong continuity with ethnographically attested cultural items of the non-Austronesian speaking population resident there today (McCoy and Cleghorn 1988) (Fig. 5). In Vanikolo and Tikopia, the post-Lapita assemblages are marked by a late type of Mangaasi pottery (Kirch 1983; Kirch and Yen 1982). As noted above, there is an overlap in central (and perhaps southern) Vanuatu between Lapita and early Mangaasi assemblages, after which later Mangaasi assemblages predominate nearly everywhere, except in southern Vanuatu. In New Caledonia these Mangaasi related assemblages (under the name of Oundjo) again appear later in the sequence within a restricted region (Fig. 6).

More difficult to detect archaeologically in a number of tiny island sequences is their final dominant occupation by Polynesian speakers. Most agree, however, that this must occur late in those sequences, within the last millennium. These small islands are therefore called Polynesian Outliers, although their cultural histories are much more complex than that term would imply. Kirch (1984a) presents one viewpoint (Fig. 7); Davidson (1974, 1992: 297) takes a more cautious position. Both the archaeological and linguistic evidence strongly indicate that the last intrusions represent populations moving back from already long settled island groups in West Polynesia. Thus these and other first century A.D. developments signal the end of Lapita primacy in the zone from the Reef/Santa Cruz region to New Caledonia.

The new developments following Lapita in the Fiji/West Polynesia region are different in nature and strongly suggest continuity from the founding populations represented by the Eastern Lapita cultural complex. In Fiji there is a widespread ceramic change at about 200 B.C., marked by assemblages dominated by paddle impressed pottery (Best 1984). The source of this pottery innovation may be New Caledonia. However, few now interpret this, or other new traits from the west, as evidence of cultural replacement, but instead stress the general evidence for continuity in the sequence (Hunt 1986; Best 1984). The situation in the West Polynesian region is more straight forward. There the data are reasonably interpreted by nearly everyone as fully supporting the direct development of cultural assemblages characteristic of ancestral Polynesian societies over the whole region out of those of the Eastern Lapita cultural complex (Green 1967; Kirch 1984b; Kirch and Green 1987). Thus there is no evidence of cultural, biological or linguistic replacement, but only of the gradual evolution of speakers of a Polynesian language with a Polynesian culture and physical phenotype out of their immediate predecessors. It was from the ancestral Polynesian populations of West Polynesia that those of East Polynesia (and later the Outliers) derive. In East Polynesia, because of genetic isolation, drift through small founding population size, and natural and cultural selection, a typically Polynesian physical form evolved (Houghton 1990, 1991a, 1991b; van Dijk 1991).

During the last 2000 years no new linguistic entities from elsewhere appear to establish themselves in the region of Remote Oceania. Rather, the founding proto-languages of this

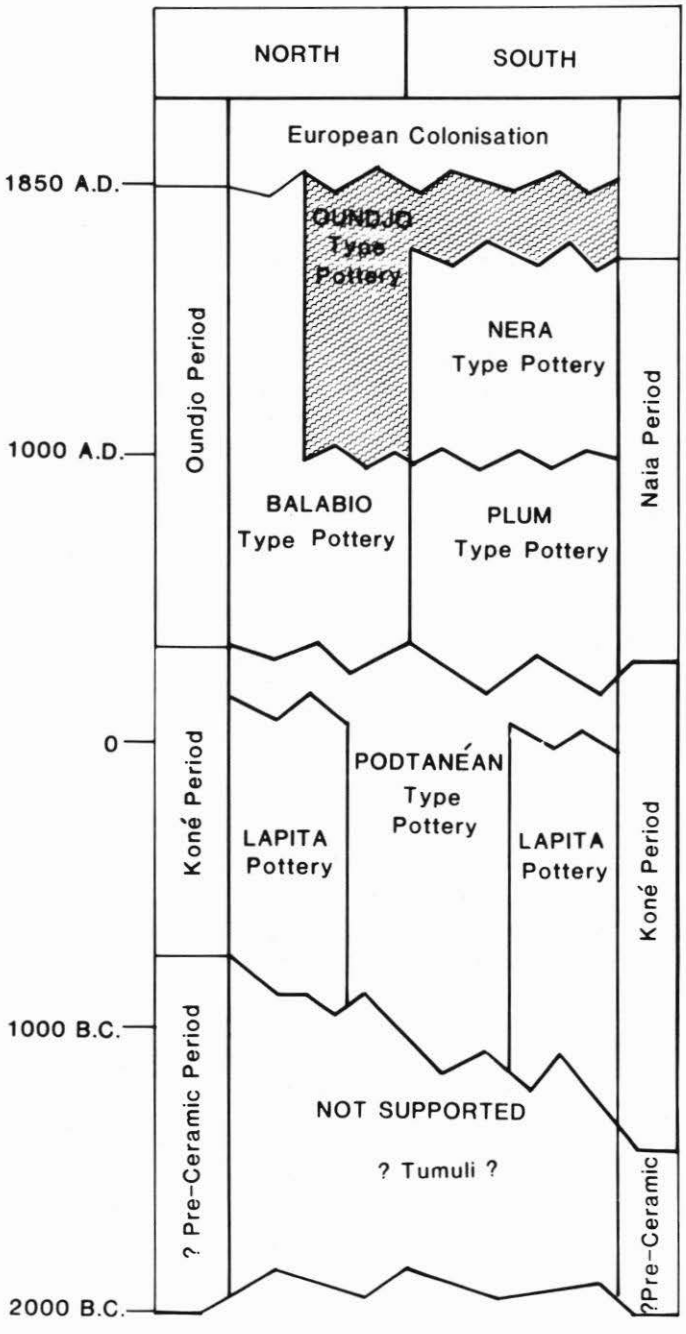

Figure 6: A detailed outline of the current New Caledonia cultural sequence—indicating the limited and late influence of the Mangaasi horizon in that region (after Sand 1991).

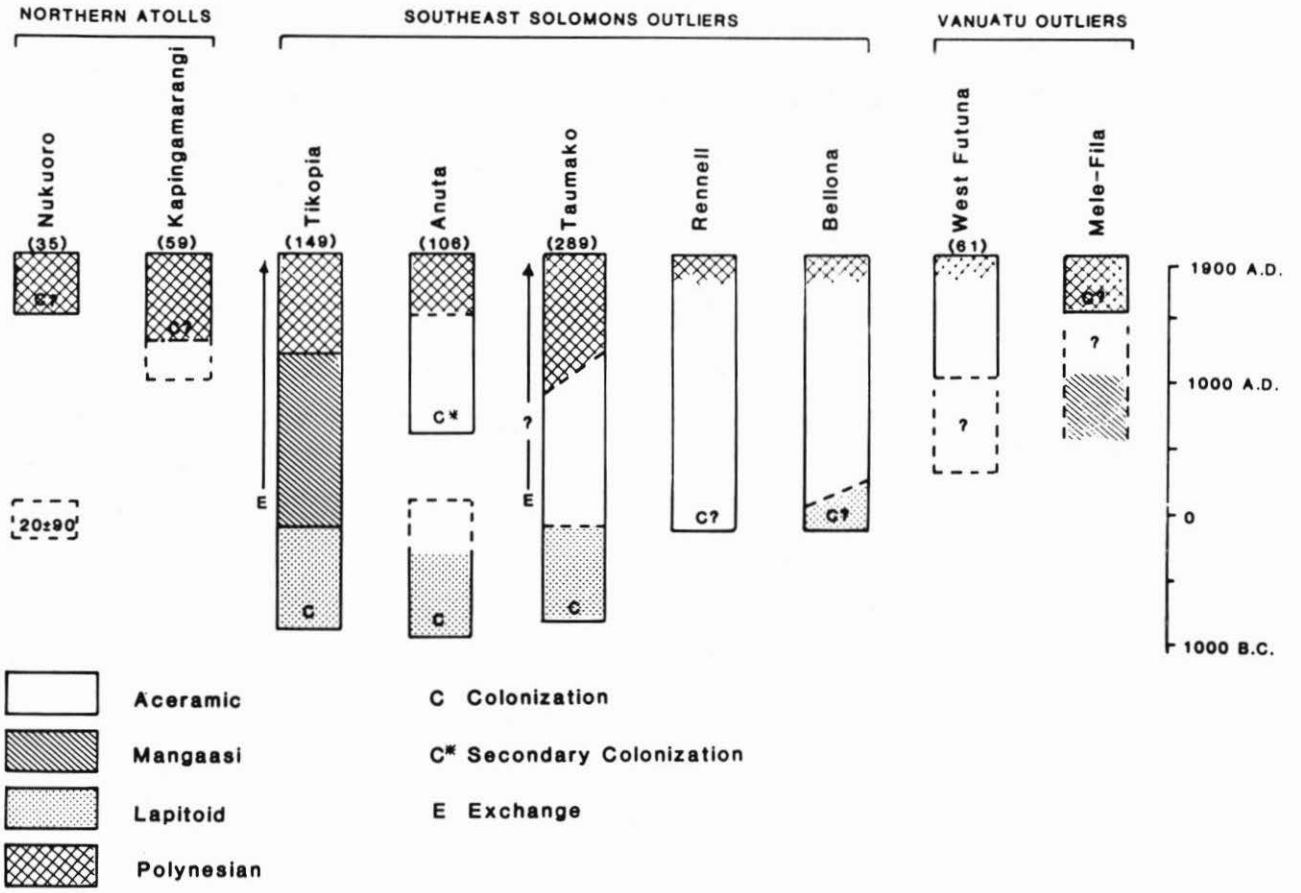

Figure 7: An interpretation of Polynesian Outlier sequences as revealed through excavations (after Kirch 1984a).

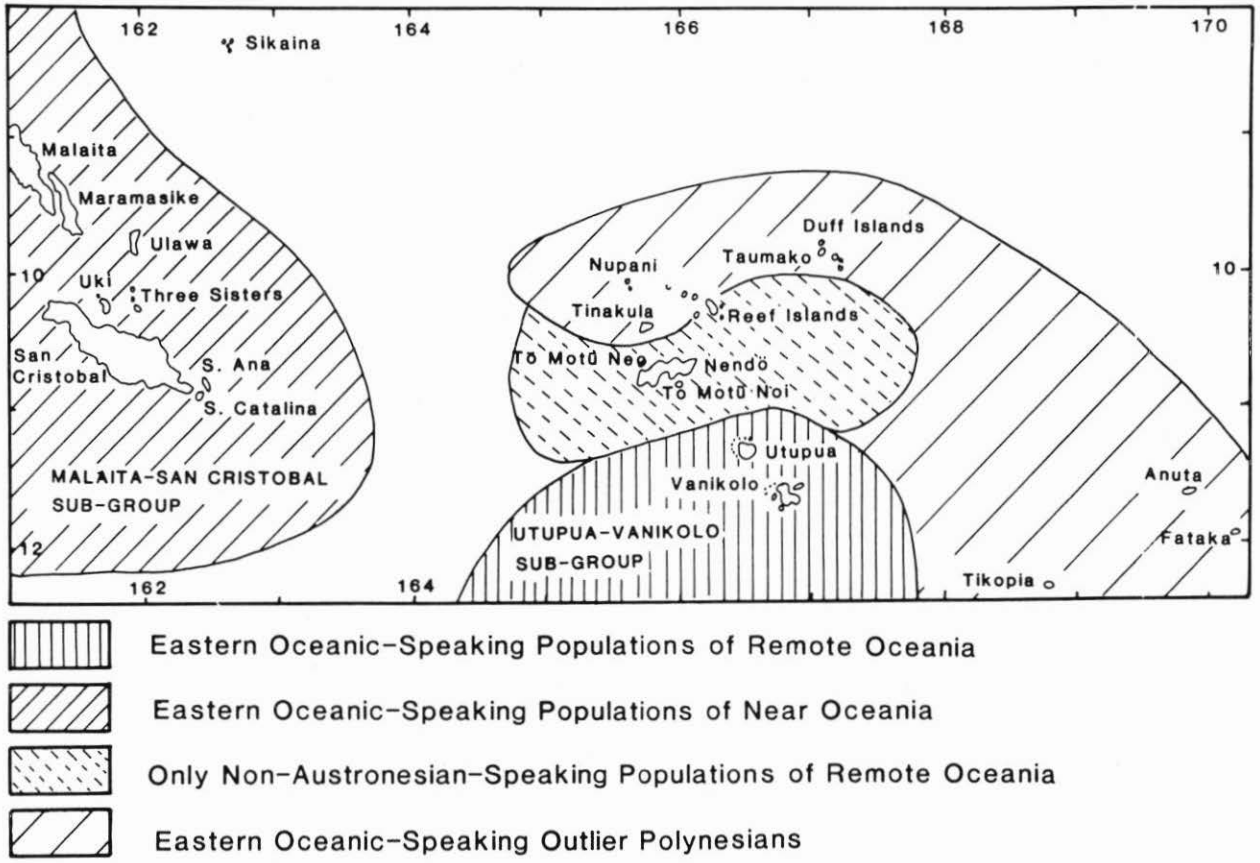

Figure 8: Principal language subgroup distributions in the Southeast Solomons region, indicating the zone occupied by non-Austronesian speakers.

vast region tend to differentiate internally into ever more numerous and localised daughter languages. The exception is in the Reef/Santa Cruz region on the large island of Nendö in the main Reef Islands (Fig. 8). This group of languages has been most often interpreted as non-Austronesian, with extensive early borrowing from an Oceanic Austronesian language, and later borrowings from Polynesian Outliers (Wurm 1969, 1970, 1978, 1992: 527), although a few have claimed it to be an aberrant Austronesian language (Lincoln 1978) or maintain that the case for either position should remain open (Mühlhäusler 1987: 490). My current preference is to see this as a case of non-Austronesian linguistic and cultural replacement by a group from eastern Near Oceania (probably themselves displaced by expanding Oceanic Austronesians from whom they had borrowed much linguistically and culturally). This example, and perhaps that of Mangaasi in Vanuatu (with its parallels to pottery traditions that follow Lapita in the Bismarck Archipelago), indicate that in the zone from the Reef/Santa Cruz island group to New Caledonia and Fiji, but not Polynesia, we are dealing with continuing gene flow, and probably on occasion wholly new population inputs, which add to the zone's biological diversity.

CONCLUSION

In summary, the cultural, linguistic, and probable biological history of the peopling of Remote Oceania now seems to be reasonably clear in its outline. The initial inhabitants spoke dialects of a rapidly dispersing Eastern Oceanic language, exhibited a distinctive pre-Polynesian body form (one which carried blood polymorphisms that gave some protection against malaria), and used most elements of the Lapita cultural complex in their everyday activities. These populations, with only occasional later inputs from elsewhere, formed the foundations out of which the present cultures, people and languages of the region developed and differentiated over the next 3000 years.

What remains to be done now is to fill in more of the details during that period and evolve better models that take into account the region's real historical complexity. But that will not be assisted by the use of terms like Melanesian and Micronesian as representative of appropriate cultural, biological or linguistic categories. It is possible to advance that programme, however, if we recognise the utility of the primary distinction between Near and Remote Oceania, and the very different histories of these two areas in relation to human colonisation.

POSTSCRIPT: OCTOBER 1996

After its initial presentation, I revised this paper only to take account of the literature up to early 1995 and the now published (1996) papers given in the same symposium for which it was prepared. More recent work in print and in preparation (Third Lapita archaeological conference, Port Vila, August 1996) allows additional refinements and offers support for a number of the positions advanced. 1: Enough cave sites have now been dug in Santa Cruz, Vanuatu (Spriggs) and New Caledonia (Sand) to indicate that pre-Lapita human contexts are not really to be expected. 2: There are more pollen sequences supporting landscape and vegetation change induced by human activity 3300–3000 years ago in Vanuatu, New Caledonia and Fiji (G. Hope). 3: Lapita assemblages with highly decorated pottery form a fairly short style horizon from the Reef/Santa Cruz islands through Vanuatu and New Caledonia to Fiji and Tonga; this occurs at the base of each region's archaeological sequence; Lapita seldom persists (in its largely plain form) for more than 600–700 years. 4: There is better support than

is indicated in my text for the view that Mangaasi and Podtanéan styles of pottery superseded Lapita in Vanuatu and New Caledonia, rather than overlapping with it. 5: A very useful clarification is possible of the relationship between the Southern Vanuatu–Southern Oceanic subgroup of languages and those of the rest of Vanuatu (Lynch); this lends support to the viewpoints expressed in this essay. Thus Figures 3 and 4 could be further revised and Figure 6 replaced by that of Sand (1996: Fig. 10).

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