

## THE LAPITA CULTURAL COMPLEX: CURRENT EVIDENCE AND PROPOSED MODELS

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### INTRODUCTION

One of a number of outcomes of the Lapita Homeland Project and the subsequent follow-up investigations has been a major addition to the information on sites of the Lapita cultural complex in Near Oceania (Gosden *et al.* 1989). When writing the oft-quoted overview of Lapita for the Jennings volume (Green 1979) and subsequently in responding to Clark and Terrell's (1978) proposals of models for the Lapita cultural complex, there was an unavoidable bias to the available evidence. At the time the bulk of the information still stemmed from sites in Remote Oceania. In Near Oceania only one difficult-to-interpret C14 date existed for Watom, plus two conflicting ones for Mussau, and unreliable and unpublished ones for Ambitle. Usable preliminary reports were available for only four rather poorly described Lapita site locations (Watom, Mussau, Talasea and Ambitle). Each site had sufficiently disturbed deposits that open to question the integrity of their minimally described site assemblages. Thus model construction and evaluation had to rely to a great degree on the data from Lapita sites in Remote Oceania.

The situation in Near Oceania has now dramatically changed in increased numbers of sites, dating, stratigraphically secure assemblages, and a fuller account of their content in terms of flora, fauna, and structural and portable artefacts. That information gain, moreover, should continue to improve as we are currently still restricted to working from the preliminary reports on those investigations, while new ones are in progress, especially in the New Britain area. The best available interim source will be the forthcoming volumes edited by Allen and Gosden (1991). Not surprisingly then, renewed discussions of various models applicable to the Lapita cultural complex are in order, beyond those assessments provided by Irwin (1980, 1981), Anson (1983, 1986), and Spriggs (1984), the last three writers to tackle the problem in a serious fashion prior to the Lapita Homeland Project. Spriggs (this volume) provides his own commentary on those issues he had previously raised; this paper will address the problem more along the lines of proposed and possible models which have been or may now be employed.

## LAPITA MODELS FOR REMOTE OCEANIA

In a previous evaluation of four models proposed for the Lapita cultural complex, three (the Strandlooper, Supertramp, and Population Growth) were found deficient in one or more of their variables, whereas the fourth (Trader) was found to be reasonably well supported by the available evidence (Green 1982:14-15 and Table 2). However, that Trader model was recast into what was called a Coloniser model, to provide a somewhat more realistic account of the evidence (Green 1982:16). This reflected the strong influence of ideas advanced by Irwin (1980, 1981), specifying the need for an explicit colonisation model, one which recognised there was little evidence to suppose either that Lapita expansion was driven by population growth and increasing pressure on resources, or by a dominant role in its economy of trade and exchange. Following the format of Clark and Terrell, the characteristics of such a model were set out as follows:

## Lapita Coloniser Model

Distribution - widespread, long duration, culturally homogeneous. Rates of change - rapid dispersal, resistance to extinction or cultural replacement, frequent interaction among communities close at hand and at distances up to 600 km.

Causal variables - a generalised economy with both maritime and horticultural components, effective colonisers, skilful voyagers, rapid population growth, effective exchange network or effective communications network. (Note: I would now substitute Cultural for Causal in the designation of these variables).

On current evidence, I would argue that this model is still reasonably well supported for the Lapita sites of Remote Oceania, i.e. from the Reef/Santa Cruz Islands through Vanuatu and New Caledonia and out to Fiji and West Polynesia. In this zone no really serious challenges to the Coloniser model have arisen out of investigations during the last decade. An exception, perhaps, is Best's support for a "Strandlooper" economy for his early Lapita period sites on Lakeba based largely on their environmental location, heavy exploitation of the marine environment, and the failure of pig bone to occur until very much later in the sequence - in fact not until after AD 1000 (Best 1984:544, 650-53). As Walter (1990:305-6) observes, the location argument is open to other explanations, while the absence of pig bone until AD 1000 is almost certainly due to sampling error, and indications of heavy marine exploitation do not rule out the establishment of horticulture at the time of colonisation. Rather, heavy reliance on marine resources is to be expected during an initial phase of settlement on any island in Remote Oceania. Both Best (1984:628 and Figure 9.15) on Lakeba and Kirch (1988a:253-58) on Niuaotupapu have considerably strengthened the evidence for an effective exchange network during this period.

One aspect I would change in this model for Remote Oceania relates to the evidence for very long distance and perhaps down the line exchange. It is now apparent to me that the importing of materials into the Reef/Santa Cruz Lapita sites from some 2000 miles

away is probably not typical of exchange elsewhere within the Lapita communication network (Green in preparation). Instead, these imports reflect an unusual extension of more typical Lapita exchange networks of up to 600 km in each direction developed in Near Oceania out into the first region to be settled in a previously unoccupied Remote Oceanic zone. This sudden expansion of the networks was not repeated. In Vanuatu, New Caledonia and Fiji occasional items from the far west such as obsidian were transported in the process of colonisation much further to the southeast, but only in the Reef/Santa Cruz Islands were these contacts with very distant communities to the northwest in Near Oceania maintained over a period of 600 years or more.

Another aspect of this Coloniser model which may also require revision was first raised by Anson (1983:273-74) with respect to pottery decoration and the issue of homogeneity. As he points out, in comparisons of decorative alloforms, sites within any region will all more closely resemble each other, irrespective of their chronological position, than they will any Lapita sites of an outside region. Only a few outlier sites do not conform to this pattern (Green 1989a). As Anson (1983:274) notes, "pottery decoration is in fact heterogeneous or variable in a manner similar to that for other aspects of the Lapita material inventory (Green 1979:39)". Spriggs (1984) also commented on the rather heterogeneous aspect of the non-ceramic portable artefact part of the Lapita cultural complex, and it has recently been documented in detail again by Jephcoate (n.d.).

Certainly, production of Lapita decoration involved only a small set of tools used repeatedly. Although the result appears complex, it turns out to be composed of a few decorative elements, a restricted suite of decorative techniques, a small range of rules for their application and manipulation, and a corpus of easily recognised, widespread and often repeated motifs. While this gives Lapita decoration a strong sense of stylistic coherence, the Lapita style is, as most now recognise, regionally differentiated. For that reason, and in keeping with the other components of the complex, this descriptive variable for most aspects of the cultural complex now needs to be reassessed as closer to the culturally heterogeneous end of the range.

A further extension of the Coloniser model from its application to Lapita settlement of Fiji-West Polynesia has recently been attempted by Richard Walter (1990:16-22) in characterising the settlement of Eastern Polynesia. Here the model is employed to interpret sites and communities in the interval between that area's initial settlement early in the first millennium AD (or before) and the 15th century AD. The case for extending the model to this region is well supported by drawing on what is in large part late (AD 900-1400) evidence, much of it from the Southern Cook Islands (Walter 1990:273-92), and evidence that elsewhere is usually referred to as Archaic East Polynesian culture (Walter 1990:14-16).

#### LAPITA MODELS FOR NEAR OCEANIA

The immediate Lapita homeland was placed in the New Britain-New Ireland region, where the initial adaptation was seen as being to an area "with a complex continental island environment which possessed a wide range of resources able to be assembled in

individual communities through exchange" (Green 1976:264). That argument, plus a likely ultimate source of aspects of the cultural complex in an eastern area of Island Southeast Asia, was then outlined more fully in a Lapita summary paper (Green 1979:45). But no model for the development of Lapita in the Bismarck Archipelago was able to be advanced at that time. Shortly thereafter White and Allen (1980:733) made the point that "the colonisation model is less certainly applied to Lapita sites within the Bismarck Archipelago". Then Anson (1983:272), after analysing pottery data from Ambitle, Talasea and Mussau went a step further. He suggested that something like the Population Growth model might not be altogether inappropriate in this area *vis-à-vis* Remote Oceania, although he saw that model operating only as an A to B, and not an A to B to C to "n" process. His view (Anson 1983: 272), like that of White and Allen, was "that the Lapita cultural complex developed within the Bismarck Archipelago", and that "therefore more than one of the models formulated by Clark and Terrell and others may be operating".

Two slightly different positions have arisen in the recent literature as the result of numerous new C14 dates from the Bismarck Archipelago, plus additional and more carefully interpreted dates from Remote Oceania. One position put forward by Kirch and Hunt (1988a, 1988b) sees no significant difference statistically between histograms for the available dates from the Bismarck Archipelago and those from further east in Remote Oceania. They conclude that "Lapita dispersal across its geographical range was remarkably rapid, and any greater detail remains shrouded in the statistical uncertainty of radiocarbon determinations" (Kirch and Hunt 1988a:24). The other position depends on an application of "chronometric hygiene" and a rejection of a number of early dates, so that Lapita has a somewhat earlier start in the Bismarcks (1500 BC or before) and a longer period of time for it to spread to Western Polynesia (1250-1300 BC in the Reef/Santa Cruz and New Caledonian regions and perhaps 1100 BC in the Eastern Lapita area). It is difficult to judge on present evidence which viewpoint, the fast or very fast, might prevail, but neither offers really strong support for a slow population growth A to B to C to "n" model. That model is also falsified by the persistence of sites of the Lapita complex in the Bismarcks up to the first century AD (Green and Anson 1991). What does seem likely is that there may well be an at present chronologically-difficult-to-detect period of 300 or more years of consolidation in the Bismarcks before 1300 BC when communities appear in regions further east, and especially in Remote Oceania. At present that is how I assess the situation not only in relation to the available radiocarbon dates, but also to allow for the integration within it of an Oceanic economic base and other non-ceramic items which form part of the cultural complex.

#### THE TRIPLE I MODEL

If this interpretation is adopted for Near Oceania, another model, different from any proposed, is needed for the initial development of the Lapita cultural complex in the Bismarck Archipelago. I will call it the Intrusion/Innovation/Integration (Triple I) model. It requires us to establish archaeologically which elements present in the Lapita cultural complex already existed in Near Oceania and either have their source there or constitute

no new addition to the existing cultural milieu, which elements constitute new additions from sources outside that long settled region, and finally which elements are in fact innovations of Lapita itself.

In its descriptive variables this model retains the view that the Lapita cultural complex in Near Oceania, as in Remote Oceania, is widespread (despite the current sampling gap in the Central Solomons) and of long duration (i.e. from 1000 up to 1500 years). But it will adopt the position also advocated for Remote Oceania, that the complex was culturally heterogeneous, not just because it is differentiated regionally as in Remote Oceania, but also because of the differential effects in Near Oceania of continuing contacts with culturally diverse, long resident, unrelated populations.

Under the rates of change part of the model, the prediction will be for an initially moderate pace to dispersal within the Bismarck region, and thence more quickly eastwards into the Solomon Islands, followed by rapid dispersal within Remote Oceania. The resistance to extinction or cultural replacement features of previous models will be kept, for those states under these variables continue to be reasonably well supported. However, while the variable of frequent interaction will be retained in the condition of frequency among communities close at hand, it will have to include non-related as well as related communities, in contrast to the situation for exchange in Remote Oceania. Moreover, the distances may have a range of only some 200 to 300 km at most, until the movement begins down into the Solomons and distances reach 600 km in either direction, stretching only to 2000 km or more in the case of the Reef/Santa Cruz sites of Remote Oceania.

Turning to various cultural variables in the Coloniser model, that of a generalised economy of both maritime and horticultural plus arboricultural components will be maintained, and is in fact somewhat better supported for the Lapita sites of the Bismarck region than it is for sites further east (Kirch 1988b, 1989; Gosden *et al.* 1989). The variable state designated as "effective colonisers" continues to be required, and in my view underlies the ability to settle relatively unoccupied ecological niches (such as off-shore islands) in an already long-occupied area. Retention of the variable of skilful voyagers underpins both the evidence of Bismarck Lapita communities for engaging in effective trade and exchange networks and communication systems and their subsequent ability to settle more distant regions to the east and maintain contacts with them. Holding to the variable of "rapid population growth" in Near Oceania seems at this point prudent, as such a strategy would seem to be required both to establish the Lapita presence in Near Oceania and to serve as a source for the populations that moved into Remote Oceania.

#### LAPITA AS A CULTURAL COMPLEX

The concept of site unit intrusion, i.e. an addition by a body of migrants with a new set of cultural items and adaptations, is controversial. Opinions vary from Lapita being nothing more than the spread of an unusual type of decorated pottery (Allen and White 1989:143) to its being a fully formed intrusive cultural complex within the region of the Bismarck Archipelago (Kirch 1988b; Spriggs 1989). In my experience those who claim

Lapita to be nothing more than a certain style of decorated pottery have not done their homework on the range of portable artefacts found in association with this pottery. Nor have they carefully considered the full range of ecofacts or the non-portable artefactual component of this cultural complex. The task is not an easy one and cannot be done in this context. However, it is possible to sketch some of the likely outcomes.

An exercise which encompassed some 22 excavated Lapita sites and a list of nearly fifty non-ceramic portable artefact categories (Jephcoate n.d.) revealed that many items in the later portable artefact assemblages of Remote Oceania could trace their origin in that region to Lapita as its foundation culture. It also revealed that this portable part of the Lapita assemblage included numbers of items, only a fraction of which have any reflection in the Pleistocene and early post-Pleistocene sites of the Bismarck Archipelago. Spriggs (this volume) covers those few items which are exceptions. In my view that circumstance seriously challenges the position of Allen and White (1989:140) "that people in the Bismarcks were developing in a direction such that Pacific migrations could have been largely fuelled out of local developments" with nothing more than the simple addition of some highly visible pottery. Instead, when numbers of these items are treated as a part of the variable cultural assemblage associated with that kind of pottery, they have no demonstrable antecedents in the cave sites of the Bismarck Archipelago, or indeed in earlier contexts throughout the region of Near Oceania. In contrast, many of them do also appear in later sites, with and without other kinds of pottery, so that only a few are in fact diagnostic of Lapita alone.

#### THE LAPITA ADZE KIT

Overview exercises of this type, however, are unsatisfactory except as being indicative of what is likely to be worthy of more detailed study. One such detailed study has now been carried out on the adzes associated with the Lapita cultural complex (Green 1989b). In large part, but not entirely, this adze kit is quite different from that of the so-called later "Melanesian type" adzes (cf. Crosby 1973 for a general review). Originally the Lapita adze kit was defined for Eastern Lapita (Green 1971). There it was composed of planilateral sectioned adzes, oval to lenticular sectioned adzes, plano-convex sectioned adzes, and several varieties of quadrangular sectioned adzes, all in stone. In addition, it included a range of heavy *Tridacna* shell adzes made from the hinge portion of that clam.

This definition of the Lapita adze kit may now be extended to the Western and Bismarck Archipelago Lapita sites. Prominent are stone adzes with planilateral sections, plus those with a variety of quadrangular sections. In addition, the heavy hinge portion *Tridacna* adzes are present and less often the thinner-bodied types made from the dorsal region of the shell (Kirch and Yen 1982:210). There are also shell gouges, often of *Conus* sp. Missing in this area is the plano-convex adze, so important in Eastern Lapita and as part of the early Polynesian adze kit.

Assessing this adze kit in terms of the Intrusion/Innovation/Integration model reveals the following. The ovoid to lens-shaped sectioned adzes are probably, as Burton (1984:247) says of those adze forms in the New Guinea Highlands, not a type in any really

meaningful sense of the term, but are some kind of general purpose adze, usually made in locally available stone (Burton 1984:246). They appear sufficiently early in the New Guinea Highlands, 6000 or more years ago (Burton 1984:6,246), that their appearance in Lapita contexts could well prove to stem from cultures antecedent to Lapita in Near Oceania. On the other hand, they may simply be the Lapita version of local adzes as they are in the Highlands. However, the typologically distinct Lapita planilateral adze, often in an imported green-coloured rock (Best 1989), is a reasonably diagnostic Lapita type. Morphologically, it is in some instances similar to Burton's (1984:247) "quarried" or planilateral adzes, which appear in the Highlands between 2500 and 1500 years ago (Burton 1984:248). In age this is towards the end of the Lapita cultural complex in the Bismarck Archipelago.

In my view, any morphological similarity between Lapita adzes of this type and those of the Highlands may have more to do with techniques of quadrangular flaking applied to the tabular quarried pieces in the Highlands (Burton 1984:247) than they do with viewing their shape as indicative of some necessary kind of historical relationship. At any rate the Lapita adzes are as much as 500 to 1000 years earlier in time. It is also of interest that in both cases this type of adze may be argued to have been a "trade" item.

Little need be said about the varieties of the quadrangular type of Lapita adze. That form has long been known as the so-called "Austronesian cultural type" (Skinner 1957; Duff 1970). Its absence from the museum collections of the Melanesian area and presence in Polynesia caused Duff (1959:126, 1970:16) to invoke an "express train" like transit through Micronesia to Polynesia from a source in Indonesia. Excavations, however, indicate it may be expected in sites of the Lapita cultural complex throughout Island Melanesia and not at all in Eastern Micronesia. Although it is not possible to cite any Island Southeast Asian sources for the planilateral adze, this is clearly not the case for the adzes of the quadrangular type.

The other Southeast Asian Neolithic adze type also found in the Lapita adze kit is the heavy bodied hinge portion *Tridacna* adze (Bellwood 1985; Spriggs 1989). In contrast, the thin-bodied dorsal region *Tridacna* adze would appear on recent evidence from the Admiralties (Spriggs, this volume) to be an earlier Near Oceanic innovation incorporated into the Lapita adze kit.

The important point in this discussion is that in opposition to the views of Allen and White, there is a distinctive adze kit associated with the Lapita style of pottery. One rather general ovoid to lenticular "type" in it could be viewed as deriving from local developments in adze making in Near Oceania. It need not be a new, intrusive element from Island Southeast Asia, although on present evidence that possibility for Lapita contexts is not excluded. However, a Near Oceanic origin is very likely for the dorsal region *Tridacna* adze. But this is probably not the case for the other two adze types, the stone quadrangular form and heavy-bodied one of *Tridacna* shell. Their origin in Southeast Asia currently seems very plausible. On the other hand, the quite frequent Lapita planilateral adze, often an exchange item, may be a diagnostic form not found in later Island Melanesian assemblages or in the Polynesian adze kits that develop from

Lapita. The plano-convex adze is at present best seen as an Eastern Lapita innovation which carries on into early Polynesian assemblages.

#### OTHER ASPECTS OF THE LAPITA CULTURAL COMPLEX

Having developed this theme with the adze kit, one could go on to develop it for the fishing gear and the shell ornaments (cf. Kirch 1988b,1988c), plus a number of other items. At this point, however, it would be more profitable to pick out other items which focus on the integration side of the equation. Here I have in mind certain plant domesticates such as *Colocasia* taro (Matthews 1990:337-38), *Australimusa* bananas, breadfruit, coconuts and sugarcane (Yen 1982:Tables 2 and 3), plus the the obsidian exchange system and basic aspects of the strategies of maritime fishing and shell fishing (Allen *et al.* 1989). A number of these elements were probably not among the intrusive parts of the Lapita cultural complex, but were integrated into it from cultural systems already in place. In my view, the maritime transport system also exhibits a similar phenomenon. An effective voyaging system based on dugout canoes or rafts was already in place in Near Oceania, but to it was added the outrigger canoe, the double canoe, new developments in 2-boom triangular sail technology as well as an ability to navigate these improved sailing vessels in return voyages over distances independent of having land in sight. It was these additions and improvements in the communications network that caused further elaborations of the existing maritime based exchange system in the Bismarcks and made possible the extension of the Lapita cultural complex out into Remote Oceania in due course (Green in press).

One could go on in this fashion for other aspects of the Lapita cultural complex, especially in matters such as size of settlements, their permanence, types of raised floor and rectangular housing, storage pits, earth ovens etc. Some will prove to be present in earlier contexts as with the earth oven (Allen *et al.* 1989:550), others will have more distant antecedents, and a few will be innovations. Each category will, like the adzes, have to be assessed independently and in detail. Still, enough is already known to reject any of the more extreme positions, such as much or all of the Lapita cultural complex being due to local development except for the pottery, or viewing nearly all of the complex as being derived from Island Southeast Asia with little input from other earlier and still persisting cultural complexes contemporary with Lapita. Moreover, all parties to the debate so far have rather neglected innovations within the cultural complex itself. Here I would suggest they start with the unusual Lapita design system. In my view a great deal of it will never have other than very general ceramic parallels in Island Southeast Asia, as that particular style is an innovation unique to this cultural complex.

#### CONCLUSION

A little more than a decade ago, the Lapita cultural complex, viewed largely from sites in Remote Oceania, made possible the development of a Coloniser model as the best interpretive framework currently available among a number of those proposed. What was not possible at that point was to judge how appropriate that model might prove for Near



Oceania or to construct another model for an immediate homeland in that region. At that time the first glimmerings of doubt about the use of a colonisation model in Near Oceania appeared in the writings of White, Allen and Anson. Their doubts were fully justified. The Coloniser model, with modifications proposed above, still serves its purpose in Remote Oceania, where even critics such as Terrell (1989:625) concede it may be justifiable to refer to Lapita people as possessing a definable culture. But in Near Oceania, and especially in the Bismarck Archipelago, models other than the Coloniser are required to handle the now rapidly accumulating evidence. One such model, an Intrusion/Innovation/Integration model is proposed here, and aspects of its application illustrated by reference to the adzes which make up the Lapita adze kit. That, I hope, may take some of the pressure off the pottery, which has carried an undue portion of the interpretive load, although ideas on the origin and formation of its unusual decorative style and vessel forms too will have to undergo revision. Moreover, detailed studies for all possible aspects of the Lapita cultural complex, along the lines applied to the adze kit, are now required. Only then will convincing argument be possible as to how much of the cultural complex one assigns to intrusion, innovation and integration with antecedent cultural elements already present in Near Oceania.

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