

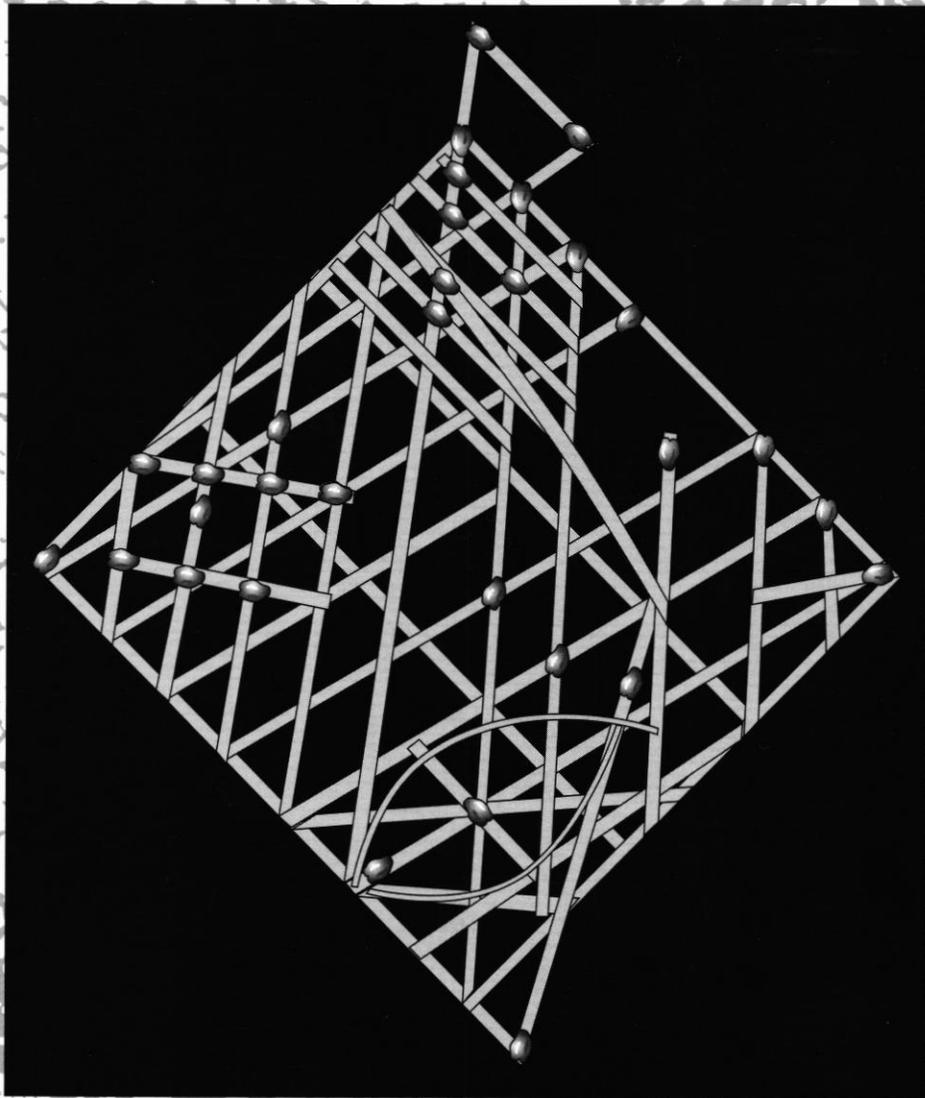


**NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION MONOGRAPH 21:
Marshall I. Weisler (ed.), *Prehistoric Long-Distance Interaction in
Oceania: An Interdisciplinary Approach***



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PREHISTORIC LONG-DISTANCE
INTERACTION IN OCEANIA:
AN INTERDISCIPLINARY APPROACH

Edited by Marshall J. Weisler

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION
MONOGRAPH

LAPITA EXCHANGE SYSTEMS AND THEIR POLYNESIAN TRANSFORMATIONS: SEEKING EXPLANATORY MODELS

Roger C. Green and Patrick V. Kirch

In his discussion of archaeological models for complex reciprocal exchange networks among fairly egalitarian 'tribal' societies along the south Papuan coast, Allen (1984) made a pertinent observation by comparing these systems with the centralised, hierarchical redistribution systems of chiefly societies such as those of Polynesia. While the underlying transaction patterns might appear unrelated, Allen observed that this would be to ignore Sahlins' (1972:209) claim that "chiefly redistribution is not different in principle from kinship-rank reciprocity. It is, rather, based on the reciprocity principle, a highly organised form of that principle." Thus reciprocal and redistributive exchange systems were not so much fundamental opposites, but instead consist of sociological distinctions providing no *a priori* grounds for supposing that they might produce "distinctively different archaeological patterning" (Allen 1984:140). Indeed, the two systems might easily be historical transforms of some ancestral system, in which each became specialised along some particular developmental trajectory.

Friedman (1981, 1982:184) was more explicit about claiming such a historical linkage. To him it appeared possible to construct from ethnographic examples a generalised model of prestige-good systems as part of a larger model for the transformation of Oceanic social formations. In Friedman's model (reproduced here as Fig. 2.1), two trajectories diverged from a common base, each with later splits and ultimately resulting in the varied trade and exchanges practices ethnographically witnessed throughout Melanesia, Micronesia, and western and eastern Polynesia.

In this essay we seek to provide *historical support through archaeology* (rather than through comparative ethnography) for the propositions of Allen and Friedman, by examining systems of exchange during the Lapita cultural complex (ca 3500 to 2000 B.P.), systems that are likely to be ancestral to at least some of the exchange patterns in Melanesia that Allen and Friedman were attempting to model, and are more certainly ancestral to those Polynesian

exchange networks recently identified by archaeologists. The Polynesian networks - ethnographically overshadowed by the richly-documented Melanesian systems - are of course the centrepiece of this monograph.

We have purposively chosen to privilege explanatory models in this essay, as opposed to a review of the characterisation and sourcing evidence for prehistoric transfers of goods (the subject of most of the papers in this volume), because both of us have elsewhere recently surveyed such archaeological evidence for Lapita exchange. Drawing on an extensive archaeological literature compiled over two decades of research on Lapita sites (Allen and Bell 1988), Kirch (1991) reviewed the evidence for prehistoric exchange in western Melanesia; Kirch (1990) detailed aspects of its early Lapita manifestation in the Bismarck Archipelago, drawing specifically on new field and laboratory data from the Mussau Islands (see Kirch *et al.* 1991). For Lapita sites throughout Remote Oceania¹, Green (1996), canvassed diverse sources to compile a comprehensive data file on prehistoric transfers of material goods. Finally, Kirch (1997) provides an overview by principal regions or 'provinces' of the entire set of Lapita exchange systems, both in terms of the evidence currently used to reconstruct them, and of the models proposed so far to understand them. There is no need to rehearse these data summaries here; instead, we shall focus on the exploration of levels of explanation for the data in hand.

LAPITA EXCHANGE IN TIME AND SPACE

A good deal has been learned about the systems of exchange present during the millennium or in many places less that the Lapita cultural complex existed in the southwest Pacific. For one thing, it is now evident that no single, integrated 'Lapita exchange network' ever spanned the entire geographic range over which Lapita sites are distributed, despite the documented occurrence of items which travelled very long distances. Rather, one must speak of several regional 'provinces' each with its own exchange

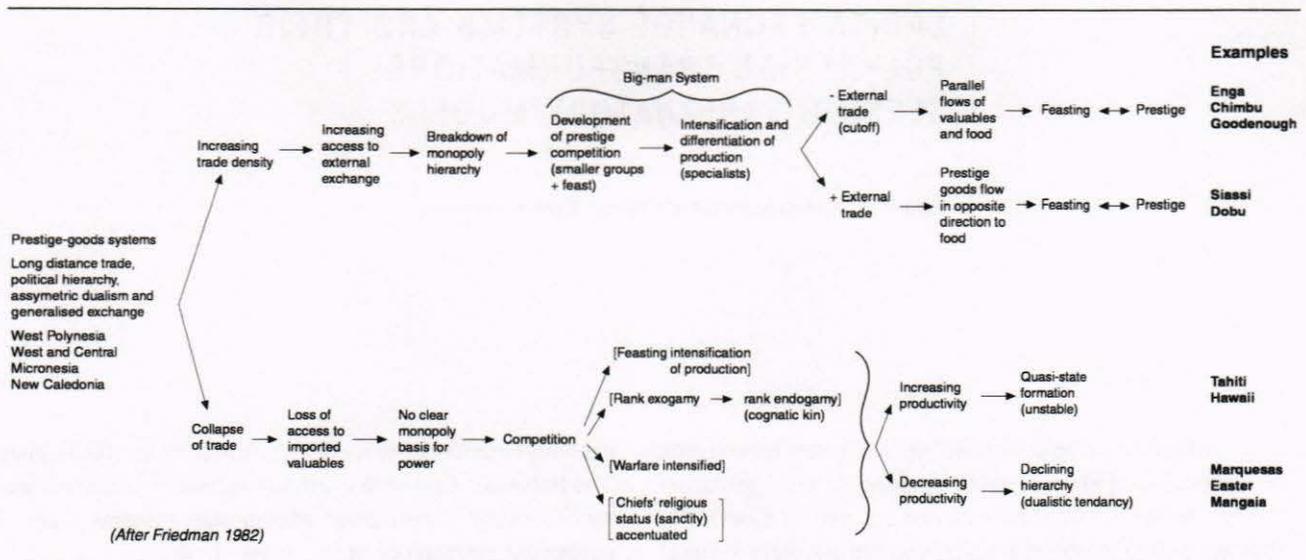


FIGURE 2.1 Multilinear trajectories of prestige goods systems.

system, and not a single Lapita network (Green 1996; Kirch 1997). From this it follows that Lapita exchange in Near Oceania (especially the Bismarck Archipelago), differed for a variety of reasons from that in the Reef-Santa Cruz region (Kirch 1990:119), and these in turn differed from Lapita exchange in the Vanuatu-Loyalty-New Caledonia province, or in the Fiji-western Polynesian province (Green 1996)². Thus it is essential to exercise caution in a too-enthusiastic application of the well-studied Lapita exchange system of the Reef-Santa Cruz region (Ambrose and Green 1972; Green 1974, 1982, 1987, 1996; Sheppard 1993) as being somehow representative of the entire Lapita complex over space and time. This is because the 'very long distance' component of the Reef-Santa Cruz system - while dramatic and important - proves in fact to be unusual (Green 1996; Kirch 1990). It is essential as well that we not assume that Lapita exchange, in any region or province, was static over the temporal period that the distinctive Lapita ceramic complex can be recognised (Kirch 1990:119). As the well studied cases of Mussau, the Reef-Santa Cruz area, Lakeba, and Niutopotapu demonstrate (Best 1984:628; Green 1996; Kirch 1988a, 1991, 1997 and Fig. 9.15), in any instance we must be prepared to deal with processes of *regionalisation*, *localisation* and *specialisation*. Allen (1984:442-45, Fig. 2) also made this concept of directional change a predicted consequence of his generalised model for the Papuan and other Melanesian regions, as did Friedman (1982) for the whole of Oceania.

To return to our first point, it is explicitly recognised here that the interpretation of prehistoric transfers of material goods between Lapita communities in Remote Oceania may

little apply to the quite different situation in Near Oceania (Green 1996). As Kirch observes, "long-distance exchange relationships with Lapita communities in Near Oceania . . . may have been quite different from relationships between communities in the Bismarck Archipelago itself, where genetic, linguistic and cultural complexity were substantially greater" (1990:119). In the Bismarcks, the initial Lapita exchange system - especially its obsidian distribution component - evidently 'tapped into' and greatly expanded an already-existing network, one with a time depth of some 20,000 years (Gosden 1993; Summerhayes and Allen 1993). Moreover, it seems highly likely that some of the communities or nodes incorporated into the Near Oceanic Lapita exchange network were unrelated in a genetic, linguistic, or cultural sense, and that from the beginning Lapita trade and exchange in Near Oceania operated across ethnic boundaries.

In contrast, Lapita communities in Remote Oceania typically constituted the 'foundation populations' (Pawley and Green 1973; Spriggs 1984, 1991), and they doubtless formed a more homogeneous - genetically, linguistically, and culturally - related set of societies (Green 1997a). Moreover, the historical origins of the Remote Oceanic exchange systems lay not within some already established networks pre-dating Lapita (as in the Bismarcks), but far to the west in the antecedent Far Western Lapita exchange system. Thus despite Terrell's (1989:625) claims to the contrary, it is possible to assert that trade objects during the initial phase of Lapita expansion into Remote Oceania did pass to and fro between Lapita kinsmen and communities of 'ethnically-exclusive' Lapita colonising and exchange

networks, though this situation was not to persist indefinitely, especially in eastern island Melanesia (Green 1996).

SPHERES AND MODES OF EXCHANGE

Following Oliver (1989:799, fn; see Kirch 1997) we make the useful distinction between transactions of goods that take place within a social unit or community, termed *internal* exchange, and inter-community transfers of resources, termed *external* exchange. Not always being able to distinguish social units and their boundaries in the archaeological record, prehistorians more often discriminate between local items that could be obtained within a site's or locality's accessible catchment, and exotic items that were introduced to the site as the result of long-distance trade and exchange. These latter consist of portable goods transferred well beyond the boundaries that would be controlled by an inferred community or polity.

For Lapita systems we have some idea of the distances involved in these different spheres of exchange. It appears that easy and continuous two-way voyaging was routinely possible for distances of up to 600 km, and Green (1978a) found a voyaging distance of this magnitude useful in modelling a network of Lapita site distributions (Fig. 2.2a). Kirch and Weisler (1994:300), reviewing an extensive Oceanic archaeological literature covering the prior five years, observed that "as a heuristic device for understanding relational dimensions of internal complexity of exchange networks, graph theoretic models have provided a foundation for exploring possible exchange linkages," including some of those for Lapita (see Hage and Harary 1991). For example, Hunt's (1988) model of straight-line linkages as well as models that observe the effects of water transport, are among the most recent proposed for the interpretation of Lapita networks (Fig. 2.2b). In all of these analyses, the 800 km ocean gap between eastern island Melanesia and Fiji assumes a considerable significance, as does the evidence for regular transport of obsidian and other lithic materials from the Bismarck Archipelago and the D'Entrecasteaux Islands some 2,000 km westward into the Reef-Santa Cruz group and beyond (Green 1996). Such transport distances constitute not just long-distance, but very long-distance transactions.

One manner of describing these long-distance nodes and paths is to adapt the less complex portion of Renfrew's (1975:42-43) 'modes of trade' in terms of their spatial dimensions: *direct access and local reciprocity* (up to ca 100 km), *one node or one-stop reciprocity* (up to ca 400-600 km), and *down-the-line exchange* (at distances greater than 600 km). These categories have been applied in

modelling the Reef-Santa Cruz Lapita exchange system (Green 1982, 1987, 1997a), but could be applied more widely (with appropriate adjustment for local geographic circumstances) and might replace the current tendency to proceed simply by modern island cluster names and archipelagoes.

Kirch (1997) delineates how the archaeologist needs to approach the study of external exchange from a fundamentally different perspective than that of the ethnographer. While the latter observes exchange in action, and thus tends to emphasise the social context and symbolic meanings of exchange transactions over brief time spans, the archaeologist is restricted to observing the material objects which underwrote those transactions, the material residue or 'hard goods' which survive. However, archaeologists have the advantage of analysing accumulated residues from long successions of repeated transactions, and thus can study - when multiple sites and assemblages are involved - the long-term history of exchange systems not accessible to the ethnographer.

Archaeologists need to develop models of prehistoric exchange in terms that are appropriate to their own data and to the time scales at which they work, keeping in mind that the archaeological record of exchange is always likely to be incomplete (Kirch 1997). In our prior efforts at Lapita exchange systems (Green, ms; Kirch 1990, 1997) we have found the specific variables or parameters set out by Plog (1977:129) to provide a productive framework. These variables include: (1) the *content* of the network, that is the kinds and range of materials being exchanged; (2) the *magnitude* of the network; (3) the *diversity* of materials, including measures of richness and evenness; (4) the *geographic size* of the network; (5) the *time span* or temporal dimension; (6) the *directionality* of exchange, in terms of the flow(s) of materials; (7) the *symmetry* or asymmetry of exchange between loci; (8) *centralisation* or decentralisation of the network; and (9) the overall *complexity*, a combination of symmetry, directionality, centralisation and diversity. Applying these variables to the external exchange residues from Lapita sites provides some reasonably well-supported answers, on which further modelling of a more exploratory nature may proceed.

Such constructions must build upon an evident outcome of our initial endeavours: that an undue emphasis on distance to source and related technological and economic practices have, in themselves, proven insufficient for any explanation of the factors underlying the development of Lapita exchange systems. Social and ideological components are equally or perhaps more important considerations (Green 1987; Kirch 1988b, 1997; Sheppard 1993)³. Therefore, the explanatory package

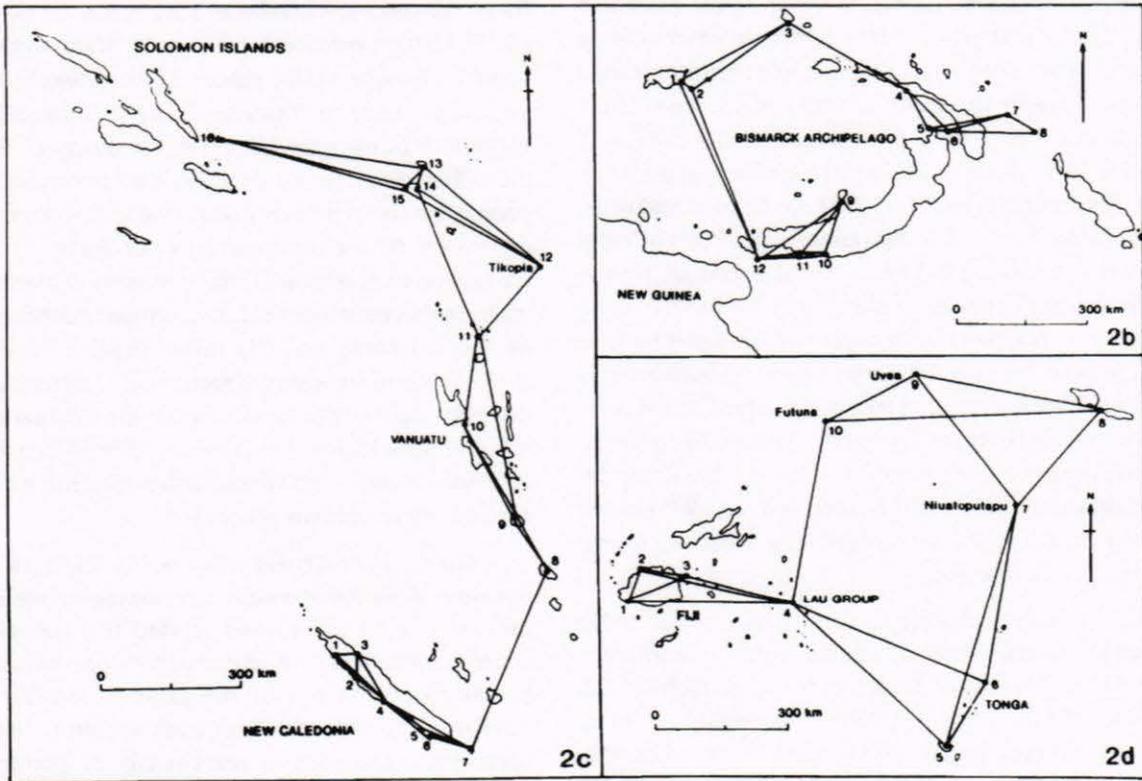
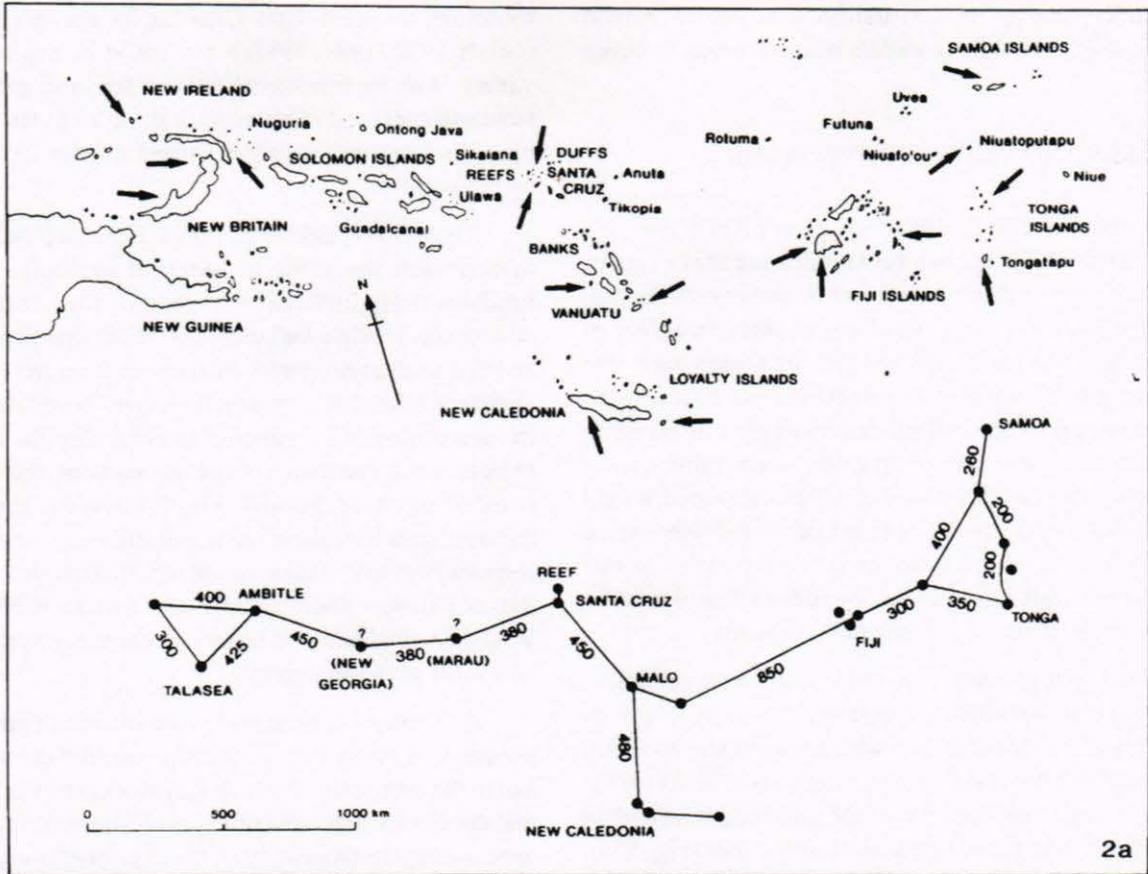


FIGURE 2.2 Lapita network models.

employed in this essay - while possibly at risk of going beyond what the data will support - aims to arrive at some additional propositions suitable for future archaeological testing. Specifically, we examine: (1) the importance of historical antecedents along the lines developed above for Near and Remote Oceania; (2) economic and adaptive advantages of maintaining a long-distance exchange network in each of the Lapita provinces; (3) social considerations, such as ties to ancestors and a necessary degree of circulation of people and of communication among related (and unrelated) communities; and (4) ideological considerations that foster identity within either a long-settled multi-ethnic world (Near Oceania), or within a recently-settled and sparsely populated sea of increasingly remote islands with diminished local resources (Remote Oceania).

DETERMINING EXCHANGE SYSTEM CONTENT: EVIDENCE AND METHODS

The major kinds of evidence that archaeologists have used to reconstruct exchange systems in Oceania have been outlined by Kirch and Weisler (1994:298-99) according to variations in their occurrence in Melanesia, Micronesia and Polynesia. Five categories of imports to the fore in Melanesia include: (1) ceramics, sourced by means of elemental composition and petrographic analysis of temper, as well as by stylistic attributes; (2) obsidian; (3) shell valuables; (4) chert; and (5) metavolcanic adzes. Kirch (1997) in his synthesis of items known to have been external exchange imports of the Lapita cultural complex, lists obsidian, chert, clay, temper, and pottery, oven stones, miscellaneous stone objects, and shell valuables as the principal categories requiring consideration. Green's list for Lapita sites of Remote Oceania is similar, with the addition of animals, and the distinction of high-silica obsidians (characteristic of Near Oceania) from volcanic glasses of basaltic chemistry (characteristic of Remote Oceania). These materials are sufficient to support the statement that "the exchange systems operating at this time were complex, multi-modal, and involved a common range of materials" (Green 1996:126).

A brief review of each of these categories used to evidence Lapita exchange will assist in further understanding what we know - as well as what we don't know - about those aspects of exchange that have survived in the archaeological record. Greater details will be found in the papers cited here, and summarised in Kirch (1997).

Obsidian

As Green and Bird (1989) observed, in ethnographic descriptions of Oceanic external exchange obsidian tends to travel the farthest of any item. It is a superb exchange material, for it can readily be transported - especially over water - in compact kilogram-sized blocks, portions of which may be utilised (by striking off flakes), and the remainder passed on (cf. Specht 1981). Thus, it is no surprise that during the Lapita period, obsidian from the Talasea sources on the Willaumez Peninsula of New Britain are found in a distribution that stretches from Sabah in eastern Indonesia (Bellwood and Koon 1989) to Naigani Island off northeastern Viti Levu in the Fiji archipelago (Best 1987). This is a remarkable geographic span, some 6500 km from one end of its distribution to the other. More important to studies of prehistoric exchange are that the sources (and subsources) of obsidian in Lapita sites are well known and occur in geographically-restricted localities, all in Near Oceania: Talasea and especially its Koutau subsurface (Summerhayes and Hotchkis 1992) and Mopir (Fullagar *et al.* 1991) both on New Britain, Lou and other sources in Manus (Admiralty Is.), and one subsurface on Fergusson Island in the D'Entrecasteaux Group (Green and Bird 1989). These high silica glasses are readily distinguished, especially by density, from the localised volcanic glasses of Vanuatu (Vanua Lava, Gaua in the Banks Is.), Tafahi and Niuatoputapu in northern Tonga, and certain Tutuila volcanics in American Samoa (Clark and Wright 1995). Fairly standard methods now exist for characterising and sourcing obsidian and volcanic glasses in the Pacific, and these yield mostly reliable results (Green 1996).

Chert

Among the three kinds of chert - hydrothermal, sedimentary and coralline - the latter two have proven important in Lapita assemblages. In contrast with the precise point sources for obsidian, sedimentary cherts with similar properties often derive from extensive areal zones, owing to a common geosynclinal origin. Such is the case for the Malaita-Ulawa cherts which appear in the Reef-Santa Cruz Lapita sites (Sheppard 1993, 1996). The same situation applies to phtanite in certain beds of the Grande Terre of New Caledonia. However, the cherts of coralline origin from Lakao in the Duff Islands form more of a point locality source. Unfortunately, methods of chert characterisation and sourcing are currently at a preliminary stage, and in many Lapita sites such items presently remain 'exotics' of uncertain origin. It may be some time before we will be able to definitively source many of these, but considerable progress seems possible as our methods and field sampling of geological specimens improves.

Procedures for characterising the clays and tempers in Pacific pottery have become well established. Temper studies help greatly in assessing how many sherds within a Lapita ceramic assemblage are locally made, and which portion may constitute exotic items (Dickinson and Shutler 1979; Dickinson *et al.* 1996). For the exotics, however, temper suites at best merely assign the sherds in question to broad 'petrographic provinces' or, as in New Caledonia, to particular mineralogical zones. Characterisation of clays and pastes also provides some idea of the number of potential 'sources' that may have been involved in the production of pottery, as in the example of the Mussau Island Lapita sites (Hunt 1989). However, such clay compositional groups are usually even more difficult to pin down to a particular physical locality, because the possible sources are so many and variable.

Studying decorative motifs and other stylistic attributes of Lapita pots has also proved to be productive in indicating ceramic interconnections (Anson 1983; Green 1978a; Kirch 1988a; Poulsen 1987; Sharp 1988). This has particularly been the case where graphic theoretic and matrix techniques of analysis have been applied (Hage and Harary 1991, 1995). Again, however, while a set of site-based general interconnections are implied, more precisely 'sourcing' pots within these linkages is not as easily accomplished on the basis of style and decoration alone, although it sometimes works in combination with other physical properties.

Striking differences in viewpoint have marked the interpretation of Lapita external exchange as evidenced by ceramics. Terrell (1989:625), with little substantive evidence in support of his contentions, boldly asserts that "Lapita, to repeat, was a trade ware in Melanesia" (Fiji and Western Polynesia excepted). Our problem with Terrell's assertion lies, in part, with the matter of what constitutes a 'trade ware'. True trade wares - in the sense of large scale, specialist production of large volumes of standardised vessels for commodity exchange - are indeed archaeologically documented in Oceania, but they typically post-date the Lapita period⁴. Kirch (1991:157) observes that "concomitant with the rise of specialist traders has been the abandonment of pottery manufacture in many areas, and the development of highly specialized and sophisticated potting centers, which exchanged 'trade wares' against subsistence goods". Well-documented archaeological examples of such specialised trade wares include the Motu described by Allen (1984), the Mailu research by Irwin (1985), the Amphlett Island case by Lauer (1973), or the two late potting centres in the Admiralties (Ambrose 1993; May and Tuckson 1982:332; Nevermann 1934:239). Green (1992:17; 1996), responding

to Terrell's claims for Lapita, points out that "certainly some pots in nearly all Lapita sites prove to be exotic, perhaps more in sites where local clay sources were limited than in others". But it remains true that a great deal of the Lapita pottery in most sites was locally produced. Pots (and, in many cases, more probably their contents) are better characterised as intermittent or occasional items of trade or exchange. Thus, the model of routine production of pots in specialised centres for trade has limited application within the Lapita period, a finding fully supported by Dickinson *et al.* (1996).

One instance in which fairly large volumes of pottery were imported by a single node or community within a Lapita exchange network is Mussau. Clay compositional analysis of the Mussau Lapita ceramics (Hunt 1989; Kirch *et al.* 1991) reveals the presence of as many as 12 distinct groups, only two of which are local clays (on present geological evidence). However, this is again not a case of a single trade ware, but rather one of a single community in which vessels from perhaps ten or more other communities were accumulating in a single archaeological, depositional context. It appears to us that most if not all of these vessels arrived in Mussau as a result of a large number of repeated, individual, one-stop reciprocity exchange relationships with a significant number of other Lapita communities. This is hardly the kind of archaeological signature that defines a 'trade ware.'

Elsewhere in Lapita sites of the Bismarck Archipelago, and in Buka, most pottery manufacture seems to have focused on internal or local production (Anson and Green 1991; Summerhayes 1987, 1994). The Reef-Santa Cruz Islands offer another case within island Melanesia of Lapita as a non-trade ware. Even though the offshore Reef Islands lacked potting clay, direct access to clay resources on nearby Nendö (Green 1976) enabled local ceramic production, although the great majority of pots were imported from Nendö itself (Dickinson 1978, 1995). On Tikopia, Anuta and the Duff Islands ceramic production was nearly exclusively local. Only a very few sherds within this Western Lapita province may indeed reflect reciprocity involving a more distant node outside that province⁵.

Other regions within Remote Oceania exhibit similar patterns of ceramic production and movement. In New Caledonia and the Loyalty Islands many vessels are evidently of local manufacture, as reflected in their calcareous sand tempers. But as in Lakeba, Fiji (Best 1984), so on the Grande Terre of New Caledonia where Lapita potters often collected clay and temper from certain restricted sources (e.g., spinel minerals from the northwest coast and southeast coast, and rare glaucophane minerals from a narrow belt at the northeastern end of the island

Galipaud 1990:140). These patterns could be interpreted as indicating some degree of specialised potting centres from which - through local reciprocity - pottery reached other Lapita sites within the New Caledonia-Loyalty network. Thus again, a true 'trade ware' situation is hardly evidenced.

In sum, Terrell's case for a distinct Lapita 'trade ware' in Melanesia (which he explicitly separates from the Fiji-Western Polynesian situation) does not stand up to the substantive evidence for pottery production and distribution accumulated over more than two decades of archaeological research on Lapita. To equate the mere movement or transport of some pots within any Lapita network with a specialised trading economy such as is indeed evidenced in post-Lapita Melanesian contexts (e.g., Motu, Mailu, Amphlett Is., Manus) is a serious conflation of the distinctive modes of trade and exchange that anthropologists since Seligmann and Malinowski have carefully distinguished.

Metavolcanic adzes

The Lapita adze kit - as evidenced by assemblages excavated from island Melanesia, Fiji and Tonga - consisted of two types of *Tridacna* shell adze and a range of other forms in several types of metavolcanic rocks (Green 1991b). Among the latter, rocks with a greenish hue or cast were clearly favoured (Best 1989). Only in crossing the Andesite Line (the Pacific Plate boundary) did Lapita artisans begin to manufacture adzes out of basalt, particularly in American Samoa (see Chapter 5, this volume) where the later distinctive Polynesian basalt adze array seems to have had its genesis (Leach and Witter 1990). Lapita adzes of shell may have been of local manufacture (for this material is widely available), but at least some of those in stone were obtained through local or one-stop reciprocity (e.g., in Mussau and Watom in the west, Green and Anson 1991; Kirch 1987; in the Reef-Santa Cruz group, Green 1976; Moore 1978; and elsewhere in Remote Oceania, Green 1996).

Other lithics

Oven stones (fire-altered rock), rare bizarre ground items and grindstones have all been identified from a number of Lapita sites as non-local items, imported from varying distances ranging from one-stop reciprocity to substantial down-the-line exchange (e.g., Mussau, Kirch 1991b, 1997; Reef-Santa Cruz Islands, Green 1976, 1978b, 1995; Fiji, Best 1984:642).

Other imports

For the archaeologist, whether or not a rarely-imported (i.e., low frequency appearance in the archaeological record) item actually resulted from a trade or exchange transaction can be difficult or impossible to discern⁶. Such is the case with animals, including the Pacific Rat (*Rattus exulans*) whose well-documented, human-aided transport across the Pacific (Tate 1935) is now associated with the Lapita dispersal (Roberts 1991). Its dispersal is supposed by numerous scholars to have been unintentional, but may have been deliberate (Matisoo-Smith 1994:80). This contrasts, however, with the much more restricted distribution of a substantially larger (and therefore potential food resource) species of rat, *Rattus praetor*, whose range-extension out of the main Solomon Islands into the Reef-Santa Cruz group is even more likely to have been a purposive artefact of Lapita dispersal. The transport of this species not only into the main Reef-Santa Cruz Islands (Brendan Marshall pers. comm.) but also into more isolated Tikopia, some time after that island was first colonised (Flannery *et al.* 1988:93; Kirch and Yen 1982), may well have been a result of the regional exchange network in operation during Lapita times. An unquestionable animal import on the local geographic scale was the movement (presumably through local reciprocity) of a large riverine mollusc (*Batissa violacea*), valued for both flesh and as shell implement on Viti Levu, and so used in the Lapita site of Naigani, though only tool use is evident in more distant early Lapita sites on Lakeba, Fiji (Best 1984:458-59).

Shell valuables

One category of Lapita portable artefact for which the raw material - marine molluscs of several large-sized genera (e.g., *Conus* spp., *Trochus* spp. and *Spondylus* spp.) - was not generally restricted to particular locales, has nonetheless been interpreted as a key component of external exchange networks (Kirch 1988b). The evidence that these morphologically-variable objects (including discs, rings of many sizes, beads and so forth) were in fact manufactured at only certain nodes and from these were widely circulated, comes from an analysis of their manufacture technology, especially debitage in quantitative relation to finished objects. Thus in only a few sites, such as Talepakemalai within the Far Western province, and Lakeba and Naigani in the Eastern Lapita network, are found extensive debitage and manufacturing debris and tools indicative of high-volume, specialised production of these items⁷.

The 'missing record' of exchange

The items last discussed serve to remind archaeologists how incomplete our record of exchange transactions really is. Not only must we contend with inevitable sampling error problems (Green 1976; Kirch 1988a), but the ethnographic record of Oceanic exchange systems could be read as a veritable 'cautionary tale' of material items which would never be expected to survive in the archaeological record of the humid tropics⁸. These latter would count among them feathers and feather garments (e.g., breast plates, cloaks and helmets), fine mats of *Pandanus* and *Freycinetia*, barkcloth (manufactured from several taxa, including *Broussonetia*, *Antiaris* and *Artocarpus*), as well as cordage (not only coconut-fibre sennit, but fine braids or twists from *Pipturus* and, in Hawaii, from the endemic *Touchardia*). And then, could we possibly forget the quantities of foodstuffs - primarily raw but at times also cooked - that were so frequently and so often in large quantities the underlying basis of exchange in so many Oceanic systems with Austronesian language affinities?

Summary

To return then to some of the key variables outlined by Plog (1977) for the analysis of prehistoric exchange systems, the *content* (i.e., the kinds and range of goods being exchanged), the *diversity* of materials from 'luxury' or 'prestige' items to strictly utilitarian resources, and the *magnitude* of the networks in which they were embedded, the Lapita systems of exchange were certainly complex. This is especially so when one considers the 'missing record' of exchange which is inferential from ethnographic analogies and from historical-linguistic reconstructions (e.g., terms for barkcloth, mats, etc.).

A COMPARATIVE DIGRESSION: INTER-ISLAND VERSUS INTRA-ISLAND EXCHANGE

This seems to be the appropriate place to interject a note - not wholly unrelated to the issue of Lapita exchange - regarding a fundamental contrast between the trade and exchange systems of western island Melanesia and Remote Oceania beyond, and those of the interior of the vast island of New Guinea. Both Allen (1984:195-97) and Kirch (1991:154-56) have characterised the latter as possessing fairly simple and short linked chains by which lesser quantities of materials with uneven geographic distributions move between communities. In large part, these contrastive modes of exchange depend upon land transport by human bearers, all of which form into intricate exchange webs

without particular direction over time. Moreover and in keeping with this terrestrial mode of transport, the long-distance goods are all typically compact, low-weight packages (such as obsidian, salt or finished adzes).

In contrast to Friedman's (1981, 1982) wide-ranging and ethnographically-based formulation, in which both island Melanesian and interior (Highland) New Guinea societies were invoked as analogic instances of intermediate and later stages of Oceanic exchange structures, we would argue that the Papuan⁹ structures have an independent origin and antiquity quite separate from that of the Lapita exchange structures which were the foundation systems throughout the island world of Oceania. Indeed, archaeological work in the Bismarck Archipelago has now demonstrated that simple exchange networks were in operation not only in New Guinea but throughout Near Oceania as early as 20,000 B.P. Moreover, we know that when the Austronesian expansion in the Bismarcks ca 3600 B.P. commenced - giving rise to the Lapita cultural complex - these pre-existing networks were critical as the basis for expanded exchange. However, in any historically-based understanding of the development and transformation of Oceanic exchange, it is essential that we keep separate the quite different systems which have developed in island Melanesia within the past three and one-half millennia (the period of Austronesian expansion) and those which have an independent origin extending back at least to the late Pleistocene occupation of New Guinea and the Bismarcks.

EARLY LAPITA EXCHANGE IN THE FAR WESTERN PROVINCE

We move now to a consideration of the varied Lapita exchange systems that have been carefully reconstructed on the sorts of material evidence reviewed above, paying particular attention to possible explanatory models. We begin with the 'Far Western' Lapita province, centred on the islands of the Bismarck Archipelago (i.e., Near Oceania), where Lapita assemblages appear as a new and distinct archaeological horizon at about 3600 B.P. Background information on these sites, their chronology and their ceramic assemblages is available elsewhere (Allen and Gosden, eds. 1991; Gosden *et al.* 1989; Kirch *et al.* 1991).

In considering Lapita within its Near Oceanic context, it is essential to keep in mind the long historical record of pre-Lapita settlement, now known to extend back at least as far as 35,000 B.P. on the large high islands of New Britain and New Ireland (Allen and Gosden, eds. 1991; Allen 1993). By 18-20,000 B.P., the late Pleistocene occupants of the Bismarcks had begun to move small quantities of Talasea and Mopir obsidian over distances of up to 350 km,

including at least some sea crossings (i.e., from New Britain to New Ireland) that imply watercraft technology. Around the same time, the Gray Cuscus (*Phalanger orientalis*) was introduced from New Guinea into the Bismarcks, another instance of inter-island transport of resources (Flannery and White 1991). Gosden sees these developments as a signal change in adaptive strategies: "instead of moving people to resources, resources were [now] moved to people" (1993:133). These early, simple exchange transactions appear to remain quite stable in the archaeological record until around 7000 B.P., when there is evidence for a slight increase in the quantity of obsidian being moved about, and when a second species of translocated marsupial (*Thylogale brunii*) also appears in the Bismarcks. Unfortunately, there is a widespread hiatus in the mid-Holocene stratigraphic record of human occupation in New Britain and New Ireland cave sites after this period, so that the precise nature of regional exchange at the time of the Lapita horizon is not at all clear.

For many reasons that we will not rehearse here (but see Kirch 1997), we interpret the abrupt appearance of the Lapita horizon in the Bismarcks at 3600 B.P. as resulting from the intrusion into this area of a new group of people, distinct genetically, linguistically and culturally. But it is nonetheless clear that these Austronesian-language speakers

also had close encounters with the indigenous, non-Austronesian speaking peoples whose ancestors had long been in residence on the main high islands¹⁰. One result of these initial encounters was to bring the Austronesian-speakers into contact with the people at Talasea who already had knowledge of and were exploiting the obsidian resources found there. What happened subsequently, however, was not just an exponential increase in the quantity of obsidian being exported out of the Willaumez Peninsula, although that consequence is in itself striking. Rather, obsidian immediately became incorporated into a complex, multi-nodal, multi-directional, decentralised and diverse (content) exchange network linking numerous communities around the Bismarcks, all distinguished by having ceramics decorated in a highly distinctive, semiotically-charged decorative style¹¹.

Our knowledge and understanding of this highly complex exchange system remains less comprehensive than we might like, but for at least one node in the system - the Mussau Islands - we have a reasonably well-studied record of the material residues of external exchange transactions (Hunt 1989; Kirch 1990; Kirch *et al.* 1991). Table 2.1 provides a summary of the Mussau external exchange system over time, using the variables proposed by Plog (1977). What is remarkable is that the exchange system is

Variable	Early Phase (1400 B.C.)	Late Phase (500 B.C.)	Post-Lapita Phase (A.D. 1200)
Content: Imports	Pottery: 12 groups Obsidian: two sources Oven stones, chert, metavolcanic adzes	Pottery: six groups Obsidian: two sources (one dominant) Oven stones	Pottery: three groups, low frequency Obsidian: one source
Content: Exports	Shell valuables and fishhooks	?	?
Magnitude	High volumes of pottery and obsidian imported; high volumes of shell artefacts exported	Greatly reduced volumes of imports; export volume low or nonexistent	Very small quantities of materials imported; exports unknown
Diversity	Greatest	Reduced	Least
Network Size	Large number of participating nodes	Reduced number of nodes	Restricted to Manus and New Ireland
Directionality	Multiple flows both in and out of Mussau	Reduced directionality	Restricted flow from Manus to Mussau
Centralisation	Not centralised	Not centralised	Highly focused on Mussau
Complexity	High	Reduced	Simple

*Modified after Kirch (1990:Table 2).

TABLE 2.1 Far Western Lapita exchange viewed from the Talepakemalai node: formal characteristics*.

most complex at its inception, and over time displays a gradual reduction in its diversity of material content, in the rates (volumes) of flow of goods and in the number of nodes (communities) incorporated into the network. Thus, for example, elemental analysis of ceramic clays by Hunt (1989) indicates at least 12 distinct sources at the earliest time phase, declining later to only six groups, and finally (immediately after the end of the Lapita period) to just three. Similarly with obsidian importing to Mussau: the earliest assemblages have nearly equal quantities of both Talasea and Lou obsidian, but after several centuries the Lou source has come to dominate. These data suggest that the Far Western Lapita exchange network was most complex in its initial (formative) stage, and later underwent a process of regionalisation, with the breaking of the original network at critical points along the chain, leading to smaller, less complex regional networks in the later part of the Lapita period.

What explanatory models might we invoke to account for this archaeological record? The quantum shifts - in content, magnitude, directionality, volume and overall complexity - in external exchange that occurred at ca 3600 B.P. in the Bismarcks certainly do not warrant an explanation of an internal, or indigenously-located dynamic (cf. White *et al.* 1988). It seems far more likely to us that the intrusive, Austronesian-speaking peoples were already culturally and socially committed to complex exchange transactions. This fits very well, indeed, with linguistic reconstructions for aspects of early Austronesian social organisation including asymmetrical marriage exchanges (Blust 1980; see also Friedman 1981, 1982). Moreover, possessing a sophisticated maritime technology (the outrigger canoe complex; Pawley and Pawley 1994), these people were able to tap into locally-known resources (such as the Talasea obsidian) and move them over greater distances and with higher frequency than had hitherto been possible in the Bismarcks region.

In addition to exchange as a key element of Austronesian social organisation, it is also possible that economic trade motives had some role to play in the rapid expansion of the Lapita complex throughout Near Oceania. Goodenough has suggested that this expansion may have been related to "economic or commercial [interests] . . . fostered by some developing center of wealth and population on the Asian mainland that provided a growing demand for products from abroad" (1982:52-53). An expanding trade in such items as rattan, resins, woods, feathers, turtle shell, and - possibly, obsidian - could have been an important impetus. In this regard, the discovery of Talasea obsidian flakes in Sabah, Borneo (Bellwood and Koon 1989) is highly relevant, even though their particular assemblage dates to

the end of the Lapita period. It nonetheless serves to demonstrate that very long distance linkages did extend westwards from Near Oceania back into the older Austronesian heartland.

EXCHANGE AND THE LAPITA EXPANSION INTO WESTERN REMOTE OCEANIA

Lapita sites of the Reef-Santa Cruz Islands, along with Lapita plainware sites of the same time period in the nearby Taumako (Duff), Anuta and Tikopia islands (and probably Vanikoro and Utupua) reflect the first intrusion of human populations into the nearest island cluster of Remote Oceania, out of the Near Oceanic islands immediately to the west. These populations left cultural assemblages of the Lapita complex that exhibit a 'homeland effect' in their trade and exchange systems (Green 1994a:39-49, 1994b). By homeland effect, we mean that there is a *directionality* to the one-stop and down-the-line exchange items which points overwhelmingly to the west. This applies equally for the Reef-Nendö sites as for the Kiki site of Tikopia (Kirch and Yen 1982; Kirch 1986), even though the latter's connections to the west may well have been mediated by Lapita communities within the main Reef-Nendö island group.

While the overall directional orientation was westward, there were nonetheless minor connections more locally, especially in volcanic glass as recovered from Lapita sites in the Reef-Santa Cruz Islands and Duff Islands (Lakao) and derived from the Banks Islands to the southeast, and in chert imported from Lakao to the Reef-Santa Cruz communities. The geographic *scale* (size) of the entire Western Lapita network, including the direct access, local reciprocity, and one-stop reciprocity modes, appears to have been on the order of a 400 km radius. However, extending beyond this network of highly regular, repeated interactions, there was as well the very long distance component, focused exclusively on items coming from some 2000 km to the west - that is, the immediate ancestral homeland - over a time span that lasted at least five centuries. A summary of the full system, using Plog's variables, is set out in Table 2.2.

Historical explanations for the kind of system encountered in the Reef-Santa Cruz province rest on a derivation from, and continuing interaction with, systems that had already been in existence much farther to the west in the Near Oceanic homeland of Lapita. This is consistent with an economic and adaptive argument made in the early stages of Lapita archaeology, that "it was importing alone that made possible the continuance in the Reef-Santa Cruz area of a cultural adaptation more in keeping with the ... rather limited resources available on raised atolls [and small

Variable	Descriptive Summary
Content: Imports	Oven stones and small quantities of clay and temper for potting to Reef Islands (distance 46-56 km). Coralline chert and pottery to Reefs and occasionally to other sites in this regional network (distance 46-100 km). Finished stone adzes, occasional pots, volcanic glass and a Melanesian species of rat (distance 257-380 km). Obsidian from three sources, occasional pieces of muscovite-garnet-schist and metamorphosed sandstone (distance 1500-2000 km).
Content: Exports	Pottery, clay and temper, oven stones to Reef Islands. Possibly shell ornaments from Reef Islands (?).
Magnitude	Quite variable with large quantities of Talasea obsidian and Southeast Solomon Is. chert, with only limited amounts from other sources. Very large quantity of pottery and substantial percentage of oven stones to Reef Is. Small quantities only for all other items.
Diversity	Reasonably high based on a wide range of utilitarian, valuable and luxury items occurring in very different quantities.
Network Size	Three distinct modes with respect to distance: (1) up to 100 km; (2) 250-400 km; (3) 1500-2000 km.
Directionality	Varied directions determined by local geography up to 100 km, but predominantly to the northwest for longer distance imports.
Time Span	500-600 years.
Centralisation	No evidence for any central site nodes within the network.
Complexity	Partial hard-goods reflection of a reasonably complicated exchange network.

*Source: Green (ms.)

TABLE 2.2. Western Remote Oceania Lapita exchange viewed from its Reef/Santa Cruz Island nodes: formal characteristics*.

volcanic islands]" (Green 1976:258). In short, during the initial stages of their expansion out of Near Oceania into the heretofore unoccupied islands of Remote Oceania, Lapita populations preferred to retain and continue adaptive strategies that had been worked out in the homeland, rather than pioneering new strategies that would require an emphasis on as-yet little countenanced local resources. However, in certain outlying, small islands such as Anuta (Kirch and Rosendahl 1973), Tikopia (Kirch and Yen 1982), and Taumako, it appears that small groups of Lapita people did consciously isolate themselves from the ancestral exchange connections, to forge local and independent social units.

While these historical and economic-adaptive explanations just advanced for the Reef-Santa Cruz Lapita exchange system find resonance in the archaeological patterns, a more powerful and equally necessary argument derives from a *social* perspective. This is most clearly exemplified in the imported obsidian, in that the geographically closer and only slightly inferior Banks Island volcanic glass sources to the south were only marginally used, even though in strictly economic terms they would have been by far the least expensive to exploit or acquire. Thus the social argument could be advanced that their

ancestors having placed priority on down-the-line exchange from the key Near Oceanic sources (Talasea and Lou), their descendants in the Reef-Santa Cruz region continued this practice, even as the now geographically-extended transactions also came to have a social significance of maintaining ties with their westerly kin through the process of importing status-enhancing items which were socially and ideologically charged. Thus an inherent commodity value for obsidian imported from the west was greatly enhanced by serving as a material signifier of deeply-meaningful social exchanges quite unrelated to intrinsic functional or technological worth. Yet in striking contrast to this high social and symbolic value, when obsidian was consumed on site for practical purposes and then discarded to become part of the archaeological record, another set of utilitarian values seems to have applied (Sheppard 1993:135).

Fundamentally, the underlying social 'function' of Reef-Santa Cruz Lapita exchange seems to revolve on the importance of maintaining community viability, particularly through such critical problems as acquiring suitable marriage partners, in a previously unoccupied, occasionally hazardous and still sparsely-populated region at some distance from 'home' (Kirch 1988b). These people were

colonisers - not latecomers as in the original Bismarck homeland of Lapita - and as such were likely to have operated with a typically Austronesian 'founder-focused' strategy of establishing junior lines in new territories (Bellwood, in press; Kirch 1984:81-82; Sahlins 1981). In contrast to the world they had left behind, the Lapita colonists in Remote Oceania now found themselves in an ethnically-homogenous world, in which the connections between kin and related communities were essential to survival. A formal exchange system centred on the status-enhancing acquisition of prestige goods from the west (high quality obsidian versus local volcanic glass, sedimentary versus coralline cherts, or tough metavolcanic adzes versus those of *Tridacna* shell) provided a social mechanism for maintaining an essential component of a strategy for expansion into and colonisation of this proximate sector of Remote Oceania. But as we shall see, in pushing that colonisation process yet farther south and east, the fragile linkages to the Near Oceanic homeland finally snapped.

RECREATING SOCIAL WORLDS AND REGIONAL SYSTEMS

As Green (1996) discovered in his survey of Lapita exchange systems for Remote Oceania, those beyond the Reef-Santa Cruz province were both more regionalised and, in relation to their content, not nearly so complex. Moreover, excepting the occasional 'heirloom' or curated object such as rare obsidian pieces at Malo (Vanuatu), or at Site 13 and Vatcha in New Caledonia, or at Naigani in Fiji, there is no real evidence for very long distance exchange between entire archipelagoes. We interpret this evidence to reflect a rapidly continuing 'colonisation front' in which local exchange networks were repeatedly established in previously unoccupied areas to the south and east. These Lapita descendants - divorced from their ancestral homeland - were in effect recreating their social worlds, and were only intermittently in contact with other down-the-line descendants.

The regions in question are those centred in Vanuatu, New Caledonia and the Loyalty Islands, and in Fiji, Tonga and Samoa. For none of these areas do we as yet have an archaeologically well defined system of exchange, although individual pieces of evidence attest to efforts to augment a landscape of increasingly diminishing resources through a strategy of maintaining access to non-local resources. In Fiji, Lapita exchange probably had at least two centres, but only for Lakeba is the system well defined archaeologically and at that largely for the island node itself, and not for the larger Lau Island region to which it probably belonged. A summary of its components using Plog's variables is

sketched in Table 2.3. Most important within these far-flung corners of the rapid Lapita diaspora (Kirch and Hunt 1988) would have been the social role of exchange in augmenting demographically small and unstable groups, and in assuring a 'lifeline' to other communities in the stochastically-recurring event of an environmental disaster such as a drought or cyclone (see Kirch 1988b), such as regularly affect these regions.

Various analyses of Lapita ceramic decoration or style have shown an increasing development of communication boundaries over time throughout the Lapita world, which we would interpret as the differentiation, both linguistically and culturally, of more localised ethnic identities. Through time the main sets of these boundaries include Western versus Eastern Lapita (Anson 1983; Green 1978a), Western Fijian versus Lau-West Polynesian (Best 1984; see also Geraghty 1983); Southern versus Northern West Polynesian (Kirch 1988a), and New Caledonia versus Vanuatu (Anson 1983; Green 1978a; Kirch 1997). A further example of increased regionalisation over time can be found in the Mussau Islands case (Kirch *et al.* 1991). If these stylistic studies of ceramics are a reliable indicator, then the declining frequency of exchanges across these boundaries indicated by other lines of evidence for trade and exchange may be more representative than we might otherwise think. Of special relevance to the chapters which follow in this volume, the later Lapita systems of exchange were moving away from those of the original Near Oceanic 'homeland' and towards those to be found in the later Polynesian societies.

Drawing from ethnography, Kirch and Weisler (1994:299) highlight one contrast between Melanesia and Polynesia as the lack within Polynesia of long-distance exchange systems, except in the Fiji-Tonga-Samoa region (see also, Chapter 9). They also note that some of the key material classes that archaeologists have used to define prehistoric exchange networks in Melanesia are of limited distribution or entirely lacking in parts of Polynesia (Weisler 1993a:20; see Chapter 1:Table 1.1). Among these, pottery and obsidian are prime examples. As a result, sourcing of Polynesian adzes made in Oceanic basalts has recently become a major focus of archaeological study (Best *et al.* 1992; Weisler 1993b; Weisler and Kirch 1996; Weisler and Woodhead 1995).

There is little need for extended comment on how the more regionalised Eastern Lapita exchange networks served quite nicely as an adequate base for the later long- and short-distance exchange networks of the Fiji-Tonga-Samoa region; the problem is rather to get a 'hard goods' fix on what ethnographically consisted of so many archaeologically seldom recovered 'soft goods' (the ever-

Variable	Period I (Decorated Ceramics)	Period II (Plain Ware Ceramics)
Content: Imports	Pottery: five temper types. Adzes. Flakes of silicified coral and volcanic glass. Grindstones. Shell.	Pottery: three temper types. Adzes. Flakes of silicified coral.
Magnitude	Somewhat less than half of the pottery and grindstones and most adzes are imports; all flakes but very few shell artefacts are imports.	Very little pottery and half the adzes and flakes are imports.
Diversity	Five categories, but restricted to only a few valuable items.	Reduced largely to two categories of stone items.
Network Size	Two distinct modes with respect to distance: (1) up to 100 km; and (2) 200-600 km.	Largely within 100 km sphere.
Directionality	West toward Viti Levu and to the northern Lau Islands, except for a few flakes of Tongan volcanic glass.	None evident.
Time Span	200-300 years.	400 years.
Centralisation	No evidence for central nodes.	No centralisation evident.
Complexity	Partial hard-goods reflection of a moderately complicated exchange system.	Complexity much reduced.

*Source: Best (1984:628, 642-43, Fig. 9.15).

TABLE 2.3. An eastern Remote Oceania Lapita exchange network as viewed from Lakeba, Fiji: formal characteristics*.

present missing record). What does require emphasis here is that the sort of regionalised Eastern Lapita exchange networks known for Fiji-Tonga-Samoa were to be extended into eastern Polynesia, as documented by various contributors to this volume. As such external exchange systems continued to play formative roles in much of eastern Polynesia up until perhaps 500-600 years ago (Cachola-Abad 1993; Walter 1990, 1993), and survived as well into the ethnographic present in New Zealand. Thus the more localised (island or archipelago restricted), hierarchical, redistributive systems so well known from eastern Polynesia (Sahlins 1958) only came into existence within the relatively recent past.

CONCLUSION

In arguing on the basis of previous studies of the material evidence for external exchange, that the exchange systems of the Lapita horizon were *multiple* rather than comprising a single extended network, and were *dynamic* not static over both space and time, we have distinguished

and outlined some trajectories evident in the archaeological record. One certain trajectory is *spatial* from west to east, that is from Near Oceania to western Remote Oceania to far Remote Oceania. In this paper we have tried to trace the major changes in exchange associated with this spatial progression from the Lapita homeland in Near Oceania to the recreated social worlds of Remote Oceania, and to offer some suggestions as to why some of these developments may have occurred. Other lines of development are temporal, and often become more regionally focused and increasingly specialised, as in the case of Mussau or on the south Papuan coast (e.g., Allen 1984; Fig. 2.2), or again in the Reef-Santa Cruz region. Another set of temporally fluctuating exchange strategies occurs within the Fiji-Tonga-Samoa zone in which the inter-regional interactions wax and wane throughout a 3000-year history. Specific examples include Period IV in Lakeba (Best 1984:Fig. 9.15), the expansion of the late prehistoric Tongan maritime chiefdom (Kirch 1984), or the last millennium of Samoan adze production and exchange (Chapter 5). As contributions to this volume suggest, the same kind of temporal oscillations

will prove to be true of eastern Polynesia, although these are as yet only incompletely evidenced in the archaeological record of those archipelagoes.

What to us is most obviously missing in this account are the numerous other potential trajectories that must surely obtain for parts of coastal Papua New Guinea (where interactions with various land-based 'Papuan' systems is a major consideration, see Terrell and Welsch 1990), of other island groups in the Bismarck Archipelago, the Solomon Islands, Vanuatu and New Caledonia. At this current stage in our knowledge it is not possible to diagram all such probable lines of development, yet we can clearly move away from the ethnographically-dominated analogical models of Friedman (1981, 1982) to alternative ones that have greater historical support in the direct archaeological evidence. Figure 2.3 is such an attempt, in which the supposed sharp dichotomy between Melanesia and Polynesia is downplayed, the historical Lapita base which spans the entire zone is emphasised and the regional trajectories deriving from this base are seen as multiple and far more complex than Friedman would have it, no longer centred in the ethnographic prestige-good systems of western Polynesia, west and central Micronesia, and New Caledonia. Still, as ethnographers of trade and exchange long ago discovered, we believe all such explanations (whether ethnographic or archaeological) will display components that have in the first instance taken into account long-standing historical contingencies in the evolution of these systems, along with economic and environmental adaptive advantages in their maintenance. But we are increasingly cognisant of all those social considerations that apply, particularly to the relations of carrying on these interactions, and now must try also to take into account some of those defining ideological circumstances that structured the form and value of systemic cultural patterns.

Archaeologists at times lament the absence in their material record of such intricacies of social interaction as are available in ethnographic accounts of existing trade and exchange systems. But through the evidence they unearth it is the archaeologists who must provide insight into the long term development of such systems, a perspective to which ethnographers have but limited access. Thus, while some Oceanic anthropologists had suspected that some (or even all) exchange systems in this vast region had an ancestral unity, it is only through archaeology that we can begin to visualise what the nature of such a historical linkage might actually have been. Our claim is that the exchange systems of the Lapita horizon are a major (though not the only) ancestor for many trade, exchange and redistributive systems known ethnographically for Oceania, including those of Polynesia, central and eastern Micronesia, much of island Melanesia, and parts of coastal Papua New Guinea.

NOTES

1. The term Remote Oceania refers to the islands of eastern Melanesia beyond the Solomons (i.e., including the Santa Cruz, Vanuatu, Loyalty and New Caledonia groups, plus Fiji), plus all of Micronesia and Polynesia (Green 1991a).
2. Kirch (1997) defines the following major Lapita provinces: Far Western (centred on the Bismarck Archipelago), Western (the Reef-Santa Cruz and Banks Is. groups), Southern (Vanuatu, Loyalty and New Caledonia) and Eastern (the Fiji-Tonga-Samoa region).
3. Specht (1974:235), discussing complex exchange networks of the northern Solomon Islands, puts the matter very well: "the pattern of trade in the Buka region can thus be regarded as the product of environmental differences, social production, the desire to maintain the continuity of various socio-religious activities, and past culture history".
4. In some cases, however, such trade wares may derive from earlier Lapita ceramic traditions, as has been argued by Allen (1984), Irwin (1985) and others for the Papuan coastal ceramics.
5. A rather similar situation obtained on the resource poor raised limestone island of Malo (Green 1996).
6. A classic instance is that of two small flakes of Talasea-source obsidian recovered from the Naigani Lapita site in Fiji (Best 1987). Most archaeologists would not interpret these as evidence for a continuous exchange network extending from Naigani to Talasea, and therefore regularly bridging the 800 km ocean gap between the Santa Cruz Is. and Fiji. Rather, these two rare items in a demonstrably early (i.e., colonisation phase) site more likely represent the residue of a one-way crossing from west to east.
7. This possibility exists for the Nenumbo site in the Reef Islands (Green 1976) where evidence for shell manufacture is present but has not yet been adequately studied in the laboratory.
8. Except, of course, in exceptional depositional circumstances. These include very arid contexts, as in the dry caves of leeward Hawai'i (e.g., Kirch 1979), or in the remarkable 'wet' sites which have turned up on a number of Pacific islands, including Huahine and Mussau.
9. We are, of course, here using the term in its linguistic denotation of those peoples who speak Papuan languages (Foley 1986), and who exclusively inhabit the interior portions of New Guinea, as well as certain parts of the Bismarck Archipelago. As has long been noted, the extreme diversity of the Papuan languages (incorporating several distinct languages families) is testament to their lengthy tenure in this part of the world, significantly pre-dating the Austronesian-speaking peoples.

10. Green (1991b) characterises these interactions in terms of a 'Triple I' model of intrusion, integration and innovation. Kirch (1997) adapts Greg Denning's metaphorical model of 'the beach' to encompass these significant synergistic encounters.

11. By semiotically-charged, we are referring to the dominant emphasis - in the earliest Far Western ceramic assemblages - on anthropomorphic face motifs. Kirch (1997) develops an argument that these distinctive vessels functioned in a ritual context quite likely focused on ancestor worship or veneration.

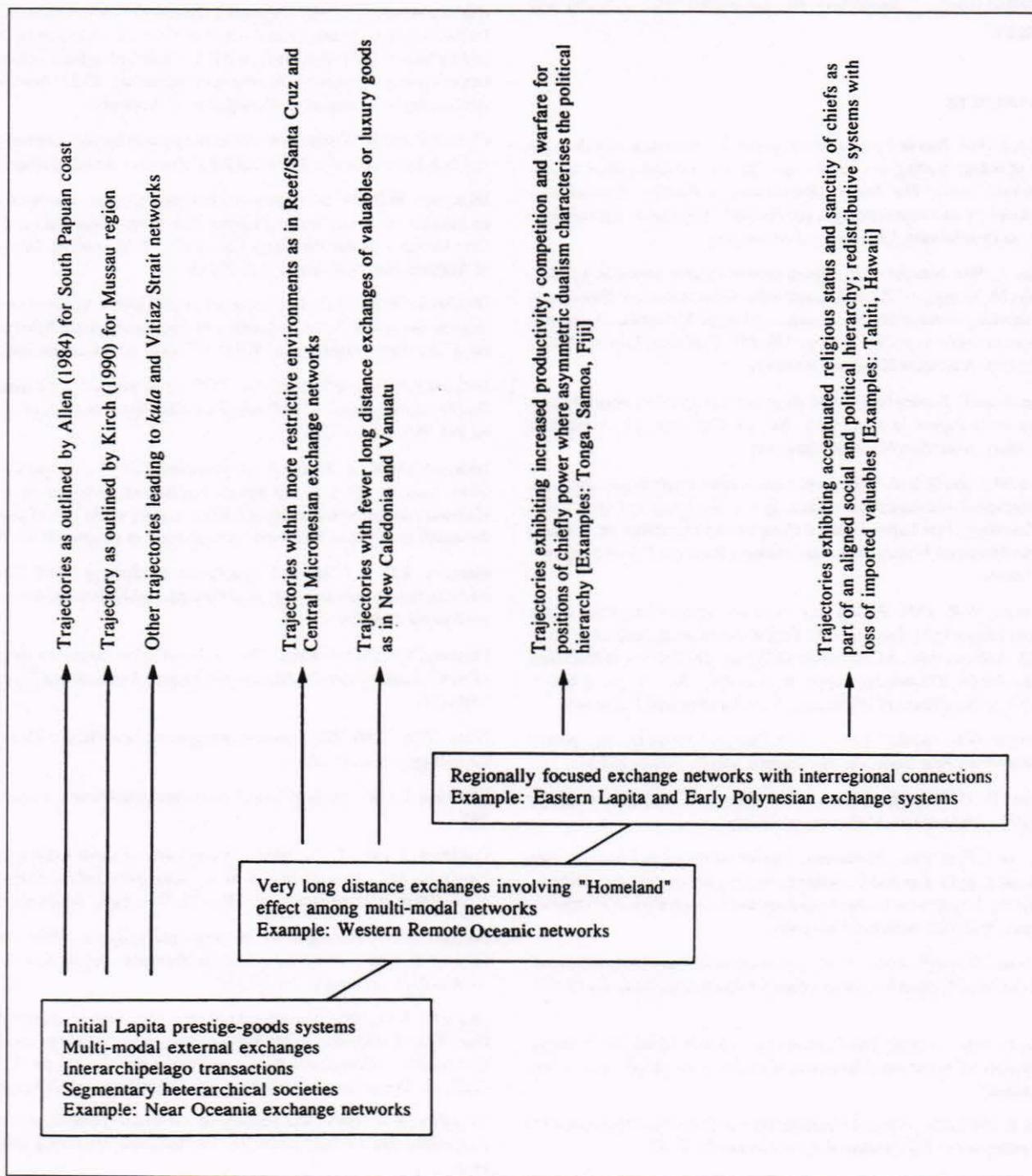


FIGURE 2.3 Multilinear trajectories in the evolution of some Oceanic prestige goods systems from a Lapita base.

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