MANGAASI-STYLE CERAMICS FROM TIKOPIA AND VANIKORO AND THEIR IMPLICATIONS FOR EAST MELANESIAN PREHISTORY

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In the prehistory of the south-west Pacific region, the significance of Lapita ceramics and their associated "cultural complex" (Green 1979)--representative of the initial incursion of man beyond New Guinea and its immediate neighbors--is now widely understood. Not so clearly defined, however, is the role of several varieties of incised and appliqué ceramics that generally appear to succeed Lapita in eastern Melanesia (i.e., Vanuatu, New Caledonia, and Fiji). It is uncertain what relationships these ceramic wares bear with Lapita (whether derived from it, or developed independently), and also uncertain are the relations between the incised-appliqué ceramics themselves in the various east Melanesian archipelagoes. A resolution of this problem is obviously of major importance to our knowledge of Melanesian prehistory.

To date, the most intensive analysis of east Melanesian incised and appliqué ceramics is that of Garanger (1971, 1972), based on excavations in central Vanuatu, especially at the site of Mangaasi (EF-17) on Efate Island. Based on his analysis of the pottery (including design motifs) from this stratified site, Garanger defined a sequence of ceramic change, with two major horizons: "early Mangaasi" and "late Mangaasi" (1971:54). The time period represented by this ceramic sequence was estimated at about 2000 years, from ca. 700 B.C. to A.D. 1200-1500. Recently, however, Garanger's sequence has been questioned by Ward (1979), who has argued that the time frame for Mangaasi ceramics has been over-extended, much as was the Tongan ceramic sequence prior to its revision by Groube (1971; cf. Poulsen 1968).

My purposes here are twofold: (1) to summarize the results of recent work in Vanikoro and Tikopia which revealed a former northerly extension of Mangaasi-style ceramics; and (2) on the basis of these materials, to argue the case in favor of Garanger's original temporal sequence for Mangaasi. It is not my intention here to deal with other aspects of the Tikopia and Vanikoro excavations, and full reports on these are forthcoming (Kirch and Yen, in press; Kirch, in preparation).

VANIKORO

The island of Vanikoro, best known as the shipwreck site of the French navigator La Pérouse, is the southernmost of the major Santa Cruz Islands, and lies only 170 km north of the Banks and Torres Groups in Vanuatu. There are some indications in the limited

ethnographic details available for Vanikoro (Davenport 1968; Tua 1979) of contacts with northern Vanuatu. In particular, the tamate dance of Vanikoro is evidently related to very similar dances of the same name in the Banks Islands (Codrington 1891:72-86). Similarly, the domesticated species of Canarium almond cultivated in Vanikoro was evidently imported from Vanuatu (Yen, personal communication, 1980; cf. Leenhouts 1955).

The archaeological reconnaissance of Vanikoro, conducted intermittently during 1977-78, comprised part of Phase II of the Southeast Solomons Culture History Programme (Green and Cresswell 1976; Yen and Green 1976). Although our original plans called for an extended field period on Vanikoro in 1978, the vagaries of local shipping unfortunately restricted my stay to a few weeks. With the total fieldwork period on Vanikoro totalling a mere 4 weeks, it should be obvious that we have only scratched the surface of a very complex prehistory for this large double island.[1]

Significant excavations were confined to the site of Emo (SE-VK-10), a large sand dune of about 4,200 $\pm$ 1,500 m^2 in extent on the eastern side of Teanu Island. Two pits (4 m^2 each) excavated at the highest point of the dune revealed a continuous midden deposit between 1.75-1.9 m deep, lacking internal stratification (other than post-depositional land crab disturbance in the upper 50 cm). A charcoal sample from the 150-175 cm level of Test Pit 2 yielded a radiocarbon age determination of 1750 $\pm$ 85 B.P. (UCR-967). Although no samples from higher levels of the deposit have yet been dated, the depth of the cultural deposit would suggest that the site was continuously occupied for a period of at least several hundreds of years, beginning early in the first millennium A.D.[2]

The ceramic assemblage from Site VK-10 consists of 37 sherds, 14 of these from a surface collection (largely comprising materials carried to the dune surface by burrowing land crabs), and 23 from excavated contexts. Although they are more common in the lower part of the deposit (ca. 100-190 cm below surface), sherds were recovered from all excavated levels. The density of sherds in the deposit is about 1.6/m^3, a rather low value for most ceramic-bearing sites in Oceania, and doubtless reflective of the fact that these ceramics were imported to Vanikoro (see below).

The small size of the VK-10 ceramic sample unfortunately precludes a thorough description of this ware. Sherds are generally reddish, often burnished, and well-fired (lacking carbon cores). The sample does not include rim sherds, although several larger body sherds appear to be from globular vessels with restricted rims. Some 24% of the sherds bear decorations in classic Mangaasi style (Fig. 1), using incised lines, modeled relief, and punctations.

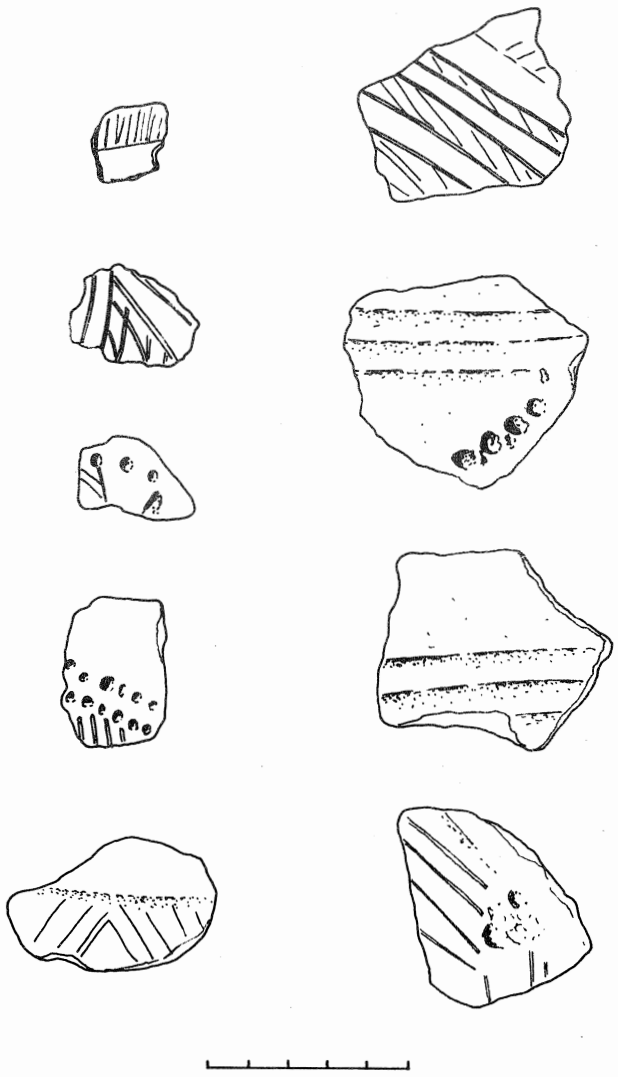

Figure 1. Mangaasi-style sherds from Vanikoro. (scale = 5cm)

Four sherds from site VK-10 were sent to W.R. Dickinson (University of Arizona) for petrographic analysis of temper (Dickinson n.d.). Although somewhat variable, the tempers of all four sherds were characterized by generally similar mixtures of "wholly glassy or vitric and partly microlitic or pilotaxitic volcanic rock fragments, variable mixtures of pyroxene and hornblende among the pyriboles, and a similar moderately sorted and subangular texture suggestive of origin as stream sand". This temper closely resembled that of Mangaasi-style sherds from Tikopia (see below), and both the Vanikoro and Tikopia sherds "closely resemble parts of the spectrum of temper sands observed in sherds from Santo" (Vanuatu). Although the petrographic evidence is not "conclusively diagnostic", it is strongly suggestive of a Santo origin for this pottery.

Other portable artifacts associated with Mangaasi-style ceramics at Site VK-10 will be described in detail elsewhere (Kirch, in preparation), but two categories are worthy of note here. First are a series of Tridacna-shell adzes, many of which are characterized by a purposefully ground, sharply-pointed butt or poll. Virtually identical adzes are also characteristic of sites in central Vanuatu (Garanger 1972: Figs.281, 282, 286). The second diagnostic artifact consists of heavily abraded volcanic pebbles or cobbles, with one or more small depressions; these were evidently used to hold Conus-shell beads during the process of bead manufacture. Again, virtually identical abrading slabs are reported from central and southern Vanuatu (Garanger 1972: Figs. 208-212; Shutler and Shutler 1965).

TIKOPIA

The island of Tikopia needs no introduction to those familiar with Oceanic ethnography, being the site of Sir Raymond Firth's exhaustive studies (Firth 1936). Regular voyages between Tikopia and Vanikoro were recorded well into historic times, and the Tikopia also voyaged to 'Varuka', or Vanua Lava in the Banks Islands (210 km distant).

In contrast to Vanikoro, our archaeological work on Tikopia was extensive, some 217.5 m^3 being excavated in seven major sites and a large series of transect test pits, yielding an assemblage of 5,763 artifacts, 13,208 identified vertebrate faunal remains, and 1.03 metric ton of molluscan remains. These materials have provided the basis for the definition of a nearly 3,000-year cultural sequence, which is presented in detail elsewhere (Kirch and Yen, in press). In brief, the sequence consists of three prehistoric phases, dated as follows:

Kiki Phase	900-100 B.C.
Sinapupu Phase	100 B.C. - A.D. 1200
Tuakamali Phase	A.D. 1200-1800

For present purposes, we shall be concerned solely with the middle, Sinapupu Phase, characterized by the presence of Mangaasi-style ceramics. The break between the Kiki and Sinapupu phases is the most abrupt in the entire Tikopia sequence, marked by the 'sudden' cessation of the local manufacture of Lapitoid plain ware, and the appearance of ceramics bearing decorations in the Mangaasi style.

Deposits of the Sinapupu Phase on Tikopia are found in sand dune midden sites along the north-western Faea coast, and at several points along the inner shore of the lake, Te Roto.[3] From these we excavated a total of 152 sherds with distinctive volcanic temper, some 16% of which display Mangaasi-style decoration (Fig. 2). As in Vanikoro, the density of sherds in the deposits is low, $2.3/m^3$; this density contrasts with the much higher frequency of Lapitoid plain ware ceramics in deposits of the preceding Kiki Phase ($89.5/m^3$), and doubtless reflects the imported status of the Sinapupu Phase ceramics. A series of seven radiocarbon age determinations clearly bracket the time range for Sinapupu Ware from ca. 100 B.C. to A.D. 1200.

The ceramics of the Sinapupu Phase, or "Sinapupu Ware" as we have termed them, are dominantly red (2.5 YR 4-5/6), with burnished exterior surfaces. Sherds are generally well-fired, lack carbon cores, and have wall thicknesses in the range of 8-13 mm. Use of a paddle-and-anvil technique is suggested by the presence of what appear to be anvil depressions on the interior surfaces of some sherds. Vessel form is restricted to pots with everted rims, with rim lips usually pointed; there is a single example of a rounded lip.

Decoration on Sinapupu Ware consists of incising as well as modeled or applied relief, both techniques frequently being represented on individual sherds. As illustrated in Figure 2, the incised designs include triangular zones filled in with lines, parallel bands forming angular patterns, and radiating lines, while relief decoration includes raised bands, punctate bands, and discontinuous nubbins.

The temper of Sinapupu Ware, analyzed by Dickinson (in press), consists of angular and poorly-sorted volcanic sands, with the chief grain types being vesicular glassy fragments of palagonitic or pumiceous origin, plagioclase feldspar, and pyroxene. As noted above, this temper is very similar to that reported for Vanikoro, with both having probable origins in northern Vanuatu.

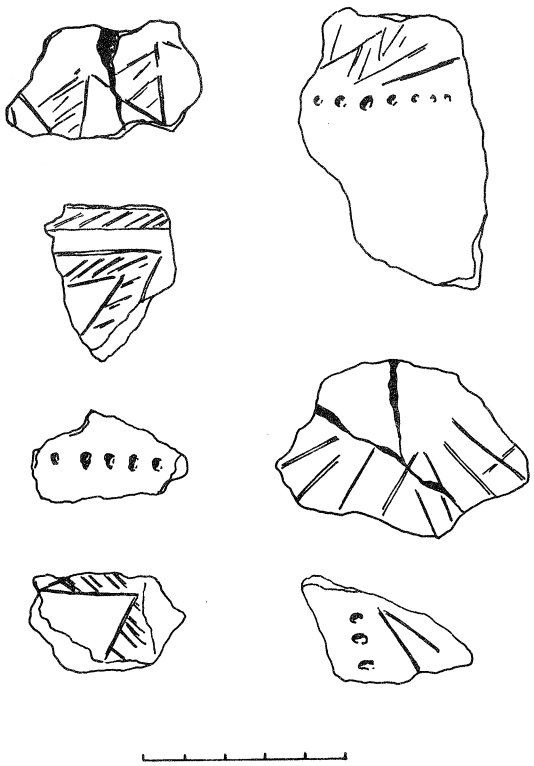

Figure 2. Mangaasi-style sherds (Sinapupu Ware) from Tikopia. (scale = 5cm)

It is noteworthy that on Tikopia the Sinapupu Ware is also temporally associated with a high frequency of Tridacna adzes with pointed butts (Type 4 in the Tikopia adz classification, Kirch and Yen, in press). Direct evidence of contact with the Banks Islands consists of cores and flakes of a basaltic or andesitic grade of volcanic glass, almost certainly derived from the Vanua Lava and/or Gawa sources (cf. Smith, Ward, and Ambrose 1977).

DISCUSSION

The excavations on Tikopia and Vanikoro have now demonstrated that the distribution of Mangaasi-style ceramics formerly extended as far north as the southern Santa Cruz Islands. It is significant, however, that in both Tikopia and Vanikoro these ceramics were not of local manufacture, and the highly similar tempers suggest an origin in Espiritu Santo. In Tikopia, an internally consistent C14 chronology indicates that the Mangaasi-style Sinapupu Ware was imported, along with volcanic glass of Banks Islands provenience, over a period from ca. 100 B.C. to A.D. 1200. For Vanikoro, where the prehistoric cultural sequence has yet to be fully defined, we can only state that these ceramics were being imported to the island by ca. A.D. 200, and--based on the nearly 2-meter depth of cultural deposit at Site VK-10--continued to be imported over a lengthy, but unspecified, period of time. It also appears to be significant that in both islands the Mangaasi-style pottery is associated with a particular type of Tridacna-shell adz, characterized by a sharply pointed butt. Adzes of this type are also known to be common in central and northern Vanuatu sites containing Mangaasi-style ceramics (Garanger 1972; Ward 1979).

As noted in the introduction to this paper, G. Ward (1979) has recently claimed that Garanger's putative time span for Mangaasi ceramics in Vanuatu, ca. 700 B.C. to A.D. 1200-1500, is too protracted, and that the production of Mangaasi pottery actually ceased much earlier. Ward's conclusion is based in part on a reanalysis of Garanger's own Efate site (EF-17), and on an excavation carried out by Ward at the sand dune site of Pakea (BN-PK-1) in the Banks Islands. Unfortunately, based on the ceramic descriptions provided by Ward of materials from Pakea, there are good reasons to suspect that the deposits in this dune site are themselves badly mixed (i.e., not in primary stratigraphic context), with both Lapitoid plain ware (virtually identical to the Kiki Ware ceramics of Tikopia) and Mangaasi ware appearing together in the same levels.

The Mangaasi-style ceramics from Tikopia and Vanikoro now provide independent confirmation for Garanger's original time scale for this incised and appliqué decorated pottery in eastern Melanesia.

Since such pottery, of probable Santo or other north Vanuatu origin, was being imported to Tikopia until ca. A.D. 1200 (and to Vanikoro for an as yet unspecified length of time after A.D. 200), it is patently obvious that Ward's claim for a cessation of Mangaasi ceramic production in Vanuatu early in the first millennium A.D. is untenable. A revision of the Vanuatu sequence in a manner analogous to Groube's revision of the Tongan Lapita sequence doubtless has a certain appeal, but simply does not stand the test of independent data from Tikopia and Vanikoro. With the temporal sequence for Mangaasi as originally defined by Garanger securely confirmed, attention may in the future be focussed on the more important problem of the relations between Mangaasi and the Lapitoid Ceramic Series, and the probable implications of Mangaasi for the origins of ethnic diversity in eastern Melanesia.

FOOTNOTES

1. Vanikoro actually comprises two islands, separated by a deep but narrow channel. The larger island is called Banie, the smaller, Teanu.
2. On Tikopia, comparably deep sand dune occupation deposits represent a time span of about 1500 years.
3. At the time these sites were occupied, Te Roto was a salt-water bay, open to the sea (Kirch and Yen, in press).

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