

# Indigenous transfer of La Pérouse artefacts in the southeast Solomon Islands

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These Voyages, (pointing to the three large volumes of 'Voyages to the South Seas,' [by James Cook and James King] which were just come out) who will read them through? A man had better work his way before the mast, than read them through: they will be eaten by rats and mice, before they are read through. There can be little entertainment in such books; one set of savages is like another. (Samuel Johnson to James Boswell, 15th June 1784 in Hill and Powell 1934-1950: 308)

## Abstract

Defining the extent and consequence of prehistoric interaction in Oceania is an important archaeological problem. The nature of the inter-island contact responsible for the prehistoric record of exotic items is unclear, and methods for evaluating indigenous interaction need to be explored. Here, ethno-historical sources are used to examine proto-historic patterns of interaction in the southeast Solomon Islands. Two French frigates under the command of Comte de La Pérouse, lost on Vanikoro in 1788, formed an artificial 'quarry' of European items used by Pacific Islanders for almost 40 years. The distribution and abundance of La Pérouse items on Vanikoro and neighbouring islands, informed by historical sources, are used to investigate properties of the region's interaction networks. The study has implications for understanding intra-island and inter-island distributions of durable archaeological materials, and why exotic materials extend to some islands but not to others.

## Introduction

What did prehistoric interaction networks look like in the Pacific? The answer to this perennially contentious question in archaeology is central to long-running debates about the maritime capacity of Pacific Islanders and the extent to which culture contact affected the development of insular societies. It is obvious that the prehistoric record of interaction tells us something about indigenous contact, but as in so much of archaeology, interpretation spans the range of plausible alternatives. Kirch and Green (2001:87) argue that the frequency of long-distance two-way voyaging was low-to-absent across much of Polynesia and was the preserve of elites. Terrell et al. (1997:175), on the other hand, consider that the archaeological evidence of prehistoric interaction might significantly underestimate the amount of inter-island contact, and that island populations probably maintained contacts with one another from first colonisation through to the present (Terrell et al. 2001:107).

A larger database of exchange goods and new frameworks for evaluating spatial and temporal distributions of exotic

archaeological materials are required if archaeologists are to make sense of the interaction record. In regard to the latter, and contrary to the unenthusiastic view of Samuel Johnson, ethno-historical records provide an important set of observations for understanding the nature of Pacific societies, including patterns of indigenous interaction (Lightfoot 1995). For several reasons, like the brevity of European visits to many islands and the difficulty of distinguishing exotic from local-culture items, detailed observations of indigenous interaction networks during the early phase of European contact are rare (one exception is the record of indigenous contact in the Tongan polity: Clark 2002).

European explorers, however, were alert to Western items possessed by Pacific Islanders because they could supply evidence of previous visits by competing Northern Hemisphere sea powers and clues to the fate of missing vessels. European goods were often valued by Pacific peoples and circulated within local and inter-island networks. Such items are useful proxy markers with which to examine interaction systems because the location where they entered indigenous networks was often recorded, and their transfer took place at a time when Pacific Islands' societies were not yet substantially transformed by European contact. Furthermore, because metal, glass, ceramic and textile items were esteemed in many Pacific societies, their presence on islands might accurately record the properties of indigenous networks responsible for the transfer of non-Western exotic items.

In addition, the distribution and abundance of European objects, informed by historical sources, can reveal details about indigenous interaction that are generally beyond the reach of archaeology. These include the identity of the indigenous groups engaged in contact, the means by which non-local goods were procured, the frequency and directionality of inter-island voyaging and the effect of culture boundaries on distributions of exotic materials. The accumulation of data from a number of such instances should provide important evidence to evaluate competing interpretations of prehistoric interaction. An alternative view is that the arrival of Europeans and their goods has little relevance for understanding prehistoric patterns of indigenous interaction (Shineberg 1967:159-60), and is simply an example of indigenous transformation in response to the unique circumstances of colonial encroachment. Whichever is the case, dialogue between archaeology and ethno-history is integral to the development of culture-contact studies in the Pacific (cf. Lightfoot 1995:211).

I examine here proto-historic interaction patterns in the southeast Solomon Islands (Temotu Province) from the record of La Pérouse objects possessed by Pacific Islanders, and leave for future study the subject of indigenous use of items from the French frigates. The peculiar circumstances surrounding the discovery of the fate of La Pérouse, as uncovered by Peter Dillon in 1826-27, led to the recording of details about French artefacts, including location, quantity and type. Ethno-historical sources are used to

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**Figure 1** The southeast Solomon Islands and Vanikoro showing the location and name of settlements visited by Peter Dillon.

identify the distribution and abundance of *La Pérouse* objects within Vanikoro and on the neighboring islands of Tikopia, Utupua and Santa Cruz (Ndeni), representing the transfer of European artefacts over a linear distance of 370 km. Textual records are then examined to identify factors that appear to have affected proto-historic interaction patterns and which may have implications for Oceania’s archaeological records of contact.

**The *La Pérouse* material culture trail**

In early March 1788, two French naval frigates, *Boussole* and *Astrolabe*, under the command of Comte de *La Pérouse*, sailed from Botany Bay in Australia and disappeared into what was to European geography the opaque tracts of the South Seas. The two frigates were wrecked on Vanikoro in the southeast Solomon Islands (Fig. 1), a fact that remained unknown to Europe for 39 years. In the interval, the frigates’ wreckage functioned as a ‘quarry’ of European items for the indigenous people of Vanikoro, who distributed the items along established exchange/ redistribution networks to adjacent islands.

The magnitude and abruptness of the loss of the two frigates presented a mystery which successive voyages led by Bruny d’Entrecasteaux (1791-1793), Peter Dillon (1827-1828) and Dumont d’Urville (1827-1829) attempted to solve. The prospect of locating *La Pérouse*’s expedition was improved by knowing the general course that the frigates

had planned to follow after leaving Australia, and by making a reasonable conjecture that some evidence of a European expedition comprising two ships each of 500 tons and with combined crews of more than 200 men should have survived all but the most catastrophic of events. It was also anticipated that had Pacific Islanders encountered items from the lost vessels, they would have traded and exchanged them, thus dispersing objects from the French expedition over a potentially wide radius and increasing the likelihood that an examination of Western items held by island populations would eventually lead to information about the missing expedition.

The utility of such an approach was evident during visits to Pacific islands. When d’Entrecasteaux (2001:182) arrived at Tongatapu in 1791, he found numerous metal items from Captain Cook’s earlier visits to the archipelago between 1773 and 1777, and a smaller number from Bligh’s stay in the Ha’apai Group in 1789, which showed ‘the circulation of the various objects around the islands comprising the archipelago of the Friendly [Tonga] Islands’. Another example was Cook’s recovery on Tongatapu in 1773 of a hafted nail that had been traded during the visit of the *Dolphin* to Niuatoputapu in 1767 (Kirch 1988:13). European goods also circulated between island groups, and Tongans were responsible for introducing iron tools to the Fiji Islands in the late 18<sup>th</sup> century (Martin 1981:190).

These records provide interesting but generally sparse details of interaction that are insufficient for examining indigenous culture contact, with one previously unrecognised exception. Peter Dillon, a trader and explorer with scientific leanings, recovered items and information on Tikopia in 1826 which suggested that *La Pérouse*’s expedition had foundered on Vanikoro. In 1827 Dillon was given command of the East India Company’s survey ship *Research* with the task of proceeding to Vanikoro to collect any remaining evidence of the missing expedition. Acrimony between Dillon and the ship’s surgeon and natural historian, Dr Robert Tytler, resulted in Dillon’s temporary imprisonment in Hobart, an experience that convinced him that a campaign was underway to discredit his discovery of the long-awaited fate of *La Pérouse*. To counter a possible charge that he had fabricated evidence, Dillon (1972 vol. 2:131, 175) put in place a detailed scheme for recording artefacts recovered from the French vessels:

First, the trading officer purchased the articles in presence of Monsieur Chaigneau, the French Agent, and all other persons on board; and then I obtained a certificate from the Gentlemen, specifying the time and place, and from whom the articles therein were enumerated were bought ...

In his two-volume work published in 1829, Dillon listed a large number of *La Pérouse* objects along with the locations where they were collected. Obeyesekere (2001) considers that Dillon fabricated sections of his books, especially the first volume, and casts doubt on the reliability of the entire work. It seems unlikely, however, that the record of *La Pérouse* objects contained in the second volume was fabricated, due to the public circumstance of the collection process and because Dillon’s 1829 inventory is almost identical to a certified list of items published in the *Bengal Hurkaru* newspaper of 12th April 1828. In addition, his collection (which to date has not been relocated) was examined by the Asiatic Society of

British Asia, and sent to France where it was privately scrutinised and publicly displayed. Thus, Dillon's inventory can be used with some confidence to examine the distribution and general abundance of La Pérouse items collected at Vanikoro settlements.

### La Pérouse objects on Vanikoro

Arriving at Vanikoro on 7<sup>th</sup> September 1827, Dillon distributed presents to the chiefs and encouraged the exchange of objects from *Boussole* and *Astrolabe* by providing generous quantities of trade goods. The near month-long search for French objects took in the entire coast of Vanikoro, with items collected from six settlements, as well as a location on the western barrier reef where *in situ* wreckage of a frigate was found (Fig. 1). The numbers of objects and their locations, using Dillon's and Dumont d'Urville's referents, are given in Table 1 and the individual items are listed in Appendix 1.

The artefact numbers are approximate because in a few cases the locations from which the items were collected were not given or the precise number was not reported, as for example, the collection of 'some iron bolts' from villages near the *Research*'s anchorage (Dillon 1972 vol. 2:203). In such instances 'some' or a 'few' were counted conservatively as two, while a 'quantity', 'several' or a 'number' were assigned an arbitrary minimum number of three items. Objects collected from two adjacent villages, Davey and Ouscelee, are considered together because Dillon's records do not always specify from which village they were purchased.

A minimum of 262 French items was collected from Vanikoro settlements, with a further 59 obtained from the frigate wreck site. The number suggests that between 20% and 30% of the Vanikoro population could have held an item from the La Pérouse expedition, depending on whether Dillon's (about 1000) or Dumont d'Urville's (1200-1500) estimate of population size is used (Dillon 1972 vol. 2:276; Dumont d'Urville 1987:236). The great quantity of French items used by the Vanikoro people almost 40 years after the arrival of the frigates was shown by the presence of iron in every 'house and canoe,' a supply that Dillon (1972 vol. 2:183) thought was sufficient to last another 30 years.

Locality name Dillon	Locality name d'Urville	No. of La Pérouse items	No. of houses	Reference
				D'Urville 1987:214
Davey/Ouscelee	Tevai/Ocili	66	30/4 <sup>1</sup>	Dillon 1972, 2:178
Denimah	Tanema	71	15	Dillon 1972, 2:191
Paiow	Paiou	9	3	Dillon 1972, 2:250
Paiow reef	Paiou reef	59	na	
Ammah	Nama	46	16	Dillon 1972, 2:240
Wannow	Vanou	45	12? <sup>2</sup>	Kirch 1983:78
Unlocalised		25		
Total		321		

**Table 1** La Pérouse expedition items collected at Vanikoro localities by Peter Dillon. Notes: 1. Ouscelee appears to have been the main residence of the Davey chief. 2. The size of Wannow was not recorded, but a drawing by de Sainson in 1828 shows at least 12 buildings.

The abundance of French items in Vanikoro settlements can be roughly examined by comparing the number collected at a location with the number of houses recorded by Dillon and Dumont d'Urville, who had arrived in the *Astrolabe* shortly after the departure of the *Research* (Table 1). The comparison suggests that La Pérouse objects were reaching all settlements on Vanikoro but, relative to settlement size, more were present in locations closest to the frigate wreckage than in the settlement of Davey/Ouscelee in the northeast (Fig. 1). As most of the 25 unlocalised items are likely to have come from the two west coast villages of Wannow or Ammah, this trend is likely to be more robust than the numbers suggest (Dillon 1972 vol. 2:203-04, 216, 218). The small number from Paiow near the wreck site appears to reflect the temporary nature of residence, as Paiow was reportedly inhabited during the taro-planting season only (Dillon 1972 vol. 2:209-10).

Most of the French objects were iron, with a small number made of silver, copper, brass or lead. Glass and china items were rare, and so too were wooden remains, as might be expected after long exposure to a tropical environment. Indigenous modification was recorded on 60 items (23%), but a close examination of the Dillon collection today would almost certainly increase the number. Most of the items (95%) modified by the inhabitants of Vanikoro were of iron, which was used to make adzes, chisels and fish hooks. Dillon (1972 vol. 2:174) recorded that the majority of iron tools were used for 'building and husbandry'. Coloured-glass tubing was used for nose ornaments, and a piece of decorative woodwork from the stern of a frigate, now in the Musée de la Marine in Paris, had the prosaic function of keeping pigs from entering a house, and children from leaving it (Dillon 1972 vol. 2:242). Turning to the proportion of iron to non-iron goods in the five main settlements, which might reflect utilitarian versus ornamental or status use, Denimah, Ammah and Wannow had more non-iron objects (25%, 20% and 22% respectively) than Davey/Ouscelee (9%), suggesting that proximity to source influenced artefact quantity and material.

The materials from the frigate wrecked on the reef on the west coast of Vanikoro provided an artificial quarry of functional and ornamental/status items that were used by all groups on the 190 km<sup>2</sup> island group, despite the presence of three distinct languages (Green 1976a; Wurm and Hattori 1981:Map 15). All three are Austronesian and consist of a southern language, Tanema (corresponding with Denimah), a western language of Vano (corresponding with Ammah and Whannow), and the language of Teanu on Teanu Island (likely to correspond with the settlements of Davey and Ouscelee). Proximity to the wreckage, and perhaps inter-group cultural and linguistic differences, might have affected access to European materials, but before examining this further it is useful to review the record of French objects on other islands where the effects of culture and distance on the distribution and abundance of La Pérouse items might be expected to be more pronounced.

### Inter-island transfer of French artefacts

#### *Tikopia*

In 1826 Dillon visited the small island of Tikopia, 221 km southeast of Vanikoro, and found the first clues to the fate of the La Pérouse expedition, recovering a sword guard, a silver ring made from a spoon and some glass

beads (Dillon 1972 vol. 1:42). When he returned on 5th of September 1827, he was well supplied with a range of goods, including axes, knives and glass beads to exchange for La Pérouse 'relics.' The head chief of Tikopia was directed to 'order his people to bring in all the iron-work in their possession, with every other thing which came from Mannicolo [Vanikoro]' (Dillon 1972 vol. 2:121). The two visits of 1826 and 1827 netted a minimum of 35 objects (Appendix 1). Most were of iron, but non-iron items of silver, brass, copper, china and glass made up 37% of the total, a higher proportion than in any of the Vanikoro settlements. Dillon was in Tikopia for less than two days, and the number of objects he collected might underestimate the actual abundance of French items. However, as Tikopia is small (4.8 km<sup>2</sup>), the tally might stand as a reasonable guide to the total quantity on the island. If so, and if Dumont d'Urville's (1987:201) population estimate of 400 to 500 people is not erroneous, then 7-10% of Tikopia's inhabitants could have possessed a La Pérouse artefact.

### *Utupua and Santa Cruz*

After Vanikoro, Dillon made short visits to Utupua and Santa Cruz, where he recorded brief impressions about the presence of French items. At Utupua, 62 km northwest of Vanikoro, a shore party from the *Research* made a 'diligent search' of two villages and found that items from the La Pérouse expedition were abundant, and the 'greater part of the people were furnished with iron tools' (Dillon 1972 vol. 2:285-86). Although no systematic collections appear to have been made on Utupua, the inhabitants claimed that the only French objects they had were iron adzes or 'tokees' (Dillon 1972 vol. 2:286).

Continuing northward to the large island of Santa Cruz, about 148 km from Vanikoro and only 86 km from Utupua, no metal objects were noted at the two villages visited, nor were they recorded in extensive trade carried out at sea between the Santa Cruz people and the *Research*; this was consistent with his experience during his previous visit to Santa Cruz (Statham and Erickson 1998:69). Dillon (1972 vol. 2:278, cf. 158) did not comment on the surprising absence of iron and other European items, although he had previously noted that a 'constant intercourse' existed between Vanikoro and Santa Cruz. During his visit to Vanikoro in March 1828, on the other hand, Dumont d'Urville (1987:229) recorded that people from Santa Cruz had made trips to Vanikoro to obtain iron implements in exchange for tools, bows and ornaments, but he was unable to visit Santa Cruz to verify the information.

To summarise, items from the La Pérouse frigates appear to have been reasonably common on Utupua and Tikopia. The historical records suggest that utilitarian iron tools were prevalent on Utupua, while on Tikopia non-iron goods formed a substantial part of the imports. On Santa Cruz, French objects appear to have been uncommon even though the distance from Santa Cruz to Vanikoro (148 km) is substantially less than the 221 km separating Tikopia from Vanikoro. As Ward (1999:20-21) notes, traditional voyaging patterns were influenced as much by weather conditions as by distance, but there is nothing in the historical records to suggest that contact between Santa Cruz and Vanikoro was appreciably constrained by wind or current conditions.

The relative scarcity of iron and other European objects on Santa Cruz is also suggested by the observations of

d'Entrecasteaux who stopped at Santa Cruz in 1793, just five years after La Pérouse's frigates had arrived at Vanikoro, and asked his officers to 'look over the inhabitants with extreme care, in order to find out if they possessed European merchandise, and especially anything that could have originated from M. de La Pérouse's vessel'. They noted only a few green and red glass beads and an iron blade made from the rim of a barrel and hafted as an adze (d'Entrecasteaux 2001:225). The European items, although possibly deriving from Vanikoro, were attributed to the visit of Carteret in 1767, and not without reason, as Carteret recorded that beads and other items were exchanged at Santa Cruz (Wallis 1965:161-62). While some items from La Pérouse's expedition appear to have reached Santa Cruz, nearly 40 years after the French frigates were wrecked, European artefacts were uncommon there compared to Tikopia, Vanikoro and Utupua.

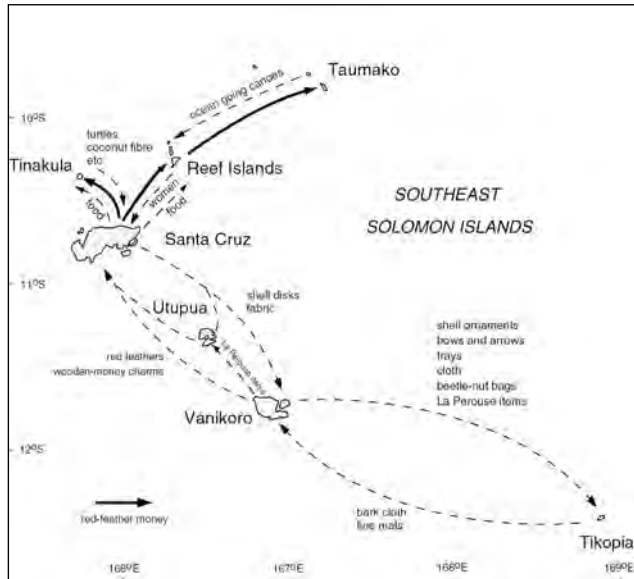
### **Ethno-historical records of interaction**

If only archaeological data were available for the distribution and abundance of La Pérouse items in the southeast Solomon Islands, it might suggest that several inter-island networks were operating, rather than a single integrated network. This is credible because artefact abundance does not appear to be related solely to distance from source, as suggested by the higher relative abundance of French artefacts on Tikopia compared with Santa Cruz. In addition, the greater frequency of non-iron relative to utilitarian iron items on Tikopia indicates that procurement involved a different selection process to that in northeast Vanikoro and Utupua, where the number of non-iron objects was significantly fewer. The great advantage that ethno-historical records of exotic material-culture transfer have over archaeological evidences is the light they shed on the variability in inter-island contacts, particularly between Tikopia-Vanikoro and also between Vanikoro-Santa Cruz.

### **Tikopia-Vanikoro Contact**

According to Dillon (1972 vol. 2:170-71; cf. Statham and Erickson 1998:65), voyaging between Tikopia and Vanikoro was carried out principally by Tikopians who bartered fine mats and bark cloth for several kinds of shell ornaments and bows and arrows, along with items from the French frigates. The exchanged items probably included other objects, as suggested by Dillon's donation of Vanikoro artefacts, comprising three clubs, a canoe paddle, two trays, five pieces of cloth, three betel-nut bags, a war cloak and a mask, to the Museum of the Asiatic Society. The donation was made between 1826 and March 1828 (*Asiatic Researches* 1828: Appendix xi), almost certainly at a meeting of the society on 1st November 1826 (Davidson 1975:128). As Dillon did not return from Vanikoro until April 1828, the items can only have been collected during his visit to Tikopia in 1826 and they furnish a significant addition to the material culture record of Tikopia-Vanikoro interaction (Fig. 2).

The inter-island exchange of goods also involved Tikopians making lengthy stays of up to five years on Vanikoro and Utupua, and one of Dumont d'Urville's officers recorded the construction of a house dedicated to a Tikopian deity (Dumont d'Urville 1987:247; Dillon 1972 vol. 2:119, 285-87). Significantly, the frequency of contact between Tikopia and Vanikoro was closely tied to the actions of one individual. Most La Pérouse artefacts



**Figure 2** Tikopia-Vanikoro exchange as recorded by Peter Dillon in the 1820s, and the red-feather money exchange network of Santa Cruz recorded by Davenport (1971).

recovered by Dillon on Tikopia were said to have been brought back by a chief called 'Thamaca' (Matakai II, the Ariki Taumako, Kirch and Yen 1982:362) who made ten trips to Vanikoro in fleets of between five and 12 canoes, before being lost on a voyage to Anuta. After Matakai's disappearance, the frequency of inter-island contact declined and only three voyages were made between 1820 and 1827 (Dillon 1972 vol. 2:168). The importance of this chief to inter-island voyaging was independently recorded by Raymond Firth, who noted that Tikopian traditions claimed that in addition to iron tools, Matakai also brought from Vanikoro the *Canarium* almond and a glass decanter which Firth (1959:32-33) saw in a Tikopian 'temple' in 1928.

While interaction between Vanikoro and Tikopia was mainly undertaken by Tikopians, it did not involve apparently a systematic or formal set of economic or cultural exchanges. Rather, long-distance voyaging appears to have been an opportunistic behaviour in Tikopian society (Firth 1961:150) that brought social prestige and material wealth in the form of exotic goods that were gifted or exchanged. It might not be coincidence, then, that Matakai's high rate of inter-island voyaging corresponded approximately with the arrival of the iron-rich French frigates at Vanikoro, and a possible decline in the amount of volcanic glass brought to Tikopia from the Banks Islands in Vanuatu (cf. Kirch 1986:41).

#### **Vanikoro, Utupua-Santa Cruz Contact**

The people of Santa Cruz and nearby islands evidently had contact with Utupua and Vanikoro, as shown by the island names collected several centuries earlier by the Spanish (Markham 1967:494). Inter-island contact is also suggested by the presence of large sailing canoes on Santa Cruz and Taumako, recorded repeatedly in the late 16<sup>th</sup> to the 19<sup>th</sup> centuries (Labillardière 1800:264; Wallis 1965:172; Kelly 1966:189; Markham 1967:52, 360; Dillon 1972 vol. 2:288), which Codrington (1969:293-94) claimed were used to travel to Vanikoro and other islands (cf. Davenport 1964:134).

If ongoing contact between Santa Cruz and Vanikoro/Utupua was taking place during the time when La Pérouse objects were abundant, why were European items so much less visible on Santa Cruz? The only observations pertinent to this question date to the 20<sup>th</sup> century, but neither of the two obvious explanations, that interaction was absent or infrequent or that the visibility of French objects on Santa Cruz was reduced by the larger size of its population, seems plausible. The first possibility can be rejected because Dumont d'Urville (1987:229) and Dillon (1972 vol. 2:158) independently recorded frequent contact between Vanikoro and Santa Cruz populations, including occasional visits by Santa Cruz people to obtain iron. The second explanation is also inadequate, since the supply of iron on Vanikoro, according to Dillon, would still have been sufficient in 1827 to supply a large portion of the Santa Cruz population, had it been sought. In this regard, both Labillardière (1800:261) and Dillon (1972 vol. 2:308) were perplexed by the low value that Santa Cruz people placed on iron goods in trade; perhaps La Pérouse artefacts had not been successfully incorporated into existing Santa Cruz exchange networks that focused on traditional products.

The most famous of these products in the 20<sup>th</sup> century were fibre 'money' belts covered in the red feathers of the scarlet honey eater (*Myzomela cardinalis*) made on Santa Cruz and the Reef Islands (Pycroft 1935: 182), which circulated to Santa Cruz, the Reef Islands and Taumako (Fig. 2). Despite significant linguistic differences, with Non-Austronesian languages spoken on Santa Cruz and the eastern Reef Islands and Polynesian languages spoken on Taumako and the western Reef Islands, the cultures of these islands are similar and it is through them that the red-feather 'money' moves (Davenport 1971). The peoples of Utupua and Vanikoro speak different Austronesian languages (Green 1976a), have different cultures and do not use red-feather currency. Yet Vanikoro and Utupua had close economic links to the islands that used red-feather money (Davenport 1971:85). These links involved the supply of Vanikoro red feathers and probably also wooden 'money' charms, which were exchanged with traders from the western Reef Islands for shell disk 'money' and woven cloth (Fig. 2; cf. Davenport 1971:86; Green 1976b:16). It is unclear whether these links existed during the time that the La Pérouse artefacts were available, but some information suggests they might have. Dumont d'Urville (1987:229) noted that Vanikoro people received Santa Cruz ornaments that could have included shell money, and the first Vanikoroan who met Dillon requested iron 'tokees' and bits of European cloth, indicating that woven cloth was a valued material on Vanikoro (Dillon 1972 vol. 2:150). The offer to Dillon of small pieces of indigenous woven cloth on Santa Cruz suggests that loom-made cloth was a recognised item of exchange (Dillon 1972 vol. 2:303). The Spanish recorded that woven cloth was being made on Santa Cruz in 1595 (Markham 1967:51).

The small number of French items entering Santa Cruz, then, appears to result from the presence of an existing interaction network defined by a set of specific items used in a finely balanced and complex set of inter-locking formal island exchanges (Fig. 2). Vanikoro and Utupua were important economic components of the social network, but did not partake to the same degree in the broader cultural system that bestowed high value on traditional exchange items, a system which appears to have limited the penetration of exotic European items into Santa Cruz.

## **Conclusion**

Archaeology and history examine societal transformations over varying time scales and with different sets of data that result from contingent events. Yet, as Lightfoot (1995:211) notes, it does not follow that we should examine prehistoric and historic societies as separate phenomena. Shineberg (1967:146), for instance, reports that demand for European goods in Melanesia was accompanied or succeeded by demands for traditional forms of wealth, and there are structural regularities in the record of protohistoric and archaeological exchanges between eastern Fiji and Tonga (Clark 2002).

The patterns of interaction identified in this study do not conflict with the archaeological record of contact in the late-prehistoric period of the region, sketchy though it is. The interaction record of Tikopia during the Tuakamali Phase (AD1200-1800) contains imported artefacts made from oceanic basalt, volcanic glass, chert and chalcedony consistent with opportunistic procurement of non-local materials from multiple sources, whereas on Vanikoro these materials have yet to be identified (Kirch 1983, 1986).

A classic approach to prehistoric interaction considers how the quantity of an exotic item varies with distance from its source. As Renfrew (1977) notes, source distance and some type of relative or absolute measure of artefact abundance are useful attributes that can often be extracted from the archaeological record, and the kind of behaviour responsible for artefact transfer can be examined by plotting the relationship between variables (eg. Renfrew 1972:466). In the Pacific such work is still in its beginnings, although significant progress has been made in delineating obsidian distributions in the western Pacific and the distribution of basalt tools in Polynesia (Best et al. 1992; Torrence and Summerhayes 1997; Weisler 1997).

As commonly acknowledged, mathematical and distributional models of prehistoric interaction are constrained by the lack of information about the interaction process (Renfrew 1975; Hodder 1979, 1982; Torrence and Summerhayes 1997:79), and here ethno-historical sources can contribute useful observations by describing the properties of functioning inter-island networks. Ethno-historical records of inter-island contact are likely to hold greater archaeological meaning when they derive from the same island or region as a prehistoric example, and the interval separating textual records of indigenous interaction from prehistoric material culture distributions is not excessive (cf. Ambrose 1978; Clark 2002).

Within Vanikoro, a simple gravity model (Plog 1976) might adequately describe the decrease in the quantity and type of French items in settlements furthest from the artefact source, and perhaps also the relative abundance of iron tools on nearby Utupua. Historical records indicate, however, that La Pérouse expedition goods were not distributed via a single network, but involved direct procurement and different processes of cultural selection and acceptance that are unlikely to be identified by the application of mathematical models. Interestingly, some of these social differences appear to be visible in the abundance and type of La Pérouse material culture items, especially of non-iron objects.

The differential permeability of interaction networks to La Pérouse material culture items is suggested to result from the existence of a formal interaction network centered on Santa Cruz, in contrast with the more fluid and

opportunistic inter-island contacts of Tikopians. The counter-intuitive conclusion, of archaeological significance, is that the flexible and less-formalised Tikopian system created a material record of interaction that, in the absence of historical records, could be interpreted as evidence of a stable and integrated interaction network. On Santa Cruz, an established network of economic and social exchanges set a boundary across which exotic items could move, but not necessarily in large numbers, since the introduction of a new product might potentially displace existing inter-group relationships and thus threaten the entire inter-island exchange system.

There are at least two further implications for archaeological studies of exotic materials. First, there is extensive linguistic variation in the southeast Solomons, where Non-Austronesian, non-Polynesian Oceanic and Polynesian languages occur, yet this variability did not hinder the transfer of exotic items between islands. Second, knowledge that a concentration of materials with utilitarian and ornamental qualities existed on Vanikoro was spread to adjacent islands, suggesting that the widespread distribution of artefacts emanating from localised sources in the Pacific could result from direct procurement, rather than some other process like down-the-line exchange. In Renfrew's (1975:48-51) list of trade modes, this procurement behaviour most closely resembles the 'freelance (middleman) trading' mode characterised by an independent trader who travels to a central place to obtain non-local goods by exchange and returns with the exotic goods for redistribution in local networks. Such a pattern appears to characterise the transfer of French objects between Tikopia and Vanikoro, and might also be responsible for the distribution of artefacts made in other localised materials, like Samoan adzes manufactured in fine-grained basalt at quarry complexes on Tutuila (eg. Clark 2002). The functional and stylistic qualities of exotic artefacts, along with their distribution and relative abundance, can provide vital information to examine variation in prehistoric procurement strategies (cf. Hodder 1982; Hodder and Lane 1982).

Studies of cross-cultural interaction have been dominated to date by colonial-indigenous encounters because the impact of European expansion was global and relatively recent, and the record of contact can be assessed from print and other media sources (eg. Daunton and Halpern 1999; Frost and Sampson 1999; Torrence and Clarke 2001). Culture contact also took place amongst the peoples of Oceania, and it is important that approaches capable of informing a skeletal record of prehistoric contact be developed so that its significant consequences can be examined. In this regard, ethno-historical accounts of indigenous interaction, allied with material culture distributions obtained from textual and archaeological sources, provide a valuable but currently under-used set of observations for examining the nature of past contact, and for bridging an increasing divide between the prehistory of indigenous interaction and the analysis of colonial encounters with the Other.

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## References

- Ambrose, W. 1978 The loneliness of the long distance trader in Melanesia. *Mankind* 11:326-333.
- Asiatic Researches* 1828 Volume XVI, Appendix ix.
- Bengal Hurkaru* 12th April 1828.
- Best, S.B., Sheppard, P., Green, R.C. and Parker, R. 1992 Necromancing the stone: Archaeologists and adzes in American Samoa. *Journal of the Polynesian Society* 101:45-85.
- Clark, G. 2002 Adzes of interaction: Samoan basalt artefacts in Fiji. In S. Bedford, C. Sand and D. Burley (eds) *Fifty Years in the Field. Essays in Honour and Celebration of Richard Shutler Jr's Archaeological Career*, pp.227-238. Auckland: New Zealand Archaeological Association. *Monograph* 25.
- Codrington, R.H. 1969 [1891] *The Melanesians: Studies in Their Anthropology and Folk-lore*. Oxford: Clarendon Press.
- Daunton, M. and Halpern, R. (eds) 1999 *Empire and Others: British Encounters with Indigenous Peoples, 1600-1850*. London: UCL Press.
- Davenport, W. 1964 Notes on Santa Cruz voyaging. *Journal of the Polynesian Society* 73:134-142.
- Davenport, W. 1971 Red-feather money. In L.L. Langness and J.C. Weschler (eds) *Melanesia: Readings on a Culture Area*, pp.83-93. Scranton: Chandler Publishing Company.
- Davidson, J.W. 1975 *Peter Dillon of Vanikoro. Chevalier of the South Seas*. Edited by O.H.K. Spate. Melbourne: Oxford University Press.
- d'Entrecasteaux, B. 2001 *Voyage to Australia and the Pacific 1791-1793*. Edited and translated by E. Duyker and M. Duyker. Melbourne: Melbourne University Press.
- Dillon, P. 1972 [1829] *Narrative of a Successful Result of a Voyage in the South Seas Performed by Order of the Government of British India, to Ascertain the Actual Fate of La Pérouse's Expedition, Interspersed with Accounts of the Religion, Manners and Cannibal Practices of the South Sea Islanders*. 2 vols. London, Amsterdam and New York: N. Israel and Da Capo Press. Reprinted as *Bibliotheca Australiana* 53.
- Dumont d'Urville, J.S.-C. 1987 *An Account in Two Volumes of Two Voyages to the South Seas by Captain (later Rear-Admiral) Jules S.-C. Dumont D'Urville of the French Navy to Australia, New Zealand, Oceania 1826-1829 in the Corvette Astrolabe and to the Straits of Magellan, Chile, Oceania, South East Asia, Australia, Antarctica, New Zealand and Torres Strait 1837-1840 in the Corvettes Astrolabe and Zélée*. Vol. 1. Translated from the French and edited by H. Rosenman. Melbourne: Melbourne University Press.
- Firth, R. 1959 *Social Change in Tikopia. Re-study of a Polynesian Community After a Generation*. London: Allen and Unwin.
- Firth, R. 1961 *History and Traditions of Tikopia*. Auckland: The Polynesian Society. *Memoir* 33.
- Frost, A. and Samson, J. (eds) 1999 *Pacific Empires: Essays in Honour of Glyndwr Williams*. Melbourne: Melbourne University Press.
- Green, R.C. 1976a Languages of the Southeast Solomons and their historical relationship. In R.C. Green and M.M. Cresswell (eds) *Southeast Solomon Islands Cultural History*, pp.47-60. Wellington: The Royal Society of New Zealand. *Bulletin* 11.
- Green, R.C. 1976b An introduction to the Southeast Solomons Culture History Programme. In R.C. Green and M.M. Cresswell (eds) *Southeast Solomon Islands Cultural History*, pp.1-17. Wellington: The Royal Society of New Zealand. *Bulletin* 11.
- Hill, G.B. and Powell, L.F. (eds) 1934-1950 *Life of Johnson, Together with Boswell's Journal of a Tour to the Hebrides and Johnson's Diary of a Journey into North Wales*. Vol. IV. Oxford: Clarendon Press.
- Hodder, I. 1979 Economic and social stress and material culture patterning. *American Antiquity* 44:446-454.
- Hodder, I. 1982 Toward a contextual approach to prehistoric exchange. In J.E. Ericson and T.K. Earle (eds) *Contexts for Prehistoric Exchange*, pp.199-211. New York: Academic Press.
- Hodder, I. and Lane, P. 1982 A contextual examination of Neolithic axe distribution in Britain. In J.E. Ericson and T.K. Earle (eds) *Contexts for Prehistoric Exchange*, pp.213-235. New York: Academic Press.
- Kelly, C. (ed.) 1966 *La Australia del Espíritu Santo. The Journal of Fray Martin de Munilla O.F.M. and Documents Relating to the Voyages of Pedro Fernández de Quirós to the South Sea (1605-1606) and Franciscan Missionary Plan (1617-1627)*. Vol. I. Cambridge: The Hakluyt Society.
- Kirch, P.V. 1983 An archaeological exploration of Vanikoro, Santa Cruz Islands, eastern Melanesia. *New Zealand Journal of Archaeology* 5:69-113.
- Kirch, P.V. 1986 Exchange systems and inter-island contact in the transformation of an island society: The Tikopia case. In P.V. Kirch (ed.) *Island Societies. Archaeological Approaches to Evolution and Transformation*, pp.33-41. Cambridge: Cambridge University Press.
- Kirch, P.V. 1988 *Niutopotapu: The Prehistory of a Polynesian Chieftdom*. Seattle: The Burke Museum. *Thomas Burke Memorial Washington State Museum Monograph* 5.
- Kirch, P.V. and Green, R.C. 2001 *Hawaiki, Ancestral Polynesia. An Essay in Historical Anthropology*. Cambridge: Cambridge University Press.
- Kirch, P.V. and Yen, D.E. 1982 *Tikopia: The Prehistory and Ecology of a Polynesian Outlier*. Honolulu: Bernice P. Bishop Museum. *Bulletin* 238.
- Labillardière, J.J.H. 1800 *Voyage in Search of La Pérouse Performed by Order of the Constituent Assembly, during the Years 1791, 1792, 1793, and 1794*. London: J. Stockdale.
- Lightfoot, K.G. 1995 Culture contact studies: Redefining the relationship between prehistoric and historical archaeology. *American Antiquity* 60:199-217.
- Markham, C. (ed.) 1967 *The Voyages of Pedro Fernández de Quirós, 1595 to 1606*. Nendeln (Liechtenstein): Kraus Reprint Limited.
- Martin, J. 1981 *Tonga Islands. William Mariner's Account*. 4<sup>th</sup> edn. Nuku'alofa: Vava'u Press.
- Obeyesekere, G. 2001 Narratives of the self: Chevalier Peter Dillon's Fijian cannibal adventures. In B. Creed and J. Hoorn (eds) *Body Trade: Captivity, Cannibalism and Colonialism in Australia and the Pacific*, pp.69-111. Sydney: Pluto Press.
- Plog, S. 1976 Measurement of prehistoric interaction between communities. In K.V. Flannery (ed) *The Early Mesoamerican Village*, pp.255-272. New York: Academic Press.
- Pycroft, A.T. 1935 Red feather-money - its manufacture and use. *Journal of the Polynesian Society* 44:173-183.
- Renfrew, C. 1972 *The Emergence of Civilisation: The Cyclades and the Aegean in the Third Millennium B.C.* London: Methuen.
- Renfrew, C. 1975 Trade as action at a distance. In J.A. Sabloff and C.C. Lamberg-Karlovsky (eds) *Ancient Civilization and Trade*, pp.3-59. Albuquerque: University of New Mexico Press.
- Renfrew, C. 1977 Alternative models for exchange and spatial distribution. In T.K. Earle and J.F. Ericson (eds) *Exchange Systems in Prehistory*, pp.71-90. New York: Academic Press.
- Shineberg, D. 1967 *They Came for Sandalwood*. Melbourne: Melbourne University Press.
- Statham, P. and Erickson, R. (eds) 1998 *A Life on the Ocean Wave. The Journals of Captain George Bayly 1824-1844*. Melbourne: The Miegunyah Press.
- Terrell, J.E., Hunt, T.L. and Gosden, C. 1997 The dimensions of social life in the Pacific. *Current Anthropology* 38:155-195.
- Terrell, J.E., Kelly, K.M. and Rainbird, P. 2001 Foregone conclusions? In search of 'Papuans' and 'Austronesians.' *Current Anthropology* 42:97-124.
- Torrence, R. and Clarke, A. (eds) 2001 *The Archaeology of Difference: Negotiating Cross-Cultural Engagements in Oceania*. London: Routledge.
- Torrence, R. and Summerhayes, G.R. 1997 Sociality and the short distance trader: Intra-regional obsidian exchange in the Willaumez region, Papua New Guinea. *Archaeology in Oceania* 32:74-84.

- Wallis, H. (ed.) 1965 *Carteret's Voyage Round the World 1766-1769*. Vol. 1, Series II. Cambridge: Cambridge University Press, for the Hakluyt Society.
- Ward, R.G. 1999 *Widening Worlds, Shrinking Worlds? The Reshaping of Oceania*. Canberra: The Centre for the Contemporary Pacific, Australian National University.
- Weisler, M.I. (ed.) 1997 *Prehistoric Long-distance Interaction in Oceania: An Interdisciplinary Approach*. Auckland: New Zealand Archaeological Association. *Monograph* 21.
- Wurm, S.A. and Hattori, S. 1981 *Language Atlas of the Pacific Area*. Canberra: Australian Academy of the Humanities and the Japan Academy.

#### Appendix 1

La Pérouse items collected at Vanikoro and Tikopia in 1826-27 as itemised (with original spelling) by Peter Dillon (1972)

##### **Vanikoro: Davey and Ouselee region**

- 4 iron adzes of native manufacture
- 1 iron bolt 24  $\frac{7}{10}$  inches and a diameter of  $1\frac{1}{8}$  inches
- 1 flat iron with square hole, for holding a spike nail
- 1 piece of plain flat iron
- 2 adzes of native manufacture
- 1 large iron knee of a ship, with the thin part broken off by the islanders, and converted into tools for building and husbandry utensils
- 1 large carpenter's maul
- 1 silver gravy-spoon, with a broken handle
- 1 part of the brass circle of a globe, with about one-third broken off
- 1 Muleteer's bell
- 2 pieces of ship's large iron knees, with the thin parts broken off
- 2 double headed shot much oxydised
- 1 iron large hook, such as used on board frigates for runners
- 2 pieces of the end or thin parts of ship's iron knees
- 1 iron bolt, measuring 3ft 3  $\frac{2}{10}$  inches
- 1 ditto, measuring 2 feet
- 1 ditto with a hole in it, such as is used for boat's cranes
- 1 iron spike-nail pointed by the islanders so as somewhat to resemble a small chisel, measuring 9  $\frac{7}{10}$  inches
- 2 iron adzes of native manufacture
- 1 iron bolt divided into 3 for trading
- 2 pieces of copper joined by a link, apparently the handle of boiler
- 2 pieces of iron manufactured, and strongly resembling the hinges of a ship's port
- 1 large eye-bolt with the shank broke short off, such as are used for gun-carriages
- 1 iron bolt 2 ft 10  $\frac{4}{10}$  inches long
- 1 do. 2 ft 4 inches long
- 20 pieces of do. of various sizes, battered into different shapes by islanders
- 2 large bolts 3 ft 8  $\frac{9}{10}$  inches, the other 3 ft 6  $\frac{7}{10}$  inches in length
- 1 bolt measured 2  $\frac{1}{10}$  inches
- 1 half of a chinese curry dish
- 1 elbow of iron knee with bolt holes
- 1 cold chisel, fitted with a handle somewhat like a hand-hammer
- some iron bolts
- 1 upper part of crow-bar, with claws complete
- 1 piece of iron bolt
- 1 preventer chain-plate

##### **Vanikoro: Deminah region**

- 1 large tiller or lever, measuring nine feet nine inches
- 4 ship's iron knees with the flat parts broken off
- 2 iron rudder-braces for the stern-post of a large ship, with thin parts broken off
- 1 crown of a small anchor
- 1 shank of a small anchor with the ring attached
- 1 side of a large vice, such as used by blacksmiths
- 1 piece 18 inches of the upper part of a crow with claws complete
- 1 iron bolt headed, 24 inches long
- 1 piece of an iron grating, 19 inches
- 1 eye-bolt
- 2 pieces of the thin or end part of an iron knee, with a bolt hole in each
- 14 pieces of bolt-iron of different lengths: the longest 3 ft 9  $\frac{1}{2}$  inches, the shortest 10  $\frac{3}{4}$  inches

- 3 pieces of iron much battered by the islanders
- 1 half of an iron ring
- 1 piece of iron, mounted to a shark hook by the islanders
- 1 brass sheave for a topmast, 12  $\frac{1}{10}$  inches in diameter
- 1 ditto 12  $\frac{3}{10}$  inches in diameter
- 1 solid sheave 7  $\frac{6}{10}$  inches diameter
- 1 small brass mortar, of 3  $\frac{9}{10}$  inches calibre
- 1 copper saucepan with the handle broken off
- 1 stew pan, ditto ditto
- 1 square copper vessel which formerly had a handle at every side
- 2 pieces of broken china-ware that seemingly belonged to a large china jar
- 1 silver vessel weighing from 16-20 oz, of an elliptical shape
- 2 ship's iron knees
- 4 pieces of the end parts of the same
- 1 eye bolt
- 1 side of a smith's vice
- 1 piece of a deep-sea lead
- 1 copper saucepan
- 1 leaden or pewter vessel
- 1 small brace for a ship's sternpost
- 1 brass hook
- 1 piece of iron bolt
- 2 pieces of iron knees
- 1 large chain-bolt with the head
- 2 pieces of chain plates
- 1 pewter vessel resembling a porter pot, with the handle and brim bruised
- 1 copper hoop
- 5 pieces of iron bolts of various lengths and sizes much oxidised

##### **Vanikoro: Paiow region**

- 1 circular piece of brass with cogs or teeth inside
- 2 spike-nails
- 1 eye bolt
- 1 piece of bolt iron
- 1 bottom of a wine bottle
- 1 brass sheave for a frigate's topmast, 12  $\frac{4}{10}$  inches in diameter
- 1 piece of iron bolt bent into a shark-hook
- 1 piece blue glass tube, which was transversely fixed through the cartilage of a man's nose, 3 inches long

##### **Vanikoro: Paiow reef**

- 4 brass guns, three of which are 2  $\frac{1}{8}$  inches in calibre, and the fourth 1  $\frac{3}{4}$  inches
- 1 large shot-weight about 18 lbs
- 1 leaden cistern belonging to a ship's-head, used for certain purposes, and much bruised
- 1 piece of lead in pipe, belonging to the quarter galley
- 7 pieces of the stern-head of a ship
- 1 leaden vessel much bruised, somewhat resembling our English porter-pots
- 2 copper links with handles attached to each
- 1 handle without a link
- 1 long ditto
- 1 small piece of sheet copper
- 2 pieces of old-fashioned shoe-buckles
- 1 Spanish dollar, nearly coated with coral
- 1 part of a surgeon's tourniquet
- several pieces of broken glass bottles
- 1 piece of flint glass
- several pieces of broken china and crockery ware
- 1 earthen brick of European manufacture
- part of the socket of a brass candlestick
- 1 circular weighty piece of brass
- 1 joint or upper part of a composition pump. It is 14  $\frac{5}{10}$  inches in diameter
- 3 feet 3 inches of an iron tiller for a ship
- 1 small-gun's leaden apron
- 4 pieces of sheet lead
- 1 earthen brick of European manufacture
- 1 circular piece of brass, 6 inches in diameter
- 1 brass guard of a musket trigger
- 1 piece of brass tube much bruised
- 1 shank or socket of a copper candlestick
- 2 other pieces of brass copper work

3 musket flints  
 several pieces of broken glass bottles and some other kinds of glass  
 a quantity of broken earthen and china-ware  
 2 whitish glass beads of foreign manufacture

**Vanikoro: Ammah region**

1 small brass ship's bell, about 8 inches in diameter  
 1 small brass gun  
 1 large brace for a ship's stern-post, coated with a composition of lead and brass  
 5 iron bolts of considerable lengths  
 1 chain bolt with head complete  
 1 iron hook for a ship's block, with a piece of bolt  
 1 piece of iron with a hole near its end  
 1 small phial  
 1 half of a double-headed shot  
 several small pieces of iron of various descriptions  
 1 decayed piece of ornamental wood work, probably part of a ship's stern, and when complete exhibited the national arms of France. Its length was 4ft and  $\frac{1}{2}$  an inch, breadth  $13\frac{6}{10}$  inches. Used as a barricade to keep the pigs out and the children in the house  
 1 small mill-stone, 2 feet  $1\frac{2}{10}$  inches in diameter  
 1 copper link, with two handles  
 2 large mauls or sledges, for the use of a carpenter or blacksmith  
 1 hook for a tackle-block  
 1 iron staple  
 1 piece of a port-hinge  
 1 ditto of flat iron, with a screw-thread  
 1 boat's pintle, much corroded by rust  
 1 spike-nail  
 2 pieces of iron grating  
 11 ditto iron bolts of various descriptions and sizes  
 2 ditto of very thick china-ware, supposed to be part of a tureen bottom  
 1 copper boiler, capable of containing 15-20 gallons  
 1 small copper boiler, 10 inches in diameter and 8 inches deep  
 1 iron bolt with fore-lock hole in its end  
 4 other pieces of iron

**Vanikoro: Wannow Region**

a number of articles of iron and copper  
 1 large bell with a piece broke out of the head  
 1 oval copper fish-kettle, cover, and handles complete  
 4 iron hooks for tackle-blocks  
 2 spike-nails  
 2 mawls  
 10 iron bolts of various sizes  
 1 piece of iron breast-hook  
 1 large iron bar with a cross on the end  
 1 piece of iron with a forelock hole  
 1 piece of iron ramrod for a musket  
 several pieces of iron of various descriptions  
 1 wooden and copper scale-bottom  
 1 elbow part of an iron knee  
 1 very large iron ship's bolt  
 1 small one  
 1 green glass tube put transversely through the gristle of the nose. It measured  $2\frac{8}{10}$  inches  
 1 elbow of a ship's large iron knee  
 1 broken hand-hammer  
 1 piece of iron bolt  
 1 small turned globular wooden vessel  
 1 bottom of silver or plated candlestick  
 1 thick sheet of copper measuring 3ft  $4\frac{1}{2}$  inches by 3ft  $\frac{47}{10}$  inches  
 1 large iron thimble, such as is used for the slings of ship's lower yards  
 1 piece of earthen brick  
 1 hook for ship's tackle-block  
 1 spike-nail

**Tikopia**

1826

1 silver sword guard  
 1 silver ring made from a spoon  
 some glass beads

1827

14 pieces of flat iron beaten out with stones in a rude form by the islanders, into the shapes of coarse carpenter's tools  
 1 old sword blade, much rusted  
 1 small piece of an old rasp, wore down smooth  
 1 lather's hammer  
 1 plain iron bolt, with a head  
 1 screw-bolt  
 1 spike-nail  
 1 very old razor  
 1 china-plate  
 1 piece of copper with three holes in it  
 1 half of a brass globe  
 4 composition bells, or rather rattles, such as are used by the Muleteers in Spain  
 2 small composition bells shaped after the fashion of those used in Christian churches  
 1 silver sword handle