

'CANOE TRAFFIC' OF THE TORRES STRAIT AND FLY ESTUARY

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This research¹ concentrates on the material aspects of the interaction between Torres Strait Islanders and the Papuan peoples of the Fly estuary and the southwest coastal region of Papua New Guinea. The Torres Strait is generally described as the area of sea and islands between the Cape York Peninsula of Australia and the southwestern coast of Papua New Guinea, west of the Fly River. It is a little over 150 Km wide and contains over 100 islands. At present only about 17 are inhabited although in the recent historic period approximately 30 were continuously or periodically inhabited. To some extent the islands of the Torres Strait can be divided, geographically as well as culturally, into four groups. These groups are; the volcanic eastern islands; the low sandy central islands; the high, rocky western islands, and the top western or low swampy coastal islands along the Papua New Guinea coast.²

In contrast to the islands of the Torres Strait, the Oriomo-Bituri area of Papua New Guinea, which extends from between the Fly River in the north, to the Torres Strait in the south, is mostly savannah country with small areas of forest. The coastal region is generally featureless, flat swampy flood plains bordered by coastal mangroves and narrow sandy beaches, subject to tidal changes. The off-shore waters are dangerous, with numerous reefs, sandbars and strong currents.³

In the Fly estuary, southwest coast and Torres Strait region not only is linguistic diversity evident, but subsistence patterns across the region also vary significantly. Subsistence and ecological

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patterns in this region have recently been studied by Harris (1980, 1979, 1977) and Ohtsuka (1983 (a) and (b) and 1985). However, in spite of these differences or perhaps because of them, interaction between peoples of the region has a long history. Such patterns of interaction between linguistic and culturally diverse groups of peoples is well known in the Melanesian region.

In the context of most Melanesian trading or exchange practices, goods passed between hands over short distances. According to Brookfield and Hart (1971: 314), this was supplemented by, and integrated with, long distance movement of goods through what has generally been termed 'trading networks'. In this context the term 'network' is taken to mean a series of elements or socioeconomic linkages between individuals, groups or societies, linked by specific exchanges of goods, or services (Plog 1977: 128, and Irwin-Williams 1977: 142). Exchange is essentially a form of distribution by which goods and services move from the hands of those who produce them to be used or consumed by those who do not. In small scale societies, such as those of the Torres Strait and Fly estuary region, exchange is a form of transfer with strong individual and social aspects. Exchange transactions operated on two levels, internal or intra-ethnic, within the kinship system, and external, or inter-ethnic, between exchange partners and others.

Exchange in such small scale societies is a concept that refers specifically to the embeddedness of social obligations within the economic system. In this paper, therefore, exchange will be used in preference to the term 'trade' which carries with it Eurocentric notions of commercial activity involving persons whose principal economic activity is buying, selling and the movement of goods and services.

Historically, one of the most important cultural links between Papuans and Islanders has been regular and sustained contact maintained by voyages in large ocean going canoes. The interesting aspect of this relationship from an economic point of view has been not only the exchange *by* canoes, that is, using canoes as a means of exchange, but also exchange *in* canoes, where the canoe itself has been the principal object of exchange. Exchange relations between Torres Strait Islanders, coastal Papuans and Australian Aboriginal groups at Cape York were facilitated by means of a sophisticated maritime technology and operated within the confines of well established real and fictive kinship ties.

The artefacts of this 'canoe traffic', as it was termed by both Haddon (1904, V: 296-97, and 1908, VI: 186-87) and Landtman (1927: 213-16), therefore, offer an interesting study in the material culture of exchange. As material culture research is concerned with

change over time, an understanding of how these patterns of exchange have become altered by the differing and unequal levels of acculturation, social and economic development in both the Torres Strait and Papua New Guinea must be understood.

Material culture involves the study of those tangible objects of human society that are the products of learned rather than instinctive behaviour (Reynolds 1984: 63). Material culture surrounds us and, as one of the aims of ethnographic museums has been to collect the *objects* of mankind, the museum is an ideal place in which to study material culture. However, material culture research involves more than typological research for, as Evans-Pritchard stated (1940: 89): 'Material culture may be regarded as part of social relations, for material objects are chains along which social relationships run...' It is therefore essential that material culture be understood within its cultural context.

In common with most anthropological research, material culture research should involve an understanding of all relevant archival and historical documentation, as well as ethnohistorical evidence obtained during extended field work. However, material culture research involves an added dimension: the use of museum collections and their associated documentation. This additional source of information is an invaluable reference filter through which historical documentation and contemporary field work can be sublimated. An additional layer of information is gained from the examination of such objects together with the associated information available in museums concerning collection documentation and records.

The Gunnar Landtman collection of Kiwai Papuan material culture housed at the National Museum of Finland (Suomen Kansallismuseo) both in Helsinki, and at the central store house at Niinikoski, is an excellent example of a well preserved, well documented collection with extensive photographic resources and sound recordings (see Landtman 1917, 1927 and 1933). This collection of over 1300 artefacts principally from the Fly estuary and southwest coastal Papuan peoples noted earlier, contains not only exchange items but also many objects which show evidence of incorporating items exchanged between the Kiwai and other coastal peoples and the Torres Strait Islanders. As a collection it is probably the most comprehensive single collection of southwest Papuan material culture, available for research, and complements the extensive Haddon collections of Torres Strait Islander material culture housed in the University Museum of Archaeology and Anthropology, Cambridge (see Moore 1984) made in 1888 by Alfred Cort Haddon and in 1898 by the Cambridge

Anthropological Expedition to Torres Strait under the direction of Haddon (Haddon 1901–1935). These collections are the most important historical collections of coastal Papuan and Islander material culture and, together with supporting documentation, are primary sources for anthropological research in the region.

The Torres Strait and Fly estuary region is one area of Melanesia rich in both historical documentary sources and artefactual material. First recorded European contacts with Islanders date from 1606, when Torres sailed through the Torres Strait. Cook in 1770 passed close to Cape York and the south western islands. Later the numerous British scientific expeditions of the 1840s and 1850s (Jukes 1847, Sweatman's journals (Allen and Corris 1977) and Macgillivray 1852) left valuable records of both the natural and cultural history of the region. This ethnographic literature contains important source material, not only of social life but also descriptions of material culture, at the time of first sustained contact between Europeans, Islanders, Aborigines and Papuans.

Missionary activity commenced in 1871 with the arrival of the London Missionary Society pastors who established a base first on Erub in the eastern Torres Strait, and later, in 1872, at Mawatta on the southwest Papuan coast. Colonial administration followed the establishment of Thursday Island in 1877 and Daru after 1895.

Historical documentary sources, notably reports by seamen, navigators and scientists, traders, missionaries and government officials report on the long history of 'canoe traffic' across the region (see especially Jear (1904/05), Beaver (1920) and McCarthy (1939).

This early and sustained contact between the indigenous people and Europeans, particularly following establishment of the valuable pearling and beche-de-mer industries, led to the gradual introduction of European trade-store goods and foodstuffs into the customary exchange system. By the last decade of the 19th century European tools, clothing and maritime technology had been substituted for many items of customary material culture particularly in the Torres Strait islands. In the islands, settlement patterns were also altered by mission and government attempts at consolidation of villages for religious, legal and labour control.

The logical substitution of European trade-store goods into the customary exchange system was particularly noted by Jear (1904/ 1905). Thus, by the time of Landtman's research on the Papuan side of Torres Strait, undertaken between 1910 and 1912, the people of coastal Papua had been subjected to considerable outside influence both from Europeans and non-Europeans. Items of material culture described in literature and in museum collections of both Torres

Strait Islander and Papuan artefacts shows evidence of these external influences.

The patterns of exchange as presented in the historical documentary sources, can be broadly divided into three areas: exchange between Islanders and Cape York Aborigines; exchange between coastal Papuans and Islanders; and, inter-island exchange among Islanders. Historical sources detail items of exchange, however, there was little attempt, even in the writings of Landtman (1927 and 1933) and Haddon (1901–1935), at analysing exchange from the perspective of individual cultural groups within the region.

The following list of exchange items, noted during the early contact period from 1840 to 1900, was obtained from the early ethnographic literature discussed in this paper. From the studies by both Landtman (1927: 213–16) and Haddon (1904, V: 293–97 and 1908, VI: 185–88) this list can be confirmed.

Exchange items originating from the Torres Strait:

harpoons shafts
all forms of shell [the most valuable being pearl (*Pinctada* sp.) and cone shell (*Conus* sp.), but other shells, such as olive shell (*Oliva* sp.), trumpet shells (*Fusus* sp.), and baler shells (*Melo* sp.) were also important exchange items]
stone for axes, adzes and clubs
ochre
plaitwork, baskets and mats
feathers (Torres Strait pigeon and heron)
bamboo-knives, water containers and tobacco pipes garden foods
dugong and turtle meat and fish (fresh and smoked)
turtle shell
stingray spines
masks
human heads and skulls
iron (European tools)
calico (European cloth)
European trade-store goods — inc. rice, flour and stick tobacco

Many of these items circulated in inter-island exchange. Particularly important was the exchange of fish from the central islands for garden foods from the fertile eastern islands.

Exchange items originating from Papua New Guinea:

garden foods
wild animal meat
sago

bamboo knives
bamboo tobacco pipes
feathers (cassowary and bird of paradise)
cassowary feather headdresses
canoes
canoe hulls
bows and arrows
drums
stonehead clubs
shell ornaments
mats and baskets
cuscus (*Phalanger* sp.)
cassowary bone
ornaments (dogs' teeth, boars' tusks, wallaby teeth)
threaded seeds
fibre and plaitwork
'wongai' timber
cane loops for holding human heads
native tobacco

Exchange items originating from Cape York:

ochre
turtle shell
spears and spearthrowers
dogs
pearl shell
feathers (Torres Strait pigeon)

Differences in subsistence strategies and access to natural resources, for both Islanders and Papuans, are reflected in the variety of materials used in artefacts found in museum collections. It is possible, on the basis of differing ecological and subsistence patterns, to categorize those items of material culture used in exchange into ecological zones of origin. Because linguistic and cultural differences show strong correlation with these ecological differences, assumptions can be made concerning the cultural origins of material culture items noted in both the historical documentary sources as well as in oral testimony. The patterns of exchange of material culture items can be shown diagrammatically (Figure 1). The exchange of raw materials, foodstuffs and animals, as noted in the historical documentary literature, can also be shown diagrammatically (Figure 2).

Oral evidence obtained from field work amongst the Torres Strait Islanders and coastal Papuan peoples also confirms many of the items listed above. However, in contrast to the generalized and culturally nonspecific descriptions of exchange patterns obtained

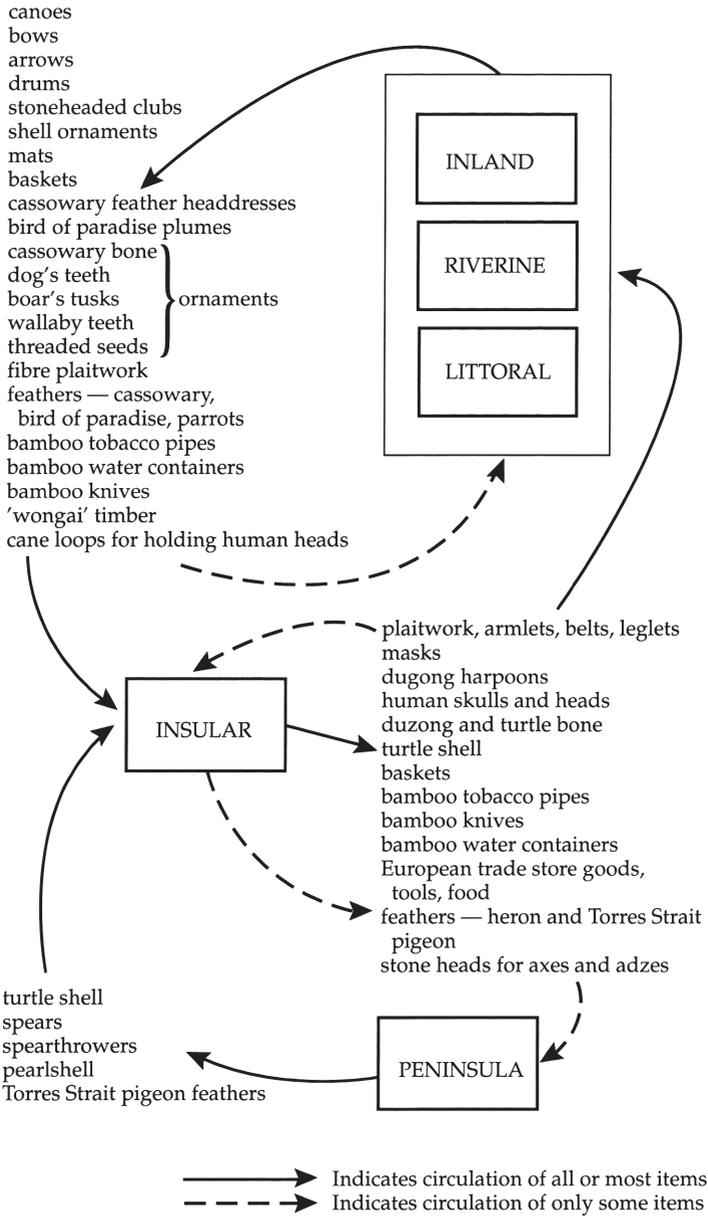


Figure 1. Patterns of exchange of material culture items as noted in the Historical Documentary Evidence.

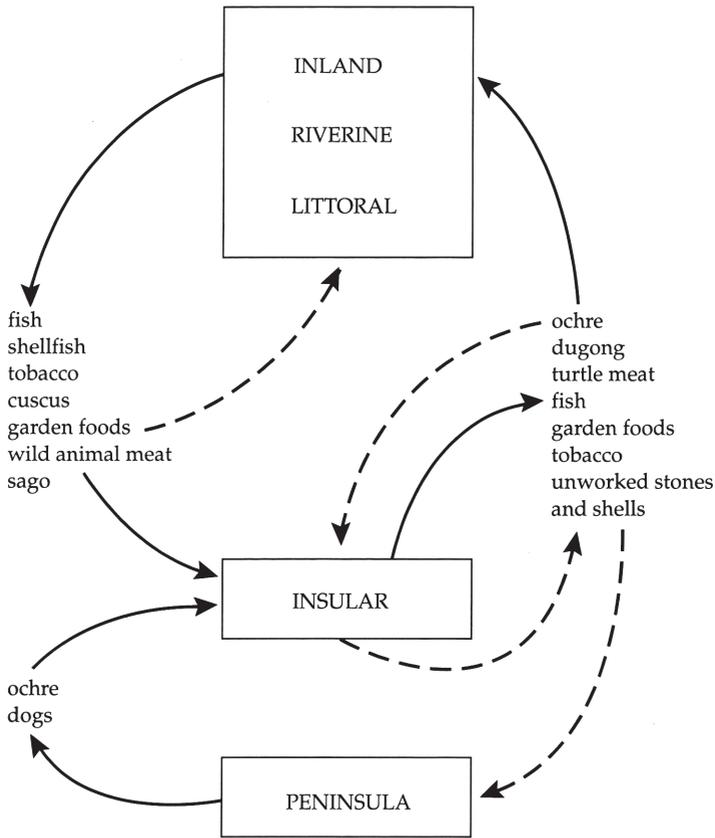


Figure 2. Patterns of exchange of raw materials, foodstuffs and animals as noted in Historical Documentary Literature.

from the historical documentary sources, the oral testimony of exchange is culturally specific in detailing the origin of exchange items and emphasises that the key to the maintenance of close exchange relationships was strong real and fictive kinship ties.

The Torres Strait and Fly estuary exchange system was open ended. The coastal Papuan people were engaged in exchange with nearby riverine dwelling people who, in turn, exchanged with those groups living inland. Islanders exchanged, both externally

with coastal Papuans and internally between Eastern and Central Islanders and between Central and Western Islanders. On the Australian mainland a number of Aboriginal groups maintained exchange relations with Islanders as well as with each other. The result was widespread geographical dispersal of material culture items originating from not only the Islands but the Papuan and Australian mainlands.

A diagrammatic representation of the patterns of exchange of material culture items, emphasising the position of the coastal Kiwai speaking peoples is shown in Figure 3. Figure 4 is a diagrammatic representation of patterns of exchange of raw materials and foodstuffs as noted in oral history collected from the littoral dwelling Kiwai speaking people.

The legends and stories detailing the peoples' own historical perspective of the origin of the 'canoe traffic' between Torres Strait Islanders and Papuans were collected by Landtman (1917: 148–52 and 1927: 211–12). This evidence emphasised the long history of inter-ethnic contact. The principal story concerning the introduction of the dugout canoe and the start of traffic in canoes stated how two men, Nimo and Puipui, who lived at Ait on the eastern end of Saibai Island, journeyed along the southwest coast of Papua in a bowl made from coconut shell. On their way east they named many islands, points and creeks until they arrived at Old Mawatta, near the Oriomo River, opposite Daru. There they met a man who, seeing their coconut bowl vessel, gave them a dugout canoe each. They lashed the canoes side by side, and eventually returned to Saibai. Two men from Mabuiag Island in the western Torres Strait came to Saibai in a solid log canoe with two outriggers. Nimo gave them one dugout canoe and they returned to Mabuiag, where they added wash-strakes, two outriggers, ornamented sides and also added mat sails. They sailed to nearby Badu where the people put down valuables, stone axes and harpoon handles in payment for a similar canoe. The people of Moa did the same. The two Mabuiag men returned to Saibai and taught the people there how to improve their canoes. They obtained other canoe hulls and brought them back to the Badu and Moa people. Since then canoes have been 'traded' along the coast in exchange for shell valuables. Nimo and Puipui remained on the coast at Saibai and did not return to Ait.

A second story also collected at Mawatta by Landtman (1917: 361–64) told how the Central Islanders first obtained their outrigger canoes. The people of Yam Island first learnt of canoes when a model canoe drifted away from Daru and landed on Yam. Men constructed a solid log canoe with two outriggers, a small

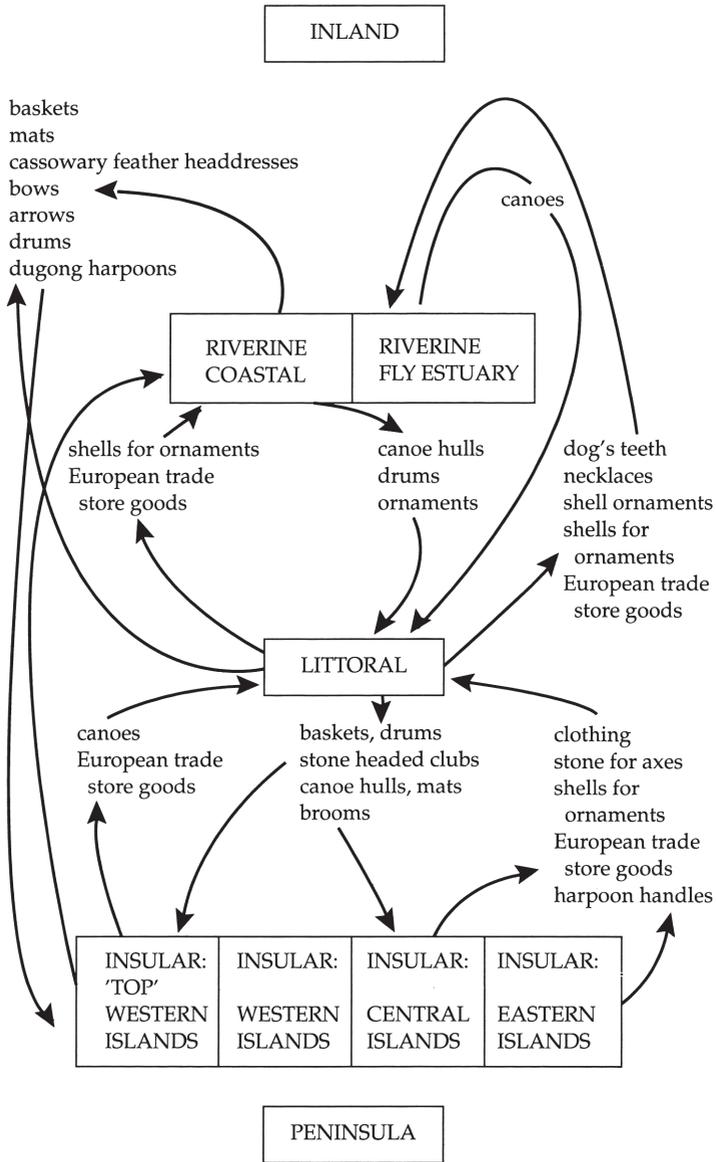


Figure 3. Patterns of exchange of material culture items from the perspective of coastal Kiwai speaking people.

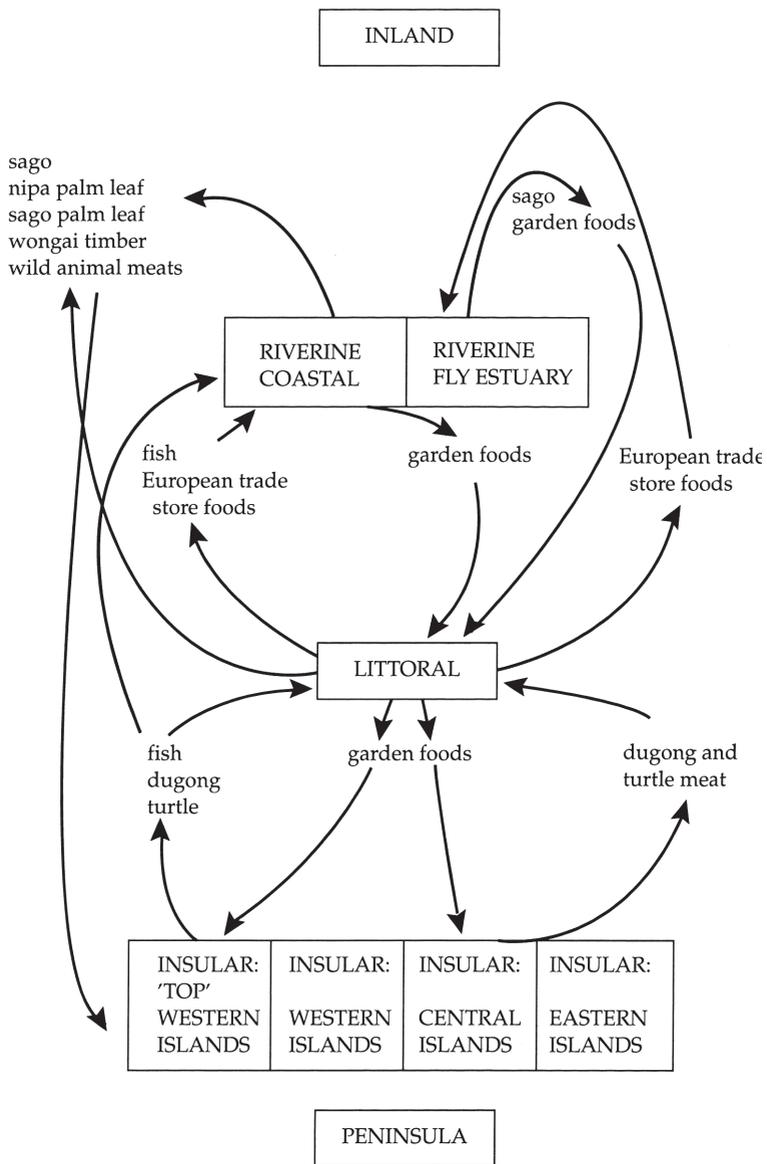


Figure 4. Patterns of exchange of raw materials and foodstuffs from the perspective of coastal Kiwai speaking people.

platform and mat sails in imitation of this toy canoe, and went to Daru. The people of Daru showed them their dugout canoes, and the Yam Islanders learnt that canoes originated from the northern part of the Fly estuary and were obtained in exchange for shells and valuables. This led to the extension of the 'canoe traffic' into the central Torres Strait islands.

Prior to European colonial intrusion into the economic life of the Torres Strait Islanders and the Papuan people of the southwest coast and Fly estuary, the principal economic transaction concerned the exchange of armshells (*Conus* sp.) obtained from the waters of the Torres Strait for canoe hulls obtained from the Fly estuary.

Canoe hulls originated in the villages on the northern side of the Fly estuary, notably Daumori, Lewada, Baramura, Tirio and Wariabodoro (near Teapopo) villages, as well as in the Dibiri and Bamu River region. Canoes were then exchanged down the Fly estuary or across the islands of the estuary to the southern coastal Kiwai villages and from there into the Torres Strait. It appears that the eastern Islanders of Torres Strait obtained canoes through Parama, while the central and western Islanders obtained canoes via the coastal village of Tureture, and then through Saibai. Thus the actual path of canoes followed the legendary paths established by the ancestors.

Canoes are no longer used in the Torres Strait islands. However, due to lower economic standards, and difficulties in obtaining goods such as outboard motors and petrol, sail canoes are still extensively utilized by the coastal Papuan people. Canoe hulls can be made into a variety of canoe types depending on the size of the hull, the requirements of the purchasers and the needs of the community. Generally, the larger the hull the larger the canoe. Small canoes may also be made in local communities where sufficient timber could be obtained. If obtained through the exchange system, small canoe hulls are generally made into single outrigger, single masted canoes, called in Kiwai *tataku*. These are used in-shore along the coast and in the Fly estuary, where large canoes are seldom seen. The general sail shape seems an inverted triangle. In former times river canoes seldom had sails. In the Kadawa and Daru areas the small coastal canoes had a square sail, which, in former times, was made from strips of pandanus leaf stitched together, rather like a large mat.

The second form is a large canoe, with planked sides, full platform, two outriggers and one mast with two sails, called in Kiwai a *puputo*. This is still the common form of canoe used near Daru by the coastal Kiwai peoples. These canoes are still used for reef fishing, travel to the Torres Strait Islands and for community

transport. The church women of Kadawa, for example, have their own canoe used for transportation to markets, inter-church meetings and fishing trips, as well as for extended visiting and exchange journeys into the eastern and central Torres Strait. This canoe is used and sailed almost exclusively by the women.

A third form is called *motomoto*. This was the largest canoe type, with two outriggers, planked sides, full platform, two masts with three sails. While comparatively slow and heavy, it is very safe in open water and can be used to transport large cargoes, and even dugong and turtles, as well as many people over long distances. *Motomoto* are now used only in the more western villages of Mawatta, Masingara and Mabudawan. The use of the *motomoto* is still necessary in these villages for distances to markets are long and waters near these villages are dangerous. It is generally accepted by both Papuans and Islanders that the Torres Strait Islanders on Saibai first developed the use of the large double outrigger canoe. This was essentially for practical reasons, heavy loads of goods and people required the use of large sails and a substantial number of crew. Thus the generally accepted version of the origin of the double outrigger canoe conforms to the oral traditions collected by Landtman and noted earlier. According to oral evidence and historical photographic evidence, the present form of masts and sails used on the *motomoto* appears to be derived from the old European pearling lugger, common in Torres Strait waters during the first quarter of this century.

Oral testimony collected by the author during field work in 1984 and 1985 also emphasises the long history of inter-ethnic contact between Papuan and Islanders established well before the coming of Europeans. The following story told by Sair Buia of Kulalae village describes first contacts between the Gizra speaking people and the eastern Islanders of the Torres Strait:

Our people were going to Gida (on the western side of the Pahoturi River) for initiation ceremonies, on the land where we learnt our lore. During this time people used rafts to cross rivers and at this time the wind was blowing from the northwest and the current was very strong. On the raft were many people, including a pregnant woman named Agor. They could not cross the river and began to be washed down the river. They had fruit and nuts from the bush, because this was the lean time for food, before full fruiting and before the good taro and bananas were ripe. The wind and current took them out into the sea, and right over to Murray Island (in the eastern Torres Strait). Their fire went out while they were travelling. There were people on Murray Island, and they

asked the people on the raft : “Where do you come from?” The people told them that they were Gizra people. The pregnant woman gave birth there, and the raft people mixed and married into the Murray Island people. On Murray Island there were no breadfruit trees, or nuts, etc., but now these islands are full of fruit trees that the Gizra people took over with them.

As has been stated, the Meriam language of the Eastern Islanders of the Torres Strait is structurally similar to the Bine, Gidra and Gizra languages of the people of the riverine regions along the southwest coast of Papua New Guinea.

The establishment of exchange partnerships through the principal exchange process of ‘traffic’ in canoes permitted the distribution of the wide variety of exchange items noted earlier. The principal objects of exchange, that is *Conus* sp. armshells for canoe hulls, persisted until the early part of this century. For a maritime people, such as the Islanders and the coastal Papuan People, the canoe was an essential item of material culture. Large canoes were always owned by clan or community groups and were functionally important as the means of transportation, subsistence and the maintenance of kinship ties. However, the Papuan and Islander people are now divided by many social, economic and political barriers.

The decline in the extent and vitality of the Torres Strait and Fly estuary ‘canoe traffic’ was noted by writers earlier this century. There are a number of factors which influenced this decline. With the introduction of European goods into the exchange system, stick tobacco, calico, knives and axes were also exchanged for canoes. The introduction of a cash economy based on employment for wages on plantations, boats, in domestic and administrative service, also led to the significant change in the customary exchange system. As well as this, customs and quarantine regulations concerning the transport of people, food and other goods, especially alcohol, had been in force since early this century. Political divisions, firmly established after the independence of Papua New Guinea in 1975, divide the peoples of Torres Strait from their cousins in Papua New Guinea. The use of different currencies only compounded the sense of separation felt by Islanders and Papuans. Confusion over access to land, reefs, fishing grounds and maritime resources in the Torres Strait prompted the proposal for the establishment of a ‘traditional economic zone’ in the Torres Strait (Australia, Treaties 1978). This was formally ratified in 1985. The treaty protects, under the title of ‘barter and market trade’,

those broadly defined 'traditional' economic activities performed by the inhabitants of the region in accordance with local tradition. However, while in theory such customary exchange rights are recognised, in practice the full extent of the Treaty is little understood in the isolated villages of the southwest coast of Papua New Guinea.

Since Landtman's time, 'canoe traffic' has undergone some radical restructuring. While kinship ties still form the basis for understanding customary exchange patterns, these kinship ties have been weakened by the immigration and quarantine restrictions. Exchange of food stuffs is mostly prohibited by Australian quarantine laws. Following a concerted and notably successful conservation campaign, restrictions on dugong hunting have had an impact on communal hunting and feasting practices. Store goods have largely supplanted those pre-World War I items previously mentioned, although drums and mats are still important artefacts of daily use in both Papua New Guinea and the Torres Strait Islands.

The Torres Strait Islanders changed from the use of canoes to use of European boats early this century. This was supported by mission and governments who encouraged boat building and commercial enterprise. Largely for economic reasons, the Papuan people still make, exchange and use small and large canoes, which are finely crafted and expertly sailed. Canoes, however, are no longer exchanged across Torres Strait.

Summary

The people of the Torres Strait and neighbouring coastal regions are neither politically united nor culturally homogeneous. However, in former times even the most widely separated communities had mediated contact with each other, while closer communities had stronger ties, the closest ties being kinship relations which were both strengthened and maintained by formal and informal exchange relations. Communities were tied to each other through raiding, ritual and trade, and through exchange were able to exploit the resources of the wider region (Beckett 1972: 308). The primary economic purpose of exchange was to distribute resources among diverse groups of peoples. The integration of small, generally economically independent households and clans was a requirement of economic survival. The result was that the communities of the region co-existed with limited but necessary interchange.

At a local level contact was thus frequent and informal, at the intermediate level, less frequent and more formalized and in a regional context it took the form of systematized exchange. The principal purpose of exchange was the movement of products manufactured from resources obtained in environments where such resources were maximized.

The results were objects of exchange, whose sources varied according to environmental factors and the skills of the people. Such objects exist within museum collections such as Landtman's collection.

These objects can tell us a great deal about the life of the people who both made and used them. At a time when field work is becoming increasingly difficult, both politically and economically, the value of museum collections must surely gain in importance. They are an important research tool, in most cases generally underutilized by anthropologists.

With the development of social anthropology after World War II, the study of material culture became increasingly unfashionable. This aspect is examined in some detail by Marilyn Strathern (in this volume).

The study of material culture has particular relevance in Australia and the Pacific. Large collections of culturally significant Melanesian, Polynesian and Australian Aboriginal material culture exist in museums far removed from their cultural homelands. Artefactual documents are still 'read' by the people of the Pacific who remain the subjects of continuing anthropological research.

At a time when the people of the Pacific are actively reseeking their cultural heritage, and are neither culturally nor politically unaware, the research, display and revival of the material culture of these peoples of the Pacific has received positive encouragement from the people themselves.

Notes

1. This paper is a brief study of some aspects of my doctoral research at the Material Culture Unit, James Cook University of North Queensland, Australia, on the material culture of the Torres Strait and Fly estuary 'canoe traffic.'
2. The Meriam-mer speaking peoples of the eastern islands inhabit the Murray, Darnley and Stephen Islands group while the Kala Lagaw Ya (Kala Lagau Langgus) speakers inhabit the central islands, the western islands and the top western islands. Kala Lagaw Ya speakers can at present, be further divided into three sub-groupings; the people

of the central islands speak Kriol, a mixture of English, Kala Lagaw Ya and Polyne-
sian, especially Samoan, languages; while the western islanders speak Mabuiai dia-
lect; and the top western islanders speak Saibai dialect. Kala Langaw Ya belongs to
the Pama-Nyungan group of Australian languages while Saibai language is related
to Gizra, the language of the inhabitants of the Pahoturi River region of coastal
Papua New Guinea. Meriam is a member of the non-Austronesian (Papuan) lan-
guage family of the Trans-Fly language stock (Wurm 1975). Its closest linguistic
relations are to the Papuan mainland languages of Bine, Gidra and Gizra spoken
by people inhabiting the lands between the Papuan coast and the Fly River. While
it shows strong influence from Southern Kiwai language, it also shows evidence of
contact with Kala Lagaw Ya.

3. In this region of Papua New Guinea a number of Papuan, non-Austronesian speak-
ing people inhabit the narrow coastal strip and numerous islands of the Fly estuary
as well as the swampy riverine areas. The Agob speaking people live on the main-
land between the Mai Kussa and the Pahoturi River. The Gizra speaking people live
along the Pahoturi River and east towards the Binaturi River. The Bine speaking
people live along the Binaturi River and inland. The Gidra speaking people live
along the Oriomo River and inland along the Oriomo Plateau, while the Kiwai
speaking people, who dwell in the Fly estuary, on Daru and Parama Islands, also
inhabit the small, isolated littoral communities at the mouths of the Oriomo, Bina-
turi and Pahoturi Rivers. At present, varieties of the Kiwai language are spoken as
far as the Papuan Gulf to the east, although Wurm (1972: 363) stated that the origin
of the Kiwai speaking people was in the Upper Fly and that the present distribution
of Kiwai speaking peoples results from migrations down the Fly River over many
generations.

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