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SETTLEMENT PATTERNS ON OFFSHORE ISLANDS IN NORTHEASTERN QUEENSLAND

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Study area

For the purposes of this study the offshore islands in northeastern Queensland are taken as those lying between Bowen and Cairns. As a matter of convenience these islands are divided into 'major' and 'minor' islands, the major ones being at least 10km or more in their greatest dimension and the minor ones less than that. This classification allows for an apparent bimodal dispersion in the relative size of the islands. The major islands include the following: Whitsunday and Hook (south-east of Bowen), Gloucester (east of Bowen), Magnetic (north of Townsville), Great Palm (east of Ingham) and Hinchinbrook (south-east of Tully). Some archaeological finds are known from all of the major islands, and at least a few are known from many of the minor islands. However, none of the offshore islands in the study area, or for that matter anywhere in north Queensland, have had any really thorough archaeological surveys carried out. In addition to my fieldwork on the mainland in northeastern Queensland (see Campbell 1978 and 1979), I have concentrated thus far principally on Hinchinbrook and Goold islands, and the results of this island research to date are shown on the map in Figure 1. Both are high, mountainous islands, and both are now National Parks. This research is discussed further below.

The relationship between island size, latitude and traditional Aboriginal settlement patterns in Australia in general is still not completely clear, but unlike Kangaroo Island (South Australia) and most of the islands of Bass Strait, none of the major and few of the minor islands in the study area were completely unoccupied at the time of Aboriginal/European contact (cf. Tindale 1974; Jones 1976; and Fig.2 in this present paper). In fact all of the major and many of the minor islands right across northern Australia were in use, though the intensity of use varied considerably from island to island, region to region (see also relevant papers in Allen, Golson and Jones 1977). Latitude, marine currents, carrying capacity, cultural variation etc. would all presumably have had something to do with the striking contrasts between northern and southern island Australia, as well as with the less striking local variations in offshore island settlement patterns. Within the study area the largest island, Hinchinbrook, was able to support an entire tribe on a permanent basis, the 'Bandjin' people (see Figs 1 and 2). The other islands in the study area were also generally in frequent to constant use in the so-called 'ethnographic present'.

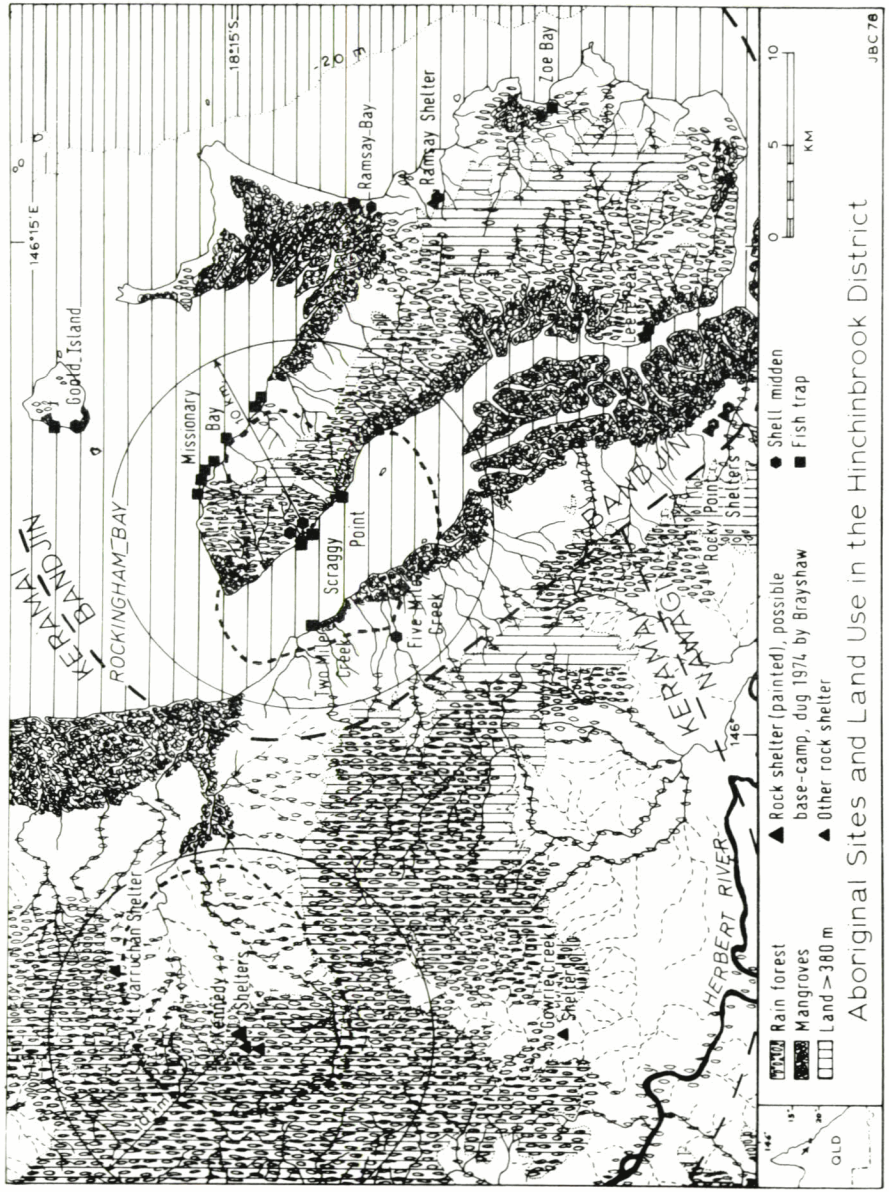


Fig 1

Archaeological evidence

The only island excavations carried out so far in the study area are those which were done by an amateur during the Second World War in shell middens at Scraggy Point on Hinchinbrook Island (Stephens 1945 and 1946; see also Fig.1 in the present paper). In addition to various sorts of littoral shells he mentions dugong, turtle and fish bones. And amongst the artefacts which he uncovered he reports the occurrence of stone flakes, stone axes and flaked bottle glass, though he does not report the occurrence of any stratigraphic evidence. He also describes equally briefly a few aspects of the stone tidal fish trap complex at Scraggy Point (Stephens 1946; see also Fig.3 in the present paper).

The only comprehensive synthesis of surface sites and isolated finds found so far on the islands and adjacent parts of the mainland in the study area is that compiled by Brayshaw (1977) as part of her doctoral work. Although her four excavations sites are rock shelters on the mainland, she did carry out two borings in one of the middens at Scraggy Point, the results of which are also reported in her thesis. My own fieldwork in the study area is largely since 1976.

A review of what is known in north Queensland and of what might eventually be found here is presented elsewhere (Campbell 1979) in relation to some of the apparent and possible patterns of ecological and cultural change in the late Quaternary of Australia and New Guinea. The only truly long archaeological sequence known so far in north Queensland is that at the 'Early Man' shelters at Laura, where evidence extending into the late Pleistocene has been uncovered (Wright 1971; Rosenfeld 1975). One would expect that equally long or longer sequences would eventually be found both on the mainland and on some of the offshore islands, as well as perhaps underwater on former islands and former extensions of the mainland in what is now the Great Barrier Reef (in places this massive limestone area has many submerged caves; see Campbell 1979 as well as other authors in the Quaternary section of Henderson and Stephenson 1979). Work on the Quaternary palaeoecology and palaeogeography of at least certain parts of mainland and offshore north Queensland is much more advanced than any of the archaeological work, and we now have a fair idea of local changes in sea/land relationships, climatic patterns and vegetation (see again Quaternary section in Henderson and Stephenson 1979). Adjacent to the study area, Lynch's Crater in the Atherton Tableland provides a palaeobotanical hint of Aboriginal burning and clearing activities by about 40,000 to 35,000 radiocarbon years ago; this pollen sequence now extends back into the 'penultimate glacial' (see also Kershaw 1978). As I suggest in my review paper, it would be well worthwhile to examine the sediments of Lynch's Crater, Bromfield Swamp and other former Atherton craters for direct archaeological evidence of activities and artefacts. The latter could even include wooden artefacts.

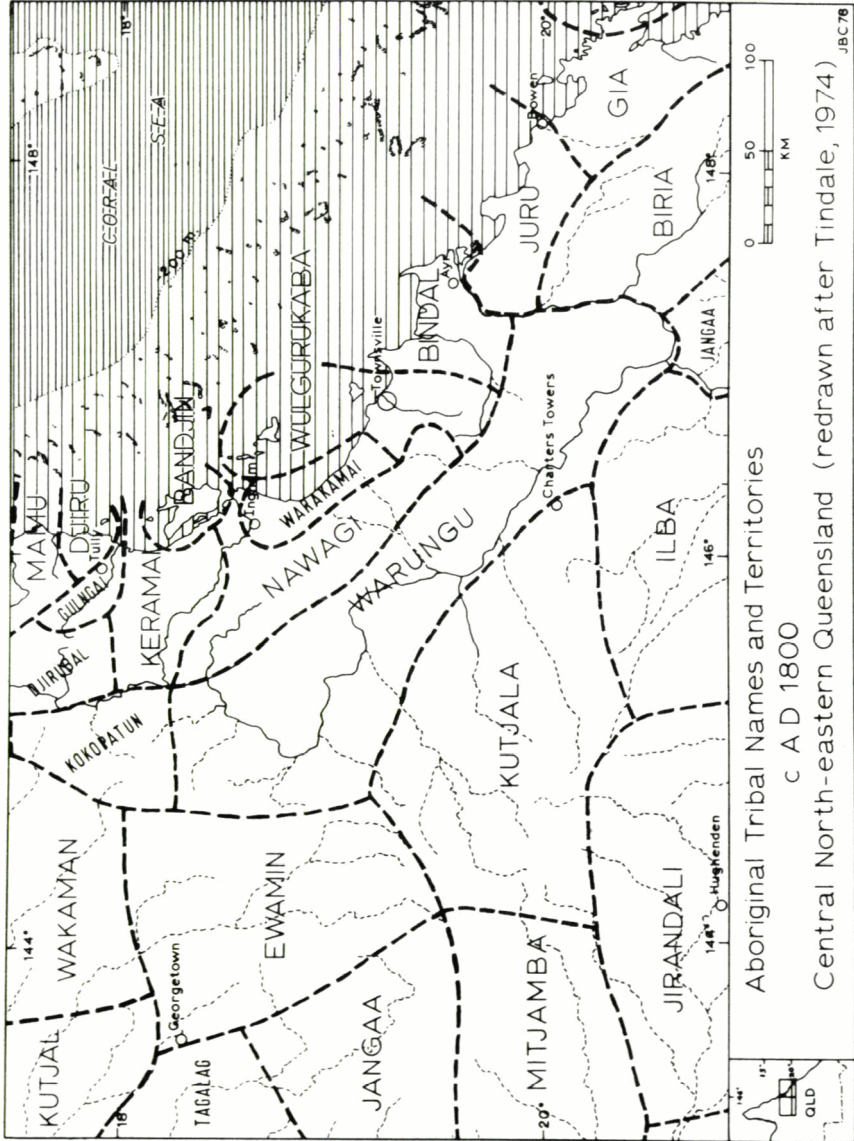
Archaeological work on offshore islands elsewhere in north Queensland is also extremely limited. Beaton (1978) reports the results of a brief survey carried out on selected islands in the

northern Great Barrier Reef. Vanderwal (1973) and Moore (1978) report the results of their separate surveys and occasional small soundings on selected Torres Strait islands. Although of relevance to coastal rather than offshore island work, it is also important to cite the fieldwork and careful analyses carried out by Bailey (1977) on the extensive complex of shell middens and mounds at Weipa on the western side of Cape York Peninsula, for his work is significant for midden investigations in general. However, most of the evidence to date, whether from these other regions or from the offshore islands in the present study area, appears to be related to comparatively recent settlement patterns. That is, almost everything found so far seems to belong to the late Holocene, and all of the radiocarbon age estimates obtained so far for offshore island and coastal sites are younger than 2000 years ago.

Ethnographic evidence

Ethnographic data on the study area are also very limited and in most cases depends on incomplete or even inaccurate historical sources. Some of this is summarised in Tindale (1974), Dixon (1972 and 1976) and Brayshaw (1977). Part of the relevant portion of Tindale's Australia-wide map is reproduced here in Figure 2 with all of his tribal boundaries changed to broken lines as they are only approximate and with spellings given according to the Australian Institute of Aboriginal Studies' version. There is still considerable debate over the precise names (if any) and precise territories of all of these tribes, but Figure 2 serves at least as a general guide. Figure 2 also shows quite clearly the marked difference between inland and coastal tribes in the comparative size of their general territories. The difference is presumably related in part to different carrying capacities, the coastal and offshore island areas having generally higher carrying capacities, especially in or near the rich rain forest and mangrove ecosystems of the northern part of the study area (see Figs 1 and 2).

One of the earliest accounts of the area is that by Carron (1849), botanist on the Kennedy Expedition. He provides a tantalising description of some of the people and their campsites in the Rockingham Bay area. Curr (1886-89) is an Australia-wide 'ethnographic' survey which often touches on the study area, but which is patchy and often based merely on hearsay. It is Curr unfortunately who is one of the few sources on the Hinchinbrook Island people. The classic ethnographic study in the region is that by Roth (1901-10) on the 'Malanbara' (= Tindale's 'Gulngai') of the Tully River. Indeed, Roth's work is one of the few truly detailed accounts available for any of the tribes in the study area, though it is more a list of artefacts and 'customs' than a proper ethnographic analysis in the current sense, and it is concerned with a coastal rather than offshore island people. The 'Djiru' of Dunk Island are described in a more unprofessional way by Banfield (1908), who also comments on the fishing strategies



of the 'Bandjin' of Hinchinbrook (Banfield 1909). Jones (1961) brings together a quite detailed synthesis of the pattern of Aboriginal/European contact and change on the offshore islands and the adjacent mainland principally in the northern part of the study area. And finally, Colliver (1978) is one of the more recent attempts to pull together what is known of the 'Bandjin', though frankly he reads little better than Curr (1886-89)! None of the above sources is of much help when attempting to reconstruct fully the settlement patterns on the islands, or for that matter on the mainland.

Unfortunately, most of the tribes shown on Figure 2 no longer exist, and the way of life of the few that do survive as recognisable groups is quite different now. None of the original offshore island groups survives as a distinct entity, and Great Palm Island is the only offshore island in the study area still inhabited by a predominantly Aboriginal population. The present Great Palm Island people are descended in general from a mix of individuals brought from various tribes all over Queensland, though at least a few are descended from some of the original 'Wulgurukaba' tribe as well as from neighbouring tribes of the surrounding district. On the mainland the area which still has some groups living on or near their traditional lands and speaking some of their traditional languages is roughly from Ingham to Cairns and inland to Ravenshoe, with of course quite a few gaps and little or no official recognition (see Dixon 1972 and 1976). These are the rain forest or former rain forest peoples of the tropical northeast. Further ethnographic and linguistic work would certainly be worthwhile, indeed is urgently desired by some of the elderly members of these groups. My PhD student, Mrs Dorothy Jones, is working with the 'Malanbara' and 'Giramaygan' (= Tindale's 'Gulngai' and 'Keramai', respectively) with whom she has had a long-standing and close relationship (see also Jones 1961). In addition to compiling a thorough ethnography and testing Roth (1901-10), she is recording and analysing in particular their belief systems and the impact of European Australian society on those. I am also working with these two groups, though my research is more ethnoarchaeological and has only been since 1976. A fair amount of information which is relevant at least indirectly to the reconstruction of the neighbouring offshore island settlement patterns is being collected as well, but most of it awaits proper analysis.

Hinchinbrook Island evidence

Certain aspects of the pattern which is emerging in the Hinchinbrook district may be seen in Figure 1. Of the sites found so far on Hinchinbrook Island itself, 95% (or 18 out of 19) are closely associated with the use of marine and littoral resources. Only one site, a small rock shelter, is known so far in the interior, and as it has a few littoral shells (see Colliver 1978), it is at least indirectly associated with the use of the sea as well. Of the total of 19 sites, 53% (or 10

sites) are tidal fish traps and 42% (or 8) are littoral shell middens (the other 5% is accounted for by the rock shelter). Although the distribution of littoral sites on Hinchinbrook may reflect the dominant settlement patterns and land/sea use systems, the absence of sites in the mountainous interior of the island is doubtless more apparent than real, as nearly all surveys thus far have concentrated on the shores of the island. The sorts of sites which might occur on the higher parts of Hinchinbrook could include campsites, painted rock shelters, bora grounds, quarries etc. Regarding the latter, a definite quarry for clear quartz has yet to be pinpointed, though it is thought that Hinchinbrook was one of the main sources of clear quartz for neighbouring tribes as far away as the Townsville district (see Campbell 1978 on occurrence at Turtle Rock; see also Brayshaw 1977 on wider pattern). Definite exposures of clear quartz are known on the higher parts of Hinchinbrook. But regarding the general settlement pattern, as is suggested by Jones (1961) and Colliver (1978), the island's interior may normally have been used less frequently than its fringes. This would make reasonable ecological sense as well, though it has yet to be tested thoroughly.

Most of the tidal fish traps (eight out of the ten now known) on Hinchinbrook were found and/or relocated in July 1978 during a one-day aerial survey which was organised jointly by James Cook University and the Royal Australian Army. A helicopter was used for this operation with great success. All of the Missionary Bay fish traps were located and photographed, the Scraggy Point fish traps were photographed in much greater detail than had ever been accomplished before, another trap was located and photographed 3km southeast of Scraggy Point, the Ramsay Bay middens were photographed, and the rugged interior was scanned from both sides and traversed from Zoe Bay to the west. Unfortunately in scanning and traversing the interior no definite rock shelters were sighted, but some possible overhangs were noted.

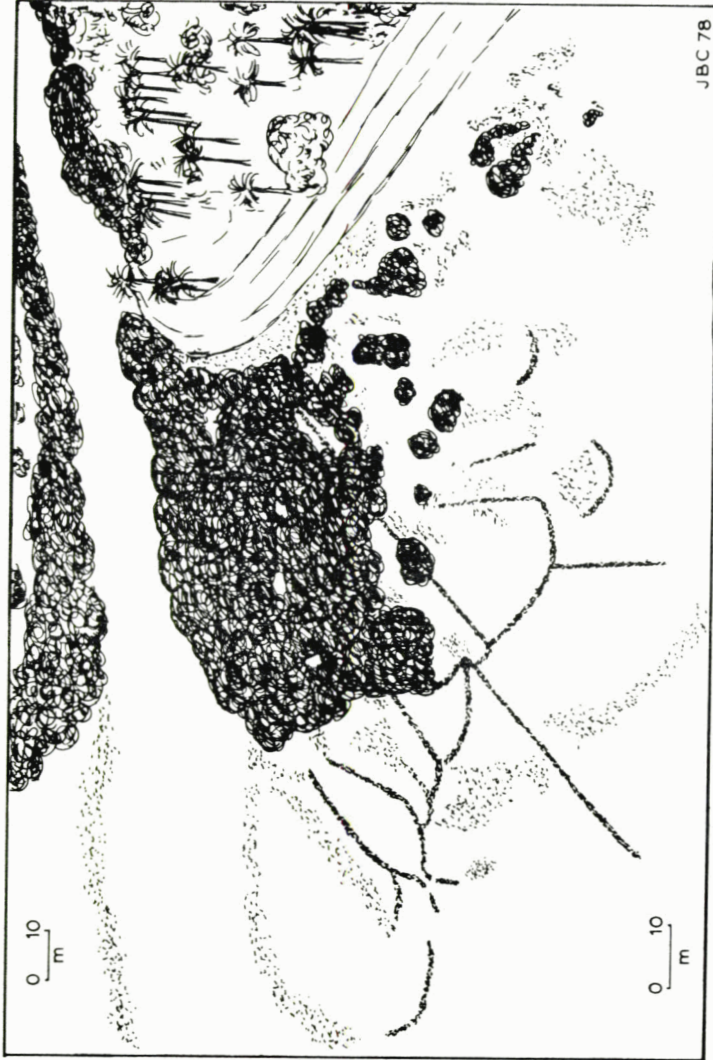
Figure 3 is a drawing from an earlier aerial photograph of Scraggy Point which I took in August 1976 from a small plane during one of the James Cook University Dugong Survey runs. It is an oblique view at high tide, and only the highest (? youngest) surviving walls are visible. Even so, as may be seen the trap system is quite extensive and quite complex. Much of it is covered with mangroves. The best surviving walls are often about 0.5 to 0.8m high and are preserved largely owing to fairly thorough cementation by rock oysters. There is a similar trap system, less well preserved, to the northwest on the other side of Page's Creek. Page's Creek is the creek shown at the top of Figure 3; further inland (about 200m) it has permanently flowing freshwater, though of course in the area shown in the view it is saline.

There are also remains of what appear to be earlier fish trap systems at Scraggy Point with lines running beneath the more recent ones and with traces of some running out beyond the lowest level of low tide. These older systems were photographed in July 1978 at low water with a -0.3m tide, and the

resultant aerial photographs are still being analysed. How old the oldest of these stone lines might be has yet to be determined, but some could date from a time of slightly lower sea or land levels. It is planned to attempt a selection of small soundings when the tide is lowest in order to record the depth of the bottom of the walls and to obtain samples of their rock oyster 'mortar' for radiocarbon age estimates. Some of the older walls could conceivably date from as much as 6000 to 8000 radiocarbon years BP, especially when one considers the fact that the oldest age estimate for the base of mangrove deposits on Hinchinbrook is 7130 ± 150 BP (GaK-4898, Hopley and Murtha 1975; see also Hopley in Henderson and Stephenson 1979). It is also planned to attempt soundings at some of the intersections of younger and older walls in order to record their stratigraphic relationship in greater detail.

The total area of the Scraggy Point fish trap complex is enormous: about $20,000\text{m}^2$ or more, not less. Although it doubtless required a great effort to build and was built and rebuilt over many generations, its actual operation was probably highly efficient. It includes loops, pools, breakwaters and funnels and is clearly designed to take advantage of the behaviour of various species of fish. Spears, baskets, scoops etc. would presumably have been used according to species, situation and need. These trap systems would also have provided many species of mollusc, crustacean etc. And it is also possible that the rock oysters were intentionally introduced both to keep the walls together and to provide an extra source of food. Of course, whether one can push this notion further to that of some sort of fish farm is another matter altogether. But at least considerable efficiency is suggested by the fact that the Hinchinbrook tribe often fed the starving European settlers in the early days of the Cardwell township just across Rockingham Bay on the mainland (see Jones 1961). And though they were each built on a smaller scale than those at Scraggy Point, in Banfield's opinion the Missionary Bay fish traps were highly efficient as well (see Banfield 1909). Each of the seven Missionary Bay traps is a funnel system similar to that on the left-hand side of Figure 3, and each seems to stand alone.

The shell middens on Hinchinbrook vary quite a lot, but none are enormous as such, say when compared with those at Weipa (cf. Baily 1977). The Zoe Bay middens found so far are low, scattered and poorly defined. The Leefe Peak middens are more compact, consist almost entirely of shells and are about 1.5m thick. They were probably much more extensive originally, but they lost many tonnes of shells between the World Wars to a local entrepreneur who tried to process them as fertiliser for the cane farms at Ingham (see Jones 1961). And now a wet season creek is gradually eroding away what is left of the Leefe Peak middens. Stratified shell samples have been collected from one of the exposed creek sections, and these are to be dated by the University of Sydney Radiocarbon Laboratory. The Ramsay Bay middens are also fairly well defined, and they seem to have the highest number of stone artefacts eroding out when compared with the other Hinchinbrook middens. The Scraggy



Sketch of Scraggy Point Tidal Fish Trap,
Hinchinbrook Island (Nth Qld) (Drawn from aerial photograph taken
by author 10 am August 1976, looking North, highwater. Scales are approximate)

Fig 3

Point middens vary from scattered to reasonably well defined. There are probably many more middens in the vicinity of Scraggy Point, but I have not yet been able to relocate all of those claimed by Stephens (1945 and 1946). In fact in general there are probably many more middens yet to be found on Hinchinbrook. Certainly all of those known would be worth excavating, and the excavation of at least a selection would probably reveal a much more detailed picture of local and seasonal variation in 'Bandjin' settlement patterns.

Goold Islands evidence

The tidal fish trap complex on Goold Island is almost completely covered by shifting beach sands and mangrove muds and silts. It consists of at least one funnel system and a few loops, pools and straight lines. The area of the Goold trap is about 4000m² or about 20% that of the Scraggy Point complex on Hinchinbrook. As at Scraggy Point, the Goold complex is located at the mouth of a freshwater creek. This creek normally flows for at least 10 months each year.

Until the middle of the last century there were apparently fairly large and nearly permanent 'Bandjin' camps on Goold. These were both near the fish trap and near the shell midden shown on Figure 1. The midden is now scattered, overgrown and not very clearly defined, and the precise locations of the camps are difficult to pinpoint as they are overgrown as well. These camps supposedly had fairly large huts and many occupants. Goold became a frequent watering place for passing Europeans for a number of decades before Cardwell was founded, but trouble eventually broke out when Europeans tried to take fish without the permission of the Goold Islanders (see Jones 1961). Normally peaceful exchanges of food and artefacts took place before that violent incident, but relations then deteriorated afterwards.

Reconstruction of 'Bandjin' settlement patterns

A tentative reconstruction of 'Bandjin' settlement patterns provides an interesting contrast between Hinchinbrook and Goold, major and minor islands respectively. Hinchinbrook was definitely able to support a comparatively large permanent population, though the exact population figures remain uncertain. Certainly the Hinchinbrook population would have varied in size, but its fluctuations may have centred round about 400-600 people at least. As a minor island with favourable resources and a reasonably convenient location, Goold was able to support a smaller but nearly permanent population which when present may have numbered as much as 50-100 people. Late in the dry season each year the Goold Islanders would have retreated presumably to the Missionary Bay area of Hinchinbrook (see also Jones 1961).

The mainland territory of the 'Bandjin' (see Figs 1 and 2) was used perhaps less frequently and may have served mainly for contacts and exchange with other tribes, as apparently was the case after initial European settlement in the district.

Most of the known sites on Hinchinbrook and Goold are near either mangroves or rain forests. A few are located near sclerophyll resources as well. But the main emphasis is on the sea and littoral resources. This pattern is clear in Figure 1, but as has already been pointed out, many more surveys are needed in the interior of Hinchinbrook and indeed in the interior of Goold as well. But even so, it may be assumed that most of the 'Bandjin' main camps were either near these known sites or elsewhere near the shores and creeks. It might also be assumed the main camps were sometimes quite large (i.e. 50-100 people or more). The interior of Hinchinbrook (and perhaps Goold) presumably had important ceremonial sites, quarries etc., but it was otherwise generally used less often. Some of the fish trap patterns themselves may have been partly ceremonial or mythical in outline. And regarding the use of interior, littoral and marine resources, there may have been a division of labour based in part on sex and age, but whether it was precisely like what Meehan (1977) describes for the 'Anbarra' of coastal Arnhem Land, for instance, remains uncertain. In any case, the distribution and variety of natural resources and the tribes concerned are certainly not identical, though the comparison is nonetheless worth making, especially once detailed analyses of some of the 'Bandjin' middens have been carried out.

Amongst the known clusters of sites Scraggy Point might at least be interpreted as a 'base-camp' complex associated with an 'extractive-site' complex in the sense of Jarman (1972), though his model is not fully appropriate here. As may be seen in Figure 1, I have taken the liberty of drawing his standard 10km radius circle and the corresponding appropriate two hour contour from Scraggy Point by foot or small boat. Such a site territory would cross many different but complementary ecosystems. Of course just within 1km of Scraggy Point there is quite sufficient variety and abundance to support a fairly large encampment on a more permanent basis. In Figure 1 I have also suggested that Brayshaw's Kennedy shelters (1977) in the neighbouring 'Keramai' (or 'Giramaygan') territory represent a possible coastal range base-camp complex.

The frequency of 'Bandjin' contact with their neighbours remains uncertain, but judging from comments in Dixon (1972 and 1976) and my own conversations with surviving 'Gulngai' (or 'Malanbara') and 'Keramai', contact was generally more common up and down the coast from north of Tully to south of Ingham, than across to Hinchinbrook and Goold. Exchange or trade certainly took place, but the 'Bandjin' generally did not participate as much, for instance, in the wooden sword fights which the mainland rain forest tribes had. But the 'Bandjin' did have generally better watercraft, and considering how long they have been gone from Hinchinbrook and Goold, it is really very difficult to ascertain precisely what their traditional patterns of intertribal contact were like.

For how many millennia the 'Bandjin' occupied their territory is also uncertain. If perchance they were always in this area since sometime in the late Pleistocene, then they would have found it necessary to adapt to major changes in sea level and vegetation. In Figures 1 and 2, respectively, I have drawn the -20m and -200m underwater contours. These might be taken as representing the approximate coastlines at about 9000 BP and 18,000 BP, respectively (actually -130m would probably be a better estimate of the c. 18,000 BP coastline, but the position on a map the scale of Figure 2 would not be much different; see also Campbell 1979 and other Quaternary papers in Henderson and Stephenson 1979). That some of the northeastern Queensland rain forest peoples have been more or less in their present areas for at least about 15,000 years now seems quite certain. Their semi-mythical stories include detailed descriptions of volcanic eruptions, changing vegetation patterns and changing sea levels which could only apply to conditions between about 10,000 and 40,000 BP (see Dixon 1972 and 1976; Campbell 1979). But the highly successful maritime adaptations of the 'Bandjin' might suggest that they shifted back and forth with changing sea levels, unlike their mainland neighbours.

Of course, whether we would eventually be able to locate fish traps, middens etc. which are now fully underwater along the former coastlines of what is now the Great Barrier Reef is another matter altogether. Beaton (1978) is sceptical of this sort of idea in general, but judging from what I have seen on Hinchinbrook, I think one could find traces of fish traps at least. And as I have already said, I think the opportunity for underwater cave archaeology is even greater (see again Campbell 1979). The French, for instance, have developed elaborate underwater cave excavation techniques for their submerged late Pleistocene sites (e.g. see Bonifay 1970), and with certain modifications I think these techniques would be quite appropriate for work in the Barrier Reef. Such research would then allow us to study off-shore and coastal settlement patterns in much greater depth against their long-term panorama of cultural-ecological adaptations.

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