

STONE STRUCTURES OF THE WEST KIMBERLEY

On 7 September 2005, Sue O'Connor of the Australian National University delivered a PowerPoint presentation to the Kimberley Society. A pioneer archaeologist in the area, Sue O'Connor started fieldwork in the Kimberley in 1985 looking for sites, such as shell middens and caves, that would indicate the antiquity of Aboriginal occupation of the coasts and islands. She surveyed 13 islands in the Buccaneer Archipelago including Sunday, Long, Mermaid, Cockatoo, Koolan, Macleay, Rankin, Lizard and High Clifty and the Wood and Montgomery Islands. These islands varied in topography. Many were high, steep sided, with little habitable ground with few beaches and mangrove inlets (eg Koolan). Others are very small low and flat. For example, High Clifty, the smallest island, is only 1km by 300m, but at low tide its reef is exposed as the largest inshore reef in Western Australia – some 130 km². Like most other smaller islands, it is poor in terrestrial resources but rich in fish, shellfish, turtle, dugong and nesting seabirds.

High Clifty stimulated Sue's interest – it has tens of hundreds of metres of built stone structures and surface scatters of thousands of chert stone artefacts. The structures take many forms from long meandering lines, geometric patterns, to substantial walled structures roughly circular in shape with narrow entrances. There are also standing stones, cairns, some with central supporting stones, and paving over some of the floors.

What is the function of these structures?

Were they built by Macassan trepangers or European castaways as some of Sue's colleagues had suggested, or were they built by the ancestors of the Aboriginal people who use the islands to the present day? They are associated with numerous stone artefacts, grindstones, baler shell bowls and subsistence remains but no pottery or metal fragments. Also Aboriginal traditional owners attest their Aboriginal origins – Sam Woolagoodja in the 70s told Valda Blundell that they were windbreaks supporting paperbark and spinifex coverings – she said they were known as Windjarnugu. Khaki Stumpagee and Sam Umbaggi said they were wet season houses built on stone to allow the water to drain out, (no surface water meant they could not be used in the dry). They also said the basal grinding stones associated with the structures were used for grinding metal harpoon heads and they still had rust staining on the horizontal surfaces.

Sue excavated down to 20cm in the sediment in one site (HC2) and found fish bone, turtle carapace fragments and many thousands of stone artefacts (average density of 143 per 5cm per m²). Significantly, no metal, glass or pottery fragments were found within the structure. There was not sufficient material from the excavation for C14 dating but a Baler shell embedded in the surface sediments was dated at

370+/- 50 bp. Thus, the structures are of Aboriginal construction – many are house bases and others are associated with religious/ceremonial activities. Why build these structures? Possible reasons:

- The rich reef resources could sustain a mobile population moving between islands.
- Populations living on small islands needed to demarcate social space.
- Protection from raiders from the mainland
- Plentiful supply of suitable stone (ripple sandstone) that had to be moved to allow occupation and was a ready-made building material.
- Love identified High Clifty as the “sacred place of the Yanjibai”

Rankin Island has a similar range of stone structures including a long (over 100 metres) stone wall built on a natural raised cobble beach about 2m above high tide level. Sue initially thought this very long stone wall had a ceremonial purpose.

However Len Zell (UNE) suggested it might be a fish trap but even the 2m higher sea level around ca.5000 BP (Peter Flood, UNE) would not be enough for it to operate effectively as a fish trap. Zell dated the coral in the wall at ca.4500 BP. As the high energy pebble beach probably formed after the sea level rise but before the mangrove embayment, this date might be expected for coral lying on the surface. The wall may well have been built thousands of years later. Photographs of the wall emphasised its incredible length.

There are other features on Rankin such as deep pits or depressions in the back of the pebble beach that are filled with evidence of stone working – called “tool pools” by Zell. There are bifacially flaked quartzite cobbles and flakes which are obviously produced from a different form of cobble core to the cores the bifaces are made on. Zell called these bifacially flaked cobbles “axes”. However Sue believes that they are more likely to be preforms for biface or point production rather than axe preforms. Kimberley axes are usually made of volcanics and are fully or partially ground, whereas large spearpoints are commonly made of quartzite. All recorded examples of biface or point production are made of flakes and blades; not by producing pebble-core preforms. Sue showed pictures of these tools and preforms. Other pits in the rock pavement behind the beach, near the vegetation zone do not seem to be the same as the “tool pools”. They have no evidence for stone working and may have resulted from digging for yams.

The Kimberley stone structures are unique in their density and enormous variety in Australia and possible the world especially as they are so prolific on tiny offshore islands. They deserve further documentation and research. Other than the rich sea resources, is there any other reason that they are so prolific on tiny offshore

islands? Is it possible to date them with the newer dating methods? What was their purpose?

At the conclusion, Sue thanked Mike Donaldson and the Kimberley Society for bringing her to Perth for the following weekend's Rock Art Seminar; the people at One Arm Point and Mowanjum who guided her first efforts at seafaring; Len Zell for rekindling her interest in the stone structures; and Moya Smith for introducing her to the Kimberley in 1984.

Margaret Larke (drawing on the PowerPoint presentation)