

## Australian Archaeology



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CURRENT RESEARCH AT THE DEPARTMENT OF PREHISTORY  
AND ARCHAEOLOGY, UNIVERSITY OF NEW ENGLAND

Our research interests include topics outside as well as inside Australia, for instance my own work on the Late Stone Age and Iron Age of West Africa has recently led to the publication of *The Archaeology of Benin* by Oxford University Press and I have further material in preparation for publication concerning the Lake Chad area of N.E. Nigeria. Likewise, Iain Davidson is presently completing work on man-environment relationships during the late Pleistocene in Spain.

Nevertheless a number of research projects in the field of Australian archaeology are also in hand and constitute our major growing areas of research interest. A programme of fieldwork and excavation in the lower River Macleay area has been under way since 1972. This work has concentrated on shell middens and has principally involved myself, with assistance during 1974 and 1975 from Penelope Emmerson who is Research Assistant in the Department. Iain Davidson has also contributed to this programme but has concentrated his efforts on a site survey in the difficult and archaeologically unknown gorge country of the headwaters of the River Macleay. Since April 1974 he has also been building up a skeletal collection of indigenous fauna to enable us to identify bones from excavated sites. Penelope Emmerson and myself, in conjunction with John Stanley of the Department of Geophysics, U.N.E., have also carried out field experiments with magnetometers. A joint paper on this work was read at the Canberra ANZAAS Congress in January this year and a modified version of that paper has recently been accepted for publication in *Mankind*. I have also recently inaugurated a survey of 19th Century historical archaeology on the Saumarez Station, thought to be the earliest sheep run in the New England district. In addition I have flown three aerial photographic sorties of prehistoric and historic sites in the New England and Mid North Coast areas, piloted by Frank Choate of the Department of Physical Chemistry, U.N.E. Our Department has a Litt. B. student, Mr Adrian Piper, conducting an archaeological survey of the Tweed Valley; and, under the continuing supervision of Isabel McBryde now at the Department of Prehistory and Anthropology, School of General Studies, A.N.U., Michael Quinnell's M.A. work on the art of the Carnarvon Ranges is reaching its conclusion.

The part of our research activities most advanced at the moment is the work being done in the River Macleay area and it is perhaps appropriate to make some interim statement about it at this stage. The work on the lower Macleay middens was designed to follow up an archaeological survey conducted by Valerie Campbell for her B.A. Honours Thesis, U.N.E. 1969. She has since published four radiocarbon dates for samples collected from eroding sections and auger cores from three of the middens (Campbell, *Mankind* 8 (1972), pp. 283-6). Excavated sections of five shell middens in differing palaeoenvironments have been completed since 1972 and rescue excavation has been carried out at three further middens.

Clybuca 3 was excavated in 1972. This is a midden composed of oyster and cockle shells, formed over a beach sand-ridge at the head of a small bay in the Pleistocene shoreline some 10 kilometres inland from the present shoreline. Associated cultural material comprised a backed blade industry with a little worked bone. Animal bones were recovered and part of a fragmented human burial. There was clear evidence that fires had been lit on the midden at various times. Radiocarbon dating for charcoal samples is as follows:

30-40 cm	SUA 274	3360 ± 120 bp
60-70 cm	SUA 275	4260 ± 120 bp
90-110 cm	SUA 276	5120 ± 150 bp

These dates may be compared with a date for Clybuca 1 published by Campbell (see above):

GaK 2457	3850 ± 140 bp
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This was for charcoal from 24 to 30 inches deep in an oyster and cockle midden situated on the same Pleistocene shoreline, at a distance of about 5 kilometres East of Clybuca 3. A date of 4220 ± 90 bp (GaK 834) has been obtained by Hails for oyster and cockle shells collected six feet below high water mark in the same area (Thom, Hails and Martin, *Marine Geology*, 7 (1969), pp. 161-8) and it would appear from consideration of these five dates that lagoonal conditions were extant in this area roughly 3000-5000 years ago. At one time it was suggested that the Clybuca sites might be up to 11,000 years old (McCarthy, *Records of the Australian Museum* 21, (1943), pp.164-7).

Trapped between the Clybuca 3 midden and the old coastline is a small swamp in which there is usually standing water. Bernard Swan of the Department of Geography U.N.E. has examined this and is of the opinion that it could be of similar antiquity to the midden but low-level air photography, soil pits and auger tests indicate that it has not preserved much organic material.

Connection Creek 1 was excavated in 1973. This is an oyster and cockle midden situated about 4 kilometres inland from the present shoreline, in an area which was possibly a former estuary. Associated cultural material comprised an industry of flakes and scrapers and one bifacially flaked pebble chopper with clear use-wear on one margin. Backed blades were conspicuously absent. There were a number of finely worked double-ended bone points. The oyster shells at Clybuca 3 showed evidence of attachment to stones but those from Connection Creek 1 had marked grooves on their backs, suggesting that they had grown on mangrove roots. Cultural material was scattered throughout the midden and one strongly developed black band of ash, charcoal, shells and fish bones was particularly rich in this respect. Radiocarbon dating for this midden is as follows:

Charcoal	50-60 cm	SUA 395/1	3720 ± 100 bp
Oyster shells	50-60 cm	SUA 395/2	3340 ± 100 bp
Charcoal	100-110 cm	SUA 369/1	3400 ± 100 bp

Cockle shells	100-110 cm	SUA 396/2	3380 ± 100 bp
Charcoal	130-140 cm	SUA 397	3790 ± 130 bp

(Dates on shell throughout the present programme of excavation were determined as part of Richard Gillespies' investigation of the reliability of techniques for dating shell.)

These dates may be compared with two dates for this midden published by Campbell (see above):

GaK 2458	4850 ± 160 bp
GaK 2459	3460 ± 120 bp

these were for shell (mainly oyster) collected by taking auger core samples and came from depths of 28 and 25 inches respectively.

A section excavated just off the lower edge of the midden revealed evidence suggesting 'beach' conditions. Stone artefacts were more common than in the midden itself and charcoal and ash lay amongst a group of large stones. It seems likely that this was part of an actual living area. Radiocarbon dating for this area is as follows:

Charcoal	40-46 cm	SUA 394	4110 ± 100 bp
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In 1974 excavations were conducted at Maguire's Crossing on the present shoreline where a pipi midden had previously been dated by charcoal collected from an eroding section by Campbell (see above). The date obtained by her was:

GaK 2456	1210 ± 90 bp
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This sample came from a depth of 4 to 7 inches. The midden is exposed in recent coastal dunes and is adjacent to the present high water mark. Excavation revealed a series of shell deposits separated by clean sand. A hearth was isolated in one of these and a bone point recovered from another but little stone was present and only a very small part of it was artifactual. Samples of charcoal and shells have been submitted for further radiocarbon dating but results are not yet available.

Also in 1974 a single-phase pipi midden known as Inner Barrier 4 was excavated on the inner sand barrier which lies inland of the Ocean Swamp behind the dunes on which the Maguire's Crossing site is situated. There was little artifactual stone material but charcoal was present and samples of this and of the shells have been submitted for radiocarbon dating.

In 1974 and again in 1975 excavations were conducted at Stuarts Point 1, a very large oyster and cockle midden on the Inner Barrier north of the present estuary of the Macleay. This midden contained a series of hearths, stone artifactual material, double-ended bone points, and much fish bone as well as the bones of land animals. A froth flotation unit of the sort described in Higgs *Papers in Economic Prehistory* (1972) had been obtained from the United Kingdom by Iain Davidson and was operated very successfully on site by Peter Irish, a second year Prehistory student at U.N.E. A substantial collection of plant material and fish scales was retrieved. In addition the wet sieving following the use of the unit

allowed the collection of large quantities of small bones and other material. Radiocarbon dates for charcoal and shells from this site are awaited.

An adjacent midden, Stuarts Point 4, has been radiocarbon dated by collecting oyster shells from an eroding section. This shallow midden lay over a double burial in a pit, the skeletal material of which was rescued in 1972 and is presently being examined by Michael Walker of the Department of Anthropology in the University of Sydney. The date is:

2-9 inches    SUA 398    1670 ± 90 bp

Further excavation of a rescue character has also been carried out at Ryan's Cut south of Maguire's Crossing and at Point Plommer. At the latter place Iain Davidson and Kate Sullivan of the National Parks and Wildlife Service investigated a shallow pipi midden prior to its destruction by sand mining in 1974.

Iain Davidson and Penelope Emmerson have begun research into the Aboriginal use of the gorge systems of the Macleay River catchment. No evidence has yet been found to prove that it was not white settlement which made the area attractive to the Aborigines. Nevertheless the strength of tradition suggests that the gorges have long been a refuge area from the cold of the tablelands, and a route of access from coast to tablelands. Development of this research will look for the relationships of human use of the gorge system to both the upland and the coastal patterns of exploitation.

Only 5 of the 15 radiocarbon dates listed above have been published before, another 11 dates are still awaited. Reviewing the whole series so far available, the dates are not without their problems but they do seem to suggest that our earliest evidence for settlement in the lower Macleay goes back to some 5000 years ago and that human exploitation of the present coastline was already possible 1000-2000 years ago. This regional study of Aboriginal prehistory will show the adjustments in man's use of the land during the extensive environmental changes associated with the development of the present flood plain of the lower Macleay. By studying other regions of the Macleay river we hope to relate coastal exploitations to other exploitations of inland and upland regions.

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