ARCHAEOLOGY AT THE NORTHERN TERRITORY UNIVERSITY: UPDATE MAY 1993

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In a previous paper we reported on the recent initiation of teaching and research in archaeology at the Northern Territory University (Hiscock and Walters 1991). Rapid growth has resulted in many changes over the last two years and it is an opportune moment to describe the current activities at Northern Territory University (NTU). The growth of archaeology at the university is clearly visible in increased student numbers (Fig. 1). Although the imposition of DEET quotas on university intakes has slowed further increases in undergraduate numbers, it is clear that

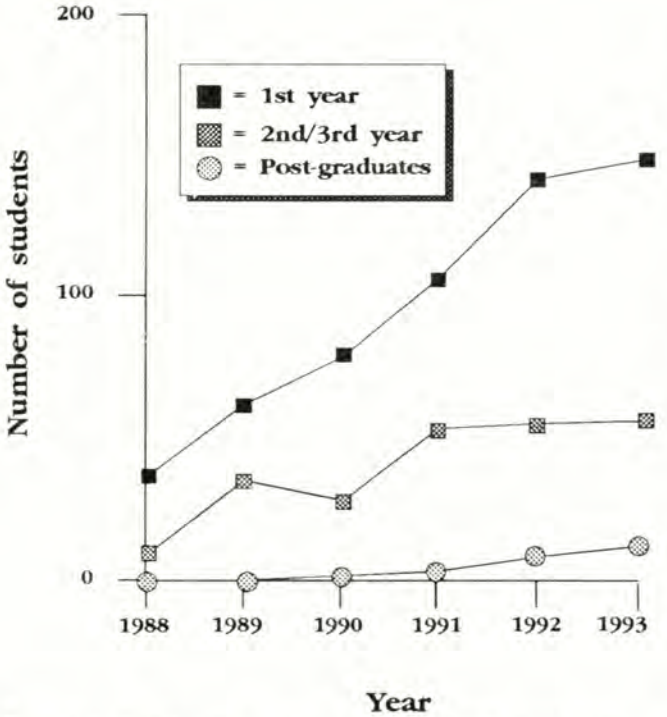

Figure 1 Student enrolments in archaeology at NTU 1988-1993

archaeology enrolments have passed the critical threshold, above which a department with vitality is viable over the long-term. One of the most exciting aspects of this growth is the research now being carried out by staff and students. The purpose of this paper is to describe the current research in archaeology being carried out at the NTU.

NTU Archaeological Services

NTU Archaeological Services (NTUAS), the consulting arm of the NTU's Anthropology Department, has now been successfully operating for more than two years. During that period NTUAS has been engaged to carry out several large-scale consultancies and numerous smaller contracts in northern Australia. A list of consulting reports is provided in Table 1.

Of note are two large research-oriented consultancies that are continuing to provide research opportunities for staff and students. In Kakadu National Park a consultancy providing information on the distribution and management of archaeological sites in the wetlands is entering its third year. The work involves intensive systematic surveying and site recording without collecting or excavating. NTUAS is also involved, with Philip Hughes from Kinhill Engineers Pty Ltd and several researchers from the University of Western Australia, in the salvage project at Marandoo in the Pilbara, WA. In 1992 a total of 14 rockshelters were excavated and several open sites surface collected; and the bulk of this material has been brought back to NTU for analysis. Four laboratory assistants are currently engaged in the washing and classification of the excavated material. The immediate goal of the analyses is to establish dated archaeological sequences for the Marandoo Ridge area.

Affiliated researchers

In addition to permanent lecturing staff (Drs Hiscock and Walters), the department is now affiliated to two fixed-term archaeological researchers resident in the Northern Territory. These researchers, while funded externally, are formally associated with NTU and are actively contributing to seminar and research programs.

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NTUAS report number	Author(s)	Title and other details
1	Hiscock, P.	An archaeological investigation of the proposed Stuart Highway re-alignment at Pine Creek. Report to Pine Creek Goldfields Ltd. January 1991, 19 pages.
2	Hiscock, P. and Mitchell, S.	Baseline archaeological survey of the proposed Telecom Darwin-Katherine optical fibre route. Report to Telecom Australia. January 1991, 57 pages.
3	Hiscock, P.	Preliminary report on exploring prehistoric cultural ecology in the Kakadu wetlands: methodological considerations. Report to ANPWS. April 1991, 201 pages.
4	Hiscock, P. and Mowat, F.	Archaeological recording and salvage collection at Site 1 on the proposed Stuart Highway re-alignment at Pine Creek. Report to Pine Creek Goldfields Ltd. May 1991, 21 pages.
5	Roberts, A. and Juljic, A.	Archaeological reconnaissance of Shady Camp. Report to J. Ansell, Melaleuca Station. June 1991, 6 pages.
6	Hiscock, P.	Exploring prehistoric cultural ecology in the Kakadu wetlands: methodological considerations. Report to ANPWS. September 1991, 307 pages.
7	Hiscock, P.	Archaeological survey of radio repeater site 'Gould' CNE 234. Report to Telecom Australia. January 1992, 10 pages.
8	Hiscock, P. and Mitchell, S.	Stage II Archaeological Survey of the proposed Telecom Darwin-Katherine optical fibre route. Report to Telecom Australia. February 1992, 32 pages.
9	Mitchell, S.	Archaeological mitigation at Manbulloo Station: Stage III archaeological investigation of the proposed Telecom Darwin-Katherine optical fibre cable route. Report to Telecom Australia. April 1992, 9 pages.
10	Mitchell, S.	Archaeological survey of the proposed access route to the Mount Bundey firing point and range, Mount Bundey Training Area. Report to Kinhill Pty. Ltd. July 1992, 8 pages.
11	Hiscock, P.	Archaeological evaluation of a locality within the proposed Bayview Haven Canal Estate. Report to Dover Investments. July 1992, 8 pages.
12	Guse, D. and Hiscock, P.	Archaeological survey of the proposed Bayview Haven Canal Estate. Report to Henry and Walker Contracting. February 1993, 12 pages.
13	Guse, D. and Hiscock, P.	Description and evaluation of the ANPWS artefact collection from Kakadu National Park. Report to ANPWS. March 1993, 90 pages.
14	Hiscock, P.	Archaeological investigations of the wetlands of Kakadu National Park, 1992. Report to ANPWS. April 1993, 157 pages.
15	Guse, D. and Hiscock, P.	Archaeological investigations of the proposed perimeter fence, Mount Bundey Training Area. Report to Kinhill Pty Ltd. April 1993, 10 pages.

Table 1 List of consulting reports by NTUAS.

Dr Philip Hughes has been appointed as the university's first Honorary Research Fellow. Previously at the University of Papua New Guinea, Philip is continuing his long-term research into prehistoric agricultural systems in the PNG highlands. Toward the end of 1991 he took up his current position as Manager of Environmental Studies in the Darwin office of Kinhill Engineers Pty Ltd. Since then, Philip has undertaken a number of archaeological consultancies in northern Australia, including some in conjunction with NTUAS (see above).

Dr Marjorie Sullivan, currently a Senior Research Fellow at The Australian National University's North Australian Research Unit in Darwin, has also been appointed as an Honorary Research Fellow at NTU. In addition to her environmental research projects Marjorie has been investigating the geomorphic context of archaeological shell middens, and particularly their relationship to chenier ridges. Marjorie has also been active in developing strategies for the management of cultural heritage in the Northern Territory (Sullivan and Carment 1992; Sullivan and Hiscock 1992).

Research projects

Staff and students at NTU are engaged in a large number of research projects. The Anthropology Department at NTU currently has two lecturers in archaeology, Peter Hiscock and Ian Walters. Four laboratory technicians are employed on consultancy projects (Daryl Guse, Greg Bowen, Martine Ludicke, and Leanne Lander). Nine M.A. and Ph.D. students are undertaking research: Sally Brockwell (Ph.D.), Robin Gregory (Ph.D.), Daryl Guse (Ph.D.), Scott Mitchell (Ph.D.), Norma Richardson (Ph.D.), Greg Bowen (M.A.), Giles Hamm (M.A.), Robin Hodgson (M.A.), and Fiona Mowat (M.A.). The main research projects in which staff and students of NTU are engaged can are summarized as follows:

Investigation of the antiquity and development of prehistoric trading systems in western Queensland

Peter Hiscock is engaged in archaeological surveys and excavations in the Mount Isa region of northwestern Queensland. This research is designed to describe and date the manufacture of stone artefacts for trade to

other parts of Australia. The main focus of this study is the various meta-basalt quarries along the Leichhardt River. It is hoped that the development of trading networks can be identified, thereby allowing models to be formulated concerning the cause, timing and growth of complex social and economic systems possessed by prehistoric hunter-gatherers in central Australia. In 1992 the research involved analysis of axe morphology, particularly axe standardisation and its apparent link with exchange.

Culture contact and economic change among hunter-gatherers in north western Arnhem Land.

Archaeological and ethno-historical information has been employed by Scott Mitchell to explore the nature of Aboriginal marine subsistence patterns before and after Maccassan contact. Post-contact economies display a dramatic increase in the rate at which turtles and dugong were captured, compared with the earlier economic systems. Archaeological examination of more than 50 Aboriginal, Maccassan and European sites on the Coburg Peninsula and Mount Norris Bay revealed a chronological sequence of economic change. Ethno-historic evidence reveals that the recent changes are linked to the adoption of foreign material culture, particularly the dugout canoe, and the economic and social ramifications of those innovations.

Moreton Regional Archaeology Project – Stage II

J. Hall (University of Queensland) and Peter Hiscock are engaged in a systematic investigation of technological change in southeastern Queensland through the analysis of archaeological material. The objective is to employ an understanding of artefact manufacture to examine issues such as changes to prehistoric economy (by looking at foraging patterns revealed in stone procurement), social structure (by looking for stylistic and technological differences that indicate the development of discrete geo-political social groupings) and demography (by measuring the variation in site numbers and the intensity with which each site was used). This work has been funded by an ARC grant, which covers fieldwork expenses and salary of research assistants located both at University of Queensland and the NTU. Excavations of rockshelters continued in 1992, under the direction of J. Hall, and several archaeological assemblages previously excavated were reanalysed. The growing database now permits regional comparisons of artefact manufacture for several different time-slices.

Trade and resource use in the Alligator Rivers region

Robin Hodgson is investigating material culture collections from various Australian museums in order to examine Aboriginal craft specialisation and trade, together with local resource use, in the Alligator Rivers region of the Northern Territory. In 1992-93 Robin visited a number of museums to gather information, and is currently analysing her data.

Darwin Regional Archaeology Project.

This project is designed to investigate the prehistory of Darwin's hinterland, and in doing so to assist cultural resource management in an area of intense development. The initial phase of the project aims to characterise the distribution of archaeological sites through the survey of selected areas. Field research undertaken by Peter Hiscock and Phillip Hughes in 1992 concentrated on the Middle Arm peninsula, where a number of large shell mounds were excavated and radiocarbon dated. These data, which demonstrate a phase of site use and then abandonment in the late Holocene, will allow inferences to be made concerning the prehistoric subsistence and settlement systems.

Sandstone Point Archaeology

In collaboration with J. Hall (University of Queensland), Ian Walters continues to investigate questions of fishing intensity and seasonality at Sandstone Point, a midden complex in southeastern Queensland. Funding is currently being sought which will allow a research assistant to undertake further analysis on the vast quantities of excavated material that will be examined using, among other techniques, the Cue Image Analyzer.

Prehistoric human ecology of Fog Bay and the Finnis River wetlands, Northern Territory.

Daryl Guse is investigating chronological changes in prehistoric subsistence and settlement patterns of humans that occupied the Fog Bay region. Fog Bay will provide an area to test general archaeological models of wetlands subsistence/settlement patterns that are being developed from investigating the ethnohistory and ecological data for the area. Three distinct ecological zones are present in the study area, and the archaeological signatures of these zones are being investigated in 1993 through surveys of randomly selected units.

Indonesian hominid taxonomy

Ian Walters continues to analyse data on the early hominids of Java. Preliminary examination has already indicated that *Homo erectus* may not have been the only hominid species to populate the archipelago in early and middle Pleistocene times. If this is borne out by further work it would reject the view that human evolution in our region was unilinear.

Material culture of Indonesian fishing in the Australian fishing zone

This project is being undertaken by Natasha Stacey who intends to examine the fishing technology of a small-scale shark fishery operating in Indonesia, and in the Australian Fishing Zone. Natasha will conduct a preliminary survey later this year, in preparation for field research in eastern Indonesia in 1994.

Archaeological investigations in the Mount Bundey Firing Range

Research into the manufacture and distribution of stone artefacts in the rugged country east of the Mary River is being carried out by Peter Hiscock and Daryl Guse. This region is the main locality of outcrops of Gerowie tuff, a favoured material for the prehistoric manufacture of points. The project aims to document the manufacture and dispersal of points away from the raw material supply zone, and to identify the role of these activities with the economic systems of prehistoric hunter-gatherers. In 1992 site location surveys proved successful in identifying quarry sites suitable for further study.

Chronological resolution in sandstone rockshelters

Norma Richardson is using conjoin analysis to examine the stratigraphic integrity of rockshelter deposits in northern Australian archaeological sites. This work will give a clearer picture of chronological resolution of certain key events, such as the changes in implement sequences in Australian prehistory. Analysis of museum collections of excavated assemblages continues.

Prehistoric mobility and settlement structure on the Adelaide River

Clusters of large earth mounds created by prehistoric humans on the margins of the Adelaide River floodplain are being examined by Sally Brockwell. The research is attempting to infer the nature of the settlement system, with particular regard to the mobility of human groups. In 1992 the archaeological investigations involved site surveying and site mapping.

Prehistoric technology in the Hunter River Valley, New South Wales

Prehistoric stoneworking technology in the Hunter Valley is being reconstructed by Peter Hiscock. Analysis of data in 1992 concentrated on the description of backed blade technologies and the implications for interpretations of mid-Holocene assemblage change. Detailed examination of the technology in the Hunter Valley led to a re-formulation of the perceived changes that occur in the mid-Holocene (Hiscock 1993a). The study also has implications for cultural resource management and archaeological methodology.

Stone reduction in Cooper Creek

Giles Hamm is examining artefact scatters, including quarries and knapping floors, in the lower Cooper Creek region. The fieldwork aims to document assemblage variation and define systems of raw material usage in this arid landscape. In 1993 fieldwork is focused on detailed site recording at randomly selected sites within a number of environmental zones. Chronology is being evaluated through limited excavations at purposefully selected sites.

Archaeology and ethno-history in the Magela floodplain, Kakadu

Research on the Magela floodplain is being carried out by Greg Bowen. This project focuses on reconstructions of prehistoric demography in the region, and particularly on the use of ethnohistory to structure archaeological investigations. Ethnohistory is being used to 'map' the distribution of people within the landscape. This map will be compared to the results of archaeological surveys, thereby testing the effectiveness of ethnohistorical data in reconstructions of the past, and enabling an evaluation of chronological change.

Prehistoric settlement in the Victoria River district

Archaeological investigations of the lower Victoria River region are being undertaken by Robin Gregory, in an attempt to identify chronological changes in human activities. One focus of the research is the definition of variability in artefact assemblages within and between a number of environmental zones. It is hoped that patterns of variability might be related to basic settlement-subsistence strategies used in prehistoric times. An issue of particular interest is the use of refuges as part of a broader land use system. As an adjunct to these investigations the rich ethno-historic and ethnographic data available for the region are being used to model possible subsistence patterns.

Investigation of prehistoric shell mounds on the West Alligator River

In 1992 Fiona Mowat mapped and recorded seven archaeological middens on the West Alligator River. Four of the sites were dated to establish a chronological sequence of environmental and cultural change. A further five sites were recorded on the South Alligator River for comparative purposes. These data enable inferences about prehistoric economies in a rapidly changing Holocene landscape.

Kakadu Wetlands Archaeology Project

Much of the archaeological research at NTU over the last two years has been directed towards investigations in Kakadu National Park, and in particular the

wetlands formed by the Alligator Rivers floodplains. The project aims at developing a picture of the prehistoric cultural ecology of the Kakadu wetlands. This is to be achieved through broad reconstructions of the subsistence-settlement patterns which were in place during prehistoric times. To date much effort has been spent evaluating and testing models posed by earlier researchers (e.g. Guse 1992; Hiscock 1990; Hiscock 1993b; Hiscock and Kershaw 1992; Hiscock and Mowat in press; Hiscock, et al. 1992). In addition, original data is increasingly being used to derive inferences about prehistoric human ecology (see Bowen and Mowat above).

Conclusion

This paper provides readers with an update on the archaeological activities at the NTU. In a short period, the size and scope of archaeological teaching and research has expanded significantly. Field research has concentrated on the Alligator Rivers region, but includes areas across the entire top end of Australia. Research interests extend geographically beyond the tropical north to the arid inland of Australia and to island southeast asia, and incorporate many themes, concentrating on issues of site formation and physical/cultural evolution in the Australasian region. As Australian archaeology grows in the 1990s, the NTU is well positioned to contribute to that growth.

References

Guse, D. 1992 Predictive models of prehistoric settlement and subsistence patterns for the South Alligator and Mary River Wetlands, Northern Territory. B.A.(Hons) thesis, Northern Territory University.

Hiscock, P. 1990 How old are the artefacts from Malakanunja II? *Archaeology in Oceania* 25:122-4.

Hiscock, P. 1993a Bondaian technology in the Hunter Valley, New South Wales. *Archaeology in Oceania* 28:65-76.

Hiscock, P. 1993b The distribution of points within Nauwalabila 1. *The Beagle* 10:173-8.

Hiscock, P. and P. Kershaw 1992 Palaeoenvironments and prehistory of Australia's tropical Top End. In J. Dodson (ed.) *The Naive Lands*, pp.43-75. Longman Cheshire.

Hiscock, P. and F. Mowat 1993 Midden variability in the coastal portion of the Kakadu region. *Australian Archaeology* 37:18-24.

Hiscock, P. and I. Walters 1991 Archaeology at the Northern Territory University: An introduction. *Australian Archaeology* 32:52-5.

Hiscock, P., F. Mowat and D. Guse 1992 Settlement patterns in the Kakadu Wetlands: Initial data on site size and shape. *Australian Aboriginal Studies* 2:69-74.

Sullivan, M. and D. Carment 1992 Cultural heritage conservation in the Northern Territory. *North Australian Research Unit Discussion Paper* 10.

Sullivan, M. and P. Hiscock 1992 A suggested cultural resource GIS for the Northern Territory. In C.C. Devonport, S.J. Riley and S.M. Ringrose (eds) *Proceedings of the GIS and Environmental Rehabilitation Workshop*, pp.78-90. Australian Government Publishing Service.

COMING TO TERMS WITH THE NORTHERN TERRITORY HERITAGE CONSERVATION ACT 1991

Peter Hiscock

On 26 September 1991 the Legislative Assembly of the Northern Territory enacted the Heritage Conservation Act. This peculiar piece of legislation is designed to protect natural and cultural heritage, including archaeological materials, but its ambiguity and severe problems in its implementation belie this objective. Archaeologists working in the Northern Territory (NT) are in the process of coming to terms with this Act, and are finding it flawed. The purpose of this paper is to describe some of the immediate difficulties associated with this legislation.

Aspects of the historical background to this legislative change have been documented by Carment (1984, 1991). Since I intend to concentrate on the implications of this Act for current archaeological activities, I will not repeat its developmental history. What is important to note is that the passage of this legislation represents a shift from a previous Act that was entirely concerned with protection of archaeological materials to one that protects many other phenomena in addition to archaeological materials. The Heritage Conservation Act 1991, section 3, states that:

> The principal object of this Act is to provide a system for the identification, assessment, recording, conservation and protection of places and objects of prehistoric, protohistoric, historic, social, aesthetic or scientific value, including geological structures, fossils, archaeological sites, ruins, buildings, gardens, landscapes, coastlines and plant and

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