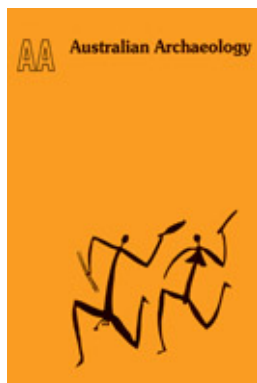


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ARCHAEOLOGY IN SOUTH AUSTRALIA - A REPORT ON RECENT WORK

Archaeological work in South Australia at the present moment is in the hands of three agencies:

- the Australian Institute of Aboriginal Studies continues to sponsor the investigation of Koonalda Cave on the Nullabor Plain.
- the Australian National University continues to sponsor archaeological work in the South East of the State and Kangaroo Island.
- the South Australian Museum is continuing with investigations in the Lower Murray Region, pursuing its joint archaeometry project with the University of Adelaide and continuing with its work of general survey and excavation as an outcome of government policies.

The South Australian Museum has since 1972 operated as a division of the South Australian Department of Environment and Conservation. It operates by authority of the *Museum Act* (1939). The work of investigating archaeological sites, curating collections and supplying information about them falls to the Anthropology and Archaeology Branch. The work of gazetting, reserving, protecting and inspecting sites of public significance falls to the Museum's Aboriginal and Historic Relics Section by virtue of the *Aboriginal and Historic Relics Preservation Act* (1965).

This report will detail the work of the South Australian Museum's Anthropology and Archaeology Branch.

1. Lower Murray River: Roonka excavations

Excavations began on the Roonka Flat in 1968. From 1968 until 1972 attention was devoted to a large (15 x 30 m) trench in the long curving destabilised dune on the edge of the Flat, which is elevated well above the river floodplain level at this spot. These excavations defined a cultural succession of three prehistoric phases and one historic phase. These are: Roonka I c.18,000 BP, Roonka II c.8,000-4,000 BP, Roonka III c.4,000 BP to 19th century AD and Roonka IV 1850 AD to the present.

This chronology was presented in the form of a paper to the May Conference of the Australian Institute of Aboriginal Studies in May 1974. It has since been further validated by further surveys, excavation at selected points and additional radiocarbon dates. The site's significance and detail has been enhanced by studies of the excavated material.

(a) Survey Investigation

The chronological succession as established from excavations in the dune has been amplified by mapping on the Flat, the floodplain and the cliff margins, locating and grouping all sites encountered and relating certain of them to the cultural chronology by test excavation.

Prehistoric Sites

Topographic mapping of the Roonka Flat has revealed the outlines of a cultural landscape principally made up of open campsites and having links with Roonka III.

The Flat has been subdivided by streambeds into three major parts - a northern, an eastern marginal and a southern. Each is marked by a cluster or "complex" of open camps with identifiable relationships to food resources. The southernmost of these is interesting for being broken up into two systems, each of them flanking a lagoon and stream system leading into the main stream. One of them is still functioning, whilst the other, situated closely adjacent, is fossil. The fossil or "Wetjungali" complex is interpreted as anterior to the Cumbunga group. Radiocarbon dates on one of the sites place its cooking structures within the third millennium BP while dates on the root systems penetrating other cooking structures at the same time give them an antiquity of some 300 years. Further investigation will test the antiquity of the Cumbunga system. The parallel geomorphology of the two closely adjacent hydrologic systems could suggest the operation of tectonic forces in the Murray trench. Very little survey work has been done on the floodplain as these are largely in a state of permanent inundation due to the maintenance of a constant river level by a lock not far downstream. The situation has been rendered further difficult by repeated flooding over the past two years. There are a number of scarred trees and other remains of the historic Aboriginal era, on the floodplain south of Cumbunga lagoon. These will receive attention when the present flood falls. The historic landscape prior to uplifting of river levels, and the distribution of sites and drowned scarred trees, will be pursued from a boat in the near future. The high limestone plain which spreads on either side of the clifftop has been paid some attention. Ancient longitudinal dunes have been identified on the East Bank and one of these is being tested by excavation.

Historic Sites

Beginning with farming in the 1840's, the land use of the Roonka Flat has alternated constantly from pastoralism to farming. As a result the area is severely stressed environmentally. This has had its uses however, as it has bequeathed a rich palimpsest of fencelines and historic building sites whose analysis is yielding much of interest. As of this moment, evidence of up to four nineteenth century building structures have been located by mapping. One of these has had its outlines investigated by resistivity-survey methods (see Joint South Australian Museum/University of Adelaide Thermoluminescence Project). These can be added to the two extant nineteenth century buildings which are still standing and the ruins of another reputed to be nearby across-river.

The close survey of the Roonka Flat and its environs has been accompanied by broader surveys of the limestone plain hinterland. There are grounds for inferring the existence of an ancient human trackway striking across this plain. A preliminary reconnaissance has brought out promising results. This will be followed up as time permits.

(b) Excavations

In addition to trench A, three other sections of the Roonka Flat dune have been tested by excavation. These have clarified and confirmed the inferred inversion of stratigraphy in the uppermost two layers. They have also disclosed something of the archaeological detail of Roonka III, which removal of its bulk in trench A, had concealed its stratigraphic character. A range of cooking structures and food residue accumulations is now available for analysis.

The complex of sites on the North Flat has been tested by excavation. Pegging out of a trench on the north bank of the gully has disclosed at least nine stone cobble cooking structures. One of these has been much reused and presents an extremely complex appearance. It is hoped that its careful study will tell us something of the stratigraphic character of these features.

The complex of older sites along the fossil "Wetjungali" lagoon and stream system has been tested by excavation. Two trenches have been pegged out and their interiors stripped. The second of these have revealed a complex array of cooking structures interpenetrated by the decayed root systems of the box trees which once grew in this part of the flat until felled by farmers. A sample from one of these which penetrated the pit has been shown to be in the order of three hundred years old by radiocarbon dating.

One of the ancient linear dunes on the East Bank has been trenched. The basal sand has been tentatively identified as late Pleistocene. It has a considerable content of lithic material and some human remains. These have been exposed by deflation nearby. Excavation from the present day erosion surface has penetrated first a recent soil horizon and below it an older calcareous dune sand. The upper zone of this older unit has been remobilised but below it, undisturbed features of human origin have begun to appear. It is highly probable that all features at this depth are Pleistocene in age.

(c) Study of the excavated products

1. (a) Palaeodemography and Palaeoanthropology

The grant of funds by the Australian Institute of Aboriginal Studies enabled Dr M. Prokopec (Institute of Medical Hygiene and Epidemiology, Prague) to spend twelve months in 1974-75 as a Visiting Research Curator. The purpose of Dr Prokopec's visit was to prepare reports on the palaeodemography and morphology of the Roonka population.

Strengthening and restoration of bone

The bone from Roonka is dangerously decayed and extremely delicate. A further grant of funds from the Australian Institute of Aboriginal Studies permitted the creating of a Technical Conservator post. Mr K.C. Cotton was appointed to fill it.

Museum funds were drawn on to establish a workshop for the testing and development of appropriate techniques. A method was developed which embodied the strengthening of osseous elements and components by their impregnation with soluble plastics under a partial vacuum. Assembly and filling in of lost areas was

accomplished by the application of hard dental waxes. Grants from the Ian Potter Foundation and Myer Foundation permitted the purchase of appropriate equipment for photographic documentation, and cast replication of finished restorations.

A short film has been made outlining the sequence of techniques followed in conserving the bone.

A grant from the Sir Mark Mitchell Foundation covered the costs of Dr Prokopec's additional anthropometric instruments and a special grant from the Department of Environment and Conservation enabled the appointment of a research assistant. Mr D. Jacka was appointed to this post in September 1974. Following upon his resignation in January Mrs J. Zimmer-Hart was appointed to the post.

A report, prepared by Dr Prokopec, was completed in June 1975. It is divided into two parts, one dealing with demography (including palaeopathology and evidences of misadventure) the other with cranial morphology based upon a selected sample. Dr Prokopec's conclusion is that the Roonka population fits readily into historic Australian morphological limits. Its time span can be firmly placed between 8,000 BP up until colonist times. A preliminary version was read as a paper to the ANZAAS Congress at Canberra in January, 1975. It is hoped that Dr Prokopec will be enabled to return to Australia at a later date to extend his study of the cranial morphology and embark on a study of the infracranial morphology thus completing this component of the analysis.

(b) Cultural Analysis

'The Cultural Chronology of the Roonka Flat - a preliminary consideration' was rewritten and dispatched to Canberra for editing and printing a few months ago. In addition to setting out the basic cultural chronology as established in the dune, it compares the inhumation chronology with inhumation series recovered from other sites in the Murray-Darling system. A set of inhumational provinces is proposed in space and alterations in their content and distribution over time are put forward. Elements in inhumational practice are studied for the insight they supply into prehistoric social structure. The discussion is useful for drawing attention to the other kinds of evidence that can be drawn upon in order to enrich the picture of Australian prehistory as established by stone-
implement successions.

The author also presented a paper entitled "Social change in ancient Australia - the evidence from Roonka", at the ANZAAS Conference in Canberra during January 1975. This paper pays closer attention to the usefulness of studying certain inhumation practices in erecting hypotheses about ancient Australian social structure.

Progress continues to be made with the analysis of the Roonka material. The field documentation and excavation material continue to be processed thanks to volunteer assistance from many people.

(d) Chronology - Joint South Australian Museum/ANU Radiocarbon Laboratory bone dating project

Mr H.A. Polach and Mr John Head (Australian National University Radiocarbon Laboratory) continue to render advice and supply dates. Dates received in 1974-75 have helped to clarify the cultural chronology, bracketing Roonka II between 8,000 and 4,000 BP and relating certain of the sites at a distance from the dune to the chronology established from Trench A.

The necessity to accommodate the needs of Dr Prokopec have enforced a delay in the progress of the jointing Museum/ANU Radiocarbon Laboratory bone collagen project. The conclusion of Dr Prokopec's study term has permitted a return to this work. Experiments to determine the appropriate bone sample sizes are currently being explored with the South Australian Institute of Medical and Veterinary Science.

2. Joint South Australian Museum/University of Adelaide Thermoluminescence Project

The aim of this project is to establish equipment for the Thermoluminescence analysis of archaeological baked clay and allied materials. An experimental apparatus was set up within the Physics Department (1973) by Mr R.J. Kobelt under the supervision of Professor J.R. Prescott. A more elaborate array of equipment is now in the process of being acquired by the Physics Department. The collaboration has been extended however by Professor Prescott's participation in the fieldwork of the Roonka project.

Two exploratory investigations have been made: (a) Resistivity Survey methods have been applied to investigating the outlines of early colonist building foundations on the Roonka Flat (b) a pilot investigation has been made into the use of computer analysis of mapped ovenstone patterns as an index of random/non-random factors in their distribution.

3. National Folk Province Feasibility Study

This study arose from a submission bearing this title and placed before the Australian Government's Committee of Inquiry into the National Estate. The submission was one of a series compiled and submitted by the South Australian Department of Environment and Conservation.

Conceptually, the idea of a National Folk Province seeks to stress the importance of adjusting current ways and means of selecting, establishing and maintaining landscape reserves of cultural and natural phenomena by:

- (i) broadening their extent to embrace comprehensive spectra of phenomena
- (ii) re-orientating them so as to presume, not ignore, the central role of Man as an agent of environmental change.

Several outcomes emerge. It suggests for example that archaeological and historic Aboriginal sites are best presented in landscape surrounds of validated historicity. It suggests that collections of the classic pastoralist period are best sited in buildings and surrounds of that era. It suggests that we recognise exotic floras and faunas of the

colonists as valid artifacts of the European presence and therefore meriting preservation in precisely the same way as we seek to preserve the native dog as an artifact of Aboriginal man's intrusion onto this continent.

In sum then, as a concept, it recalls the famous phrase of Andre Malraux, "the Museum without walls", but placing it in an Australian context and establishing it by the operation of validated research. For this reason the term "National Folk Province" was devised. "Province" implies choice of an area along lines much more generous than a park, "Folk" implies an equality of application to both black and white elements in Australian history while the term "National" establishes the proper basis of such a reserve's choice. It can be appreciated that tracts of this size will include residents and thus require the application of careful public clarification procedures at a citizen level. The establishment of such a concept implies applied and public as well as pure research. In many respects the concept is closely aligned to the British National Parks, which incorporate a considerable component of privately owned land.

The problem posed by the application of such a concept in this country have made it necessary to establish a feasibility study. The Interim Committee for the National Estate, now the Australian Heritage Commission, gave their endorsement to the proposal and have supplied funds for the conduct of a feasibility study. Two locations have been established as worth investigating. One of these is situated in a strip of the Murray mallee between the Murray River and the Mount Lofty Ranges and bordered by Burra Creek and the Marne River. This is the former Ngaiawang tribal territory which has given its name to the province. The second is in the South East of the State on the coast between Robe and Beachport and extending inland.

The feasibility study has two components, a resource evaluating and an applied research component. At present the conduct of the work is carried out by a Graduate Officer (Mr P.F. Donovan) and a Specialist Architect-Historic Buildings (Mr B. Rowney) under the direction of the author. They are assisted by a Research Assistant (Mrs Johanna Zimmer-Hart) and an Office Assistant (Mrs C. Carey). A further appointment of Liaison officer has been sought in order to give due attention to resident matters. The project is under the supervision of a steering committee chaired by Mr P.W. Cornish, Deputy-Director, South Australian Department of Environment and Conservation. There is also an advisory committee composed of persons having knowledge and expertise useful to the project's conduct. The resource evaluation component consists basically of compiling an inventory of surviving historic phenomena. A comprehensive formal and chronological classification has been prepared based partly upon existing classification but broadened to include early colonist, classic pastoralist, agricultural and nineteenth century industrial and resource processing phenomena. The classification is in the process of being cross-checked by documentary research and surveys on the ground. This is intended to yield a publishable inventory which can be studied by government agencies and residents alike.

An *Outline Sketch* of this inventory is at present being put together for publication together with an introductory statement of the concept and its applications. Entries dealing with hunter-gatherer camps, settlements, art galleries, and resource processing sites, with early colonist towns, pastoral complexes (capital intensive and vernacular) fences and boundary lines, water resource works, and government towns, communications, and port installations have been prepared and others are in the course of preparation. Two further studies have been completed and await printing: *The town of Kapunda: an early Australian Mining Settlement* by R. Charlton and B. Rowney, and *Craigies Plain: a vernacular pastoral building complex in the Ngatawang Folk Province* by E. Kalibatas.

The applied research component has been directed mainly at establishing close links with local government. This has proceeded furthest with the Kapunda municipality. Here, close lines of communication have been established with local government, and a number of conservation matters discussed. One of the most fruitful is the election of a local government sponsored committee to run a Colonial Festival in 1976 as a means of drawing attention to the town's heritage without and reinforcing public awareness of it within. The outskirts of the town are surrounded by former miner settlements which have disappeared under the plough. The investigation of these by archaeological methods is currently under consideration.

4. Rescue Excavations and the supply of information and advice

A number have been made and full details can be had from the Museum's *Annual Report*. Most of these investigations arise as an outcome of forensic inquiries initiated by the South Australian Police Department and in collaboration with the staffs of a number of agencies. In addition, the Branch joins with other Divisions of the Department of Environment and Conservation in assessing the environmental impact of development work. The most notable recent instance of this was the extensive use made of the branch records by all parties involved in the dispute over Hallett Cove, just South of Adelaide and now in the process of being developed as a Conservation Reserve.

The need to improve the Branch's supply of advice and information caused the embarkation upon a process of collection reorganisation at the beginning of 1975. The archaeological collections were recovered from dispersed storage and brought together in the form of either surface collections or excavated material. Unregistered material has been put to one side where found pending its processing. Both major collection components are in the course of being reorganised on regional and typological lines. The card inventory of campsties, which accompanies this collection, has also been reassembled and reorganised.

The basic work of collection reorganisation was initiated by Mrs V. Campbell (Curator) and Messrs K. Tonkin (Museum Assistant), and B. Swanson (Museum Assistant). Mrs Campbell concluded her term of appointment in April and the work has since been carried by other staff. Lack of staff has been a vexatious delay in this area but this is currently being repaired. Additional storage sufficient to bring the collection together in its entirety is being installed in a nearby building and it is hoped to transfer collections early in 1976. As from then, their general accessibility to study will be vastly improved.

5. Future work

It is expected that the work on the Lower Murray will conclude in 1976. Meanwhile plans are in hand to undertake comparative work in the Lake Eyre and Cooper Creek river system in the far north east of the State. It is hoped to join with the Australian Institute of Aboriginal Studies in sponsorship of the Koonalda project. Dr S.A. Gallus has been invited to take up a visiting research curatorship with the branch in 1976.

Grateful acknowledgement is made of the work of the *South Australian Museum Volunteer Archaeological Group*. This group has sustained the ongoing work in the field since the commencement of the Roonka project in 1968.

G.L. Pretty
The South Australian Museum

Kangaroo Island

As a footnote to Mr Pretty's report, I wish to mention my own research in South Australia during 1975.

I continued the Kangaroo Island project with a three month field reconnaissance aimed at locating sites suitable for more intensive research. Exploration of limestone areas failed to reveal any more caves suitable for human habitation, but occupation horizons containing stone tools were found at three open sites. I plan to excavate at these in 1976, and hope that at least one of the three sites will have Kartan stone tools in a stratified, dateable context.

At several surface camp sites, controlled collections of Kartan tools were made. In collaboration with Drs J.H. and G. Hope, the sediments of several of the most promising lagoons on the island were cored in search of pollen and other palaeoenvironmental evidence. However, worthwhile organic sediments were found only at one lagoon, and these were only 4 m deep.

R.J. Lampert