Well beaten tracks: the antiquity of Aboriginal land use in eastern Tasmania.

Australian Research Council (ARC) funded project

Supervisors: Richard Cosgrove, Jillian Garvey and John Webb

Although more than 50 years have now passed since the first systematic archaeological surveys were undertaken in Tasmania and, despite numerous major archaeological discoveries dating from 40,000 years ago, we still have little understanding of how western and eastern Tasmania articulated into Aboriginal social and economic life.

Aims: Using new archaeological evidence and by applying innovative analytical techniques to older museum collections, this large ARC project aims to examine how Aboriginal people used their landscape over the past 40,000 years in eastern and western Tasmania. This project comprises 5 student projects that focus on understanding how Aboriginal Tasmanians exploited both inland and marine resources.

Much of what we know about Aboriginal people’s ice age history has come from work in the island’s southwest over the past 25 years. This has been vital in challenging old ideas about the history of Aboriginal people as well as providing a glimpse into their complex past behaviour.

It is clear from previous research that Aboriginal people were not at the mercy of the environment, but planned their land use in specific ways, organising their movements in a systematic and sophisticated manner. This ARC project aims to investigate the comparative archaeology of eastern and western Tasmania and seeks to understand how Aboriginal people used their land. We will attempt to identify the missing, earliest evidence of Aboriginal occupation in eastern Tasmania (Figure 1) and for this reason, our studies are focusing on Aboriginal stone quarry sites and the technology used to make stone tools (Mr Evan Thomas and Mr Jeff Theys), coastal midden sites to examine past food selection (Ms Fleur King and Ms Emmy Frost) and animal remains from rock shelters to identify how Aboriginal people lived and exploited ‘bush tucker’ (Mr Chris Silvester). The question we would like to answer is: How did the Aboriginal people link their activities together across the Tasmanian landscape in a systematic manner and, what was their social and economic contact. A visualisation of these possible connections is presented in Figure 2.

In addition, studies of the nutritional returns of ‘bush tucker’ and how it played a role in the past food quest of Tasmanian Aboriginal people will be examined. We have also examined a number of animals with the aim of understanding why Aboriginal people collected some more often than others in the past. Jillian Garvey and Richard Cosgrove have been focusing on this as aspect of the project.

In the following pages, the students have summarised their work, describing the questions, their aims as well as some of their preliminary results.
Aboriginal food resources of land and sea country – a case study of Sisters Creek Cave, northwest Tasmania

Fleur King, PhD Candidate 2016-2019

This research is investigating the coastal food resources and land use of Tasmanian Aboriginal people at Sisters Creek Cave in Rocky Cape National Park, northwest Tasmania. The cave was excavated in late 1963 and early 1964 by archaeologist Rhys Jones. However, only preliminary results were published as Jones went onto the Rocky Cape caves for his PhD thesis.

Bulk shell samples and fauna bone were excavated by Jones which are only now being analysed after remaining in storage for 53 years at the museum in Hobart. These samples consist of two columns of midden material extending back 7,000 years when the sea reached its present level after the last ice age. There is a wide variety of shells, mammal bone, fish bone, crustaceans, stone and charcoal in the midden samples. By analysing the sediment, shells and bone over this long-time period, a picture can be built up of the different animal foods eaten when the old people lived at the cave.

In the past year, the project has completed 16 weeks of lab work at Moonah, counting and identifying various types of shellfish, mammals, birds, fish, crabs and crayfish. Radiocarbon dates have been obtained from the hearth charcoal in the samples across the different living floor surfaces of the cave. Initial results show that a diverse range of food choices were available from the surrounding land and marine environments.

Shellfish from the intertidal zone such as warrener, periwinkle and whelks formed a large part of the diet, and abalone were collected in the last 1,000 years. It appears that wrasse and leatherjacket fish were commonly caught over the 7,000-year period, which challenges the claim that Tasmanians stopped eating fish. The rocky shoreline and small rock islands provided resting refuges for seals, seagulls and shags which were skilfully hunted. The inland heaths, woodland and forest provided a diversity of habitat for bandicoot, pademelon, ringtail possum, wallaby and kangaroo.

Work in the coming months will analyse the results to determine the most abundant and important food sources and how the landscape around the cave was exploited and managed. An environmental reconstruction over the 7,000-year period will be developed. This will indicate if there were any variations over time due to climate change and available food resources, as well as possible land management strategies undertaken by the old people to maintain food supplies.
Rocky Cape Revisited: Re-investigating Aboriginal dietary change at the Rocky Cape Caves, north-western Tasmania

Emmy Frost, PhD candidate (La Trobe University)

This project aims to investigate the change in the types of coastal foods collected and eaten by Aboriginal Tasmanian people from the north-west Tasmanian coastline around 3500-3800 years ago. During this period it has been argued that people stopped eating fish because their bones were not found in coastal midden sites after this date. Prior to this period, fish bone was found in great numbers.

This project is focusing on investigating this pattern from two sea cave middens at pinmatik/Rocky Cape. These were excavated by Professor Rhys Jones in the 1960s for his PhD thesis.

The project has begun by analysing a series of shell midden samples from both Rocky Cape Caves (North Cave, and South Cave) that were collected by Jones during his excavation and now stored at the museum. This will determine whether there was change in the type or number of shellfish being collected and eaten. One of the questions will be, does this change correlate with the disappearance of fish bone from Rocky Cape?

This will be combined with experimental work on the nutritional content of modern marine foods commonly found in Aboriginal coastal sites, such as warreners, abalone, and fish from the north-western coastline near the sites. This will be done to work out how nutritious these foods are to eat, and from this we can work out how any changes to the types of food eaten over time would affect diets.

This project is still in its early stages, with the analysis of the excavated shellfish and animal bone still being completed at the Tasmanian Museum and Art Gallery Conservation Laboratory in Moonah.
Stone tool use in eastern Tasmania

Evan Livingstone-Thomas, PhD Candidate

This research concentrates on the spatial and technological aspects of tool use in eastern Tasmania through the application of geochemical and ‘attribute’ analyses to gather data about three different assemblages/collections of stone tool artefacts: 1) the Syndal Quarry site, approx. 8kms southeast of Ross, 2) the major collections of Tasmanian stone tools in QVMAG, including Legge, Salter, Ellis, Wilkinson, Whittle, Amos, Jones (J.F.), Heywood, and Bremer Collections, 3) stone fragments excavated in 1964 by Rhys Jones from OL1, a small rockshelter site at Lake Dulverton, held in TMAG. Comparisons are being made between these sets of data, and are providing evidence of the strategies for stone tool production, transportation, and maintenance, as well as migration and landuse patterns of Aboriginal people in eastern Tasmania. Results show that the most heavily used and maintained tools in the QVMAG collections were made on large, round or semi-circular flakes, approx. 120-150mm across and 20-40mm thick. The most numerous/common tools in the QVMAG collections were made on small flakes, 20-50mm across and 5-10mm thick. These were often struck from the large flakes mentioned above, and show little curation. Possibly ‘single-use’ or ‘expedient’ tools. Differing levels of weathering/patination shows that tool recycling and re-use, often after many centuries, was a common stone resourcing strategy. Such recycling is less common at Syndal Quarry. Activity there was geared around the production of the large flakes. More traditional ‘cores’ appear in the QVMAG collections from the immediate areas of known quarry sites. OL1 contains no large flakes or cores. Apart from several fragments of broken, retouched tools, OL1 assemblage is made up of very small flakes, 3-12mm across, as would be produced by the re-shaping or resharpening of larger tools. OL1 also contains a considerable number of small, ‘single-use’ flake tools mentioned above. This assemblage attests to a very different site use to Syndal. OL1 contains a small amount of Syndal material. Taken together with the observed distribution of Syndal material mentioned above, presents interesting questions about the ‘rigidity’ and/or contemporaneity of the local tribal boundaries. Altogether, this suggests that these large flakes formed the basis of the mobile toolkit.
The geoarchaeology of Aboriginal stone artefact quarries in southeast Tasmania

Jeff Theys, PhD Candidate 2015 – 2019

This research investigates how the distribution and geological characteristics of stone artefact quarries influenced Aboriginal land-use in southeast Tasmania.

Stone tools represent an incredibly important part of Tasmania’s archaeological record. One of the most important types of stone used by Tasmanian Aboriginal people was hornfels – a baked mudstone that is widespread in southeast Tasmania. It has excellent flaking properties that make it ideal for manufacturing stone tools. Although stone tools themselves have been the subject of museum collectors and research for decades, the Aboriginal quarries from which stone was collected have received much less attention.

A study of these quarries has the potential to help us understand the first stages of stone tool manufacture. Through careful examination of quarries, we can answer questions such as: how did the raw material influence the types of tools being manufactured; how was stone being reduced at the quarries; and how far was stone travelling from the source.

By combining geological and archaeological techniques, my research aims to characterise the hornfels found at these quarry sites. This will help us to understand what made this particular type of stone suitable for artefact manufacture.

So far, I have spent over ten weeks in the field surveying and recording quarry sites in the Midlands. A large number of hornfels quarries were identified by consulting geological maps and historical records. A number of the quarries remain relatively undisturbed, making them suitable for analysis. From among these sites, I selected two quarries from distinct ends of the midlands for a comprehensive comparative analysis. The fieldwork involved detailed recording of surface artefacts, mapping the sites and the collection of chemical data using a technique called portable X-Ray Fluorescence (pXRF).

With fieldwork now complete, the next stage of my research involves further laboratory work and geological analysis of hornfels. I will run a number of tests to determine the exact mineral, chemical and mechanical properties of the hornfels. This will allow us to determine the ways in which raw material influenced Aboriginal tool manufacture and land-use in eastern Tasmania.
By hand, foot or wing – a case study of animal bones found at the Oatlands Lagoon Rock Shelter. Bachelor of Archaeology Honours thesis.

Chris Silvester.

There are many sandstone rock shelters on the eastern edge of Lake Dulverton at Oatlands in the Southern Midlands. One of these was excavated by a team of archaeologists led by Rhys Jones in early 1964.

The excavated material, which includes bone points, animal bones, stone artefacts and charcoal, has been housed at the Tasmanian Museum and Art Gallery in Hobart. Whilst the bone points were reported in a review by Rhys Jones in 1965, the remaining material has lain untouched for almost 50 years. The charcoal has revealed radiocarbon dates of 3000-6000 years ago. One of the questions that has arisen is whether these bones came from hunting by Aboriginal people, Tasmanian Devils or birds, and what this tells us about the day to day activities of Tasmanian Aborigines at the time.

The animal bones have been examined in the TMAG laboratory at Moonah over a total of 12 weeks and approximately 700 of 2,300 bones have been identified. These come from a range of medium to large animals including Bennett’s wallaby, possums, bandicoots and many smaller native animals such as Broad-Toothed Rat, Swamp Rat and Water Rat.

The bones identified have been mainly large limb bones with little in the way of toothmarks or marked breakage. There is evidence of human use with some bone points, cut-marks and burning. This pattern has been contrasted with that of bones collected in animal droppings from Tasmanian Devils. These bones are more fragmented and include more bones from the head and paws.

The numbers of smaller animals with whole bones suggest that the Oatlands Lagoon Rock Shelter was used by birds of prey such as owls, and only intermittently used by humans with the main species hunted being Bennett’s Wallaby, Common Brushtail Possum and Common Ringtail Possum. The pattern of use reflected in the excavation layers will be compared with the stone tool analysis of the site performed by Evan Thomas as part of his PhD thesis. The bone analysis thesis is due for completion in October 2017.