



NEW ZEALAND  
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## ARCHAEOLOGY IN NEW ZEALAND



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# ABSTRACTS FROM THESES AND DISSERTATIONS, UNIVERSITY OF OTAGO, 2004–2005

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Abstracts from theses and dissertations in topics related to archaeology and biological anthropology completed during the period 2004–2005 are presented below. These include three PhD, one MSc and six MA theses, along with eight BA (Hons) and two PGDipArts dissertations. The theses submitted in Anthropology, Geography and History are held in both the University of Otago Central Library and libraries of the departments concerned, while dissertations in Anthropology are held only in the Anthropology Department Library. Theses in Anatomy & Structural Biology are held in the University of Otago Medical Library and the Anatomy & Structural Biology Department Library, while those in Marine Science are held in the University of Otago Science Library and the Marine Sciences Centre library. Requests to consult any of these items should be directed towards the library concerned.

**Barribeau, Tim 2005. *The Spindle Whorls of Ban Non Wat: An Analysis.*** BA (Hons) dissertation, Anthropology Department, University of Otago. 112 pp, 10 figures, 2 tables, 3 appendices.

At the site of Ban Non Wat in Northeast Thailand, there is a large sample of small ceramic artefacts known as spindle whorls. These whorls are used in the production of textiles, and they are small and easy to manufacture. They are an introduced technology, and their morphology is reflective of changes in textile usage. Through a combination of statistical and spatial analysis, the whorls show distinct cultural changes in the wider environment. From morphological and metrical trends, they show alterations in the use of the site, as well as showing contact and interaction with foreign societies. This allows them the potential to be used in similar fashions in other sites, to show important alterations in the society.

**Briden, Shar 2005. Archaeofauna from Sandfly Bay (I44/68), Otago Peninsula.** PGDipArts dissertation, Anthropology Department, University of Otago. 67 pp, 19 figures, 10 tables, 27 appendices.

Salvage archaeology at the I44-68 site of Sandfly Bay recovered a large suite of archaeological fauna. Identification and quantification of the faunal assemblage was made to understand early Maori subsistence and occupation on the Otago Peninsula. The presence of artefacts, fauna and ovens suggest I44-68 was a short-term habitation site. Subsistence strategies focused on coastal resources with opportunistic procurement of species away from the coast. The main species taken was barracouta (*Thryxites atun*) with smaller quantities of dog, rat, small bird, other fish and three species of moa. Fur seal, sea lion and elephant seal were found, with a few remains from juvenile small bird species. The avian fauna provide a new record of species extirpation from the presence of three premaxilla's from the South Georgian Diving Petrel (*Pelecanoides georgicus*) Murphy & Harper, that has not previously been recorded from the New Zealand mainland. Seasonal indicators based on contemporary coastal movement of small bird species suggest the site was occupied January to April (Davies 1980:70, McGovern-Wilson et al. 1996:232-233), while the seasonal movement of fish species is consistent with October to May (Anderson & Smith 1996:242). Together these suggest repeated use of the site in prehistory.

Radiocarbon dating on charcoal and small bird bone suggests two occupations. The first around ca. 668-550 cal. BP, and the second at ca. 545-459 cal. BP. (McFadgen 2005). These early dates are supported by the presence of Archaic style artefacts including a bone reel and a cache of bird spear points. Site stratigraphy is difficult to interpret and may represent a conflated single layer containing prehistoric material from several phases of occupation. The early occupation at Sandfly Bay may have ceased from the loss of forest vegetation and resulting increase in the size of the Sandfly Bay dune system.

**Drumm, Darrin 2004. Habitats and Macroinvertebrate Fauna of the Reef-Top of Rarotonga, Cook Islands: Implications for Fisheries and Conservation Management.** PhD thesis, Department of Marine Science, University of Otago. 277 pp, 49 figures, 32 tables, 4 appendices.

Throughout the Pacific, many species of echinoderms and molluscs have cultural value and are harvested extensively in subsistence fisheries. Many of these species are sedentary and often associated with distinct reef-top habitats. Despite the significance of reef habitats and their fauna for fisheries and biodiversity etc, little information has been available on the distribution of habitats and their influence on the reef-top fauna in the Cook Islands.

This thesis developed a novel approach to assess the status of the shallow-water reef-tops of Rarotonga, Cook Islands, to provide critical information to fisheries and conservation managers. The approach used remote sensing (aerial photography with ground truthing) to map the spatial arrangement and extent of the entire reef-top habitats accurately, and historical wind data and coastline shape to determine the windward and leeward sides of the island. The benthic habitat maps and degree of wind exposure were used to design and undertake a stratified sampling programme to assess the distribution and abundance of the epibenthic macroinvertebrate fauna of the reef-top. I quantified the distribution and abundance of the epibenthic macroinvertebrates and how they varied with habitat, assessed the effectiveness of a traditional ra'ui (marine protected area) for conserving stocks of *Trochus niloticus* and other invertebrates, and investigated the reproductive biology and impacts of traditional gonad harvesting on *Holothuria leucospilota*.

There were four major habitat types (rubble/rock, sand/coral matrix, algal rim and sand) identified, the most extensive being rubble/rock (45%) and sand/coral matrix (35%). The degree of exposure to winds was found to correlate with the reef development and habitat distribution.

The assemblage composition of each major habitat type differed significantly from every other habitat. The rubble/rock habitat had the greatest substratum heterogeneity and structural complexity, and the highest number of species and individuals. The overall abundance of the fauna was dominated by holothurians (68%) and echinoids (30%), while *Trochus niloticus* and *Tridacna maxima* accounted for the remaining 2% of the total invertebrate assemblage. Clear habitat partitioning was also found for adult and juvenile *Trochus niloticus* and *Tridacna maxima*.

In the traditional fishery for *Holothuria leucospilota*, the mature gonads of males are harvested by making an incision in the body-wall of the animal, removing the gonads and then returning the animal to the reef to allow regeneration. Monthly collections of *H. leucospilota* were used to describe the reproductive biology of this species. Gametogenesis and spawning were synchronous between the sexes and spawning occurred annually during summer, when water temperature and photoperiod were at their highest. Although the incision in the body-wall and gonad removal had no impact on the survival of *H. leucospilota* in experimental cages, their body weight, and general sheltering and feeding behaviours were affected. Gonads took at least 41 days to start regenerating, suggesting a considerable delay in the spawning of fished individuals.

In 1998, five Rarotongan communities re-introduced the traditional ra'ui system of resource management, prohibiting all fishing and gathering

from their reefs. The performance of the Nikao ra'ui, which had been put in place to allow trochus stocks to increase, was investigated. Comparisons of macroinvertebrate assemblage composition and species density were made between three fishing treatments, i.e. fished areas adjacent to the ra'ui, within the ra'ui after two years of protection, and in the ra'ui after it had been lifted for three weeks to allow a commercial trochus harvest. Analysis of variance on the count data for the twelve most abundant species, and non-metric multi-dimensional scaling indicated that there were no differences in the micro-habitat or the invertebrate assemblage composition between the three fishing treatments. However, there were significant differences between the rubble/rock and sand/coral matrix habitat types. The results on the effectiveness of the Nikao ra'ui are equivocal, due to the small sample size, and the variability between samples which was highlighted by the wide confidence intervals.

This study highlights the importance of habitat to the macroinvertebrate fauna of the reef-top and the need for accurate habitat maps to increase the cost-effectiveness of future resource surveys, to provide information to management, and for the design of Marine Protected Areas. The mapping and survey methods must be reliable and repeatable in terms of the limitations of time, and the availability of expertise, funding and resources. The results provide important information for fisheries and conservation managers of Rarotonga and other Pacific Islands to better design rigorous sampling programmes for monitoring the status of reef-top resources, and for evaluating and planning Marine Protected Areas.

**Dudfield, David 2004. Sealers: The Lifestyle and Material Culture of Early to Mid 19th Century European Sealers in Southern New Zealand.** BA (Hons) dissertation, Anthropology Department, University of Otago. 120 pp, 27 figures, 15 tables.

The contribution of sealers is largely ignored or glossed over in the history and archaeology of New Zealand. Yet these people were one of the first non-Maori groups to spend any length of time on our coasts. They brought both their material culture and lifestyle to New Zealand and had substantial impacts and interactions with the environment, fauna and indigenous people.

This essay is comprised of a substantial literature review of the historical sources and a reanalysis of archaeological material relating to sealers in New Zealand. This was undertaken to understand more about how they lived, what they brought here and how they interacted with other people and their environment.

Both primary and secondary historical sources were combined and contrasted with the excavated post-contact components of three caves at

Southport, Chalky Inlet. When all these sources were used in conjunction, a method of interpreting and supporting the evidence with as many sources as possible provided a good insight of how sealers may have lived in the past. Their unique contribution to our past is finally being acknowledged.

**Findlater, Amy 2004. Interpretation in Archaeology: An Investigation of a Fishbone Assemblage from Rurutu Island.** BA (Hons) dissertation, Anthropology Department, University of Otago. 104 pp, 12 figures, 10 tables, 2 appendices.

This paper aims to elucidate the nature of interpretation including the assumptions made, analogies used, reasoning employed and the plausibility of interpretations. This will be illustrated through the investigation of an ichthyofaunal assemblage from Rurutu Island. A narrative approach is taken to mimic the situation one faces in a real world investigation involving knowledge acquisition and the construction of interpretations. Types of data that influence interpretations are introduced as they were encountered during the investigation. This data included information relating to identification, provenance, quantification, taphonomy, fish behaviour and ecology, the environment, the excavation, ethnographic analogy and comparative studies. It was found that interpretations must be explicit and open to revision as additional data is understood. The narrative approach explicitly revealed the issues in interpretation of the ichthyofaunal assemblage. Inferences made from the assemblage revealed that human behaviour in relation to fishing strategies was similar to those observed elsewhere in the Pacific with a targeting of inshore reef flat and edge taxa.

**Gay, Jason 2004. Selected Artefact Assemblage from Purakaunui (I44/21) Excavated During 2001, 2002, 2003.** PGDipArts dissertation, Anthropology Department, University of Otago. 102 pp, 7 figures, 14 tables, 8 appendices.

The analysis of artefacts is an important part of archaeological investigation. At Purakaunui (I44/21) an assemblage of some 1413 artefacts have been selected from material excavated during 2001, 2002, and 2003. The use of phonolite, a local stone source, was important at Purakaunui, with some evidence for its use in the manufacture of polished stone tools. In contrast, basalt appears to have only been present at Purakaunui as finished adzes. The presence of obsidian as the third most numerous stone material is indicative of Purakaunui's participation within trade networks that reached as far as the upper North Island. This analysis has been undertaken as initial work that is part of ongoing analysis involving Purakaunui's artefact assemblage.

**Gilmore, Helen 2004. "A Goodly Heritage" Queen's Gardens, Dunedin 1800-1927: An Urban Landscape Biography.** MA thesis, History Department, University of Otago. 138 pp, 44 figures.

This work is a landscape study of the Queen's Gardens Public Reserve in Dunedin from the early nineteenth century to the end of the First World War. Originally the 'gateway' to Dunedin, this historic precinct is a good example of urban cultural landscape, containing a historic and commemorative record of community and individual activities. The Queen's Gardens area has played a key role in the history and development of the city of Dunedin, and contains many excellent examples of built heritage, much of which remains intact and currently in use.

Urban landscapes are generally on a smaller scale than rural and regional-scale landscapes. However, their design and histories also constitute a record of active and dynamic interaction between people and place. Whether representative of economic, industrial or political activities, domesticity, leisure, or the arts, the material culture of urban landscapes conveys information concerning, community cultural values, civic infrastructure, significant events and activities, which can be traced through their various stylistic changes, modifications and successional uses, and interpreted within their historical social context.

The aim of this study has been to interpret the landscape of Queen's Gardens as a record of the establishment and evolution of cultural ideas, values, and notions of group identity, and to use this process to discover the heritage values that it has acquired, and the ways in which these are recognised. I built up a picture of the landscape in four chronological stages, looking at the relationships between material objects in these spaces, and the ideas and values that they represented. I trace the development of the Reserve and the creation of its cultural heritage through successive phases from the pre-land, pre-European period, early settlement, and land reclamation process, and the changing layouts and uses of space between the early nineteenth century and the end of the 1920s. By separating and examining each layer of landscape in chronological sequence, I uncover the cultural history of the landscape, and identify the traditions and aspirations of the people and groups who formed, manipulated and used it. The progressive series of significant and dynamic changes in form, function and ideology that this area underwent throughout its formative years contributed greatly to the growth and development of Dunedin, and reflected many of the social values and perspectives of colonial culture.

This work is an exercise in reading a cultural heritage landscape, not only through its material culture, documentary history, and progressions of

form, but also it established traditions, and the variety of personalities, contrasting perspectives and stories that contributed to these. By synthesising the resulting data, interweaving the different strands of approach and materials of evidence into a holistic picture, I have shown how heritage meaning was progressively deposited and embedded in this urban landscape as it developed.

This study demonstrates that the landscape interpretive approach can be applied to an urban context with a shorter and more specific cultural sequence, and that a New Zealand urban landscape can provide a valuable insight to the social and cultural attitudes of the colonial past.

**Hamilton, Richard 2004. The Demographics of Bumphead Parrotfish (*Bolbometopon muricatum*) in Lightly and Heavily Fished Regions of the Western Solomon Islands.** PhD thesis, Department of Marine Science, University of Otago. 273 pp, 62 figures, 34 tables, 10 appendices.

In this research the ecology of the Bumphead Parrotfish (*Bolbometopon muricatum*) and the status of the Bumphead Parrotfish fishery in the New Georgia Archipelago is investigated. The Bumphead Parrotfish, or Topa as it is known in New Georgia, is the largest herbivore on coral reefs and it is a species that is vulnerable to overfishing. Despite growing concern over its global status, the factors that make this species vulnerable to overfishing are not well understood. The fishers of Roviana Lagoon (New Georgia, Solomon Islands) have targeted Topa for subsistence purposes for centuries, utilising a detailed body of Indigenous Ecological Knowledge (IEK) to capture Topa from known nocturnal aggregation sites. In recent decades burgeoning human populations, mounting dependence on cash societies and the adoption of new harvesting technologies have dramatically altered the dynamics of the Roviana Topa fishery, with this fishery now being artisanal in nature.

A cross-disciplinary approach towards this research was adopted. In the initial stages of this study anthropological methods were used to: Firstly, gain an historical perspective of ecological and social changes that have occurred in the Topa fishery and secondly, gather local knowledge on Topa ecology. Marine biology methods including creel surveys, Underwater Visual Census (UVC), telemetry, aging and reproductive studies were then employed to quantitatively assess the status of Topa stocks in Roviana Lagoon and provide the demographic data on this species that is required in order to make biologically based management recommendations for this fishery.

Anecdotal reports that in the last two decades catch rates of Topa have declined markedly in Roviana Lagoon and that large Topa have become a rare component of night catches were supported by comparative creel and UVC surveys conducted in the heavily fished Roviana region and at the

lightly exploited Tetepare Island. Growth overfishing of Topa appears to have occurred rapidly in the Roviana region. The stimulus for overfishing Topa stocks was the introduction of simple new harvesting technologies coupled with the advent of market driven fishing in this region. An investigation of the age-based demographics of Topa provides evidence that this species is only capable of sustaining low levels of exploitation. Topa in the Roviana region were moderately long lived, appear to have low natural mortality rates and mature fairly late in their lifecycle. Such life history characteristics indicate that population turnover rates for this species are fairly slow.

This thesis achieves four aims. First, it investigates and documents the complexity of ecological knowledge on Topa held by Roviana fishers, and the relevance of this information for research and management. Second, it provides a model of the cultural, social and ecological changes taking place in many high value South Pacific fisheries. Third, by incorporating anthropological and orthodox fisheries biology techniques, it provides baseline data on many unknown aspects of this species behaviour and life history characteristics. Fourth, it provides culturally suitable management recommendations for this species in Roviana Lagoon that take relevant biological, social and political factors into account.

**Harris, Jaden 2005. Material Culture of the Oashore Whalers.** MA thesis, Anthropology Department, University of Otago. 161 pp, 119 figures, 13 tables.

This thesis presents an analysis of the material culture of the Oashore whalers as represented by the excavated artefact assemblage. Shore whaling stations represent some of the earliest European communities in New Zealand. Previously very little archaeological work has been done on these sites and so we know almost nothing about their material culture. Historical sources can give us glimpses of domestic activity at shore whaling stations but generally detailed information on day to day life is lacking. The results of this work show that life at Oashore was fairly simple, with the station likely only being provisioned with basic supplies and the gear necessary to carry out whaling. This way of life is reflected in a comparison of the material culture of the Oashore whalers with that from other excavated shore whaling station sites in New Zealand and Australia. The range of material culture is also little different to that evidenced from other contemporary historical sites in New Zealand.

**Harsveldt, Patrick 2005. Interpreting the Blackened Industry: Historic Heritage Management of Former Coalmining Sites on Conservation Lands, South Island, New Zealand.** BA (Hons) dissertation, Anthropology Department, University of Otago. 135 pp, 43 figures, 9 tables.

This research essay is concerned with the management of historic former coalmining areas located on the public estate of the South Island of New Zealand. Within this geographical parameter, the project will identify and evaluate historic mining sites that are being managed by the Department of Conservation (DOC) as case studies. These key sites will be assessed and compared in terms of layout type and the physical condition of components and for any reconstruction and interpretation applications that have been undertaken as part of DOC conservancy management.

The research question asks what DOC conservancies are actively managing historic coalmining sites on the South Island and to what degree these historic coalmining resources are managed, especially in terms of visitor interpretation. Linked with this research question is whether the visibility of the historic coalmining resource has any bearing on the active management status of such sites.

**Hurren, Kathryn 2004. Archaeology of Benhar: A Material Culture and Landscape Study of a New Zealand Industrial Site.** MA thesis, Anthropology Department, University of Otago. 164 pp, 24 figures, 1 table, 1 appendix.

This thesis focuses on the pottery and landscape of a small Otago factory. Benhar was a pipe works and pottery factory south of Dunedin that operated from the 1860s through to the 1990s. Benhar was founded by John Nelson in 1863 and sold to Peter McSkimming in 1894. The main emphasis of this thesis is the period of domestic pottery production from the 1890s to the 1980s. The main production of wares occurred during WWI and WWII with smaller production periods occurring in the 1890s and 1970-1980s. Utilitarian wares with the occasional decorative piece comprised the majority of wares produced for the domestic market. The pottery produced at the Benhar factory as well as its landscape has undergone many changes over the last 112 years. This thesis combines historic, archaeological, landscape studies and anthropological approaches. Due to the different approaches taken in this thesis there is no one theory but a multitude of underlying theories. The outline of the thesis is as follows; Chapter One of the thesis introduces and discusses the themes, theories and ideas held within the thesis. Chapter Two is a historical review of Benhar. Chapter Three studies Benhar's material culture and its chronology of change. Chapter Four looks at Benhar's landscape and places

it within a theoretical context. Chapter Five reports on recent excavations at Benhar, while the final chapter concludes the thesis.

**Jennings, Chris 2005. *The Restoration of Monumental Archaeological Sites in East Polynesia*.** BA (Hons) dissertation, Anthropology Department, University of Otago. 68 pp, 7 figures.

Using the Pu'uhonua o Honaunau on Hawai'i and the Tahai Cultural Complex on Easter Island as case studies, this research project seeks to examine how restoration can affect the information and potential research values inherent in a monument and its associated landscape. Further it investigates how restoration projects in East Polynesia have been carried out in relation to international cultural heritage principles, laid out in such documents as the Venice Charter of 1964. The principles of restoration are introduced and defined in an international context, examining how restoration projects have been successfully undertaken. The focus is then shifted to East Polynesia, providing a background of the two principle monument types – heiau and ahu, that are primarily examined in the case studies. The case studies are described, focussing on the work of Edmund Ladd at Honaunau and William Mulloy at Tahai, and are then examined in relation to issues of authenticity, cultural tourism, and the approach to restoring monuments with superimposed construction phases.

**Latham, Phillip 2005. *Investigating Change Over Time in the Prehistoric Fish Catch at Purakaunui*.** MA thesis, Anthropology Department, University of Otago. 138 pp, 40 figures, 14 tables, 3 appendices.

This thesis looks at a number of issues related to the archaeological fish bone recovered from Purakaunui during the 2001-2003 ANTH 405 field schools. In particular, this work examines stratified samples of fish bone from the site and investigates the relative abundances of species in the prehistoric fish catch through time. An earlier preliminary study by Latham (2002) identified a predominance of red cod (*Pseudophycis bachus*) from a small area of the site complex in upper deposits and cut features, with barracouta (*Thyrsites atun*) dominating the lower deposits. Subsequent archaeological work has been undertaken to test this result further over larger areas of the site complex. A rigorous field sampling strategy targeted to primary stratigraphic units was employed to distinguish fish bone samples between early and later contexts from two discrete locations.

The results of this recent work confirm and extend the findings of the previous study. A number of possibilities as to why this in-site change may have occurred between layers are raised and reviewed in this thesis. Another

component of this work involves the examination of past fish bone studies at Purakaunui and elsewhere in Otago to assess changes in the fish catch over time and space. The results of this older research are considered against the present study in relation to site- and period- specific issues and the problem of recovery techniques. Having reviewed the evidence this research also proposes a testable hypothesis suggesting there was a growth in the prehistoric red cod industry over time in the Purakaunui locale, and possibly further a field in North Otago. Furthermore, it places existing evidence from earlier period contexts at the archaeological sites of Shag Mouth and Pleasant River, suggestive of an initial period of opportunistic fishing before the emergence of a more dedicated barracouta industry, into the proposed new model of marine exploitation patterns in this region.

**Marsh, Rebecca 2005. Digging up Dunedin: Research into the Attitudes and Knowledge of Dunedin Residents Towards New Zealand archaeology.** BA (Hons) dissertation, Anthropology Department, University of Otago.

This research was designed to gauge the levels of knowledge and awareness of New Zealand archaeology among Dunedin residents, with a specific focus on the legislation and organizations involved. A questionnaire was created, and residents from six suburbs of Dunedin were invited to participate. A response rate of 32% was generated, with ages ranging from 18 to 91 years, and a mean age of 50 years. The gender division was marginally in favour of women, as 55% of participants were female and 45% were male. A wide range of occupations was listed, and the majority stating they were retired. The majority of participants hold some sort of tertiary education.

The responses show that overall Dunedin residents have enthusiasm for New Zealand archaeology. Most have a good general understanding of what archaeology involves, and what archaeologists do. Knowledge of organizations and legislation such as the Historic Places Trust, the Historic Places Act, and New Zealand Archaeological Association, and the Department of Conservation was encouraging in that most had heard of the Trust, HPA, and DoC. They also had accurate perceptions of how these organisations functioned. Knowledge of the NZAA was not as good, and perceptions of the function of this organization were generally inaccurate.

Participants were asked to comment on the values of the past. These responses were very positive, as the majority said that we can learn from the past and that it should be conserved and protected. Finally, respondents were asked to comment on financial matters relating to the cost of archaeological excavation. The majority said that a landowner or developer should not have to pay for the excavation of a site affected by their work. However, many

qualified this by saying that developer should take responsibility for choosing an archaeologically valuable site, whereas a landowner should not have to pay because it was not their fault a valuable site existed on their property. Overall, Dunedin residents have a good perception of the basics of archaeology in New Zealand, although their knowledge of the legislation and organizations is not as strong. There is great support for the protection of sites, although most state that landowners and developers should not be responsible for meeting the costs of this.

**McAlpine, Christen 2005. *The Archaeology of Shore Whalers Houses in New Zealand*. BA (Hons) dissertation, Anthropology Department, University of Otago. 101 pp, 77 figures, 27 tables, 2 appendices.**

This study examines the evidence for shore whalers' houses in New Zealand. This is done through the analysis of historical descriptions and images, and the archaeological evidence of two New Zealand shore whaling sites, Oashore and Te Hoe. The data collected from these three sources resulted in an understanding of variations in the form and materials in which the shore whalers' houses were constructed. The historical images also enabled a study of changes over time in some of these attributes. This information is then used to provide an interpretation of the housing structures that were present at Oashore and Te Hoe. Finally, a comparison between the New Zealand examples of shore whaling houses and those found internationally are discussed. This comparison identifies Australia as the industry that most closely resembles that of New Zealand.

**Steele, Rhonda 2005. *The Industrial Technology of Shore Whaling in New Zealand*. BA (Hons) dissertation, Anthropology Department, University of Otago. 91 pp, 44 figures, 15 tables.**

The aim of this study was to investigate the industrial technology of the 19th century shore whaling industry in New Zealand. The shore whaling industry of New Zealand, and more specifically the technology involved, has until recently been an undervalued and under-researched area of archaeology. Analysis was undertaken on remains from two case study sites in New Zealand; Te Hoe and Oashore. An interpretation of the evidence was presented using archaeological analysis, previous research and historical data to investigate the use and change of industrial technology. The results show that there were local adaptations and uses of technology within the industry and that these differ not only from other localities in New Zealand but also internationally. As one of the most early and influential industries the how, when and why of changes in shore whaling industrial technology can provide information about what was occurring in the larger context of the colonial period.

**Stephenson, Janet 2005. A Framework for Understanding Multiple Cultural Values in Landscapes.** PhD thesis, Geography Department, University of Otago. 395 pp, 54 figures, 12 tables, 3 appendices.

When new development threatens a valued landscape it is not just the physical landscape that is being affected, but the collective memories, meanings and identities that the landscape holds. Planning theory and practice currently offer relatively little guidance as to how to address meaning and value, particularly at a landscape scale.

Recent literature from a variety of disciplines has stressed the need to develop holistic models of understanding landscape. Particular emphasis has been laid on the absence of integration of disciplinary approaches, and the need to involve communities in defining what is important and distinctive about their own landscapes

The thesis sets out to develop a conceptual framework to assist in understanding multiple cultural values in landscapes. Although the primary focus of the research is to address the perceived shortcomings in planning theory and practice, its potential relevance to inter-disciplinary work also forms a major component of the research approach.

Values in landscapes include those expressed by associated communities and those identified through a variety of disciplinary approaches. Using case studies, the research explores the nature and range of landscape values as expressed by those with special associations with particular landscapes. It also examines the nature of the meanings and values ascribed by disciplines with an interest in landscape, and how various disciplines model landscape so as to convey these values.

Analysis of these findings generates a landscape framework consisting of two related models. The Cultural Values Model offers a conceptual structure with which to consider the surface and embedded values of landscapes in terms of forms, practices and relationships. The Dimensional Landscape Model provides a structured way of linking expressed values to the landscape, using dimensional concepts of nodes, networks, spaces, webs and layers.

The landscape framework is found to be useful not only for generating a comprehensive picture of key landscape values, but also in offering an integrated approach that has utility both for planners and for other landscape-related disciplines.

**Taylor, Adrian 2004. *Managing Environmental and Visitor Impacts on Archaeological Sites along the Abel Tasman National Park Coastline*.** MA thesis, Anthropology Department, University of Otago. 199 pp, 29 figures, 2 tables, 4 appendices.

For over fifty years a large expanse of the Abel Tasman Coast has been afforded national protection subsequent to the establishment of the ATNP. This area of protected coastline has a long history of both Maori and European settlement, which has resulted in a wealth of archaeological and heritage sites. These sites represent a unique resource, of which many of the individual sites are arguably of both regional and national importance. These important coastal sites are however under ongoing threat from natural environmental and visitor impacts.

This thesis draws together past and new research to determine whether current ATNP management strategies are appropriate for the long-term protection of the archaeological information inherent in these coastal sites. The legislation that protects these sites and those bordering the Park is presented to assess past and current management strategies that have been carried out to protect the Park's coastal sites. The nature and extent of the loss of archaeological information from the ATNP's coastal sites is then examined. This is achieved with the investigation of three primary case study sites. These are Awaroa Inlet, Totaranui, and Anapai. Smaller secondary case study sites are considered for comparative purposes.

The extent of past, current and ongoing threats to the three primary case study sites are then ranked for impact. Ranking allows for the assessment of the degree of effect of concurrent visitor and environmental impacts affecting the coastal case study sites over time. The ranking of impacts to the case study sites shows how management strategies must be implemented for these sites that are appropriate to the changing nature and usage of their coastal locations.

**Tucker, Brooke 2004. *The Problem with Culture: Models of Change in New Zealand Archaeology*.** MA thesis, Anthropology Department, University of Otago. 127 pp, 14 figures, 9 tables.

This thesis addresses the study of social difference (both spatial and temporal) and the debate over theoretical mechanisms that explain the structuring of this difference. The culture concept is identified as the primary means by which anthropologists and archaeologists have modelled change through time and the conceptual foundations that this approach are investigated. The growth of the culture concept and its application as an archaeological tool is charted in comparison to subsequent developments in anthropological theory

and points of divergence are identified. Strengths and constraints of models of culture are evaluated with particular reference to the study of change in New Zealand archaeology. When compared to Europe and the Americas, temporal and geographic differences in scale within New Zealand highlight problems associated with archaeological models of culture. In the past, these differences contributed to early recognition of the distinction between archaeological and anthropological 'cultures' in New Zealand and they provide a valuable focus for a critique of the culture model in studies of change.

The anthropological critique of culture emerging from contemporary studies of society has led to the development of different ways of modelling change that have exciting implications for archaeology in New Zealand. If other models of interaction in anthropology can replace culture, archaeologist in this country may be able to apply these to better reflect the types and processes of change they are studying. The archaeological tradition is presented as a viable alternative to culture, and its origin and subsequent revision and application is examined. Informed by contemporary anthropological and archaeological theory, the tradition can provide an explanatory framework for the study of stability and change. For archaeologists, models of tradition can address many of the problems inherent in the application of archaeological cultures, drawing archaeology and anthropology closer together to provide a more powerful explanatory model of change.

**Willis, Anna 2005. The Mortuary Practices of Three Prehistoric Sites in Northeast Thailand – An Interpretation from the Perspective of Field Anthropology.** MSc thesis, Department of Anatomy and Structural Biology, University of Otago. 203 pp, 184 figures, 102 tables.

Burials from archaeological sites contain important information and differences between them suggest that the members of a community interred their dead in a specific and intentional manner. To form a comprehensive understanding of mortuary practices communication is required between archaeologists and bioarchaeologists.

Field anthropology is a French methodology that supports this principle. Combining archaeological, osteological and taphonomic information the original position of the body is conceptualised to assist in understanding the context in which individuals were interred, in a coffin, in a wrapping or in the ground.

The aim of this thesis was to undertake a comparative analysis of the positions of individuals from three sites from Northeast Thailand: Ban Lum Khao, Noen U-Loke and Ban Non Wat. Collectively, these cover the period

from the Neolithic to the Iron Age, c. 2100 BC-500 AD providing a good base for investigating regional and temporal differences.

A number of objectives were undertaken to achieve this aim. Firstly, to assess whether there were differences in the position of the limbs and extremities between the subadults, males and females and young, middle and old aged adults. Secondly, to assess whether there were differences within the sites or between them. Finally, the positions were interpreted from the perspective of field anthropology to assess whether there were identifiable differences in the burial context.

The individuals selected for this study were primary, supine, extended burials. There were 47 from Ban Lum Khao, 113 from Ban Non Wat and 47 from Noen U-Loke. Four paired areas of the skeleton were assessed, the elbows, hands, knees and feet, using photographs, slides, excavation reports and field notes. The elbows and knees were recorded as extended, loosely flexed, flexed or fully flexed from the angle of the respective area. The hands were recorded as beside or on the pelvis, on the abdomen, femur or shoulder. The feet were recorded as plantarflexed, lying on the medial or lateral side, dorsiflexed or disarticulated. The surface that the extremity was positioned, palmar, plantar or dorsal or any other addition information was also noted.

The results showed there were few differences in position between subadults, males and females or between the age ranges at any of the sites. The majority of individuals at all sites were buried with their knees extended and their elbows extended or loosely flexed. There were only subtle differences seen in the positions of the hands and feet, however these reflected the context in which they were interred.

An interpretation using field anthropology suggests that the majority of individuals were interred in a tight wrapping and that differences between their positions, which correlate to the Bronze and Iron Ages, were a reflection of either the durability of the wrapping or practices associated with the time between the death and interment. The only individuals that differ from this are the very rich burials Bronze Age burials at Ban Non Wat. The majority of these were not tightly wrapped and were interred in wider graves than the rest of the individuals and one appears to have been buried in a coffin.