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ABSTRACTS FROM THESES AND DISSERTATIONS

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Abstracts from three Ph.D. theses, one M.A. thesis and four dissertations [formerly research essays] in archaeology completed during the period late 1995 to late 1996 are given below. Copies are held in the Department of Anthropology, University of Auckland, where they may be consulted in the Piddington Room. Xerox or microfiche copies may be made available through the General Library, Auckland University, at cost, plus GST and postage. These are subject to the usual restrictions applying to theses and dissertations, namely the understanding that their use is for private research and not publication.

Ph.D THESES

John MITCHELL. Ph.D. thesis. 1995. **The Disappearing Guns of Auckland: The History and Archaeology of the Forts of Auckland Harbour 1885-1925.** 2 vols. Anthropology Department, University of Auckland. 1 page abstract, (i) 782 pp., 414 plates, 103 figures, 2 tables, 4 appendices.

The coastal fortifications of the port of Auckland, New Zealand, from 1885 to 1925 are studied in depth, from an historical archaeological perspective. An understanding of their wider context is essential to an understanding of the sites themselves, so a study is made of European artillery and fortification practice and technology from the 14th century onwards, with an emphasis on the coastal artillery practices of the British Empire in the 19th century.

On this foundation, coastal fortification practices in New Zealand in the 19th century are examined, and the political background to the construction of coastal forts is outlined. The social and economic impact of the defenses are studied, and the resources used in their construction detailed. Land

acquisitions for the defence works in Auckland are examined.

With a thorough understanding of their background and context (both national and international), Forts Resolution, Bastion, Takapuna, Victoria, Cautley, and the submarine mining depots are then studied in detail, with limited excavations, extensive field survey, and the use of comprehensive archival sources.

Finally, it is concluded that the forts built in Auckland between 1885 and 1925 were a product of the colonial experience, in that they were a complex technological product of imperial demands and needs, and had little relevance to the realities and requirements of a small and remote colony 20,000 km away from the imperial centre. The thesis is a study of the "disappearing gun" period of coastal fortification, and also an acknowledgement that much of the evidence of this once socially and economically significant activity has been destroyed.

To assist the reader, there is a large bibliography, and appendices containing a comprehensive glossary, a list of New Zealand defence schemes from 1840 to 1914, a list of site record numbers, and biographical details of the key fort builders.

Elizabeth MATISOO-SMITH. Ph.D. thesis. 1996. *No Hea Te Kiore: MtDNA Variation in *Rattus exulans* - A Model for Human Colonisation and Contact in Prehistoric Polynesia*. Anthropology Department, University of Auckland. 1 page abstract, (x) 168 pp., 28 figures, 7 tables, appendix.

Phylogenetic reconstruction, originally developed for biological systematics, is a tool which is increasingly being used for anthropological studies addressing the problems of population origins and settlement patterns. Given the nature of the phylogenetic model, it is expected that phylogenetic analyses only work well on populations that have stopped sharing biological information. This is particularly pertinent when looking at phylogenies of Pacific populations.

This thesis presents a unique biological approach to the study of human settlement and population mobility in Polynesia, focusing on an animal that was transported through the Pacific by ancestral Polynesians. The author

argues that analyses of genetic variation of the Polynesian rat (*Rattus exulans*) are appropriate for a phylogenetic model of human colonisation and mobility. DNA phylogenies derived from 132 mitochondrial control region sequences of *R. exulans* from East Polynesia are presented. These results (1) identify a Southern Cook/Society Islands origin for all East Polynesian *R. exulans* populations, (2) indicate dual origins for Hawaiian *R. exulans*, and (3) indicate multiple origins for New Zealand *R. exulans*. These results are inconsistent with models of Pacific settlement involving substantial isolation following colonisation, and confirm the value of genetic studies of commensals for human prehistory.

Wynne SPRING-RICE. Ph.D. thesis. 1996. **Maori Settlement on South Kaipara Peninsula.** Anthropology Department, University of Auckland. 1 page abstract, (xi) 525 pp., 81 figures, 192 tables, 15 maps, 11 appendices.

This thesis is a regional study using several kinds of evidence. The focus of the work is the South Kaipara Peninsula, on the west coast north of Auckland and the successive Maori peoples whose home it was. There are four major sections: the social environment, the natural environment, archaeological research, and drawing these three together, a multi-disciplinary approach to analysis.

The first section comprises three chapters. Chapter 1 traces the doings of the ancestors, using traditions and *whakapapa* gathered during the latter part of last century. Chapter 2 studies early eyewitness accounts, the advent of Europeans and the changes they effected. Chapter 3 considers the serious consequences of 19th century land alienation on the Maori inhabitants of the peninsula, and of population decrease through warfare, European diseases and economic change.

The second section contains two chapters. Chapter 4 provides a background to subsequent chapters and covers geomorphology, soils, climate, flora and fauna. Chapter 5, using ethnographic material, explores the resources which would have been important to the Maori people, and the impact which successive groups made on the environment over time.

Section 3, of two chapters, describes the archaeological research undertaken on the peninsula since the late 1950s. Chapter 6 includes results of the

intensive site recording which began in 1975, and was largely completed in 1978. An overall analysis of the different kinds of sites and their locations is made in relation to soils, topography and height above sea level. Chapter 7 describes and analyses a midden sampling project which produced radiocarbon dates, palaeoenvironmental and shellfish species studies, and a detailed examination of the common cockle which occurred in all middens.

The fourth section, Chapter 8, analyses settlement patterns. because of the very large number and concentration of sites, the peninsula is divided into 14 geographic units so that aspects of these could be compared. Included are (1) landscape and topographic features, (2) historical settlement information, (3) the recorded sites and their frequencies, and (4) site type locations and frequencies. The findings for the areas are compared and conclusions drawn to suggest an overall culture history of the Maori people of the South Kaipara Peninsula.

M.A. THESIS

Fiona J. TARLTON. M.A. thesis. 1996. **Effects of Southwest Pacific Tropical Cyclones on Archaeological Sites.** Anthropology Department, University of Auckland. 1 page abstract, (xiii) 226 pp., 57 figures, 14 tables.

This thesis examines the effects of tropical cyclones upon archaeological sites in the Southwest Pacific. Various aspects of tropical cyclone behaviour are analysed for this region of the Pacific, including the influence of the Southern Oscillation and theories on how climatic changes may have altered cyclone activity. Historical meteorological material on tropical cyclones within the Southwest Pacific has been reviewed. Through generation of tropical cyclone meteorological maps referring to three specified archaeological sites within the region, the benefits to archaeologists of researching a region's cyclone past are demonstrated. Varieties of geomorphological deposits derived from a tropical cyclone event are addressed in order to aid archaeologists when determining whether a region is regularly, or less frequently, impacted. Ultimately this also enhances archaeologists' assessment of potential tropical cyclone derived stratigraphic layers within sites.

By researching archaeological literature and communication with archaeologists, reports were compiled of instances where tropical cyclones had modified archaeological sites within the tropical Pacific. Potential

methods have been identified which may be adopted by archaeologists in order to increase their ability to predict areas where sites will be most or least likely to be disturbed by tropical cyclone activity. The conclusion recommends that archaeologists, when intending to study a particular site or region, would be well advised to research the tropical cyclone history. Furthermore, when assessing a site the archaeologist is encouraged to consider potential tropical cyclone impact, particularly when working in a high cyclone frequency region of the Southwest Pacific.

DISSERTATIONS

Kimi PEPA. M.A. Dissertation. 1995. **Me'a Lahi Mo'oni: Tongan and Niuean Prehistoric Monuments.** Anthropology Department, University of Auckland. 1 page abstract, (ix) 69 pp., 17 figures, 7 tables.

Recent archaeological research on the island of Niue is providing insights into the nature of prehistoric inter-island relations within Polynesia. This dissertation begins with investigations of the literature on oral traditions and linguistics that explicate the prehistoric relations proposed to have existed between Niue Island and its nearest neighbour, Tonga. It is generally concluded that by the time most of the traditions and vocabularies were collected, Niue had witnessed severe cultural transformations and that the data collected by the earliest ethnographers had already been confounded by historic contacts with Europeans and other Pacific Islanders, especially from Tonga, Samoa and the Cook Islands.

Section II investigates the archaeological relations between Niue and Tonga, through an analysis of the monumental architecture. The typologies constructed for the island of Tongatapu are presented together with those from the Ha'apai Islands, Vava'u, Niuatoputapu and 'Uvea. The similarities exhibited in the archaeological record between these distinct geographic and social entities provides evidence for a network of political relations that existed in the late prehistoric period. The monuments on Niue appear to be quite different, as shown in a typology created on emic functional grounds. An analysis of the fortifications of Fiji and West Polynesia is also provided. In terms of inter-island comparisons of general form, function and linguistic categorisation, the Niuean data once again stands out as anomalous.

This Niuean anomaly within the region of West Polynesia is attempted to be understood in Section III. The Niuean archaeological data is analysed within the context of Roger Green's (1993) evolutionary model of a cultural differentiation between East and West Polynesia and within contexts of systems of political cultural diffusion, economic exchange, and practical island voyaging and accessibility. The final chapter summarises definitions of the ancient Tongan maritime empire and it is explained how the research on Niuean monumental architecture can help in understanding this scheme in terms of relations between an active political centre and a periphery.

Stephanie D. CLOUT. M.A. Dissertation. 1996. **A Critique of Obsidian Sourcing Studies in New Zealand Archaeology.** Anthropology Department, University of Auckland. 1 page abstract, (v) 74 pp., 5 figures, 4 tables, 2 appendices, diskette.

This dissertation critically examines the application of obsidian sourcing studies in New Zealand archaeology. A database containing excavation data collected since 1985 has been created for the purpose of re-evaluating the conclusions of the case study.

The focus of discussion is Seelenfreund-Hirsch's (1985) Ph.D. thesis on *The Exploitation of Mayor Island Obsidian in Prehistoric New Zealand*. Fundamental flaws in Seelenfreund-Hirsch's methodology, data collection and analysis were uncovered. These raised doubts as to the quality of the resulting data and the validity of Seelenfreund-Hirsch's conclusions on trade and exchange in prehistoric New Zealand.

Claims that Seelenfreund-Hirsch's analysis was flawed were validated through comparison with Anderson's (1991) revised site dates and data from the database accompanying this dissertation.

Moira DOHERTY. M.A. Dissertation. 1996. **Motutapu Revisited.** Anthropology Department, University of Auckland. 1 page abstract, (xii) 83 pp., 15 figures, 5 tables, 3 maps [rear pocket], 3 appendices.

The history and use of the site concept in New Zealand is reviewed in the light of the recent debate between Dunnell and Binford about the validity of

the site as a recording and analytical unit. The range of site typologies in use is discussed. An updated feature-level map of Motutapu archaeological resources has been made from maps produced by the Auckland University [Department of Anthropology] Fieldschool 1995. Analysis of the archaeological resources in the northern third of the island is undertaken at the feature level to provide an opportunity to investigate the theoretical and methodological encumbrances attached to the site concept in New Zealand. A series of feature clusters are produced by using a distance rule to delineate sites, and these are analysed by size of cluster and number of features. It is found that both clusters and features may be classified, but with some difficulty.

Paul WHITE. M.A. Dissertation. 1996. **An Archaeological Investigation of a Royal Fencible Cottage, Panmure, Auckland.** 1 page abstract, (vii) 101 pp., 34 figures (including 10 colour plates), 8 tables.

The redevelopment of an acre section bounded by Allenby and River View Roads, Panmure, Auckland, provided a means to archaeologically investigate the underfloor of a late 1840s military cottage, built for Sergeant Ford, member of the Fifth Detachment of the Royal New Zealand Fencibles.

Excavated remains included structural and artefactual material, both indicative of the 150 year period of site occupation. The range of artefacts were typical of many Auckland historic site assemblages. Most material reflected late 19th century deposits, although information pertaining to the first occupants was also present in lesser quantities. The information recovered allows some interpretation of the Fencible Period, but is limited by the lack of securely dated material.