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## ARCHAEOLOGY IN NEW ZEALAND



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ABSTRACTS FROM THESES,DEPARTMENT OF ANTHROPOLOGY, UNIVERSITY OF AUCKLAND, 1986-87

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Abstracts from four M.A. theses in archaeology completed during the period late 1986, early 1987 are given below. Copies are held in the Department of Anthropology, University of Auckland, where they may be consulted in the Piddington Room. Xerox copies may be made available through the Main Library, Auckland University at cost, plus GST and postage. These are subject to the usual restrictions applying to theses, namely the understanding that their use is for private research and not publication.

Edward P. Visser, Fertility Among Prehistoric New Zealanders: An Analysis of General and Regional Patterns (1986), Anthropology Department, Auckland University. 1 page abstract; vi, 120 (33) pp., 16 figures, 16 tables, 6 appendices.

A reassessment of the observations of 32 prehistoric Maori women has found that fertility was as low as 3.45 pregnancies/parturitions per women. The birth interval length was estimated to be 51 months. Regional differences in fertility levels were evident. The questions of why prehistoric Maori fertility was this low and what caused regional differences was examined.

Previous models which have been offered as an explanation of low prehistoric Maori fertility have considered only a limited number of factors, such as nutritional adequacy and unspecified 'sociocultural' factors. These explanations are shown to be inadequate.

In light of recent information drawn from clinical physiological studies and fertility patterns in traditional societies a new model is proposed to account for the observed low fertility. This model postulates that energy stress and the consequences of a lengthy period of breastfeeding are the primary factors which lowered fertility. Other factors, including health, 'marital' status, and ideology are also examined in terms of their influence on fertility.

This model is applied to prehistoric New Zealand by estimating energy availability represented in the middens of three specific archaeological sites. General levels of female energy expenditure are calculated for various tasks. The breastfeeding patterns and the influence of sociocultural factors are also considered.

Clayton F.K. Fredericksen, Stone Tools and Cultural Diversity: The Analysis of Stone Tool Assemblage Variability in New Zealand

Archaeology (1987). Anthropology Department, Auckland University. 2 page abstract; ix, 111 (74) PP., 32 plates, 33 figures, 6 tables, 5 appendices.

Culture history has provided the analytical framework for the study of stone tools in New Zealand archaeology for the last 100 years. Temporal and spatial variability between specific tool types and entire assemblages of tools has been interpreted as reflecting variance in prehistoric 'mental templates'. Stone tool variability has come to be equated with cultural diversity. The argument is made that prior to assessing cultural affinity from stone tool prehistorians must first ascertain the extent of assemblage variability resulting from intra-cultural factors. A synchronic approach is outlined in which temporally and spatially proximate assemblages are compared, thereby allowing the variable of 'culture' to be initially treated as a constant.

Two flaked obsidian assemblages recovered from sites N77/588-6 and N77/606-1 are presented as a case study of a synchronic approach. The prehistoric environmental setting of these sites is reconstructed as a prerequisite to defining assemblage variability in terms of differential human articulation with the environment. Technological and functional variability between the assemblages is outlined with respect to assemblage composition and the spatial distribution of material. Variability in flaked tool technology is determined through the study of defined classes of obsidian debitage. Methods for ascertaining flaked tool function are discussed in terms of an organic residue analysis and a use-wear study. The latter is employed in the comparative analysis of tool function. Possible sources of inter-assemblage variability are discussed. The major cause of variability is considered to be differential site function. Site N77/588-6 is believed to represent a domestic unit and site N77/606-1 primarily a knapping area.

The conclusion is drawn that site function will be diverse within one cultural unit, and assemblage content can be expected to reflect this variability. The extent of this intra-cultural assemblage variability must be ascertained before prehistorians can employ the stone tool evidence in defining diversity between past cultures.

Yvonne M. Marshall, Antiquity, Form and Function of Terracing at Pouerua Pa (1987). Anthropology Department, Auckland University. 1 page abstract; ix, 274 pp., 42 figures (including 22 plates), 24 tables, 2 appendices.

This thesis reports an archaeological investigation of the antiquity, form and function of the terracing on Pouerua Pa, inland Bay of Islands, New Zealand. It takes the theoretical perspective that pa sites are more productively viewed as settlements than

as artefacts. This encourages a broader, sociological interpretation of pa in which the emphasis is placed on function rather than form.

The research aimed for an interpretation of Pouerua Pa which went beyond the narrow confines of the areas excavated. The methodology employed to achieve this objective emphasised close articulation of survey and excavation data. A detailed site survey provided the basis for the research design. Excavation of three areas of terracing was undertaken.

Radiocarbon dates indicate occupation at Pouerua commenced by at least 1350 A.D. It passed into European ownership in 1835 A.D.

A three phase sequence of change in terrace form is identified in the excavations. These forms are later identified in the surface evidence and used to facilitate an interpretation of the changing configuration of terracing on Pouerua Pa as a whole.

Terrace function in the prehistoric period is found to be based around four main components: defence, storage, food preparation and open space. Gardens were probably present at the beginning of the sequence. Dwellings were not common.

The sequence indicates intensification in all aspects of terracing occurred during the later prehistoric period. A resolution to these events probably occurred in the protohistoric period when all aspects of terracing changed dramatically. Most notably, defence becomes less important at Pouerua at this time and dwellings appear on the terraces.

In conclusion, it is argued that the overall function of Pouerua included an important ceremonial or ritual dimension. The pa was viewed more as a centre for the display of group wealth and power than as a utilitarian artefact for defence. It functioned as a setting for all forms of communal activity. Its role may, in certain senses be compared to that of the marae in contemporary Maori society. It is suggested that this interpretation of the function of Pouerua in prehistory may have consequences for the re-interpretation of previous pa excavations carried out in New Zealand, and for the development of new approaches to the investigation of fortifications and marae in Polynesia.

Caroline A. Phillips, Locational Analysis on the Karikari Peninsula (1987). Anthropology Department, Auckland University. 1 page abstract; iv, 125 (63) pp., 13 plates, 49 figures, 15 appendices.

Over the past 15 years, a large body of archaeological data has been collected in the site recording scheme. This material

has generally been analysed in a very simplistic manner, limited to the economic level. There has been uncritical use of the basic data and the methods of analysis employed.

This thesis studies a consistent body of data collected by the author from the Karikari Peninsula, Northland. The basic data was transformed in turn, into functional, economic, socio-economic and political categories. A series of analyses were undertaken to investigate the economic, social and political factors governing site location. The result was the construction of a model of economic exploitation, settlement pattern and political affiliations. Finally, a broad chronological framework was developed to ascertain the changing settlement pattern throughout prehistory.

This thesis aimed to extend the boundaries of analysis commonly adopted, and to be more critical of the methods used. Locational analysis by using survey data, has the benefits of being easily gathered, and from an extensive area. It was argued that locational analysis has a valid place in archaeological studies. However, it is necessary to formalise the collection of field data, critically test the methods of analysis, and use it in a more imaginative manner.