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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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ARCHAEOLOGY AND GEOGRAPHY - AN INTRODUCTION

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Biogeography has been defined as "the study of man in his environment and the study of man's impact upon that environment ... all data is measured consciously or unconsciously in terms of their significance to man" (Wilhelm, 1968). This definition could equally be applied to archaeology for, whilst biogeographers are concerned with man's relationships with his present environment, archaeologists are concerned with the relationships of an earlier people to a past environment. Perhaps the archaeologist's task could be defined as a study of the assessment of the material world in the light of the culture of the day. If archaeologists accept that definition, then their task is not only to describe the culture but also to assess the material world. I should imagine that to be a perceptive archaeologist one must know how things are made and done. I should think that one has to be an adequate home handyman, a very good home gardener and not least a competent refuse collector.

Both geographer and archaeologist must have a good knowledge of our physical environment, but interpretations of our observations are not always simple. Even the assessment of the artefacts of our own material world are often difficult. I live on the shores of Wellington harbour and after our latest storm when the Wahine broke up, large quantities of flotsam came ashore. If one looked at a large sheet of formica-covered panelling and read on it the words "test shower before entering" one could be fairly certain that one was looking at the remnants of a shower cubicle. However, it was not always as easy as this to identify the former purpose and use of the wreckage on the shore. If we have difficulty in assessing the use of current artefacts, it is even more difficult to assess the purpose and use of artefacts of a former age.

It is not sufficient for the archaeologist to compare particular tools such as adzes with other adzes and try to arrange them in an evolutionary or cultural sequence. The tools must be compared with the environment, the materials they worked and the purpose for which they were used. If, for example, an assemblage of tools was found on a flight of agricultural terraces, they would be different from an assemblage found nearby in a permanent village settlement of the same date. Tools are related to function, and different tasks are being performed at various locations at the same time.

One must understand the nature of materials if one is to understand the use made of these materials. For New Zealand archaeologists it is essential to know that manuka can be easily cut when it is growing and green with a downward slanting blow. In contrast, manuka is almost impossible to cut when it is dry. From that statement you could assume that the Maoris cut growing manuka, but there is a further danger. That original assessment was made in terms of our own culture. If we wish to cut manuka we use an axe or a slasher, implements with the cutting face in line with the handle. Maori adzes were, in general, aligned with the cutting edge at right angles to the handle. Would it be possible to cut growing manuka with such an implement or did they use side hafted adzes for this purpose? Alternatively, they could have dug the whole plant up then fashioned it. No proof of the Maori methods might exist today but I think a few experiments could be tried. Evidence of working methods still exists for some timbers, for deductions can be made from remnants such as the totara stump in the Dominion Museum.

Location is of great significance to geographer and archaeologist alike. In pre-agricultural New Zealand there were at least two types of settlement, a permanent village settlement in a warm situation such as the Wairau bar and more temporary encampments used on a seasonal basis. Food supplies at particular sites may have been plentiful at certain seasons. In the Castlepoint sand dune area innumerable fragments of Moa egg shell are associated with middens, hangis, moa bones, small cutting flakes of flint and moa hunter burials. Is it possible that the moas nested in the sand dunes as the local geese do today? At that season not only would the eggs provide a food supply but the nesting birds too might easily be captured. Such exploitation would, however, lead to a rapid depletion of the species.

A basic element studied by the geographer would be food supply, and settlement patterns and population would be related to the available food. A geographer looking at pre-agricultural New Zealand would expect to find the largest population in the South Island if the Moa was the most plentiful food item there. Similarly in agricultural New Zealand as the food crops were restricted to the warmest areas he would expect to find the largest population in the warmer parts of the North Island. If the food supplies in the south declined at the same time as food supplies in the north increased, a population shift would be expected. Is it possible that the Great Fleet of 1350 A.D. came from the south, not the north?

The land, its drainage, slope and microclimatological conditions had to be assessed by the early farmer. The importance of the microclimate is perhaps the worst understood of these. Recently I was

talking to an architect and discussing his own house site on the side of a hill. I commented that he would not be troubled with frosts because of cold air drainage. The architect was completely unaware of this physical factor. He did not know the cold air is denser than warm air and that during a chilly night it sinks to the valley bottom and that area becomes frosted and mist covered. This fact has wider implications than the siting of houses, it has effects on agriculture too and for the Maori cultivating kumara it may indeed have been an important adverse factor. Slopes too are of great significance. The realization that the raindrop was the primary force in accelerating the erosion of cultivated land, not running water, rills and gullies, is one of the great break-throughs in our understanding of the physical environment. The Maori, like modern man, must have understood the forces and learned to combat them.

Last and not least of man's resources is the crops that he grows. A knowledge of the characteristics of the crops is an essential prerequisite for an understanding of the agricultueal system, but this has been discussed in another paper (McNab, 1969).

REFERENCES

- Macnab, J. W. "Sweet Potatoes and Maori Terraces of the Wellington Area", published in Journal of the Polynesian Society, March, 1969.
- Wilhelm, E. J. "Biogeography and Environmental Science", The Professional Geographer, Volume 20, No. 2, March 1968, p. 123.