



NEW ZEALAND  
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**NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER**



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EXCAVATIONS AT MOTUTAPU by Jack Golson and R.N. Brothers

Motutapu is a small island in the Hauraki Gulf, a dissected table-land of grass bounded by cliffs of Waitemata sandstone, standing in total contrast to the iron bound island volcano of Rangitoto, sombre green with pohutukawa scrub, which is its immediate neighbour to the west. The two islands are linked by more than the short causeway that connects them: for Motutapu is covered by the ash of a Rangitoto eruption.

What is the date of the eruption that had blanketed Motutapu with Rangitoto ash? Generally speaking the geologists thought that though geologically speaking it was young, it still pre-dated the arrival of man. Rangitoto's most assiduous botanist, Dr Millener of the University of Auckland, however, was convinced by the consistent youthfulness of Rangitoto's vegetation that volcanic activity was of recent date, 200 to 300 years at most, and that Motutapu ash might be a more legible record of this activity than the complex evidences of volcanicity on Rangitoto itself.

Here was a problem to attract the archaeologist: on the one hand the presence over an area potentially rich in prehistoric sites of a geological deposit of a cataclysmic nature, which, whatever its actual date might be, was of the same age wherever it was found in primary position; on the other hand the possibility that this time horizon might fall within the human period and further that from the evidence of artefacts found in position below or above the ash the archaeologist might be able to help geologists and botanists in dating the volcanic phase in question.

It was a moment of some jubilation therefore when Mr J.T. Diamond, a member of the Auckland Society, produced some adzes salvaged by him during the war when soldiers had dug slit trenches through a Maori working floor in the sandhills of a beach on Administration Bay on the northern coast of Motutapu. For the adzes in question were types we have learnt to call from South Island studies Moa-hunter and to regard, again from South Island studies, as early in the story of New Zealand (radiocarbon dates of 12th and 13th centuries). Obviously if adzes of this presumed early type could be found in relationship with Rangitoto ash, something could be said about the age of the eruption relative to the date of North Island Moahunters assumed from South Island evidence.

Two visits in the middle of 1957 were enough to show that the site from which Mr Diamond had recovered his adzes fifteen years previously was still largely intact and that the cultural level from which the Moa-hunter adzes had been derived lay above the deposit of Rangitoto ash.

Subsequent investigation followed two lines:

1) Dr R.N. Brothers, of the Geology Department, University of Auckland, began a study of the geology of the deposits in a profile prepared on the eroded beach front. There proved to be about fifteen feet of these from the modern surface to the ash free beach sand at present sea level on top of which Rangitoto ash had fallen. The ash formed a solid layer 2-2½ feet thick above which came a complex series of alternating layers, crammed with cultural material, of dune sand and water laid ash. The latter is thought to have been brought down from the hills behind the beach by the creek which drains the area and to have been periodically deposited in the waters of a lagoon formed for a period behind large ash rich dunes which after the eruption blocked the estuary of the creek. Subsequently the dune barrier was breached, the lagoon became a swamp and the uppermost beds of the section were formed almost entirely of wind blown sand.

From different parts of his 15 ft. section Dr Brothers took samples of ash and sand for mechanical analysis to check on the nature of their deposition; and of shell and charcoal for radio-carbon dating. Dates are now available for the Motutapu section (Fergusson and Rafter 1959: 234-235):

- (a) shell from ash free sand beneath the deposit of Rangitoto ash - 1200 A.D. ± 50.

This may be compared with a date of 1180 A.D. ± 50 from charred wood recovered from immediately beneath the ash in another area of the bay.

- (b) Charcoal from a haangi cutting through and therefore later than the latest of the bands of water laid ash belonging to the lagoonal phase. This marks the end of intensive occupation of the site - 1670 A.D. ± 40.

2) During Easter 1958 Mr J. Golson, Anthropology Department, University of Auckland, with members of the Archaeological Society, began archaeological work on the site. An area along the beach front was cleared of recent dune to a depth in places of three feet and the surface thus exposed was gridded into twelve ft. squares, three on the beach front, three behind. Within the 12 ft. grid squares, 8 ft. squares were excavated, leaving 4 ft. baulks between squares. The richness and complexity of the deposits led to the extension of weekend excavation up to and including Anzac weekend.

Attracted by the resources of beach and lagoon and by the ready availability of greywacke and quartz, prehistoric man had camped, cooked and manufactured stone tools on this site over a protracted period. The evidences of his recurring activity were, in the clearest sections, neatly stratified between the flood horizons represented by the water laid ash beds on whose hardened surface in the periods after

flooding he was accustomed to settle. In two squares there was nearly a yard of such clearly stratified occupation, rich in material, particularly half finished and broken adzes, but including fishhooks and ornaments. In the other squares the incessant digging of haangi had destroyed the stratigraphy beyond hope of reconstruction and replaced it with a charcoal rich greasy black earth that recalls the descriptions of the Pounawea and Papatowai Moa-hunter sites.

The archaeological importance of the site is that the initial and terminal dates of the main occupation have been provided by radiocarbon analysis. The material excavated spans the period 1200 to 1675. This is the most vital period for the elucidation of New Zealand prehistory because during it the change from Moa-hunter to classic Maori culture took place.

The initial excavations of 1958 provided sufficient material to begin some assessment of the cultural sequence on Motutapu, at least in respect of adzes. Preliminary study not only appeared to indicate the persistence of Moa-hunter traditions throughout the whole of the excavated deposits, but revealed none of the types we have come to regard as late Maori. This in an area like the Tamaki isthmus where such types are abundant was to say the least of it surprising. The Easter 1959 excavations were designed specifically to test these preliminary findings and attention was concentrated on that part of the site where the stratigraphic record was most easily read. Excavation abundantly confirmed previous impressions, particularly through the discovery of hog backed adzes and one side hafted adze at an appreciable height in the deposits.

A search for comparable sites on other Motutapu beaches was sporadically conducted by individual members of the Society and Mr R. Sunde discovered traces of occupation on a beach site at North Western Bay beneath Rangitoto ash. Further evidence has recently been recovered from the new site for the occupation of Motutapu before the eruption of Rangitoto in the form of faunal remains and a sandstone file beneath the ash.

Mr Colin Smart, a graduate in Zoology from Victoria now studying Anthropology at Auckland, was present at the discovery of a skull fragment, thought to be dog, adhering to the underside of the ash. This he took away for proper identification and has come to the conclusion that it belongs to one of the Anomaloptery moas. The implications of this find are too obvious to need elaboration.

In view of the importance of the Motutapu excavations, the accessibility of the site from Auckland, and its suitability as a training ground for new student members of the Society, further work at Motutapu will be conducted in 1959 and 1960.

Thanks are due to Lands and Survey on whose land the site lies, and to the Army authorities against whose military establishment it abuts for permission to carry out excavations: and in particular to Mr Bedford, Lands and Survey Manager of Motutapu, who has made transport available for carriage of gear and personnel at some inconvenience to himself and his staff. Mr and Mrs Peter Sibley, of the Animal Quarantine Station, have shown much appreciated hospitality to members of the Society. Mr R.C. Green, of Harvard University, has supervised the mapping of the site.

#### Reference

Fergusson, G.J. and Rafter, T.A., 1959 "New Zealand  $^{14}\text{C}$  Age Measurements - 4" N.Z. Journal of Geology and Geophysics, 2 no.1: 208-241.

### SITE SURVEY OF SOUTH KAIPARA HEAD: PRELIMINARY RESULTS by L.M.Groube and R. Green.

#### Introduction

Most association members are probably already aware that the handbook on site recording resulted from the experience and knowledge gained from making this survey of the South Kaipara Head. They may be tempted to ask, however, what were the actual results. The first and perhaps most typical result, is that the society has decided to go back and finish the work. The job was bigger than expected and takes time. None-the-less, 20 people in five parties managed to record in detail 24 sites of various kinds, including the internal features of some quite complex pa. The whole group felt that the successful outcome of the trip was largely due to the training and preparations made before taking to the field. They recommend such projects to other local groups as a pleasant and productive club activity.

The University Archaeological Society is well pleased with these, the results of one day's field trip. The club had been interested for some time in South Kaipara as a region for intensive field study. Its comparative nearness, its geographical compactness and the possibility of testing the N.Z. Archaeological Association Record forms initiated the field trip. A preliminary party went out to look over the area, assess the possibilities of a full-scale field trip, and to make contacts with the local farmers.

The society would like to record gratefully the co-operation and hospitality offered to us by Mrs E.D.B. Sheffield of Kaipara South Head, who is vitally interested in the Maori history of her district. From her many of the Maori names for pa sites were obtained. She also contacted and gained the permission from surrounding farmers over whose