



NEW ZEALAND  
ARCHAEOLOGICAL  
ASSOCIATION

**NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER**



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CONFERENCE REPORT 1960:

R.J. Scarlett.

The 5th Annual Conference was held in Wellington between 12th and 17th May and was for the first time (as Section 0) part of the N.Z. Science Congress.

With Dr. R.S. Duff in the Chair, Mr. J. Golson gave the first talk on "The Interpretation of Plans and Sections in Archaeology," basing it on the Association's excavations at Pakotore near Rotorua last year. He said that as excavation is a destructive process, thorough recording while the work is in progress, by plans, drawings, and photographs, is essential. In the laboratory, these records show the horizontal and vertical relationships between features observed in the field, and the objects recovered can then be seen in their significant context. For example, two contiguous pits at Pakotore had a similar fill, but each had to be interpreted separately, because one had 7 layers, and the other 3. Each showed a combination of natural and human activity, the former taking much longer than the latter.

It was not only the relationships between strata which were important, but also their composition. Lack of precision in this respect had sometimes led to subjective interpretation of layers. The time taken to form each layer was not always immediately apparent. Thus at Great Mercury Island, where there were many post-holes in a confusing pattern, the site was subsequently shown to include two periods, by a study (in the laboratory) of the differences of fill in the various post-holes, in relation to the strata revealed at the sides. A drain belonging to the earlier structure was shown to have been cut away in forming the later building.

Mr. C. Smart, recently appointed Assistant Ethnologist at the Dominion Museum, gave the second talk on "Methods of Sampling in Archaeological Investigation". He said that we must have clear objectives when choosing samples. For example, when studying Pa sites, we need not attempt to take samples from every site; the law of diminishing returns operates. The first Pa of any one type studied would give us a lot of information, the second, probably, some new facts, the third even less, and so on. Sites must be selected carefully, after an adequate survey of known examples. There are three stages involved: 1) The review of sites available, and the selection of suitable ones for investigation; 2) The choice of areas to excavate at a site itself - these can range widely, according to the variations of surface features; 3) The actual sampling within the excavated area.

In excavation, there are two stages. Firstly, the digging of test pits within an area already surveyed and laid out in a grid from a base-line. (If the site has no surface features, the latter may well be laid down quite arbitrarily). These will be extended as required. In other cases, trenches or squares are laid out according to the character of existing surface features; e.g. a bank or ditch would be sectioned, or pits divided into quadrants, and perhaps only the two diagonal ones excavated.

Secondly, samples of actual specimens non-artifactual should be taken both from any material lying on the surface, and from stratified deposits. It is important to keep all bones of seal, dog, bird etc., but fish bones and shells should be collected selectively, either from each layer, or, in the case of unstratified sites, at specific measured intervals, (e.g. every 6 inches) in a vertical column. Care should be taken to preserve botanical samples. It may be possible to do a limited amount of processing, - washing, sifting and weighing, in the field.

Mr. Gathercole then spoke on the "Analysis of Archaeological Finds prior to Publication". As no two sites are the same, methods of approach will vary considerably. Moreover, we must always be prepared to revise methods in the light of experience. Our aim is to obtain a picture of the living community which used the material found by excavation. How do we organise this material once it has been found, and how is material from different parts of the site correlated? Much is done by linking the stratigraphical evidence, while the site is being worked. At the same time, finds are sorted, and initial comparisons made between material from different areas of a site.

There are two stages of analysis. Firstly, in the field, bags, boxes, and sometimes individual specimens, are labelled, with the trench or square number, layer number, and all other relevant data. Marking should be done in Indian ink, and as much cleaning as possible carried out on the site. All this data should be entered in a bag book. It is not always a good idea to wash all material on the site, however, because some artifacts or faunal remains may have adhering traces of important organic material. Care should be taken in packing. All finds should be adequately bagged, and the bags placed in boxes, with newspaper packing to prevent jolting. Pack to a plan, with labels inside and outside each box, and record the packing arrangements in the site note-book, or bag book.

Certain finds, particularly of organic material, may require strengthening on discovery<sup>1</sup>. These will require particularly careful packing, and perhaps immediate treatment in the laboratory on return from the site.

The second stage of analysis begins once the material has reached the laboratory. As soon as possible, submit faunal remains, geological specimens etc., to specialists. Ask them specific questions, and keep them informed of the progress of your own analyses. Involve other members of the excavation in the work of cleaning and identification, and as soon as possible draw up an interim report for circularisation to all interested persons.

Once the finds have been labelled, they can be arranged in either stratigraphical or typological groups, and their significance assessed. Details of each find should be entered on a card, the lay-out of which will naturally vary. The following headings are suggested: Description of object; serial number (or numbers, according to method used); type; location; details of processing, (i.e. whether or not a photograph or drawing exists, negative number, necessary treatment etc.); related finds from the site and elsewhere; relevant references in literature; subsequent history of object.

By this time, you should know your material well, and be able to assess its significance. The form of the final report, or the problems to be solved by further excavation (to say nothing of the realisation of mistakes made in the field) will now become clearer. The significant finds should be drawn, the fair copies of plans and sections made, and suitable photographs selected, from those taken on the site.

On the second day, Mr. Golson was in the Chair for the symposium on the "Identification of Non-Artifactual Materials". The first speaker was Dr. J. Yaldwyn of the Dominion Museum, who said that as most specialists who study faunal remains are not primarily archaeologists, but zoologists, palaeontologists, botanists etc., they must be saved a certain amount of fundamental work. It was difficult to generalise on this question; for example, in cleaning some delicate bone material it was very easy to destroy the smaller features on which identification rests. He could not explain here detailed methods of identification. Fieldwork groups should organise classes in elementary identification of bone and other material.

1. Gathercole 1959, with references.

Most of our bird, seal and whale remains, and shells can be identified; mammals (bats and rats) sometimes occur. Most people can recognise tuatara jaws, but gecko and skink bones are difficult to relate to species, unless jaws with teeth are present.

Mr. J. Moreland, speaking on fish remains, said that he could identify much of the material, particularly the skull, jaws and teeth. Vertebrae, except snapper, were difficult. Material submitted to him should be cleaned beforehand, if not too fragile, and care should be taken to avoid unnecessary duplication of specimens.

In discussion, Mr. Batley asked if there was any way of distinguishing between eels and other fish. Mr. Moreland said that other fish were similar to eels in structure, but this might be done with sufficient material. In the discussion on dog bones, Dr. Yaldwyn said that there was no specialist in this field in New Zealand, but Mr. Scarlett said that he had been making a collection for comparative purposes at Canterbury.

Associate Professor G. Schofield, of the Department of Anatomy, University of Otago Medical School, spoke on human remains.<sup>2</sup> He recommended an approach to local doctors for assistance in identification. Most of the remains found would be of 'Moa-Hunters' or Maoris, which differ in several respects from other human skeletons. For example, there is an oval rather than circular depression (fovea capitis) in the head of the femur,<sup>3</sup> and the tibia is very bowed.

Dealing with sex-differences, Dr. Schofield said that male limbs are generally longer and more robust than female, but this is not so easy to determine in the field. If the diameter of the femoral head is 45 mm. or more it is probably male; if 42 mm. or less, it is female. He also referred to sex-difference in the shape of the pelvis, and the obliteration of sutures with age (or rheumatism.)

Mr. J.F.A. Harding dealt with the differences between Polynesian and European skulls. The former are often pentagonal in shape, with relatively less pronounced zygomatic bones and the molar teeth (particularly the first) are more worn.

In discussion, Dr. Duff said that skeletons were often badly

2. Cornwall 1956 is strongly recommended.

3. Schofield 1959.

decayed when found, owing to the nature of the soil, e.g. the porous gravel at Wairau Bar, where only the skull and limb bones remained. One should note, too, that post-burial removal of cranium and mandible often occurred.

The next symposium was on "Problems of Site Interpretation in Archaeology". Mr. J.C. Schofield, speaking as a geologist, said that the specialist should be encouraged to visit the site, and see the strata in situ, rather than rely solely on specimens submitted to him. In sedimentary deposits, we need to distinguish between natural and man-made layers, and see whether the contact between layers is sharp or gradual. Bedding may differ from one layer to another; well-defined cross-bedding, coarse or fine, means the layer is natural, except for the action of earthworms. Rivers usually form elongated deposits of gravel and silt, while beach deposits are normally coarse, with marine marks up to high-tide level - but not all natural layers present a regular appearance.

In man-made layers, colour may be a useful guide; middens have a blackened appearance; yellows, orange, red, brown denote oxidation, and green and blue reduction. Black, hardened layers may be due to the presence of iron or manganese compounds. Where two or more cultural layers are found, the older may have been disturbed by natural or human agency, and there is no correlation between age and thickness of deposit. One should bear in mind the effects of changes on cultural layers caused by natural factors, e.g. folding, river movement or wind-erosion.<sup>4</sup>

Mr. W.A. Pullar gave the second talk in the symposium, on Pedology. What is a soil? It is a natural, organised body occupying the upper layer of the earth's crust, having horizons, and the pedologist is interested in the formation and duration of soils, including the effects of natural and human activity on their life-history. A soil-profile was examined for constancy etc. Soil horizons are best seen in stable land where no organic disturbance has taken place. There were mature profiles only in stable soils, few of which are found in New Zealand, the best being in North Auckland. Soils in high rainfall areas were generally yellow-brown, those in low rainfall areas yellow-grey.

Volcanic ash soils were of pumice, yellow-brown in colour, and were suitable for pre-European settlement. As eruptions could be  
4. Cornwall 1958 is recommended.

dated by radiocarbon methods, it was possible to correlate such activity with phases of human occupation. Some relevant ash-shower dates are:-

Kaharoa	1,000 A.D.
Taupo	150 A.D.
Waimihia	2,350 B.C.
Rotoma	Unknown, but less than 9,000 years ago.

Dr. W.F. Harris gave the third talk, on Pollen Analysis. - what it is, and how it can help archaeologists. Pollen is constantly disseminated in the air, especially from wind-pollinated trees and ferns. It is highly resistant to chemical change, and each type is both constant for each species and quite distinct. It could thus be used as evidence for the modification of flora by human activity. When collecting samples we should take as many as possible, preferably in a continuous sequence, or one that is fairly close together, as there may be only a short time factor involved at the site. Location and grid reference should be given where possible. Much depends on the nature of the sample. Pollen is always present in Peat, but in some soils (e.g. sand) it can be attacked by free or dissolved oxygen.

In the afternoon, Mr. Gathercole spoke on the "Publication of Archaeological Materials", with Mr. R.A.L. Batley in the chair. It was very important to publish reports as soon as possible, in order to stimulate further work, and to make your results available to others. In the situation in New Zealand, however, care should be taken not to publish too soon, until adequate comparative work had been done. At present, we have three possible avenues; the Newsletter, the Journal of the Polynesian Society, and the Records of the Auckland, Dominion and Canterbury Museums. J.P.S. and the Records should contain definitive reports, while interim reports, for the immediate guidance of other workers, should go into the Newsletter. Excavation Reports should be concerned primarily with accurate accounts of field work, adequately illustrated with plans, sections, drawings of finds and photographs. Very often, an excavation report will remain the only source of knowledge of work done at a particular site, and the excavator's conclusions must needs be accepted as accurate.

A report might contain Introduction, Summary, Description, Discussion and technical or specialist appendices. The Description

is usually a straightforward account of the work done, to give some context to the following section, which would be concerned mainly with the analysis of finds and their stratigraphical significance. Here, if anywhere, hypotheses should be advanced concerning the interpretation of the site, and the relevance of the specialist reports assessed. The latter should be signed by the specialists concerned, and the work of all those involved, both in excavation and writing up, duly acknowledged.

Illustrations should be kept to the minimum unless cost of production allows and should always be strictly relevant to the material under review. Site photographs should be taken with publication in mind, even if many are not used, and drawings should be as simple and clear as possible, without a clutter of unnecessary detail. Both text and illustrations should be prepared in co-operation with the editor of the journal concerned, to conform with its policy. MSS should be typed on quarto whenever possible, with all material double-spaced. Captions should be provided. Read proofs promptly (perhaps with assistance), and send copies of separates to those who took part in the excavation. Finally, if subsequent work shows your conclusions to be wrong, be prepared to say so.

In the discussion, Mr. Golson said that J.P.S. had the wrong format for excavation reports, and these would not normally be included in the Journal, while Mr. J. Pascoe suggested that the National Historic Places Trust might publish an excavation report as an appendix to its Annual Reports, or might be able to assist with financial grants.

The last paper on the second day was by Mr. V.F. Fisher, of the Auckland Museum, on "Museums as Repositories for Archaeological Material". Museums provided comparative material for archaeologists, their function being to house and take adequate care of collections on behalf of the Community. The fieldworker could also use the Natural History collections and library. This required constant work by a trained staff, with suitable storage, and laboratory facilities. Archaeological groups would naturally hold all their finds and records until publication, but thereafter it was preferable for them to go to a Museum. In this way Museums could continue to provide comparative source material for the needs of the fieldworker, in the future.



In the discussion, Mr. Batley raised the matter of private collections and collectors. Mr. Fisher felt that they generally performed a useful function, because they very often provided useful data on material and sites, and he considered that the formation of the Association had improved relations between private collectors and Museums. Dr. Duff drew an important distinction between the private worker and the collector who intercepts material destined for a Museum. The latter was interested mainly in building up his own collection (usually unlabelled) at the expense of others. Mr. Golson stressed the fact that a University Department was not interested in building up a large permanent collection, and that material from its excavations would ultimately be handed over to a Museum.

On Saturday and Sunday, members went on a very pleasant field-trip to the East Wairarapa Coast, where we examined pa, kumara plots and middens, spending the night in the splendid shearers' quarters of Mr. E. Cameron.

Monday's programme, held jointly with the Anthropology Section, began with the Presidential Address by Dr. R.S. Duff, on excavations at Wairau and Waitara. He expressed pleasure that a Maori scholar (Mr. Pei Jones) was in the Chair, and he reminded archaeologists that archaeology was an important branch of Anthropology, which is concerned with the study of the social behaviour of Societies. Archaeologists should consider themselves as specialists within this general field, able to contribute to the racial health of New Zealand by helping the Maori people to have confidence in themselves, and making known to the European the extent of Maori achievement in prehistoric times. It was significant that the Maori was now beginning to take part in excavation, and this trend would increase in the future. Dr. Duff then went on to describe the history of excavations at Wairau, concluding with an account of the 1959 season. This was followed by a discussion of his excavations at Waitara, Taranaki, where numerous carvings had been accidentally discovered in recent years. The intensive exploration last January did not reveal any further carvings, but numerous digging sticks and wooden chips were found, which suggested that the swamp was a carvers' workshop.

The rest of the day was devoted to accounts of recent archaeological work throughout New Zealand. Much of this has been described in recent issues of the Newsletter (and in this number),

and need not be reported here.<sup>5</sup> However, I should mention here two reports of particular interest:- the work of Tony Pomison who has been recording Rock-drawings in South Canterbury on behalf of the National Historic Places Trust and has discovered 134 sites of three different types in three weeks. Secondly, Mr. W. Ambrose and Mr. F. Davis have been recording Rock-drawings at eight sites in the Waitaki Gorge, which are to be flooded by the Hydro-Electric scheme. These are, Black Jack's Point 1 and 2, Gooseneck Bend, Shepherd's Creek, Hamilton's 1, 2 and 3, and Ahuriri. In presenting this report, Mr. Ambrose wished to thank the Trust, and particularly its secretary, Mr. J. Pascoe, for organising the scheme, which had now been completed. An attempt had been made to arrange the drawings in three stylistic groups, and determine which were the older. This grouping would not necessarily apply at other sites, for insufficient work of this character had been done, but they had found quite distinct and easily recognisable differences. Only two shelters had archaeological evidence, and attempts had been made to relate the material to the different styles.

In the evening, Mr. J. Golson talked about his excavations in Tonga, Samoa and New Caledonia, which concluded a most valuable and enjoyable conference.

5. Birks 1960: 16-20; Parker 1960: 39-41; and below: 14-16.

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