NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER

AN ALTERNATIVE RESEARCH STRATEGY FOR THE STUDY OF PREHISTORIC HUMAN REMAINS

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SUMMARY

The tantalising picture of regional differences in language, material culture, subsistence economics and skeletal morphology apparent to those interested in the prehistory of New Zealand, demands the return (within the study of human skeletal remains at least) to the primary data; that is, to the detailed study of samples recovered from single, well-provenanced contexts.

Surprisingly, the people of New Zealand's prehistoric period have received very little direct attention. Archaeologists have studied a wide range of items of their material culture, their settlement patterns, their subsistence economics, exploitation and trade of geological resources and even their rate of growth as a prehistoric population. However, the most direct evidence of prehistoric people - their skeletal remains - is still on the periphery of the main stream of research. For example, the growth rate of the population has been discussed by Von Haast (1870), Duff (1947a,b), Green (1963), Shawcross (1969), Groube (1970), and Law (n.d.), without any consideration of the empirical evidence of skeletal remains vital to this question.

It is unfortunately the case that within New Zealand there has been a distinct separation between archaeology and physical anthropology. Typically, the two have been conducted by different people, concerned with different problem areas; and each has in isolation from the other, contributed to a separate literature. This is well illustrated in published articles which review New Zealand archaeology and prehistory. Ongoing studies of human skeletal evidence are seldom, if ever, mentioned in these (for example Skinner 1933; Golson and Gathercole 1962; Duff 1968; Groube 1968; Green 1975).

The reasons for this neglect of physical anthroplogy as a source of information about the prehistoric period are complicated. However, some may be identified. Certainly, the relative shortness of the prehistoric sequence in New Zealand has led to an underestimation of the value of the available evidence. The shallowness of many local sites and a certain preoccupation with the "recognition and comparison of artefacts" (Duff, 1968:184) have discouraged careful stratigraphical archaeology and the adequate analysis of general material recovered from excavations. While this feature is now widely recognised (see Davidson 1967; Danielsson 1969; H.M. Leach, 1972), and research procedures changed to incorporate important new interests in cultural and environmental processes, a comparable rethinking of our approach to human skeletal remains appears to be lacking.

The analysis of this material has been discouraged by a widely held opinion that the Maori people, as the modern survivors of the prehistoric population, have remained physically unchanged from the date of initial occupation of New Zealand. Shawcross (1963) has written a brief but highly pertinent critique of this notion. Another obstacle to the development of physical anthropology in New Zealand, has been its conspicuous absence from the teaching programmes of Medical Schools and the Universities, despite a long history of academic anthropology. This feature has led to a situation in which the bulk of post-war osteological research undertaken in New Zealand has been carried out by visiting experts, whose motivation has been large scale comparative studies such as Marshall and Snow (1956) and Shima and Suzuki (1967). In order to generate the large samples used in these comparative studies, remains recovered from a variety of provenances are 'lumped' together. These occasional overviews have inadvertently set the guidelines for New Zealand physical anthropology. The belief has emerged that small samples, considered individually, are not capable of yielding very useful results. Consequently, remains recovered from single cultural deposits have not been adequately treated.

In contrast to this view however, small samples of human remains are typical of New Zealand archaeological sites. Figure One illustrates the number of individuals identified from 39 sites excavated in New Zealand between 1859 and 1969. The sources of this information are given in Sutton 1975:237-244). The average number is only five; furthermore the remains are often fragementary. The large Oruarangi collection (Teviotdale and Skinner, 1947) was not included because it is at least partly historic. This also applies to the Ruarangi Pa burials (Hougaard, 1971; Oppenheim, 1971).

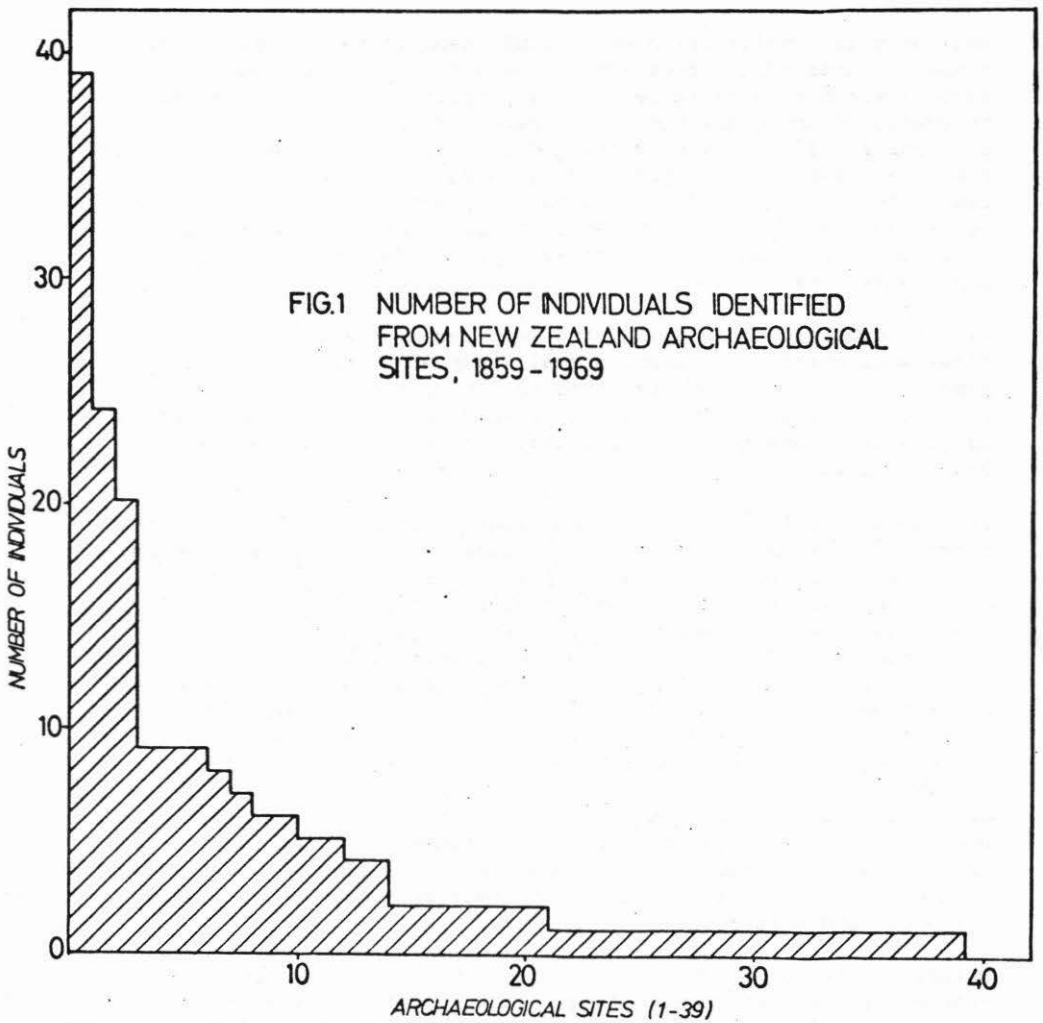

FIG.1 NUMBER OF INDIVIDUALS IDENTIFIED FROM NEW ZEALAND ARCHAEOLOGICAL SITES, 1859 - 1969

The significance of the very low number of individuals per archaeological site with skeletal remains deserves elaboration. It should be noted that in several cases where the number of individuals is relatively high the remains derive from more than one cultural deposit.

Against this consideration which would tend to reduce the average number of individuals represented per site, there are several factors which tend to raise it. It appears that much human bone, recovered during excavations, has been left unidentified, ignored or reburied without being mentioned in print. In other cases, the number of individuals represented is substantially less than the real figure because of the inadequate attention given to scattered or fragementary remains. Each of these practices arises, at least in part, from the traditional opinion that human remains, particularly when found in small samples, are not very useful.

All the qualifications aside, the fact remains that New Zealand sites will continue to produce small samples of human skeletal remains. Unless we are prepared to ignore the producers of the archaeological sites we study, a revised approach to human osteology is clearly necessary in New Zealand, and perhaps elsewhere in the Pacific as well.

This departure from 'orthodox' physical anthropology consists of a tempering of our ambitions in the sphere of comparative studies, which have dominated New Zealand physical anthropology to date (q.v. Scott 1893; Sullivan 1921, 1923; Wagner 1937; Shapiro 1940, 1943; Pietrusewsky 1969a,b; Watt 1972, 1973). Instead attention must be concentrated on the elucidation of the biological and social conditions of life for single groups of people who lived at a known point in time within the prehistoric period. It will be found that as work of this kind continues, a more meaningful set of conclusions will emerge from strictly comparative studies. In simple terms of priority, New Zealand physical anthropology to date has proceeded in reverse order. It is manifestly clear that good basic data may later yield useful comparative information; however, with inferior basic information, even elegant comparative studies will be of little value - in fact they may be positively erroneous and misleading.

Future studies of provenanced samples can be usefully organised around the idea that human beings are subject to 'environmental stress'. This stress may be caused by a large number of factors including diet, disease, warfare, elements of the physical environment in which they live such as climate and topography, and the physical and social distribution of resources. This whole set of interrelated factors which acts on people influencing their longevity and health, is termed the 'conditions of life'. These conditions will change through space and time. The success of any group in relation to the stress under which it existed is reflected in the longevity of the individuals who composed it, their health throughout life and the ability of the group to perpetuate itself through the successful rearing of children.

Therefore, a statement of the degree of success achieved may be best presented in two parts. In the first, all the presently discoverable details of the medical and social life history of each of the individuals under study are articulated. Each of these records begins with the basic information of sex, length of life and cause of death. From there, the details of illness during life, its periodicity, severity and effect upon the individual is documented.

Relationships with other individuals in or absent from the samples available may be established using genetic markers (Berry and Berry 1967; Anderson 1968). Maternalism can be inferred where evidence of parity is observed on female pelves (Angel 1969; Stewart 1970; Houghton 1974).

This consideration of the links between individuals within the samples is basic to the second stage of the appraisal of 'success'. The records for individuals are brought together to form a picture of the conditions of life for the group represented by an excavated sample, and of the viability of that group.

This synthesis from a single well-provenanced sample is the first stage of an inductive procedure which promises to maximise the useful information produced from the study of prehistoric human remains. When a number of samples have been examined in this way it will be possible to investigate patterns of continuity and change in the life-styles of people, both in time and space. These patterns may be expected to reflect changes in the economic, social and political conditions of life.

For quite some time, the possibility of regional and chronological differences has been explored by New Zealand archaeologists. For instance, basic changes in patterns of subsistence economics have been suggested (Lockerbie 1959; Simmons 1969; Green 1963, 1972). Again, there is increasing interest in regional cultural adaptations based on the recognition of different cultural and environmental zones within New Zealand (Skinner 1921; Golson 1959; Green 1963; H.M. Leach 1969). In addition, discontinuities in the areal and chronological distribution of a wide range of items of material culture are recognised (Teviotdale 1932; Duff 1956; Golson 1959; Skinner 1974). Suggestions have also been made that there were significant dialectal differences within the Maori language prior to the influence of the Christian missionaries and the British administration (Puketapu 1966). The fact that these changes are likely to have been paralleled by differences in man's physical condition also, has been largely overlooked.

This situation has persisted up until the present time, despite the fact that the comparative physical anthropology which has taken place, has resulted in a long series of suggestions that there were regional differences in the distribution of morphological traits (Scott 1893; Skinner and Baucke 1928; Buck 1922-1923; Shapiro cited in Dawson 1949; Marshall and Snow 1956; Shima and Suzuki 1967; Watt 1973). These suggestions are very significant. They indicate a degree of genetic isolation between human groups in the prehistoric period. It is interesting that these comparative studies should show this, because they have often been based on regions whose boundaries do not correspond to geographical or cultural units which may have existed in the prehistoric period. Moreover, as already mentioned, they have combined evidence from different periods. These two factors could easily swamp out time-space differences; the fact that they have not, argues that genetic isolation was even more pronounced than the present evidence suggests.

Assuming for a moment that contact between human groups increased through time in New Zealand, that is, a broadening of the areal extent of the Mendelian populations (Dobzhansky, 1955), it is most likely that significant differences between human groups in the early period of small intergroup contact will be 'clouded over' by later events. This is because the bulk of any randomly collected remains, such as those in local museums, will be biased toward the later material. This assumption of increasing genetic contact between groups through time is not necessarily true but it could be tested.

CONCLUSION

This paper calls for the more thoughtful study of skeletal remains recovered archaeologically. Specifically, future studies must be organised in relation to the relevant parameters of Pacific prehistory; these being a short time scale, a mobile population involved in dispersal-settlement of an island domain and rapid cultural change and physical evolution. It is suggested that the provenanced sample, however small, is the basic unit of observation. In this way physical anthropology will make a very considerable contribution to our understanding of the history of Pacific peoples and of the biological and cultural processes involved.

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13.9.77

Dear Sir,

A paper by I.W. Keyes in the Newsletter of June 1977 (20(2):125-126) describes an inexpensive, effective hardening material for consolidating friable specimens. The paper begins: "Friable bones, bone artefacts, shells or weathered lithic materials (along with delicate fossils) usually require strengthening before they can be safely handled without further damage or disintegration and for permanent preservation".

While my remarks refer specifically to human bone I believe they should also apply to non-human bone and probably to other organic material such as shell.

Nowadays there is no place whatsoever for the application of any substance to excavated bone. Such preservatives, hardeners and so on preclude the application to the bone of a number of valuable analytic tests. They may also obscure important, minute morphological detail. Damp, friable bone should simply be placed in paper bags to dry out - never directly into plastic bags. That is all that need be done.

Philip Houghton