



NEW ZEALAND
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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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A RELEVANT RADIOCARBON RESULT
(IRREVERENTLY PRESENTED)

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Ever since Europeans came to New Zealand there has been first speculation and then calculation as to the length of time that Polynesians have occupied this country.

Estimates were at first based mostly on genealogies and legends which were, regardless of the discrepancies apparent in results, rapidly converted into terms of the Christian calendar. These calculations, embellished with names like those of Kupe and Toi and events such as the arrival of the legendary-cum-mythical 'Great Fleet', eventually settled into a framework of so-called history which has been as notable for its lack of factual support as for its durability. The tenacity with which the average New Zealander clings to this conveniently potted version of New Zealand's prehistory is equalled only by a local Canterbury conviction that anybody who is anybody has a direct ancestor who arrived in the 'First Four Ships'.

However convenient this system was in talking about Polynesians purely as a people, it did little to help in sorting out either the comparative or chronological ages of the numerous prehistoric sites throughout the country.

Even the wonderfully convenient moa bone, the presence of which even today remains one of our basic criteria for establishing that a site is indeed 'early', still did not tell how early. Early, of course, indicated only the approximate place of the site in a sequence of time. Whether that place was 500 or 5,000 years ago was still very much a matter of guesswork to early investigators.

'Occupational' moa bone, however, taken into conjunction with artifactual material from the same sites, was (and is) valuable in establishing something of a cultural sequence which could then be applied to sites of a similar nature so that most sites gradually sorted themselves into either a definite 'early' or 'late' type, while a few fell into a sort of nebulous no-man's land in the middle. About these latter the term 'transitional' was occasionally applied, but more often they were arbitrarily relegated to one or other of the two major categories as soon as humanly (if not scientifically) possible.

This then was the situation until about 20 years ago. A fairly sound chronological place had been found for most site types - ranging from the earliest 'moa-hunter' variety where real live moas had actually and obviously been hunted, through to the equally obviously 'early-historic', complete with copper nails and clay pipes. This cultural sequence was not badly affected whether you were pro- or anti- Fleet - that really muddled up only those nebulous middle bits.

But, despite everything, estimation of the actual age of a site was still dependent on that highly dubious and certainly unscientific framework, based on equally dubious and definitely unarchaeological genealogies and legends.

It was then that there arrived on the scene what appeared to be the answer to every prehistorian's prayer. The one thing that was going to answer all the unanswerables and neatly click each site into its own little niche in time. Radiocarbon dating had arrived and with it (as has become more and more apparent) a whole new batch of problems and unanswerables.

However, problems and all, it enabled investigators, for the first time, to put some sort of age on a site. Despite errors and inaccuracies, brought about mainly by the wrong interpretation of the results given or the material dated (or both), it soon became apparent that the dates which were being obtained fitted pretty well into the existing framework. Surprisingly well; some might even say suspiciously well.

One factor which could well account for many errors both in the early days of C.14 dating and today, was that the dominant material used for obtaining archaeological dates in New Zealand was (and is) charcoal, and unidentified charcoal at that.

Charcoal, we now know, needs to be carefully interpreted as there are many factors which can cause errors of up to 600 years (or even more) in the dates initially calculated.

As well, converting radiocarbon years B.P. to exact calendar years A.D. was commonly done and was almost as dangerous as the earlier manipulation of genealogies. The very real value of radiocarbon dating in establishing sequence was almost swamped in the desire to fix the positions of individual sites in terms of actual age - 500 years old or 200 years before Cook, etc. etc.

The trouble was people wanted absolutes - which were so much more interesting than relatives.

Despite the traps and pitfalls, radiocarbon dating used with circumspection has nevertheless become one of the archaeologists' most useful tools, giving comparative age with a fair degree of accuracy and chronological age probably within a century - providing always that the interpreter of the date is aware of, and takes notice of, all the many factors which may have affected the material dated.

One of the most popular pursuits has been that of employing radiocarbon dating to find the really early sites in the settlement of New Zealand in order to establish the limits of Polynesian occupation. With one or two obvious exceptions, all those so far presented are not too extreme, although some are the result of misinterpretation of data and have consequently been quoted in error.

Of the exceptions, two are worthy of mention. The first is from Oturehua in Central Otago where we have a date of about 9,000 years B.P. Now I am not going to state categorically (a) that the laboratory made a mistake, or (b) that the material dated is suspect, or even (c) that man could not have been in New Zealand 9,000 years ago. It just seems highly unlikely, when all the other prehistoric radiocarbon dates from New Zealand are examined. And even granting that it is true, it seems equally unlikely that it could be more than one isolated group: hardly the progenitors of Polynesian occupation of this country as we know it.

From Poukawa Swamp near Hamilton comes another fairly early date, about 5,800 B.P., this time from swamp moa bone. The main trouble with this date is that, taken in conjunction with other swamp finds and dates in New Zealand, it seems so much more likely that this bone was a natural deposit, subsequently mined for use by the Maoris. This is the simple logical answer, and simple logical answers, provided they fit the known facts, are usually right.

Finally we have the so-often quoted (and mis-quoted) Redcliffs Flat result, which is said to indicate occupation of the area by about A.D. 780. Often cited as originating from a post-butt in Moa-bone Point Cave, this date in fact was obtained from driftwood timber which had been used for a fire on the adjoining flat, and which might well have been many hundreds of years old in its own right.

It seems to me that before we can say that a date is probably correct we must be able to answer "yes" to all the following questions:

- (a) Has the material dated been accurately identified and has it been shown that it usually gives reliable, not-too-variable results?

- (b) Is it certain that the time of 'death' of that material was contemporaneous with the time of its use on the site from which it was obtained?
- (c) If there are two or more dates from the same site, can any major discrepancies in the results be logically accounted for?
- (d) Does the date given seem 'right' for the site? Despite all that modern science can do, there is still a place for good common sense, a sort of 'feeling' for the situation, in any archaeological interpretation.

To return however to looking for early sites. I am convinced that the best and most authentic dates in this direction are to be got from the small isolated sites showing only one period of occupation - perhaps one isolated visit - rather than from the large and obviously well-established sites, even at their lowest levels.

No matter to what settlement theories one subscribes, there can be no doubt that the earliest occupation of New Zealand was initially meagre, scattered and primarily itinerant.

Hence, two radiocarbon dates I recently obtained, both from the same site, I find to be of great interest. I give them forthwith:

- S.61/20 Pentland Downs rock shelter, Weka Pass, North Canterbury.
- NZ1534 Marine shell Amphidesma australe 910 \pm 132 years B.P.
Calculated wrt NZ Marine Shell standard.
- NZ1535 Charcoal Podocarpus totara-hallii group 1315 \pm 80 years B.P.
Calculated wrt 0.95 N.B.S. oxalic acid standard.

These dates fit in admirably with all four criteria which I believe need to be considered in assessing their worth.

The materials were first identified with certainty, the shell by myself and the charcoal by Dr B. Molloy of the Botany Division, DSIR. Marine shell from archaeological sites gives a reliable date, and could certainly be considered to have died at the time of its deposition in the shelter floor.

The podocarp charcoal date, although of less reliability, is of interest in that it fits in with the trend that seems to indicate charcoal dates as being several hundred years too old. If we allow for this, it dovetails neatly with the shell date. On the other hand, it could conceivably be a true date and indicate the use of relict or heart

timber. Of the two alternatives, I prefer the former explanation as being more consistent with the New Zealand date patterns as a whole.

We can, I think, safely assume a date for this site of around about 1,000 years before present. This fits in with the general pattern for rock shelter sites in the South Island. It is not too far removed from radiocarbon dates for sites in the same area (allowing for discrepancies in dating, one could find them almost contemporaneous), and it certainly has all the appearances of really early usage as opposed to established settlement. There is no doubt in my mind that this site was occupied by some of the very earliest Polynesian settlers in New Zealand.

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