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REVIEWS

James R. Goff, Scott L. Nichol and Helen L. Rouse (eds.), 2003. *The New Zealand Coast: Te Tai O Aotearoa*. Dunmore Press, Palmerston North. 312pp, figs, index, paper, \$64.95.

The editors set themselves the task of creating a comprehensive presentation of the accumulated knowledge on coastal environments of New Zealand as a resource for graduate and undergraduate students alike. The publication has been supported by three organisations, so the production is not one overly condensed by commercial pressure. Some 23 authors contribute 13 chapters. While only one, by Bruce McFadgen, is specifically on archaeology, there is much in the other chapters that should interest a New Zealand field archaeologist, given the large proportion of Maori sites which are situated on or near the coast. There are chapters on tectonic controls, physical oceanography, tsunami and storm surges, offshore sand systems, near shore processes, gravel beaches, sand barriers and coastal dunes, estuaries, coastal wetlands, contaminants and archaeology. Generally they have succeeded in their task. It is not, though, a book for the general reader, as in some chapters a fair bit of knowledge is assumed of geology and of physics.

The book does give a comprehensive view of the way New Zealand's varied coast line is shaped under what is, in world terms, often a high budget of sediment input and a strong wave field. The parts I found of particular interest related to gravel beach sedimentary processes, the comprehensive review of current rates of uplift or sinking of the land along the coast, the different barrier forms that arise in different circumstances and the presence of an inner shelf on beaches. Inner shelves are a feature in demand for sand mining, but in some places a finite resource, since the sand in them was emplaced in low sea stands. Removal there will cause replacement from inshore supplies with consequent beach erosion and no doubt loss of archaeological sites could result. The book does capture the sense of a field in an exciting stage of development, with several authors noting areas where there has as yet been little data collected. The wave field around New Zealand is little recorded, neither are the currents known quantitatively except in a few localities. Several chapters concentrate on better studied areas leaving obvious areas for new research in the other locations.

Archaeology is introduced only rarely other than in McFadgen's chapter, but it must be relevant to some of the barrier building and cyclical processes that are still continuing. Certainly with dune sand movement, the relationship is often dynamic, for human sites are more than a dating tool, they can indicate the cause of erosion cycles. One is left, though, performing the mind experiment of imagining how productive the relationship between archaeologists and coastal process scientists would have been if we had ten thousand years of prehistory rather than one, for it is clear from the book that many of our coastline features were essentially complete by 6000 BP.

The chapters on wetlands and estuary sedimentation make it clear that modern New Zealanders are having a substantial effect on the environment of the coast. Those of us who have been involved in resource management issues to do with the coast will be familiar with the input that landscape assessment often has. Yet this discipline has not found a place in this book. The aesthetics of our coastline are surely the area where we are currently doing the most damage.

The archaeology chapter is the largest, and gives a good general introduction to the sorts of evidence that Maori occupation has left on the coast. It gives slight attention to the ways in which the faunal information in sites is relevant to the history of the marine environment and beyond the observation of the coastal character of the site distribution it does not explore why particular places were favoured, or the productivity / technology relationships in exploiting marine resources. Terrestrial birds get more coverage than seabirds. As would be expected there is a comprehensive treatment of chronology, wide spread sedimentary horizons and tephra.

Early rats get a sympathetic exposition and Maori made soils get exposure to a wider audience, which may aid their more frequent recognition in contexts where their history can be stratigraphically fixed. The creation of stone walls by Maori gardeners as a primary objective, rather than a boundary / dump between plots is presented without any hint that most archaeologists have found the idea implausible. It is, though, a valuable summary of McFadgen's many contributions to the interaction between coastal processes and archaeology

One quibble—the introduction to the book gives a conventional if brief introduction to a Maori perspective of the coast. It quotes, as many others have, a descending classification of water: waiora, waimaori, waikino, waimate. While I do not doubt the individual terms are authentic, I have long found the ranked classification more redolent of western modes of thought and ranking

classification than of Maori. I first encountered it in the late 1980s and have not seen it referenced earlier than this. Does it have any longer pedigree?

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Douglas Sutton, Louise Furey and Yvonne Marshall, 2003. *The Archaeology of Pouerua*. Auckland University Press, Auckland. Paper, 262 pp, figures, index. \$49.99.

The cover of this volume depicts, in vivid green, the striking volcanic cone of Pouerua, inland from the Bay of Islands, surrounded by its hummocky stonefields. Both the terraced cone and surrounding evidence of Maori gardens attracted European attention in the early 19th century, with John Nicholas, Richard Cruise and William Marshall among many visitors to comment on the fertile land and numerous fortifications of this part of Northland. In the early 20th century Elsdon Best described the rim features of Pouerua in his monograph *The Pa Maori* (1927) and the stone heaps and rows in *Maori Agriculture* (1925). But it was not until the early 1980s that archaeologists attempted to provide a chronological and social context for the Pouerua complex.

In the first (1982–3) season of the Pouerua project, five apparently ‘undefended’ settlements lying within the gardened areas were examined. The following summer (1983–4), attention shifted to three small peripheral pa. Both seasons resulted in publications that revealed the wide range of activities conducted at these settlements. The knolls on which they were located had been extensively reshaped, with platforms and terraces created to accommodate dwellings, storage structures, places for cooking, and flat open spaces for workshop activities and social events. Some knolls had been fortified by palisades, scarps and ditches, while others remained ‘undefended’—though this term seems inappropriate, since defence can be provided by a body of experienced fighters at the top of a slope, without any artificial aids other than their weapons.

Notwithstanding the problems of dating kumara in Pit O on ‘Haratua’s Pa’, these publications presented a reasonably clear chronology of settlement in the stonefields. It appeared that the smaller pa began as ‘undefended’ settlements in the period AD 1410–1640. Forest disturbance in the wider area commenced about a century before, although whether it constituted permanent clearance is a debatable question. Occupation continued into the historic era and was often ‘undefended’. Less was found out about the economy of the area’s inhabitants. Garden produce was obviously important but the seasonal movements to the

Bay of Islands observed historically and referred to in traditional histories were barely represented in the archaeological evidence.

Reading the first two publications raised an intriguing question as to the role of the central volcanic cone in the complex's prehistory. What did Pouerua offer that was not available at the small habitation sites in the gardens and in the peripheral pa? The cone was further from the gardens, and possibly from sources of water, and required an arduous climb to the rim. Was it a more impregnable fortification than the peripheral pa, capable of protecting many more people and their harvested crops? Best seems to have thought so, stating in *The Pa Maori* that "this famed hill fort must have accommodated a vast number of natives..." (p. 304). Or would it, like so many other North Island pa, turn out to have had a complex history of use, at times without defensive structures, and at other times the subject of massive investment of labour in earthworks and palisades? The appearance of this third report which covers the 1983–5 excavations conducted on the rim and flanks of the Pouerua cone has thus been eagerly awaited.

Although nearly 20 years separates the excavations from the publication, the passage of time has certainly not impaired the reporting and interpretation of the details. Quite the reverse! This volume is the most polished, the most coherent and overall the most convincingly argued of the three, and is a credit to its authors, in particular those who were responsible for the chapters reporting and integrating the excavation evidence (Chapters 3–15).

Their most significant contribution is the event-based sequence-building for each of the seven excavation areas on the cone. Each sequence is then correlated with that of its adjacent areas, again by reference to the events that modified and reshaped the original profiles of scoria, ash and derived soils. So how does this differ from previous methods of interpretation? Stratigraphic excavations conducted on pa in the 1950s to 1970s usually attempted to link the defensive features like ditches, with domestic activities inside, through the cutting of long trenches. However where steep scarps interrupted the deposition of definable layers on terraces or in ditches, layer correlation often proved difficult. Neither radiocarbon dates nor 'chronological markers' in the form of diagnostic artefacts could provide the necessarily precise links. Nevertheless excavators normally attempted to assess the chronology of each excavated portion of the site before describing the overall sequence.

What has been well demonstrated here is that it is easier to link non-contiguous terraces and scarps by accounting for the origin of every layer of every excavation unit and inferring the event that gave rise to it, then progressively building up a master-sequence of events for the area and finally for the whole site, *before* integrating the radiocarbon dates or other dating evidence. This is not to say that earlier archaeologists, e.g., Peter Bellwood at Otakanini, did not pay close attention to the origin of fill layers. However as each section of a site was described, its chronological position was assigned. This practice could lead to circular arguments, and place unsafe reliance on individual radiocarbon dates (e.g., at Tiromoana Pa).

The main events at Pouerua were, not surprisingly, occupation and construction, with the latter sometimes directed towards defence, and at other times towards the facilitation of further occupation. The prehistoric equivalent of ‘Changing Rooms’ at Pouerua was ‘Remodelling Terraces!’ Abandonment was also treated as an event. With seven excavation areas, encompassing large squares, long trenches, or interrupted trench segments, and up to 35 layers in any one section, one might expect the excavation chapters (5–11) to be swamped by confusing detail. Instead they build a convincing and clear picture of human activity on Pouerua. This success owes much to proficient excavation teams and leaders, meticulous record keeping and curation of those records, and then the logical application of event-based sequence-building.

Inevitably, once the overall sequence was revealed, gaps in the original excavation strategy became clear. At Pouerua terracing on the flanks and rim preceded the first ditch and bank defences by perhaps several generations. Then major remodelling occurred, which joined up many of the terraces, enhanced the steepness of the scarps and cut access along the rim. Further strengthening and tightening of the defences followed, including the creation of the Long Terrace. To be militarily effective, it should have been palisaded along its outer edge, but this edge was not examined archaeologically. Some other squares (e.g., in Area V) that had indications of interesting structures were restricted to 2 m wide strips, thereby leaving the post-hole patterns unresolved. However in other areas of the site, excavation layout was extensive enough to uncover the post-hole patterns of large houses (e.g., the 8.9 x 7.3 m Historic era house in Area IV, and the 6.5 x 4.5 m house in Area VII).

Compared to some of the house floors described in the first two volumes, the dwellings on the cone had an even more restricted range of artefacts. Small flakes of chert and obsidian were the most numerous, but other items were sparse.

Some that were found, however, had associations with status: fragments of a comb, a shark-tooth ear pendant, kokowai grinders and pounamu chisels. A few hammerstones and grindstones and some stubby adzes indicate that workshop activities on the cone were limited both in duration and scope. It seems that people did not live on Pouerua's terraces over long periods, whether continuously or intermittently.

Food remains were equally sparse, though conditions for preservation were not good. Shell is usually reported as a component of the fills of hearths and sometimes postholes, suggesting perhaps that it was deliberately disposed of. One lens of cockle was incorporated in the fill of the ditch (Area II), while a lens of freshwater mussel was found in a cooking area (Area VI). Fruit kernels from the hinau were a distinctive find in Areas II and III, and are taken as evidence of summer-autumn occupation.

In relation to botanical evidence, I urge the restoration of the botanical names in any future edition. Large quantities of charcoal were identified by Rod Wallace who undoubtedly supplied their taxonomic names, as he did for the first volume of reports. Asking readers to go back to a volume published in 1990 to find out which species is meant when, for example, puka is referred to is unacceptable. Puka is a name attached to at least five different plant species.

In the absence of midden more could have done with these charcoal identifications. The argument is made in the closing chapter that the earthworks at Pouerua (along with many other Maori pa) transformed it into a form of monumental architecture. It was never a "general settlement in everyday use" (p. 233). Even when equipped with ditches, banks, steepened scarps and palisades, it is likely that the defenders were not normally resident within those defences. We are told that "people were not cowering in defended settlements up on the Pouerua cone; they were advertising their presence, wealth and situation by displaying these qualities in a highly visible, even commanding manner." By clearing the forest and building terraces, they were declaring their "occupation of the landscape". But just when did the storage structures become so highly visible? Pits roofed with thatch would never have been easily spotted, even from higher ground. Semi-subterranean storehouses on flanking terraces would have been hard to see from below. And just when was the natural forest that is represented in the palaeosol samples (including kohekohe, puriri, totara, rimu, rewarewa and taraire) stripped from the outer flanks of Pouerua? The authors earlier suggested (p. 32) that clearance may have been spread over a considerable period. If one looks at the identifications of charcoal incorporated in fire features

and redeposited terrace fill, it is apparent that kohekohe (not a shrub as stated on p. 82 but a tree that grows up to 15 m tall), taraire (up to 20 m), pokaka or hinau (both canopy species growing 12–15 m) and puriri (up to 20 m) were dominant components of fire wood right through to the first phase of construction of the ditch and bank defences. Kohekohe, puriri and tawa persisted until after the second set of defences were dismantled. Of course forest species still grow within the crater and the firewood could have been obtained from there. In that case, if the display hypothesis is correct, we should expect bracken to have covered the outer flanks not just in the early 19th century when described by visiting Europeans, but several centuries earlier.

Bracken often leaves a distinctive trace in soil. This has been detected at Pouerua in two areas, VI and VII, in both cases after the last occupation events. It may be significant that this late evidence occurs below the fortified area. Bracken is a highly inflammable material and we should consider whether secondary forest might have been a preferred vegetation cover in the vicinity of terraces on which cooking and storage was taking place. It is noteworthy that some Historic era pa in this area were surrounded by trees. In 1815 Nicholas and Marsden described what was probably Whakataha Pa in the headwaters of the Waitangi River as lying on top of a ‘lofty hill covered with pines’; they reached Okuratope Pa after climbing through forest to reach the fortified summit (cited by Jeff Sissons, Wiremu Wi Hongi and Pat Hohepa in *The Puriri Trees Are Laughing* (1987) p. 16, 19).

Just how much activity on Pouerua was visible at each stage is critical to the display of wealth hypothesis. If the rim and upper terraces were the chief visible area, then we might regard such highpoints just as plausibly as observation posts from which the movements of people on land and water might be monitored. In time such ‘pan-optical’ pa would have become identified with the control exercised by the observers. The sitting platform of Hongi’s elder brother Kaingaroa, elevated some 2 m on a single carved post above Okuratope Pa, provided the ultimate view while reinforcing his mana. The possibility that the large posthole on the Western Terrace of the tihi at Pouerua also functioned in this way is in fact discussed by the authors (p. 60). As for the storage structures outside the palisades, e.g., in Area VII, it would make more sense to conceal them than advertise their presence.

The excavation reports in this volume are sandwiched between chapters that attempt to provide a context for the original project (Chapter 1) and a broader view of pa both within New Zealand and a wider Polynesian setting (Chapter 16).

These chapters will doubtless be much used by students of New Zealand prehistory as condensed overviews. But they are of rather uneven quality. Chapter 1 sets up an artificial dichotomy between culture historical approaches to pa, and settlement pattern approaches during the pre-1980 period—the first was “intensive, stratigraphic and temporal” and treated pa as artefacts, and the second “extensive, spatial, and atemporal” and viewed pa as settlements (pp. 4–8). My recollection of the debates of the 1960–70s was that archaeologists were simultaneously trying to determine whether some of the variation in pa form was temporal and cultural (as well as topographical) and how the pa they were excavating related to the other sites in the vicinity. Most archaeologists combined trenches through ditch and bank defences with area excavations of platforms and terraces. Aileen Fox’s use of Iron Age British hill forts as a source of analogy is criticized for fixing “attention on the defensive features of pa to the exclusion of other evidence” (p. 4). Yet Fox devoted a whole chapter of her 1976 book *Prehistoric Maori Fortifications* to “Structures and planning within the pa”, and one of her reasons for the comparison with the Iron Age forts was to illuminate socio-political parallels between the Celts and the Maori. The Pouerua project, it seems to me, built on Fox’s work in emphasizing issues of socio-politics. It was also disappointing to see little mention of her analysis of modes of attack, either in this introductory chapter or in the interpretation of Pouerua’s defences. For example, was the (presumably) palisaded Long Terrace militarily equivalent to a lateral ditch and bank?

The conclusion (Chapter 16) returns to the complex question “are pa settlements?” (meaning sustained settlements). In doing so, it criticizes previous attempts at pa classification (such as Groube’s 1970 paper “The Origins and Development of Earthwork Fortifications in the Pacific”) for treating pa as singular, unchanging entities. But Groube specifically referred to the excavations of Otakanini (a Class 3b pa) and Kauri Point, Tauranga (Class 3a) as demonstrating replacement of terraced defences (Class 1) with the Class 3 ring ditch form. The chapter then proceeds to a useful review of previous excavations of pa, testing the proposition that sustained domestic settlement was not a characteristic of pa, either in their ‘undefended’ or defended modes. This is an important question that should not be restricted to pa but extended to other types of site. Were any Maori ‘settlements’ occupied for long periods continuously? Was the ‘kit-set’ nature of the house frames from Kohika, recently revealed by Rod Wallace and Geoffrey Irwin, a widespread phenomenon indicative of a degree of mobility among Maori that was unmatched in tropical Polynesia? Pa were not places of sustained settlement, the authors argue, but large highly visible structures, a form of Polynesian monumental architecture

serving both as strongholds and marae. In my view, the visibility needs to be further assessed, both of the pa from its surroundings, and of the surroundings from the pa.

The Archaeology of Pouerua is the best contribution from the Pouerua Project to appear so far. It provides a sound and readable example of archaeological reporting. Its attempts to contextualise both the excavations within the history of New Zealand archaeology, and pa within Polynesian monumental architecture, should lead to much lively debate, and hopefully further excavations.

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