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REVIEWS

Douglas G. Sutton et al. *The Archaeology of the Peripheral Pa at Pouerua, Northland, New Zealand.* Auckland University Press, 1993. 114 pp., figs. 42. \$32.95

This is the second volume of excavation reports from Douglas Sutton's major project at Pouerua. As a book production it is a great improvement on the first, which dealt with the archaeology of the Kainga, the open settlements. It has a better type and paper and a larger format (A4) suitable for reproducing plans and tables. The elaborate contour plans by Leatherby and Morgan (figs. 1-5) are a notable achievement in translating on to paper the complex man-made terraced hills forming the pa and in symbolising their defences. Elsewhere the space and margins on the page at times are extravagantly used, as for example the posthole on fig. 5:12 would have benefited by reduction to half, as would figs. 3:6 and 8 or 5:11. It is regrettable that no airphotos are included; perhaps there will be one in Volume 3 of the monumental structure on the central volcanic cone.

It is not possible in a short review to deal in detail with the three pa that were excavated within 2 km of the central cone, namely the unique stone-walled pa (No. 371) dug by Roger Green and Caroline Phillips; 'Haratua's pa' (No. 228) Anne Leahy and David Niven; and the Cattleyard's pa (No. 408) dug by Doug Sutton and Andrew Crosby. The three have many defensive factors in common, employing short lengths of transverse ditches and banks at the most vulnerable points, combined with steep lateral scarps, and strengthened by timber palisades. The interior occupation was terraced, rising to a summit platform, the *tihī*, on which excavation showed a substantial timber house where a stone-edged hearth was built, probably for the chief. Excavation techniques were good; both section trenches and area clearance were used, though on a limited scale related to the time available in 1983-4. All the finds were recorded in three dimensions, so that when analysed their position could be accurately plotted in relation to a structure, as for example, the stone artefacts within the house in Fig. 2, 11, 12. The intention was to discover and with the help of radiocarbon to date the chronologies and to examine significant details of the internal settlement pattern and thus hopefully to perceive the relationship of these pa to the open settlements (kainga) excavated in 1982-3 as well as to the great fortification on the cone to be tackled in 1984-5.

Not everything on an excavation goes according to plan; work on Haratua's pa (228) was interrupted by the surprising discovery of a lot of well preserved burnt kumara (sweet potato) at the bottom of a pit, oddly positioned between the ditches at the south end of the pa (Pit 0, marked but not labelled on Fig. 3:1). The excavators deduced that the rectangular 6x3m pit had a

thatched roof supported on three post rows, basal drains and an entrance at one end. The clay walls were lined with poanga and the kumara stored in bracken which when the earth-covered roof burnt and collapsed, carbonised the crop.

Further work in 1985 by Doug Yen and John Head of A.N.U. showed that the kumara were probably seed potatoes. Radiocarbon analysis of 28 tubers indicated that most were 'modern', i.e. less than 180-200 years old, but that four from the internal basal drains in the pit should be 'prehistoric' with widely ranging dates from the 10th to the 17th century AD. (Table 4:3). These compare favourably with the earliest occupation of the hilltop of AD 1454-1626, dated from a layer sealed below the southern rampart, and have been accepted by Sutton. The evidence is complicated and not wholly conclusive; the excavators prefer to think of the pit being dug after the defences, and the contents destroyed by fire when the pa was abandoned in the mid-19th century.

In the course of these excavations much useful information has been obtained about the history of the peripheral pa and the characteristics of their planning; the results are well summarised by Sutton in a concluding chapter. Hill-top fortification at Pouerua began in the 15th or 16th century (1430-1626) after a phase of open settlement on the sites. It still remains a mystery what triggered the need for defended settlements so general at this time in New Zealand. Defences were modified several times as might be expected, before the pa were abandoned in the early 19th century soon after the European intrusion. In Sutton's view, these large fortified sites, which must reflect an increased population, were a development from the kainga, and their planning reflects a re-arrangement of the components of the small settlements, namely housing, cooking, storage and working places. He stresses the importance of the *tahi* with its principal house on the highest point, facing N.E. and the sun with an open space in front and a small cooking area behind or beside it, which can be matched in the Pouerua kainga. Elevation is undoubtedly associated with rank in Maori society in the Bay of Islands as J.L. Nicholas noted in 1814 when he saw Chief 'Wiveeah' sitting on the roof of his house 'to signify his dignity above the rest of his people' or when Marsden recorded the seat or throne of chief Kaingaroa on the highest point in Okuratope pa. Communal cooking and pit storage in the peripheral pa are located on the lower terraced slopes or outside the main fortifications.

It is helpful to have these generalisations as a model for the tribes of the Bay of Islands but there are pa elsewhere that do not have a conspicuous *tahi*, as Te Awanga in Hawkes Bay or Ruahihi in the Waikato. It is a challenge to future excavators to explore and explain these regional variations following the Pouerua example of a well thought out organised and sustained campaign.

In the meantime we await Sutton's third and final report with keen interest.

Aileen Fox

James Dyer, *Discovering Prehistoric England*. Shire Publications. £6.99

New Zealanders visiting Britain may like to know of this excellent small guide book recently published by Shire and modestly priced at £6.99. It describes some 640 sites that can be easily visited, preferably by car and on foot, arranged by Counties in alphabetical order, with Grid references and directions how best to find them. Dyer's descriptions are succinct, accurate and appreciative, supplemented by select plans and photographs, and by a brief introduction to the categories of field monuments described in chronological order.

Aileen Fox

R. C. Cooper and R. C. Cambie, *New Zealand's Economic Native Plants*. Oxford University Press, Auckland. 1991. 234 pp., figs, 16 colour plates, index. \$49.95

Do not be put off by the title. This is an authoritative and scholarly review of all conceivable past, present and potential future uses of New Zealand native plants. It is very readable, well produced and beautifully illustrated. It is an expanded, updated, and better produced edition of an earlier work by Brooker, Cambie and Cooper published in 1988, and must have been rapidly produced, as it contains numerous references up to 1990.

A sense of historical perspective permeates the book, together with a strongly felt but never overstated plea for the conservation of our plant heritage, both for its own sake and for its future uses.

Although the authors stress that others have provided much fuller, authoritative accounts of Māori plant use and that their own notes on the subject "are intended merely to introduce discussion of a plant or group of plants with a view to its future utilization", they provide a wide range of references, including mention of Wallace's work on identifying wood used for artefacts and Fankhauser's work on cabbage trees. It is this aspect of the book that would make it a useful reference work for archaeologists.

The first few chapters are strongly historical, reviewing the history of utilization of the flora, native plants in gardens overseas, and native plants in New Zealand gardens. Next comes a chapter called "From the hills to the seashore" which covers timber, swamps, mangroves and sand dunes. Then follow chapters on fibres and paper; grasses; food and beverages; potions and poisons; chemical products; fragrances and flowers; Solanum alkaloids; marine macroalgae, marine and freshwater microalgae; and lastly bryophytes and thallophytes.

As Simon Upton says in his preface, "the frequent mention of the

connections between plants and individuals and events in the history of New Zealand lends a wider context". The inter-relatedness of historical botanising and modern applications is fascinating. For instance, the authors point out that *Solanum laciniatum* and *Solanum aviculare* had been grown in Europe since their discovery on Cook's first and second voyages and that the initial cultivation of these plants in Hungary as a source of raw material for steroids was from single berries growing in a European botanical garden.

On the whole, the story of the economic plants of New Zealand is not a particularly happy one. In the authors' view, the New Zealand flora is now endangered. There are sad examples of attempts to establish industries which failed, at least partly because of consistent lack of financial incentive or encouragement of research and development. Writing presumably in late 1990 or early 1991 about marine algal blooms, the authors state "The only conclusion possible from this evidence is that further studies are needed regarding the life cycles of toxic microalgae inhabiting New Zealand coastal waters."

It is difficult to convey, in a short review, the range of information marshalled in this relatively small book. It contains something for anyone who is interested in New Zealand plants. The illustrations include both contemporary photographs and paintings, and historical photographs and engravings. They have been carefully chosen and beautifully reproduced.

Janet Davidson

Steve Jones, Robert Martin, David Pilbeam and Sarah Bunney (eds), *The Cambridge Encyclopedia of Human Evolution*. Cambridge University Press, Cambridge. 1992. 504pp with figures and tables. \$299.

The study of human evolution involves contributions from innumerable disciplines which range from archaeology to zoology, genetics to geophysics, psychology to epidemiology. The Cambridge Encyclopedia of Human Evolution covers aspects of all of these seemingly unrelated fields to provide a clear, concise and up to date introduction to the study of the evolution of the human species. Edited by Steve Jones, Robert Martin and David Pilbeam, more than seventy contributors to the volume include such noted scholars as Lewis Binford, Richard Dawkins, W.W. Howells and Charles Sibley.

An insightful introduction by David Pilbeam entitled "What makes us human" is followed by 10 sections - Patterns in Primate Evolution, The Life of Primates, The Brain and Language, Primate Social Organisation, Human Evolution in a Geological Context, The Primate Fossil Record, Primate Genetics and Evolution, Genetic Clues of Relatedness, Early Human Behaviour and Ecology, and Human

Populations, Past and Present. These are followed by a conclusion, "The evolutionary future of mankind" as well as a very useful reference section which includes a "Who's who of historical figures", a geological timescale, a world map of important sites, a glossary and a list of recommended further reading. Cross referencing throughout the text is also useful.

This volume is written for the lay person, and includes very useful highlighted "boxes" which clearly explain and describe key concepts like the structure of DNA and the use of fossils as dating indicators, important techniques such as DNA fingerprinting and PCR, and major issues like primate aggression and eugenics. Throughout the text are excellent figures and tables, as well as photographs, which I might add are only black and white. This is my only real criticism of this book, as colour photos would have been ideal, however, the cost of this would most likely have pushed the already high price beyond the range of the individual.

Though the list of contributors is almost exclusively from the United States and Britain, it is nice to note that the Pacific is not completely overlooked. Included in the final chapter, Human populations, past and present, there is a somewhat simplistic discussion by Steve Jones on the 'Peopling of the Pacific' which at least attempts to drive the general public away from the Heyerdahl hypothesis, and New Zealand Maori and Pacific Peoples are noted in the "Tribal peoples and their ways of life" highlighted "box". In addition, there are other various Pacific examples throughout the text.

Just as humans as a species are evolving, our understanding of the processes and pathways by which that evolution takes place is also constantly changing. In a field as diverse as the study of human evolution, it is often difficult to be *au fait* with all of the latest theories and techniques. The Cambridge Encyclopedia of Human Evolution will bring the reader up to date with clear, concise and very interesting readings. Richard Dawkins, in his foreword to this book, states "If you were allowed to take only one book to a desert island (the Bible and Shakespeare being already provided), this Encyclopedia would be a serious candidate", a statement which I believe may be slightly biased. However, for those interested in processes and the study of the evolution of the human species, I highly recommend this volume. It is an excellent reference book as well as an enjoyable read.

Elizabeth Matisoo-Smith