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REVIEWS

***The Origins of the First New Zealanders.* Edited by Douglas G. Sutton. Auckland University Press. Auckland. \$39.95.**

The stimulus for this collection of papers was a special session at the New Zealand Archaeological Association conference in May 1988. The papers have been revised and expanded by the authors since then and include references as recent as 1991. The coverage of the papers is full and well balanced and may indeed be a reason why an editorial lament from the association's *New Zealand Journal of Archaeology* was heard a few years ago about the paucity of New Zealand papers. That problem alone indicates how fully a programmatic posture on the part of Doug Sutton (his "paradigmatic shift") has dominated the central ground both by action and reaction. No other single publication on New Zealand prehistory has shown such constructive engagement with the full range and depth of thinking about its problems, ranging from the chronology (the orthodox or received, the short and the long), through much novel thinking about ecological and physical process, to linguistics and the relationship of archaeology with Maori tradition. Incidentally, the term "paradigmatic shift", so much abused as a statement of programmatic intent by social scientists, was finally laid to rest at the 1988 Conference by Matt McGlone, who subtitled his paper: "When the paradigmatic shit hits the fan".

Sutton's introductory chapter skilfully reviews some of the recent argument about the chronology of Pacific settlement that led to his claim for a much earlier settlement date for New Zealand. This paper also offers a useful if somewhat eccentric view of New Zealand archaeology since the 1960s as "minimalist" in character, following Golson's eschewal of rough and ready relationships between archaeological and traditional data.

The main papers are arranged under six main headings. Under "Colonisation of the Pacific Basin" is a single paper by Roger Green which covers much more than the chronology indicated in its title. It is an excellent brief review covering the difficult topic of the prehistory of island South-east Asia to New Britain, shaping these as a background to the creation of Polynesian identity in the prehistoric record. Under "Polynesian voyaging and the colonisation of New Zealand" are papers by Ben Finney on experimental voyaging and by Garry Law on a computer-generated model of the likelihood of the sequence of first settlement. The former is perhaps the paper in the book which most clearly states the positive value of the relationship between experimental or scientific work and the reinvention of contemporary Polynesian voyaging practice.

Under "Linguistic evidence of the origins of the Maori language" are papers by Bruce Biggs on the languages most closely related to Maori, by Ray Harlow

on the implications of New Zealand regional dialectical differences for place of origin, and by Ross Clark on the relationship between Maori and Moriori.

The heading, "The date of first settlement of New Zealand", is rather mistitled. Although fresh secondary conclusions on chronology are drawn, the papers by Matt McGlone, Athol Anderson and Richard Holdaway on the ecology of settlement process, by Patrick Grant on alluvial morphology and climate, and Bruce McFadgen on coastal soil formation and chronology, are all on the topic of ecological manipulation and geomorphology, and their implications for settlement and expansion of populations.

Under "Archaeological evidence for the settlement of New Zealand from East Polynesia" are papers by Janet Davidson on the East Polynesian origins of the Archaic, and Richard Walter on the Cook Islands. Finally, there is a paper by Kazumichi Katayama on the lack of biological affinity between southern Cook Islanders and New Zealand Maori.

The book is concluded by an unusual chapter by Sutton, who reviews the contribution of his authors and much of the recent literature. He identifies four main themes: When did people first arrive? Where did they come from? Was there multiple or single colonisation? And was there return "pre-European migration" from New Zealand to tropical Polynesia? The authors will not smart too much from his critiques since the tone and intent are more Socratic than a swashbuckling response to his critics.

On the chronology, Sutton's key argument against Anderson's *Antiquity* paper (1991, 65: 767-95) is that it is unduly dependent on southern and central dates. The conclusions of Anderson and McFadgen reported secondarily in this volume both favour a critical positivist radiocarbon view of no settlement before - and fairly widespread settlement soon after - 700 years B.P. In Sutton's view there is a high likelihood of earlier dates in the north, particularly the suite of offshore islands. This makes some intuitive sense, since the islands are a Polynesia writ in small Oceanic space, with many unusual and largely uninvestigated sites. This possibility has been much bruited by Sutton, but his comments here suggest a more moderate posture.

One would still want to invoke the ecological implausibility of people being there a long time without mainland excursions. The result is simply a matter of allowing the empirical chronology to build up. Sutton also introduces rather too briefly, an argument from demographics. He believes founding populations were small, and rates of increase low. Population build-up to that fairly well established in the 18th century would not be possible in the span of the short chronology. This argument depends on some current research on Polynesian rates of increase in the modern era, which seems a doubtful basis on which to judge prehistory.

On the question of origins, the papers on linguistics, artefactual and

physical anthropology, break open a wide range of plausible sources for origins. The linguistic evidence, which conventionally shows the closest affinity between New Zealand Maori and Cook Islands Maori, is now regarded as by no means conclusive. Biggs notes that Cook Islands Maori was probably more conservative in its changes than Tahitian, so that a modern appearance of affinity or lack of affinity is misleading. The other evidence suggests a closer relationship between the Cooks and points west (notably Samoa) rather than points east. The papers by Davidson, Walter and Katayama all confirm the relative lack of affinity with the Cook Islands. For Davidson, the only one to look at positive options, the preferred position of origin in aggregate is a source of settlement somewhere in the great screen of islands (screening for return voyaging) from Tahiti south-east to Pitcairn. Davidson would see the need for more field research in these areas.

On multiple or single colonisations, Sutton looks to the linguistic and the sparse archaeological evidence such as the Tairua pearlshell lure. This argument is surely secondary to the issue of return voyaging, termed here curiously "return migration". This argument depends to a large extent on the current research into and reconstruction or reinvention of traditional voyaging methods, which again confirm the importance of the island screen south-east of Tahiti in gaining access back to East and even Central Polynesia (the latter using the south-east trades after the dangerous crossing from the mid-latitudes of New Zealand).

Finally, a comment on a paper rather marginalised by its characterisation as chronological in Sutton's structure. Through all the debate on chronology in New Zealand, little systematic empirically based attention has been given to settlement process and its implications for ecological exploitation. Mention has been made above to factors such as fertility and natural rates of increase, for example, which almost certainly depend on adequacy of diet in part. The paper by McGlone, Anderson and Holdaway is a provocative entree to this topic which should keep the northern horticultural tribes of archaeologists well served for whipping boys for many years.

Kevin Jones

Lloyd Homer and Phil Moore, *Vanishing Volcanoes. A guide to the landforms and rock formations of Coromandel Peninsula*. Landscape Publications. 1992. 97pp., figs, colour plates, inserts. \$49.95.

Having travelled over the Coromandel Peninsula on numerous occasions I have never failed to be impressed by the landscape, whether it be skyline profiles or beaches and cliffs. One thing in particular that stays in my mind is the intensity of colouring in the road cuttings and the coastal cliffs. This book goes a long way to answering my questions about the whys and hows.

Vanishing Volcanoes outlines the history of the Coromandel Peninsula, from 20 million years ago when the Peninsula was 500 metres higher and much broader. Over time, the effect of erosion, uplift and further explosive activity have shaped the current landscape.

Using very clear text and line drawings the book begins with an explanation of rock types and geological formation processes, in particular the different types of volcanic eruption which made up the Peninsula. Then, focussing on 26 specific localities around the Peninsula, the authors explain the events contributing to the present landscape features. The colour photographs, dominating every page, display Coromandel scenery at its best while the small amount of accompanying text interprets the features present.

The final sections of the book deal with human exploitation of stone, using gold mining at Karangahake as an example, and also structures of stone.

One feature of the book I found particularly appealing was the laminated field guides, inserted inside the rear cover, which can be taken on exploring expeditions. These six cards provide instructions on how to get to particular localities and what to look for. I think this system has great potential for archaeological field guides.

This is a book for the general public, and those with some knowledge, and if the reactions of readers I have spoken to are any indication, it has gone a long way to making people aware of what is around them in a broader sense than the immediate landscape of plants and animals.

Many readers may find one author's name very familiar. Phil Moore is a geologist and long standing member of this Association, and co-author Lloyd Homer is a photographer. This is the second book they have co-authored, the first being a guide to the geological features of the Wairarapa. The book is produced jointly by the Institute of Geological and Nuclear Sciences and Landscape Publications. If Vanishing Volcanoes is an indication of the quality of the regional geological landscape series, I intend to buy further books in the series as they appear.

Louise Furey

T.P. Hutchinson. *Version 2 (History and Archaeology) of Essentials of Statistical Methods*. Rumsby Scientific Publishing, Adelaide. Available from the publishers, PO Box Q355, Q.V.B., Sydney, Australia. \$22.00 (8 or more copies less 35%).

Statistics are a fundamental component of archaeological discourse, but are ignored by many practitioners and misunderstood, misused and abused by many others. In part this may reflect a background in the humanities rather

than scientific disciplines common to many New Zealand archaeologists, and a lack of awareness of the important role that statistical methods can play in accurate and insightful description of data, and the drawing of valid and reliable inferences. In recent years students of archaeology have been encouraged to train in these methods, and the future may see a more statistically-literate archaeological community. For the present what some of us need is a training manual in how to carry out basic statistical operations, while others may prefer a more complete reference book.

This little book may not qualify as the latter, but it succeeds admirably in the former role. The curious title is a reference to its predecessor, *Essentials of Statistical Methods in 41 Pages*, written by Dr Hutchinson as a manual and "memory-jogger" for his students in statistics at the University of Sydney. This revised version extends to 152 pages, mainly due to conversion from A4 to A5 format, but also through inclusion of examples drawn from history and archaeology. The relatively small number and limited scope of these is one of the disappointing features of the book, but there is little difficulty in seeing archaeological applications for the vast majority of what is presented here.

The book begins with methods of data description, covering measures of location, variation, regression and correlation before moving on to discuss probability, inference and hypothesis testing. All the topics are presented in clear, readable prose with a minimum of specialist jargon, reinforced with judiciously chosen examples. The text is divided into short numbered paragraphs, each dealing with a specific point, component of an argument or example, and facilitating easy cross-referencing. A comprehensive index lists all topics by these paragraph numbers.

In content the book has some limitations imposed by its deliberately introductory approach. For instance there is no discussion of the χ^2 statistic, often used by archaeologists. In format the book is rather cramped. A typeface larger than the page size demands, combined with the frequent diagrams and formulae and a lack of adequate spacing between paragraphs makes some pages awkward to read. However these are minor deficiencies in a book which otherwise provides a clear and accessible introduction to statistical methods at a very reasonable price.

Ian Smith