



NEW ZEALAND  
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## ARCHAEOLOGY IN NEW ZEALAND



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## REVIEWS

- A. Bernard Knapp (ed), *Archaeology, Annales, and Ethnohistory*.  
New Directions in Archaeology Series. Cambridge University Press,  
Cambridge. 1992. 160 pp., \$99 Aust.

While most archaeologists have some awareness of the *Annales* school of social and economic history, their actual knowledge of its literature and approaches has remained limited. The publication of this book makes these ideas more accessible, though as Bulliet in his essay points out, most of the articles in this collection refer solely to Braudel to the exclusion of other prominent *Annales* figures.

The most interesting and useful ideas to come from the *Annales* school are those concerning the use of multiple sources of information, as opposed to a history that depends solely on documents, and secondly, the working out of the idea that different processes operate at different spatial and chronological scales. These concepts are discussed in Knapp's introduction, Smith's article on Braudel's temporal rhythms, and in Fletcher's commentary on *Annales* time perspectivism. Smith, in particular, provides a useful outline of Braudel's hierarchy of temporal levels, i.e., the event, which concerns individual actions and is the stuff of traditional history; the conjoncture, which brings in the study of social history in both the intermediate sense of wage or business cycles and also longer term changes in society, technology or demography; and, finally, the longue duree, where structural relationships between humans and the environment come into play. It is a shock to most archaeologists to discover that Braudel's longue duree covers a time period of only 200 to 400 years.

Following Binford, Smith, not entirely successfully, goes on to reformulate Braudel's scheme into the more familiar division between short term events (ethnographic or static time) and long term processes (archaeological or dynamic time). Braudel's scheme reverses conventional archaeological understanding though, for he sees the short time scale in terms of linear events and the longer term as demonstrating cyclical processes. The usefulness of these distinctions is argued by Fletcher who suggests that archaeologists require different hierarchies of explanation to account for processes of differing temporal or spatial scale. Both Fletcher and Bulliet, however, question whether the concepts of the *Annales* school are sufficiently coherent or useful to take archaeology much beyond the position it has already reached. Similarly, Sherratt suggests that while reading the *Annales* classics might enrich an archaeologist's appreciation of working on large scale themes, the approach itself is not directly applicable to archaeology.

The attempts at using these concepts in archaeological studies present

mixed results. Smith's study of rhythms of change in Postclassic Mexico, while a useful comparison of archaeological and ethnohistorical data, is only able to use the concept of temporal rhythms in a preliminary and superficial manner. Bulliet's discussion of Nishapur pottery distribution, and whether it documents the role of elites and factions, is simply good speculative historical reasoning. Knapp comments that the *Annales* approach to social and economic history allocates equal emphasis to processes of continuity and discontinuity, and furthermore, does not privilege different forms of evidence, either archaeological or documentary. He uses these concepts to provide an interesting framework for his consideration of the Middle and Late Bronze Ages in the Levant.

If I were to recommend a single essay in this collection for New Zealand archaeologists to read, then it would be John Moreland's 'Restoring the Dialectic'. Moreland seeks to extend the *Annales* approach by including considerations of the role of material culture. In doing so, he provides an insightful discussion of the potential relationships between archaeology and history, and why the relationship between the two has been neither easy nor satisfactory for either partner, more especially in recent years. There is more, however, for he goes on to use both texts and settlement patterns for early Medieval Central Italy to document a shift from dispersed manorial estates to fortified hilltop towns. This process, termed *incastellamento*, bears some resemblance to changes in the archaeological record of prehistoric New Zealand (Gaetano, are you listening! — this Italian-New Zealand project requires a study trip to Tuscany or Calabria at least).

To conclude, Archaeology, *Annales*, and Ethnohistory is a useful addition to the Cambridge 'New Directions in Archaeology' Series, though its hardcover price (AUD\$99.00) for 150 pages of text will mean that it is more likely to be borrowed rather than purchased.

Harry Allen

Grahame Clark, *Space, time and man: a prehistorian's view*. Cambridge University Press, Cambridge. 1992. 165 pp. \$AUS 80.00 hardbound

*Space, Time and Man* is a general review of humanity's continuing inquiry into the dimensions of physical space and universal time. Clark begins this multidisciplinary journey by establishing a starting point in the study of animal ecology. Here he reviews a number of the better known space-time orientation mechanisms existent in a plethora of insect and animal species. From this point, he differentiates humanity's awareness of space and time from the rest of the animal kingdom based on our awareness that we exist in time and that through cultural communication, human experiences and knowledge are able to transcend the individual experience. In chapters two through five Clark outlines

the progression of humanity's intellectual comprehension of space and time, and explains how this comprehension has expanded from the various utilitarian-mystical universal creation explanations of the ancient and recent past, to the abstract-hypothetical exegesis manifested in the scientific method of the natural sciences.

Although the perspective of the book is not archaeological per se, Clark draws on his own archaeological expertise and provides a very respectable overview of a diversity archaeological locales. This overview encompasses the cultural remains of such peoples as ancient Siberian mammoth hunters, Chinese dynasties, the Greeks, Egyptians, Romans, Vikings and Incas. In addition, Clark integrates ancient historical sources, numerous ethnographic accounts and modern historical accounts, all of which offer evidence for and illustrate the progression of humanity's space-time awareness.

The format of the book is consistent, enjoyable and very easy to follow. It is well illustrated with forty eight drawings, maps, figures and the occasional black and white plate. Following the review of orientation mechanisms in insect and animal species, the book progresses into space and time perceptions in preliterate societies, ancient civilizations and culminates in the chapter on extraterrestrial space and time. Chapter six, *Evolution and world prehistory* is exceptionally well written and reads as a who's who in nineteenth and twentieth century science, including the likes of Darwin, Lyell, Cuvier, Einstein and Hawking. Surprisingly there are very few technical terms and consequently the book can easily be read by anyone with an interest in ancient history and the origins of Western Scientific thought. While the bibliography is relatively complete and aptly diverse, citations in the text are somewhat meagre, thus denying the uninitiated a list of specific sources.

There are a few minor errors, the most obvious being in relation to the Greek mathematician Hipparchus' calculations concerning the distance of the earth to the moon, and Clark's incorrect figure on page 126 (see Moore (1970:86) for the correct figure), which differs by an order of magnitude from the accepted modern value. Another point worth noting is the use of the terms *man* and *mankind* to describe all of humanity. While these terms may have been acceptable in the past for that purpose, they have as of late fallen from fashion. Lastly, albeit relatively minor, there is what appears to be a formatting glitch which results in the left / right page headings being swapped around near the end of the book. Considering that this book is produced by Cambridge University Press and is not cheap either in price or quality, the presence of basic formatting errors is disappointing and does a disservice to the book's content, as well as its author.

Despite being prohibitively expensive (\$AUS 80.00), *Space Time and Man* is a very useful academic tool, especially in respect to introducing new students of anthropology (or any science for that matter) to the concept of variation in space-time comprehension by modern as well as ancient peoples. This task is

ably accomplished and in doing so, Clark provides an easily readable contextual summary on the origins and progression of scientific thought. As Clark demonstrates in this book, it is essential to understand these concepts if one is to contemplate the cultural development of humanity, as well as to continue to ask the larger questions as to our own existence.

Robert Palmer

### References

Moore, P. 1970. *The Atlas of the Universe*. George Philip & Son Limited, London.

Brian Cotterell and Johan Kamminga, *Mechanics of Pre-industrial Technology*. Cambridge University Press, Cambridge. 1992. 325pp., 159 figures and plates, 22 tables.

Archaeologists studying material culture will at some point in their research become interested in the physical properties of materials and the mechanics of manufacture and use. The reasons for this, as noted in chapter one of Cotterell and Kamminga, are varied but may include a wish to understand technological processes and changes, estimate mechanical efficiency or evaluate the physical constraints operating on technological design. Once archaeologists plunge into this world they may quickly find themselves in a foreign land without a friendly face or Berlitz guide in sight. Even students who believe they have an adequate background may soon look for the first bus home, after contemplating apparently simple problems such as an appropriate way of comparing the flaking properties of two stones. It is for this reason that Cotterell (an engineer) and Kamminga (an archaeologist) have teamed up to produce *Mechanics of Pre-industrial Technology* as an attempt to introduce archaeologists and others interested in pre-industrial technology to both basic mechanics, and its application to the study of early technology. They also attempt throughout the volume to provide some of the history of pre-industrial technology. Given the scope of the task they have set themselves it is perhaps not surprising that the book disappoints in various ways.

Chapter one introduces the subject by examining the reasons for studying pre-industrial mechanics while briefly touching on invention and diffusion, cultural evolution, archaeological classification, the history of mechanical science and the methods of mechanical analysis. I would have appreciated more detail on the

study of technological design as this may ultimately form much of the analysis carried out by archaeologists interested in unravelling style, function/use and technological change. Reference to works like that of David Pye (1968) on design would be a useful addition.

Chapter two covers basic mechanics and chapter three the properties of solids and fluids while chapters four and five cover respectively the mechanics of simple machines and structures. I am not competent to review in detail the accuracy of the wealth of formulae which occur in these chapters but much of it had me confused and I suspect many readers would share my confusion. What is needed are more worked examples and especially more practical applications to the study of pre-industrial technology. It is difficult in this type of book to know at what level to address the audience. If the goal is to provide enough background to enable the student of material culture to approach engineering specialist for assistance then perhaps on many occasions too much detail is provided. Certainly the average archaeologist will not be able to carry out mechanical analyses after reading this book and that should not be its aim. In chapter one the authors say they were inspired by the books of J.E. Gordon (1968; 1978) and I highly recommend them as a cure for any headache engendered by these chapters.

Many archaeologists interested in stone tools will recognize Cotterell and Kamminga as the authors of articles on the mechanics of stone fracture and stone tool use. Therefore their coverage of stone tools in chapter six will have a ready audience. The 34 pages of this chapter contain little that was not included in their earlier articles although some information on ground stone, derived primarily from Dickson (1981) is noted in passing from flaking mechanics to use wear. I was disappointed in the lack of practical applications of fracture mechanics to archaeological problems. Some applications, such as the ability to determine the speed of fracture propagation on obsidian flakes, have obvious use in the study of prehistoric technique, but most of the flake characteristics discussed will remain arcane curiosities unless they are related to the practice of archaeological lithic analysis. This chapter will serve as an introduction and source of references for those interested in the mechanics of stone tools.

Chapter seven moves on to the study of projectiles, from spears and spear throwers through the boomerang to bows and arrows and finally catapults. There is much information and many useful references in this chapter but again the practising analyst staring at a possible projectile head is interested in such mundane questions as: 'Is this a spear or arrow head?' 'Why was it hafted this way?' 'Does the projectile head's design influence its function?' Such questions again deal mostly with matters of design and other un-discussed details such as hafting and the properties of hafts, the latter clearly an area of importance for much of prehistory.

Chapter eight deals with land transport including human walking, pack animal and wheeled transport. The transport of large stones and statues naturally occupies a considerable portion of this chapter and Pacific readers will find a section devoted to moving Easter Island statues. The discussion of the quantities of rope required to move large statues makes a seldom considered contribution to the argument.

Chapter nine covers water transport dealing briefly with the history and the fundamental principles of boat design and propulsion by paddle/oar and sail. I would have preferred more on the design of simple items such as paddles. Again this chapter provides a good set of references for the reader who wishes to tackle the subject in depth.

From water transport the authors make a sudden leap to a second from last chapter on musical instruments. Although this is an interesting chapter its sudden appearance when we have heard very little on many other topics of general interest is surprising. The final chapter is a short epilogue calling for more mechanical analysis of material culture.

Although the authors might consider topics such as the mechanical properties of wood, ceramics, bone, and shell, and the design of hafting systems to be in large part beyond their scope, the omission of these topics from this book seriously limits its utility for most archaeologists and other analysts of non-industrial material culture. Although this book is a welcome addition to the field what is still needed is a text which relates mechanics directly to the practical problems of archaeological material culture analysis.

Peter Sheppard

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Nancy J. Pollock, *These Roots Remain. Food Habits in Islands in the Central and Eastern Pacific since Western Contact*. Institute for Polynesian Studies Laie, Hawai'i. 1992. xv, 298 pp. 31 figs, 18 tables. \$US 32.00

In her preface, the author lists three goals: to make available in one place all the material on food use over time in a range of Pacific societies; to pull this

material together for anthropologists as a base for further considerations of the place of food in Pacific societies; and to provide a base on which nutrition educators, agriculturalists and development agents can draw. It soon becomes apparent, however, that the focus is not on "all the material of food use" at all, but very strongly on the starchy foods: taros, yams, breadfruit, sweet potato, cassava, pandanus, bananas and arrowroot. These, in some Pacific islanders' view, are "real food"; animal foods are used in small amounts as accompaniments. Archaeologists who have devoted so much effort to midden analysis or the analysis of prehistoric diet may well wonder whether the book has anything to interest them. Indeed it does, but primarily as a stimulus to think about some of our own ideas and preconceptions, and as a good general read about a topic of great interest to many of us: food and its cultural implications. Social anthropologists may well feel the same. I hope that the book will succeed particularly in its third aim, and the one to which it is apparently most strongly directed: to convey to westerners who are involved in nutrition and development programmes some understanding of how Pacific islanders think about food in all its aspects.

The author makes a strong plea that we try to understand foods, land classification and so on, in terms of the islanders' own "folk classifications" rather than ours. She ranges widely across a number of Polynesian and Micronesian societies (including some Polynesian outliers), drawing on her own extensive fieldwork in many island groups and on historical and recent anthropological literature.

The introduction restates the aims in a variety of ways and briefly reviews anthropological studies of food. The second chapter, on food classification, highlights distinctions made by islanders between edibles and drinkables, real food and accompaniments, things that are eaten at feasts and those eaten at ordinary food events, things that are eaten at food events and things that may be eaten by individuals at any time. These distinctions have implications for the ways things are disposed of for archaeologists to find. The author also notes that things not eaten at food events may make a significant contribution to diet, but may escape nutrition surveys that focus on "meals" in the western sense. The third chapter deals with food choices - what to eat, when to eat it, how much to eat, and reviews preferred foods in different island groups. An interesting point to emerge here is that very little is known about perceptions of taste among Pacific islanders.

Chapter four deals with cooking. It therefore draws most heavily on archaeological research and its deficiencies are most apparent to an archaeological reader. The coverage of archaeological evidence of earth oven cooking and pottery use is patchy; for example, much is made of recent discoveries of pottery in the central and eastern Carolines, but neither archaeological nor ethnographic use of pottery in Yap and Belau is mentioned. The use of pottery in Fiji is seen as exceptional, but the reasons for it are discussed in terms of the residual use of pottery now, rather than the

widespread domestic use at European contact. Just as starchy foods are "real food", "the earth oven produces good food that tastes right and helps to satisfy both physical and spiritual needs". Pottery, apparently, does not. And indeed, this may be so. Further reviews of what pots actually were used for ethnographically and studies of residues on ancient sherds are clearly called for.

Chapter 5 deals with many aspects of food preservation including leaving crops such as yams in the ground. Issues about pit storage and particularly pit storage of fermented breadfruit paste are of particular interest here; the author raises issues about the origin of the practice which again should be susceptible to archaeological analysis.

Subsequent chapters deal with feasts, modes of food production and land tenure, and contemporary markets and stores. During the discussion of modes of production, there is a side-swipe at the archaeological obsession with irrigated taro cultivation; in the overall scheme of Pacific cultivation, the author considers this to be of minor significance.

Chapter 9 offers a disappointingly brief discussion of food and health. The review of food habits over time is very sketchy and (as the reader has come to expect) is concerned only with starchy foods. The author makes the very interesting suggestion that the metabolism and digestive systems of Pacific islanders had adapted to the diet of root and tree starches, and that patterns of use have continued for about 2,000 years. If this were so, what were the effects of a sudden abundance of protein such as the colonists of New Zealand and the Chathams were faced with on a large scale, and other colonists more briefly? How quickly does a human group adapt from taro to moa flesh? More significantly still, what were the relative contributions of starchy plant foods, and land and sea derived animal foods in various Pacific communities? Trace element and isotope studies may at last be able to answer this question. Another interesting point is the Pacific Islanders' adaptation to variable daily intake—a huge amount one day, little or nothing at another, and the effects of a switch to three meals a day and eating by the clock, rather than in response to hunger.

Chapter 10 is a thoughtful discussion of the evaluation of Pacific diets from the point of view of nutrition, obesity, diabetes and other diet-related diseases. Pleas are made for the use of both biological and cultural approaches to these issues; for the recognition that a "rural" diet today is not the same as a "traditional" diet; and for more rigorous consideration of the whole issue of "modernisation" of diet. The conclusions provide a good summary (and there are useful concluding sections to each chapter). An appendix contains a wealth of information on the characteristics of 11 starchy plants, although I am sure that neither of the sources cited actually described semi-subterranean kumara stores in New Zealand as *pataka*.

In some respects this book tries to do too much. There are irritating little lapses of detail because such a wide field is covered. On the other hand there are many fascinating titbits for the same reason. In the earlier chapters, there is a lack of chronological control; the tense changes from present to past without apparent reason, eighteenth century sources are quoted beside recent anthropological studies without examination of change, and the reader is left with an impression of "The Pacific Islander as He Was" which I am sure is not intended. Some of the tables (for instance about preference and uses of starchy foods in various island groups) give no sources. At the same time, however, the book is very readable, well illustrated, full of ideas, and points up a large number of areas where more research is badly needed. And for me it answered a question that has been worrying some of us recently: why are there no studies of Pacific island diets comparable to the classic works on Eskimo groups and other heavy meat eaters? The answer, I think, is because of the emphasis on vegetables. To European observers who put so much value on meat, huge meat eaters are fascinating. Pacific Islanders, after all, seem to have been eating their own version of potatoes and not much else for a very long time. It is to the author's credit that she has made such an interesting story of these roots.

Janet Davidson