

Archaeological classic

The Earlier Stone Age Settlement of Scandinavia. By Grahame Clark. Pp. xxv+282. (Cambridge University: London, January 1975.) £7.50; \$22.50.

THE appearance of this book is a major archaeological event. As the list of 'Works cited in the text' shows, Professor Clark has devoted much of his academic life to the study of the economic basis of Prehistoric Europe, and in particular the material from Scandinavia. This book typifies his distinctive approach, and is essentially a new version of *The Mesolithic Settlement of Northern Europe* published in 1936. It is, we are told, to be followed by a second volume on aspects of the Later Stone Age. As far as the present volume is concerned, Clark's frank admission that "when a book is thirty-eight years old . . . it is unlikely to be a useful vehicle for new information" has meant that the 1936 book has been left behind, and we now have a new book on new lines. It would be presumptuous for a regional rather than period specialist to assess in detail the academic quality of the work, but it is perfectly clear that Professor Clark's self-imposed task of a new synthesis has provided us with a modern classic of archaeological literature.

The book begins with discussions of 'Some basic concepts' such as ecosystems, subsistence and seasonality, and so forth. It leads naturally to the theme of 'Habitat and Biome', and, although a 'Chronological framework' appears at the beginning of each of the following four chapters, essentially they are seen from that economic viewpoint which Professor Clark has championed. Instead of chapter headings such as 'The Tanged-Point Cultures' and 'The Axe Cultures of the Lowland Forest Area', we now have four chapters on the 'Late-glacial Settlement of Denmark/Scania', 'Early Post-glacial Settlement in South Scandinavia', 'Atlantic settlement in south Scandinavia', and 'The older Stone Age Colonisation of the Fenno-Scandian Shield'. Instead of the chapter on 'The Art of the Maglemose Culture', 'psychic needs' (that is, disposal of the dead, personal adornment, and symbolic art) now make their appearance in appropriate places in all four chapters, along with technology and subsistence. The 'General Summary and Retrospect' has disappeared, and, although one might sometimes wish for the threads to be drawn together more, in fact this simply acts as an incentive to re-read the sections containing the basic data.

This work is both erudite and clear, likely to become a standard text immediately, and remain so for as long as the original book has been one. Students and specialists alike will be grateful for the five lists of objects and faunal assemblages printed as appendices, and also the seventeen pages of bibliographical references at the end. Nineteen tables and sixteen maps serve to present effectively in visual terms much vital information, and there are sixty-three figures in the text. It is slightly disconcerting to find considerable variation from one drawing to the next, and sometimes the reproduction leaves something to be desired. The plates also inform the text adequately, although here, more obviously in one or two cases the reproductions could certainly be better. In general, however, the book is well-produced, and the Syndics of the Cambridge University Press are to be congratulated on persuading Professor Clark to traverse this ground again. Volume two is eagerly awaited.

C. D. Morris

Mr Morris is a lecturer in the Department of Archaeology at the University of Durham, UK.

Global aspects of primary production

Primary Productivity of the Biosphere. (Ecological Studies: Analysis and Synthesis, Vol. 14.) Edited by Helmut Lieth and Robert H. Whittaker. Pp. vi+339. (Springer: London and New York; Chapman and Hall: London, February 1976.) £14.50.

THE International Biological Program (IBP) has generated a wealth of publications concerning primary productivity, many of which are scattered through the literature. Several attempts have been made over the past few years to collate information, particularly that concerning the methodology involved in measuring primary production. These have taken the form of handbooks relating to specific vegetation types and symposium volumes of collected papers. The time is evidently ripe for the publication of a general review of the state of knowledge concerning global aspects of primary production so that some of the scattered data derived from IBP projects can be made easily available to students and other interested parties. The book under review here attempts just this task.

The book falls into four sections, a historical introduction, methods used in production measurement (almost half of the book), an assessment of the available information derived from production studies, and some thoughts on further research developments stemming from these data. The third section is likely to be the most useful to a wide spectrum of ecologists, since a very large volume of literature is reviewed and data is tabulated in a form which enables easy reference. Marine, freshwater and terrestrial biomes are covered and Helmut Lieth explains at some length his widely used models of global productivity patterns.

The authors are undoubtedly right in devoting a large section of the book to a discussion of methods. The estimation of productivity, whatever method is used, involves a series of successive estimations and the reliability of the final figures quoted can only be assessed if the nature of these approximations is appreciated. This reasoning must lie behind the presentation of these methods, for they are dealt with too briefly to be of value as laboratory or field guides to productivity measurements. More detailed accounts are easily available elsewhere, with the possible exception of the regional assessment of primary productivity and the compilation of productivity maps.

Many of the previously published papers and symposium volumes on the subject of primary productivity leave one with the impression that the measurement of this process is an end in itself. Lieth and Whittaker's book goes beyond this, and constantly draws attention to the importance of the measurements presented in relation to broader issues in theoretical ecology and in the study of man's pressures on the environment. These themes, which underlie the whole book finally emerge in an overt manner in the final section on the utilisation of the knowledge of primary production. Here such issues as the relationship between productivity and species diversity and the carrying capacity of the world for man are discussed.

The book sets out to synthesise modern knowledge and to make clear the implications of this knowledge as far as man and the biosphere are concerned. It succeeds admirably in these aims and the enthusiasm of the writers, which emerges from between the lines, will undoubtedly attract many students into this area of ecology.

Peter D. Moore

Peter Moore is a lecturer in the Department of Plant Science at King's College, University of London, UK.