

I

Some basic concepts

It is important at the outset to emphasise that the basic theme of this book, the colonisation and exploitation of Scandinavia by prehistoric man, is one about which extremely little is known. Paradoxically it is only when the initial stages in archaeological research have been carried out as well as they have been in Scandinavia that it becomes easier to see how much remains to be learned about the proper subject of concern, the social life of prehistoric man. It follows that a book of this kind ought to concern itself as much with defining areas of ignorance as with displaying what is known, since it is only by giving direction to research that we can hope to learn more about the way in which the communities represented in the archaeological record in fact lived.

I have already hinted at the difficulty of the subject, a difficulty of which I had little idea when as a younger man I addressed myself to the early settlement of northern Europe (Clark 1936). One reason why we know so little is that by comparison with the large and disciplined resources brought to bear on the natural sciences those directed to the early history of man have been relatively puny and haphazard. Yet no increase in material means can alter the difficulties inherent in the subject. These arise at bottom from the number and complexity of the variables and contingencies of which account needs to be taken when studying human affairs, more especially when these have to be studied indirectly through the medium of vestigial material data. By comparison the study of other animals, of plants or of rocks is of an altogether lower level of complexity, a warning if one were needed that methods and approaches adequate for the natural sciences are seldom appropriate to prehistory except for answering specific kinds of question. I nevertheless remain convinced, as I have been for many years (since Clark 1949, 188), that to extract the most from archaeological data we need to view them in both ecological and social terms.

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The ecological approach. Both archaeology and anthropology have had to free themselves from dogmatic formulations that stemmed from evolutionary ideas prematurely applied before they could establish themselves as serious disciplines. Social anthropology could only emerge as an effective study after its exponents had repudiated an outlook dominated at bottom by a crude concept of unilinear evolution and an ineffable sense of superiority. When A. C. Haddon took his team to the Torres Straits in 1898 he made a clean break with the past by treating the indigenous peoples of New Guinea as worthy of study in their own right rather than as fossils of a bygone state of society. As H. J. Fleure so admirably phrased it in his obituary notice for the Royal Society in 1940 (453), Haddon 'was too sagacious to fall into the ancient error which supposed that all humanity was struggling up different rungs of one and the same ladder'. The mere act of leaving his study and going out to record the customs and technology of remote non-literate people in a particular region was all the more striking in that James Frazer was still ensconced in his study enlarging *The Golden Bough* with twigs and branches plucked from a thousand contexts in a wide range of cultures active at many periods of time. From one point of view Haddon's example pointed the way all the more effectively that he was content to act without striking a self-conscious theoretical posture. Yet a general advance in fact waited on a more analytical approach and specifically on the formulation of theories bearing on how primitive societies functioned. The publication in 1922 of the monographs of A. Radcliffe-Brown on *The Andaman Islanders* and by B. Malinowski on *Argonauts of the Pacific* marked an important advance precisely because each concentrated on trying to discover how primitive societies worked and how they were structured to perform the tasks which had to be performed if life was to be maintained and succeeding generations raised. Anthropologists in fact were beginning to view human societies as functioning systems in much the same way as under the inspiration of A. G. Tansley (1911) botanists had been learning to study plants in ecological terms as components of communities occupying specific habitats in association and competition with other forms of life. And there was more to it than mere analogy. The next great break-through in the study of primitive societies came when social systems were analysed in the context of the ecosystems in which they operated, to which they were adjusted and of which in a certain sense they even formed a part. The pioneer studies by D. F. Thomson (1939) on

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the Wik-Monkan people of Cape York peninsula and by E. Evans-Pritchard (1940) on the Nuer of the Upper Nile were concerned among other things to trace the effect of seasonal rhythms on economic and social life. The effect of these and the many studies stimulated by them has been to bring out the manner in which social systems and ways of life were so to say intermeshed with natural systems.

Archaeologists have for some time been learning to study their data in similar fashion. Instead of concentrating on a restricted range of data and using this exclusively as a means of defining periods and cultural assemblages, archaeologists have widened the scope of their evidence. Success in further expanding the evidential base must depend in the first instance on concentrating excavation on sites where the maximum range of primary data may be expected to survive, that is sites retaining organic materials, the materials on which men lived and on which in primitive society they depend very largely for their equipment. Aims and strategies go together. So long as archaeologists concentrated, as in the initial stages of research in any area they had to, on defining cultural assemblages, their genesis, contacts and chronology, there was even an advantage in concentrating on limited categories of the least perishable materials like flint, stone, metal and fired clay, since these could be relied upon to survive in most circumstances. On the other hand, once it was admitted that the time had come to discover how people in fact lived, then it followed that extra efforts had to be made to find and excavate sites where organic materials were most likely to survive. The very possibility of bioarchaeology, the archaeology concerned first and foremost with life, depends on obtaining the most adequate samples of these materials from archaeological levels. It was for instance the wealth of organic data contained in the settlement mounds (*terpen*) of north Holland, data ranging from farmsteads to food refuse, that led van Giffen to want to explore them systematically; and it was this concept that underlay his creation of the Biological-Archaeological Institute at Groningen. To take an example from my own experience the excavations at Star Carr (1949–51) were undertaken for the express purpose of recovering the organic components of an archaeological assemblage previously represented by lithic assemblages and isolated objects of antler or bone: recovery of animal and plant remains made it possible not merely to obtain a much fuller picture of the material equipment of a Maglemosian group, but also to gain some

Cambridge University Press

978-0-521-10767-9 - The Earlier Stone Age Settlement of Scandinavia

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insight into its scale, its basis of subsistence and its seasonal round (Clark *et al.* 1954; Clark 1972a).

When I wrote *Prehistoric Europe: the economic basis* I did so partly as an act of propaganda to illustrate how much information bearing on economic life during prehistoric times already existed and by implication how rich a harvest might be expected if research could be turned in this direction. Economic life was chosen partly because evidence for this, however unsystematic, was nevertheless most ready to hand, but partly also for a theoretical reason: I was interested in the conjunction of human society and natural environment implicit in the fact that men could live only by utilising their habitat and eating components of the biome. The economy practised by a prehistoric community had to represent 'a more or less perfect adjustment between social appetites, technical capacity and organisation' and the available natural resources (Clark 1952, 7). The concern was made explicit again in 'The Economic Approach to Prehistory' in which I defined my main theme as 'the interplay between culture, habitat and biome' (Clark 1953, 218).

In both these publications I was at pains to emphasise three closely related points: first that the economic arrangements made by prehistoric communities were not conditioned by but rather were adjusted to available natural resources; second that the nature of this adjustment underwent major changes in time, changes which served to define the periodisation of conventional archaeology; and thirdly, if not perhaps so explicitly, that economic life cannot be understood out of its social context. My approach was broadly ecological, but I was careful to emphasise the difference in the level of complexity of ecosystems that comprehended human societies and those that did not.

Uniqueness of human society. The study of animal behaviour is capable of yielding valuable insights into human behaviour only in so far as the basic distinction between them is kept in mind. Indeed, as anthropologists have recently been emphasising, the main result of applying the principles of animal behaviour to human societies is to highlight their differences. In a recent reconsideration of the results of the Star Carr investigation I made the point explicitly that models of thought 'appropriate to biology are insufficiently sophisticated to cope without qualification with all the complexities of human society' (Clark 1972a, 15) and pointed to the qualitative difference that exists between 'communities whose members subscribed to socially transmitted and

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consciously held values' and those of animals whose behaviour was not so conditioned. Again in *Aspects of Prehistory* (Clark 1970, 145) I emphasised that one can only usefully study human behaviour by remembering that in the course of the last two or three million years man has emerged as a very special kind of animal, an animal whose 'most basic biological functions – such as eating, sheltering, pairing and breeding, fighting and dying – are performed in idioms acquired by belonging to historically and locally defined cultural groups', groups 'whose patterns of behaviour are conditioned by particular sets of values'. It follows that in considering the environment of early man one needs to take account of the web of social, cultural and historical relations that bind societies together and help men to conform to patterns, maintain their identity and survive. In more theoretical terms one could say that bioarchaeology needs to be studied within the framework of social archaeology: the former is concerned with the process by which human societies acquire what they need to sustain life, whereas social archaeology is concerned with the kind of life chosen by communities within the constraints imposed by their environments and their socio-cultural inheritances. If in practice most of this book is concerned with the former, this is due not to choice but to the exigencies of the surviving data. Where evidence of cultural patterning can be discerned, the opportunity has been taken to use this as a means of defining social territories, a level in the hierarchy of territory which can hardly be ignored without distorting the outcome of bioarchaeological research.

The case for an optimistic archaeology. The question may well be asked whether anthropological models have any practical relevance for prehistorians: whereas anthropologists are able to observe their subjects directly, and even to cross-examine them, prehistoric archaeologists are confronted by a more or less vestigial record of circumstantial clues. This is the point at which archaeologists have to commit themselves. They can be pessimists and carry on with arranging their museum cases; or they can be optimists and seek to pursue their clues in quest of early man. I would not be writing this book if I were not an optimist.

In the final analysis a choice of this kind is an act of faith which does not need to be rationalised any more than an artist has to justify by argument the precise thickness of a line or a poet the choice of a particular word or, come to that, a scientist the choice of his area of

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commitment. One chooses because one is excited. Yet, the optimistic archaeologist, who aspires to find more than pretty patterns personal to his own vision or that of a small coterie (even if mediated to a *com-
plaisant public*), can if pressed make a reasoned case for his choice.

At first sight the confrontation between conventional displays of archaeological data and the anthropologists' vision of a social organisation manipulating the resources of its environment to satisfy its physical needs is enough to confirm the pessimistic view: the disparity may appear so great that there is nothing more for the archaeologist to do than continue to play his games, speeded up perhaps by computers but in essence unproductive and essentially frivolous. Yet the disparity is more apparent than real, since it rests on the fallacy that archaeologists are condemned for the rest of time to play with pots and stones. In reality the data available for reconstructing prehistory are capable of almost indefinite amplification and extension, once one breaks out of the closed circle described by Oscar Montelius and his successors. So long as archaeological activity was held to be an end in itself, there was a positive inducement to restrict the pieces used in what had become a stereotyped game. But the converse is equally true. One of the most striking developments of recent decades has consisted precisely in this, that changes in the objectives of research have resulted not so much in the multiplication of conventional data as in a widening of the range of information. This has been brought about through purposive changes in the direction of research, including the selection of sites chosen for excavation and the manner in which their investigation is planned, in a radical widening in the scope of the data held to be relevant to archaeology, in the standard of the sampling techniques by which they were collected and in the quality of the briefing given to the experts invited to scrutinise them in the laboratory. Perhaps the most powerful argument in support of the optimistic view lies precisely in the elasticity of the data. The virtue of setting out to view the admittedly contemptible information available to many fields of archaeology in relation to hypothetical systems is surely that this is the best way not merely of appreciating but of remedying its deficiencies. The injunction 'ask and it shall be given' applies to archaeology as much as to any other field, just as it is no less true that if no questions are asked, none are likely to be answered. What archaeology needs and what it is now getting on an increasing scale is questions framed to elicit information about working systems. One may sum up so far by saying that it is

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only by viewing the materials available to conventional archaeology as vestigial relics of once living communities of men that we can appreciate fully how pitifully inadequate they are or visualise the means that have to be taken if they are to tell their story.

A second point to be made is distinct from, but closely linked with this, namely that it is not merely possible to extend very greatly the range of data available to archaeology; it is at the same time possible to extract much more information by considering archaeological data as clues to the functioning of systems. So long as archaeological evidence was regarded simply as a means of defining groups or periods, it follows that this was the limit of the information it was capable of giving. Conventional archaeology was limited by its conventions. It was a closed and hopeless circle and those trapped in it were and still are understandably pessimistic about what could or can be learned about the prehistoric past. So soon as archaeological evidence is viewed in relation to life and living systems, its potentialities are transformed. The contrast may be illustrated in a parallel field by considering the fossil bones of extinct animals. Of course these are vestigial, even if by exploiting opportunities like those offered by the frozen mammoths of Beresovka in Siberia or the salted rhinoceros of Starunia the soft parts can sometimes be recovered; but this does not mean that palaeontologists stop short at using them as zone fossils, still less of making typologies according to shape, size or colour. The converse is true that so soon as they are regarded as parts of animals that once lived, so soon as they are regarded in functional terms, then the mere fact that they are vestigial does not seemingly detract from their value as clues, any more than exponents of forensic medicine are deterred by the smallness or restricted range of their samples. The fossils, instead of being merely collected and sorted as small boys do, can be studied intelligently as components of organisms and, again, the geological deposits in which they are found, together with their contained clues to former climate, geography, plant and animal life, need no longer be regarded merely from a stratigraphical point of view, but also as sources of information of the highest ecological interest. The pessimistic palaeontologist is a contradiction in terms: if a man feels that way when confronted by fossils he had much better turn to classifying pots or sorting stamps, both blameless activities and the former even of potential value for defining cultural preferences and relations and establishing local sequences.

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Once it is accepted that over and beyond the necessary task of building chronological frameworks and defining communities a reasonable prospect exists in theory of being able to discover how people lived and why and how development occurred in the course of time, the question next arises where to begin. If the fossils of former states of society acquire their meaning by being considered as components of systems that once functioned as living social organisms, it seems to follow that we ought to concentrate first on bioarchaeology, the archaeology of how men occupied territories and maintained life. In doing so, we do well to give weight to a point already touched upon, namely that men have psychic needs that arise from living in a type of society distinct from those prevailing at the animal level from which in the course of evolution they have emerged. Although therefore for practical reasons we may choose to begin by concentrating primarily on activities common to all animals – that is the occupation of territory and the extraction from it of food sufficient to ensure continuity – it will not be overlooked that the societies dealt with by archaeologists are human and need throughout to be considered at the social and ideological as well as at the merely biological level, even when attention is being concentrated on the most mundane levels of existence. Although as a semantic or even conceptual device we may choose to isolate some particular aspect of life for special study, the fact remains that every item of archaeological data, whether relating to subsistence, technology, shelter, transport, social emulation, redistribution or cult, forms part of a working system of which each component stands in some relationship, usually reciprocal, to every other.

Material culture. The very existence of the material equipment that comprises the basic data of archaeology is a sufficiently palpable indication of the uniqueness of the human phenomenon. The evolutionary hypothesis implies that material culture arose to supplement and improve the functioning of objects grasped and manipulated by primates in general, but its elaboration and above all its patterning reflects a type of social organisation and a means of articulate communication peculiar to the type of primate we designate as human. In any study of the human settlement of a region analysis of the way in which material equipment was employed in the quest for food and shelter and for assisting movement must necessarily play a leading part. On the other hand it is important not to fall into the error of imagining that artifacts

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were merely extensions of men's limbs – they were also projections of his mind and embodiments of his history and owe much of their value for archaeology to this very fact.

Nevertheless, when considering the economic basis, tools and other gear can usefully be considered in the first instance in their role as aids to living, as in themselves incorporating raw materials and as designed to assist the communities employing them in the task of manipulating the environment to ensure survival. We can consider them on the one hand as embodying knowledge and skill in respect of the means employed in their own production and on the other as the actual means by which human communities exerted their will on their environment.

With regard to the first point it may be observed that disproportionate attention has in the past been paid to the typology of finished forms as compared with that given to the methods by which these were produced. This problem stems, like so many in archaeology, from a too narrow definition of aims. So long as analysis of form and style as a basis for building systems in the manner of Montelius and his followers was considered to constitute the essence of archaeology, the only relevant material comprised finished forms made in a restricted range of materials. From this it followed that generations of excavators let loose by an unkind fate on monuments in hitherto untouched condition and on settlement sites, as these were exposed in such large numbers during the great phase of land drainage and the construction of communications, were from a modern point of view scandalously selective in what they retained and studied. As a result the great archaeological museums have something of the character of mausolea, monuments to lost opportunities. The destruction of evidence by accredited archaeologists at a time when avenues for research opened up in all directions and excavation was still inexpensive is indeed terrible to contemplate. The existing work recently carried out on the techniques of production of artifacts in a wide range of materials including antler and bone, flint, stone and bronze, and the beginnings of similar studies on the shaping and ornamentation of pottery has only been made possible as a result of excavators retaining either total assemblages or at least adequate samples of the total range of archaeological data. The converse also follows that as excavators have become conscious of the value of what hitherto had cheerfully been discarded and of the kind of questions that could be answered by its study their standards of recovery and retention have improved beyond measure (Higgs 1972, Sect. II, nos. 1, 2).

Cambridge University Press

978-0-521-10767-9 - The Earlier Stone Age Settlement of Scandinavia

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On the question of the function of artifacts, advances are being made on three fronts: the recovery of implements or weapons in their hafts, analysis of the associations of artifacts, as for example of weapons or catching gear with bones of mammals or fish, and study of traces of wear and use on working edges (Semenov 1964). Success in the first two of these depends first and foremost in recovering artifacts under conditions that permit the survival of organic substances and this in turn involves making the most of chance finds and above all directing excavation to sites best calculated to yield these materials. Scandinavia as a whole is well provided with lakes left behind by the contracting ice sheets, the margins of which were particularly favoured by early man because they offered the possibility of exploiting the wide range of environmental resources; and in Denmark and south Sweden the chemistry of the waterlogged deposits forming the bogs that incorporate traces of former lake-side settlements favours the survival of a wide range of organic substances, including antler, bone, wood, bark and resin. For this reason there is an unusual wealth of evidence relating for example to the use of the bow and the methods of mounting the bone and flint armatures of arrows, to skis and sledges, to tread-traps and to the nets and traps used in fishing. Deposits of this kind are not less prolific in yielding animal bones in association with hunting and fishing gear, and in this respect silts deposited in the Baltic and its main gulfs when water-levels were much higher than today are especially rich in evidence for seal-hunting and the gear used in that activity. On the other hand Scandinavia offers no particular facilities for investigating traces of use on artifacts or conducting practical experiments with specimens. Important work has nevertheless been done and special mention may be made of Professor Moberg's experiments (C. A. Moberg 1955, 111 ff.) with Rovaniemi stone 'picks', checked by microscopic examination of working edges, or, again, of the experiments in tree-felling carried out by the National Museum of Copenhagen with polished flint axes.

Ecosystems. Since a principal, though not by any means the only, function of material equipment is to secure and utilise natural resources, it seems important next to say something of the relationship existing between human communities and the ecosystems in which they subsist. How do systems work that include human societies? This is where the findings of ecologically minded social anthropologists are so