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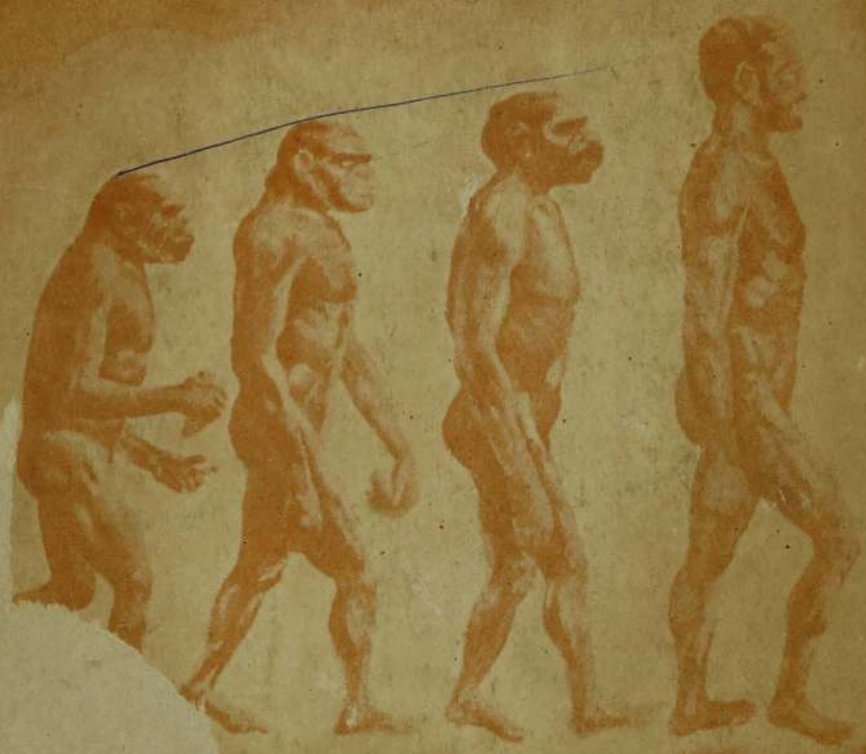

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CEYLON

முக்கிய அறிவித்தல்

உடனுதவும் பகுதி

பொது சன நூலகம் யாழ்ப்பாணம்

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CEYLON NATIONAL MUSEUMS HANDBOOK SERIES

2

PREHISTORIC ARCHAEOLOGY IN CEYLON

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PREFACE

THIS handbook has been prepared to provide an introduction to Prehistoric Archaeology with special reference to Ceylon. It attempts to acquaint the reader with the theory, the methods and also with the background to the study of prehistoric archaeology in Ceyon. It also points out some of the problems arising out of the excavations that have been carried out so far.

This booklet is based on an unpublished study of the prehistory of Ceylon which was completed some years ago. The documentation more appropriate in such work has been omitted in the present publication.

S. P. F. SENARATNE.

8th August, 1969.

CHAPTER I

Introduction

MOST archaeologists think of history as the study of the past through written records and in this sense the historic period goes back to the point at which writing and written records begin. Prehistory is thus the period before the advent of writing. In many countries of Western Europe the prehistoric period ends with the coming of the Romans, while in America the European colonization brings this period to a close. In Ceylon it is usually taken that history begins with the supposed arrival of Vijaya and his retinue.

The art of writing develops slowly, and in the early years records are seldom comprehensive. Thus, in most countries, there is a period for which some records exist, but which by themselves provide only an inadequate basis for the reconstruction of life during those times. This transitional phase is referred to as the protohistoric period.

Now where does archaeology come in ? It is primarily a technique for the reconstruction of the past through material remains. These remains are of various kinds—weapons, tools, utensils, pottery, the ruins and foundations of buildings, bones, forms of transport, and so on. Through time most of this has got covered by earth and is buried. Excavation is therefore necessary and this is the foundation of archaeology.

It will be clear that archaeology is a technique which can be used for the study of any period of the past. In the study of the historic period archaeology supplements written records and facts are obtained through both methods. For the prehistoric period however, as there are no written records, archaeology is the sole tool. It is here that it has its most sharpened use ; field and technique are together termed prehistoric archaeology.

In terms of these definitions the prehistoric period in Ceylon ends, and the historic period begins, with the supposed arrival of Vijaya. However, as I shall explain later the period from Vijaya to Devanampiyatissa—the first three hundred years of the historic period—cannot really be regarded as history. Incontrovertible evidence is minimal, almost non-existent. This period, therefore, can at best be regarded as protohistoric and history begins in effect with the reign of Devanampiyatissa. Our concern in this discussion is with both periods, the prehistoric and the protohistoric, that is from the earliest beginnings of life and society in this country right up to 250 B.C.

The question may be asked at this stage as to what part the legendary stories about Ravana, the Yakkhas and the Nagas play in a scientific study of prehistory. Practically nothing, is the answer. Towards the end of this essay I shall explain the very limited way in which legend can be used as evidence and the small significance that it has for the study of a prehistoric period.

So much then for the field with which we are concerned. As a preliminary let us glance very briefly at the development of this subject in Ceylon. It was as long ago as the 1880's that Pole, a planter, and Green, the Government Entomologist, interested themselves in the study of prehistory. They collected stone implements in their leisure hours from all over the country, but their finds were treated with scepticism ; scholars of the time did not agree with their contention that these implements were the work of early man in Ceylon. It was not until two scientists from Germany, the Sarasin brothers, pronounced them authentic, that it was accepted that people lived here during prehistoric times.

Seligman (better known for his study of the Veddhas) confirmed these views and thereafter there was little dispute about the field of study. This was in the first decade of this century ; during the next few years Hartley and Wayland both used their leisure for the collection of stone artifacts and drew various inferences from them.

Hartley followed Seligman in attempting to give the study the foundation of excavation, while Wayland was anxious to provide the very necessary geological basis.

For many years after this, almost until 1940, no work was done on the prehistory of Ceylon either by professionals or by amateurs. The work done since then has been by Deraniyagala and the Department of National Museums except for a single investigation by the Noones. However, in the Museum, this study has functioned as a side interest and not as a serious discipline, the rigours of which demand that its staff should possess the necessary skills.

It need hardly be stressed that the picture revealed by this outline is one of neglect. Students of the early history of Ceylon have shown little interest in pushing history further back and the study has received very limited recognition at the universities. The numerous indications which the Indian data now provides have not been explored and the knowledge of the period that we possess at the moment is skeletal in nature.

There are several reasons for this neglect but I want to pick out two of them for special emphasis. In recent times the Vijayan story has come to be regarded more and more as a record of fact. In this narrative we seem to have as precise and account of our origins as we desire. The implication is that those who inhabited this country at the time of this supposed migration made little contribution to the culture that subsequently emerged. Prehistory is thus put out of court. But is the Vijayan story a record of fact ? Can we dismiss the importance of what may be termed the indigenous strand on the basis of this story ? It is doubtful whether this migration, if it did take place, was any different to the Roman colonization of Britain. The fact of this colonization does not prevent British archaeologists, from evaluating the other strands besides the Roman, which went into the making of their culture. They certainly do not think that the roots of that culture must be sought in another land. In Ceylon the situation is different. If

we push history further back we are taken eventually to North India, because we take the Vijayan story at its face value. The proof of all this is the way in which the later prehistoric periods have been completely neglected by historians.

Some blame for this situation of neglect must be laid at the door of those who have worked in this field. Reports and accounts of finds have been needlessly abstruse, almost unreadable. There has been little attempt either to popularise the limited knowledge that was avilable, or to link history and prehistory as parts of one process. This has lost for the subject the patronage that similar pursuits have received in recent times. It is a support which prehistoric archaeology cannot do without, especially when one considers the extent to which chance discoveries by laymen have figured in the development of the subject in other lands.

If the subject is to get the public support that it needs it must state its position with some clarity. While this need not be done in great detail here, it is as well to consider why prehistoric archaeology is studied. There is of course no technological or economic benefit to be derived from it. It is studied in the way that history is studied, because a knowledge of the past is important. In a general sense, such studies serve to foster and strengthen notions of identity and act therefore as forces of integration.

This general argument may be accepted, but it may nevertheless be said that history is enough to determine how we have become what we are. This may be true in terms of current trends and movements, but it can hardly be maintained at the fundamental, almost philosophical level of perspective. Let me explain this with two examples. Throughout prehistoric times Britain was the end-point of several transcontinental migrations and became therefore a region in which different ethnic elements had to live together. It is not too fanciful to suggest that this fact has significance for the understanding of present day English society and culture. In this sense prehistory extends the limited perspectives of history.

So it is in India. Until prehistory was studied in a systematic way Indian history was regarded as beginning with the coming of the Aryans and the consequent southward migration of the Dravidians. Today the peopling of India is seen as a much more complex process. Migrations took place in several directions. Adjustment and adaptation were necessary conditions of continuity and survival. So it is not surprising to find in India a social institution which is well fitted to deal with the problems of absorption and assmilation-the institution of caste.

The point that must be made is a simple one. If the past is important in the sense of perspective and not only in the limited sense of explaining current events in terms of their immediate antecedents, then the data provided by prehistory is important.

CHAPTER 2

An Outline of Prehistoric Archaeology

IF we are to leave these preliminary considerations and attempt to understand and evaluate the work done so far on the prehistory of Ceylon we must know something about prehistoric archaeology, that is, about the subject itself. How has it developed into a serious study ? What facts does it discover ? What methods does it use ? Without a background of this sort it will be difficult to make any critical assessment or to give the subject the informed support that it so greatly needs at the present time.

As Dr. G. E. Daniel, the British Archaeologist, has remarked prehistoric archaeology is one discipline that cannot be traced back to the Greeks. It is primarily a 19th century phenomenon which had its birth and attained its maturity in Western Europe. It had much in common with the sciences which emerged at this time but its roots went back further. After the rennaissance it was the practice for people of culture and good taste to collect classical antiquities. A flourishing trade probably catered to this desire for social distinction. A century or so later the liberally educated classes grew in number, nationalism gained in strength, and classical antiquities gradually gave way to local ones.

The activities of antiquarians in Britain also furthered this new interest in local antiquities. Items of topographical interest were assiduously noted by them ; place names, the history of towns and villages and the study of genealogies were all part of their interest.

These trends—the collector's habit and the study of local traditions and history were such, that by the early decades of the 19th century, a considerable volume of antiquities had been amassed.

There were objects of stone, clay and metal in addition to quantities of bone. Yet little was known of the ages of these objects and of the people who produced them. They were vaguely labelled as " pre-Roman ". According to the views of the time they could not be particularly old because the earth was thought to have been created around the beginning of the 4th millenium B.C. (on Ussher's calculation in 4004 B.C.). However, these views were not the only ones which were current. They were contested particularly by those people who had found stone tools in association with the remains of extinct animals and who thought, therefore, that the tools were very old.

During the middle years of the last century three events, by extending the horizons of the subject, established it firmly as a serious discipline. The first of these was the three-age system for the classification of antiquities put forward by Thomssen. This was primarily a device for the arrangement of the collections in his charge at the museum in Copenhagen. Thomssen's theory was that early man's development could be divided into three phases- the first in which he used tools of stone, the second in which these gave way to tools of copper and finally the age of iron. He did not suggest that there was a gradual evolution from one stage to another, but thought of his scheme mainly from a taxonomic point of view. In fact he thought it likely that changes in tool types were brought about more by invasion and migration than by evolution. He as well as others recognized that the phases could very easily have overlapped one another. The system as a whole was however regarded as a very successful way of dealing with prehistoric finds and museums in Europe soon began to adopt Thomssen's system. Exact dates for the duration of each of these periods could not be given, but despite this, the advantages of the scheme were considerable.

Sir Charles Lyell published his book on geology in 1833. We have just seen that at this time the earth was thought to have been created in 4004 B.C. Among the geologists the catastrophic

theory held the stage and this was supported by those who indulged in biblical interpretations of the subject. Lyell argued that the earth had not been formed as a result of catastrophic action, but that it was the result of geological processes which were always prevalent. After protracted controversy Leyll won through and the antiquity of the earth was pushed back far beyond 4004 B.C.

Finally there was Darwin. Although his thesis started a serious controversy which spread very soon outside the circle of scientists it was hardly concerned with the age of the earth—for by then, Lyell's work had done its job. What Darwin did with his theory was to give the final blow to the views of the catastrophists by arguing for a long period of human evolution.

The new position was this ; the earth as well as man had a long development. There was now no necessity to think of prehistoric antiquities as having been produced during a very short period of time. (Earlier they were thought to have been produced between the time of the creation of the earth and the time that history began in Western Europe with the coming of the Romans—a period of four millenia). The data of prehistory now began to be interpreted freely in terms of these enlarged perspectives of time. Claims of age and antiquity which had previously been dismissed—particularly those relating to the discoveries of artifiacts along with the bones of extinct animals—now began to be accepted. The idea took root that man's technological and cultural evolution was a long process which had to be determined within the framework of these new views.

What happened now during the last three or four decades of the 19th century ? Perhaps the greatest stimulus to archaeological activity came from those advances in geology which enabled that subject to date the strata of which the earth is composed. By extension the objects which were found in each of these layers were given the same age as the layer itself and a system of archaeological dating took shape. While the dating of these antiquities

in terms of absolute years could not always be managed, by placing them in a chronological sequence, the dating of the objects relative to each other became possible. This opened up new lines of investigation. Worssae demonstrated that Thomssen's three age system was not merely a taxonomic device, but, that in a broad sense it was a development which actually took place. This was demonstrated through recourse to the levels in which the objects were found. Through stratigraphical means it was shown that the stone age could be divided into two periods—an old stone age (the palaeolithic) and a new stone age (the neolithic). In addition to stratification changes in types of stone tools and in methods of manufacture indicated such a division.

A Frenchman named Lartet put forward an elaborate division of the Stone Age based on palaeontological grounds designating each phase in terms of the bones of extinct animals which were found in it. For example, one of this periods was named the " Reindeer Period ". De Mortillet on the other hand was convinced that the classification of prehistory must be in technological terms, that is, in terms of the tools which were characteristic of each period. Accordingly he translated Lartet's scheme to an archaeological one. All these views were not accepted without controversy, perhaps because the theorising was premature and because the schemes devised on the basis of material found in one area did not always fit the details of another.

So much for sequence and time. Exacvation at this time was a haphazard affair and was really no more than a certain volume of earth being divested of the objects that it contained. It was Pitt-Rivers and later Flinders-Petrie and Schlieman who gave it the foundation of discipline. In terms of the new thinking of the time, it was realised that the position in which an object was found was of vital importance. It was recognized (particularly by Pitt-Rivers) that an excavation must be recorded meticulously for the

simple reason that nobody else could do that excavation again. The identification of layers and their accurate recording (together with the objects found in them) thus became gradually the central principle of good excavation.

Meanwhile discovery proceeded apace. Palaeolithic art, cave burials, neolithic and iron-age settlements—all these were explored through improved techniques. Discoveries such as the lake, dwellings in Switzerland demonstrated that under favourable conditions materials of various types survive the effects of time. From some of these settlements wheat, barley and craft work such as mats were recovered. It became clear that it might be possible to unearth reasonably full records of the life and society of prehistoric peoples. This realization tended to shift the emphasis from a hunt for objects to a concern with early technology, society and culture. Prehistoric archaeology, physical anthropology, ethnology, and social anthropology appeared to have many problems in common and were associated as one broad study under the term 'anthropology'. Evolution was the uniting and pervading concept.

All this related to Europe. In Western Asia and Egypt treasure hunting, thinly disguised as archaeology, has gone on for some time. When however a sembance of system was introduced there was little archaeology in the strict sense of technique and discipline. Even so the interest in archaeology as a whole was further strengthened by such spectacular finds as Smith's discovery of the Deluge Tablet.

This then was the position at the beginning of this century. Prehistoric archaeology had achieved respectability as a serious study and some universities had established departments for research and study in the subject. It formed an essential section of most museums in the west. Local societies for various aspects of prehistoric studies had been established and were providing an impetus to new discoveries by systematic work. Apart from the substantial work which had already been done in Western Europe

the beginnings of scientific excavation were evident in the East Mediterranean and in Western Asia. The great period of discovery, however, was yet to follow.

This century has seen much in the way of exploration and discovery and it is hardly possible to enumerate even the highlights. Europe and the "Middle East" have built on the earlier foundation and while new discoveries are continually taking place, the pattern of the region is substantially clear. Africa, Pre-Columbian America, Eastern Europe and China have all yielded their outline. The progress of Indian archaeology, especially during the last twenty-five years, has been remarkable and the outline of Indian prehistory is now reasonably distinct. These investigations have been such that the older narratives of Indian history have had to be drastically modified.

Most of this has become possible through improved techniques. Field archaeology and air photography have been developed as tools of discovery ; earlier it was largely accidental. Disciplined excavation has been accepted as the foundation of archaeology and technique has increased in precision. The most spectacular advances however have been in methods of dating. The archaeologist is beholden to the physical and natural scientist for techniques which date different types of materials, mainly those containing organic matter. The most familiar of these is the method known as 'Carbon 14 'dating. Equally important are the different types of analyses made by scientists for the archaeologist (Flinders-Petrie was the first to start this practice of sending material for specialised analysis).

The volume of evidence which has been amassed during this century has tended to revise earlier notions. It is clear now that a single pattern does not characterise the prehistory of every region of the world. These are broad similarities it is true, but each region has its distinctive variations. It is also clear that the changes from period to period and from age to age were not the result of

mere evolution but that they were largely due to contacts between communities. Diffusion is thus seen as a potent form of culture change. The significance of these changes has also been better understood than before. The neolithic is seen as a type of economy which developed in response to various ecological changes. In that sense it is no longer correct to use that term to describe all cultures which succeeded the earlier stone cultures of man. The tendency towards urban settlement, it is now clear, was a sequel to the volume of barter which the increasing use of metal made necessary. And the art of writing had its origin not in literature and philosophy but in commerce.

The evidence which is continually piling up presents us with many surprises ; views and concepts have to be altered. People who could not make even a simple pot, painted pictures whose technical skill is incredible. People who had the barest knowledge of metal built stone structures which are gigantic by any standards. Cities were planned, built and lived in bv people who could not even write a casual note to a friend.

CHAPTER 3

Methods of Archaeology

WE have now seen in very brief outline how prehistoric archaeology has come to be what it is today. If we are to appreciate the particular problems of Ceylon it is necessary also to sketch the other part of the background. What are the methods that the archaeologist uses ? Briefly, he is concerned with four problems ; the discovery of the site, its excavation, the dating and analysis of the material that turns up in the excavation, and the interpretation of the site in social and cultural terms. Let us now consider each of these aspects, not in great detail but in terms of central principles.

(*a*) **Discovery.**

How does an archaeologist decide where to dig ? Does he have some sixth sense which enables him to do so ? The discovery of many archaeological sites has, as a matter of fact, been accidental. The preparation of land for various agricultural and industrial purposes, mining and quarrying, wind, sea and river erosion—all these could lead to the discovery of a site.

In recent times discovery has been refined into a technique and is no longer the haphazard thing it once was. It is now a very necessary prelude to scientific excavation. One of the most, important aids to discovery is the technique known as " field archaeology ". Crawford, to whom field archaeology owes a good part of its popularisation, has defined a field archaeologist as " one who walks over the country observing and recording the remains of the past that are visible on the surface or are indicated by the superficial remains such as potsherds, flints, soil discoloration or the growth of crop ". Maps are his main equipment, while his chief object is to trace such remains of the past as old tracks and

roads, earth works, camps and other settlement sites, ponds and field boundaries. He attempts too to observe geological formation and the nature of the soil and vegetation.

What exactly is the value of this type of activity ? It gives the archaeologist an idea of the likely distribution of the type of site that he is attempting to investigate. As a result he is able to form an impression as to the most profitable type investigation that can be undertaken. When excavation is over this knowledge of distribution, that is, this knowledge of the geography of the past enables him greatly in his interpretation of the site. Crawford sums up the importance of field archaeology in this way, " .....it is not, of course, a substitute for excavation, but a valuable preliminary : it is the reconnaissance that precedes the main attack. And just as the success of the battle may depend on the knowledge obtained before it, so may the results of the excavation depend upon a preliminary field survey ".

Since the first World War the discovery of sites has been greatly aided by the technique of air photography. Sir Leonard Woolley has explained how he was able to spot certain features of a site when he moved back to a hilltop nearby. That is, certain characteristics stood out which could not have been observed by someone at close quarters. Air photography is merely an extension of this principle. The fact that a site or a town appears in a new aspect and with a new ordering in an air photograph is familiar to all of us. The camera does not necessarily see any more than the human eye ; what it does is to preserve a record of what it sees from a particular angle and a particular height.

What is it that can be seen from above and cannot be seen at eye-level ? There are three types of discoveries that air photography can make. The undulations of the land will in the morning and evening sunlight cause shadows to be thrown in a suggestive pattern. From the air we may see that these shadows indicate the remnants of, say, an old earth-work, the separate parts of which

may be dismissed as insignificant wnen we see them at eye-level. Then there are " soil sites "—sites where there is a marked difference between various areas of soil in their colour. This could mean that there is a different content of moisture in these different areas and it is possible that the soil has been disturbed at some time in the past. Here too this difference is seldom apparent to somebody merely walking over this area. The third type of site is termed a ' crop site '. In this instance the principle is that a crop grown on disturbed soil may vary from the normal in both colour and height. This again is easily noticed from the air and was the principle used by Woolley in the instance referred to above.

(*b*) **Excavation.**

When a region has been satisfactorily explored, that is when the probable sites in it have been determined and subjected to a preliminary examination, the actual work of excavation may begin. What sort of process is the archaeologist trying to unravel ? Did people in prehistoric times bury their material possessions so as to provide an interesting intellectual exercise for the archaeologist of the 20th Century ? Ceremonial burials did occur it is true, but for the most part these objects have got buried either through subsequent occupation or through the slow but relentless process of soil deposition.

Now what sort of reality does the archaeologist try to reconstruct by means of excavation ? What is the central problem that he is faced with when investigating a site with a long record of occupation? Many things could have happened to this site. It could have had a series of alternative periods of occupation and desertion. Or it could be a site where a long period of desertion was sandwiched between two long periods of occupation. The site may have had to be abandoned owing to flood or fire, and it may have been rebuilt at a later date on a new level. These processes all leave their mark. As Wheeler puts it, " The human occupation of a site results in the accumulation of material of one kind or another

on or about the area occupied. Objects are lost or discarded and become embedded in the earth. Floors are renewed and old ones buried. Buildings crumble and new ones are built upon their ruins. A flood may destroy a building and deposit a layer of alluvium upon its debris ; and later, when the flood has subsided, the levelled site may be reoccupied. Sometimes the process is in the reverse direction : evidences of occupation may be removed as in the deepening of an un-surfaced street by traffic, or the digging of a pit for the disposal of rubbish or for burial. In one way or another the surface of an ancient town or village is constantly altering in response to human effort or neglect ; and it is by interpreting rightly these evidences of alteration that we may hope to reconstruct something of the vicissitudes of the site and its occupants ".

How do we this ? On what is this right interpretation based ? Accurate observation, the identification successive occupational levels of the site as indicated by its stratification—this is the cardinal point of a good excavation. It is the excavator's business to so uncover the site, that through the identification of strata, he is able to distinguish the successive occupations of the site, the duration of each, and the intervals during which the site was left unoccupied.

The identification of strata is not always an easy matter. The archaeologist hardly ever deals with horizontal and clearly differentiated strata. It is here that the experience of the excavator becomes both evident and necessary. Unless there is accuracy each object cannot be placed in its proper cultural context, nor will a picture of each successive complex emerge. Dating can be difficult and this explains why an object just picked up on a site, without evidence of its stratigraphical context, is of little use as archaeological evidence.

The excavation begins with the surveying and the contouring of the site and its division into sectors. A system of reference is thereby obtained. Trial or exploratory trenching may follow and

then the excavation proper begins. Not only has the basic business of recording to go on but as the objects come out and as each phase of the work is completed there is much work for those who are not actually excavating. Finds have to be photographed, to be classified, and to be treated chemically on the site itself where necessary.

(*c*) **Dating and Analysis of Material.**

After the excavation is over the site has to be interpreted in human and societal terms, that is it has to be seen in terms of the communities which inhabited it. However, this is not possible unless the material thrown up by the excavation has been analysed and dated.

Following the traditions set by Flinders-Petrie it is now the practice to send different types of material to scientists for specialized analysis—geologists, botanists, zoologists, chemists, metallurgists, palaeontologists, and so on. Bones, water, charcoal, soil, metal, stone are among the materials analysed. Their analysis leads to inferences about the climate, fauna and flora of the time, the various technological processes which were practised by the community and the sources of its raw material.

The dating of prehistoric objects is no easy matter and contributes in part to the feeling of awe in which the layman sometimes holds the study. The 3rd Century B.C. says one archaeologist in dating a piece of pottery. 20,000 years old, says another about a bit of bone. Is this skill, guess or intuition ? It should be realised that dating in prehistoric archaeology presents an entirely different problem to that of dating in history. The scale is different, the same type of accuracy is not necessary and the understanding of a particular sequence of events is not so dependent on a system of absolute dates as it is in history.

For most of the time a system of relative dating has to suffice. What does this mean ? Let us suppose that a site has been excavated and that it reveals three levels of occupation or three cultures. Let us call these cultures A, B and C, A being the culture revealed

by the uppermost level and C that by the lowest level. Now the direct inference is that B is older than A and that C is older than B. Let us also suppose that another site is excavated in the same area and that this shows two levels of occupation. The culture in the upper level is C and there is a new culture in the lower level which we shall call D. A third site also reveals two levels D and E, E being the culture found in the lower level. It is now possible to construct a sequence of cultures for this region with E as the earliest, A as the most recent, and D, C and and B in between. We have then system of relative dates. Our excavations may be such that it is also possible to make certain estimates, for instance, that B was a culture which lasted twice as long as D. However, we would not be able to say very much about age in terms of an actual number of years and therefore this method of dating is ' relative ' rather than ' absolute '.

Absolute dating may become possible in one of two main ways. It may be that objects belonging to culture A can be related to objects which have already been dated through historical records and historical methods. For instance it may be that in other excavations objects belonging to culture A were found just below a piece of sculpture which is datable to the 3rd Century B.C. We may then estimate that culture A lasted from the 6th to the 4th Century B.C.

The other way of estimating age in terms of absolute years is through chemical and other scientific methods. The method of Carbon 14 dating is perhaps the best known of these and though complicated in practice, the principle involved is simple. Organic matter contains a certain amount of radio-active carbon known as Carbon 14. Through various processes this amount maintains itself during life. After death, the Carbon 14 atoms change into Nitrogen 14 atoms at a fixed and known rate. The measurement of Carbon 14 in organic matter makes possible therefore an estimate of absolute though approximate age.

These then are the simple principles of dating ; the methods are various and numerous. Cross checking is necessary and corroboration is most important, while quite often the estimates are tentative and have to be modified in the light of fresh evidence.

(*d*) **Interpretation.**

We come now to the final stage of archaeological method—interpretation. It is the aspect which gives meaning to all the other branches of this technique. As Childe says, " Archaeologists today have realised that they are dealing with the concrete remains of societies, and that these societies, albeit illiterate, have left concrete embodiments not only of their material equipment but also of their social institutions, superstitions and behaviour, fragmentary though these undoubtedly be ". It is the business of the archaeologist, then, to interpret his data in terms of life and society.

What is the data before him ? There is the material that he has obtained from the excavation. This includes hunting and fighting weapons, agricultural and other implements, domestic utensils, works of art and craft, pottery and so on. In addition excavation might have revealed the foundation of buildings and if the site is a settlement its lay out. The scientists would have given him information on the nature of the physical environment at the time and on the character of the food supply (including the relative emphasis on flesh, greens, cereal and so on). He would also have been told how tools and weapons were made and whether the raw materials were imported or local. All these deal with the everyday life of the community whose material remains the archaeologist has excavated. What did the community produce and how was it consumed ? What sort of houses did its people live in ? What arts and crafts did they practise ? The size of buildings and the lay-out of the settlement will be used as evidence in making inference about social stratification. Were there kings, princes, chiefs and commoners ? Burial practices and " grave goods " might perhaps provide additional evidence. Sculpture and painting would give some idea about ritual practices.

There are many features, therefore, of the life of a prehistoric community about which an archaeologist can tell us nothing—their customs of kinship and marriage, their methods of law and social control, the political structure of their society and the theological system which would have provided the basis for their sanctions. We cannot even know much about such major aspects of their economic systems as the ownership and use of land. What we can know refers mainly to economic levels and technological standards.

This type of interpretation must be done for each occupational level which the site reveals, that is, for each culture. When a sufficiently large number of sites in a region has been excavated, we have for that region a sequence of cultures for the whole prehistoric period. This sequence lends itself to a certain amount of classification. Cultures show affinities with each other and can be grouped together. This is the basis on which we have a division into major periods—palaeolithic, mesolithic (middle stone age), neolithic, the bronze age, the iron age and so on. Of these the palaeolithic had the longest duration (in every region of the world), being about a hundred times as long as all the rest put together. However, the pattern must be worked out afresh for each region. In Egypt, Mesopotamia and the Indus Valley writing begins and prehistory fades into history when bronze is the predominant metal. In Europe on the other hand, the knowledge and use of iron precedes the introduction of writing.

CHAPTER 4

The Stone Cultures of Ceylon

WHAT do we know of the prehistory of Ceylon ? When did people first begin to inhabit these cultures ? 10,000 years or 200,000 years ago ? What are the stages and phases through which their culture passed ? On what basis do we make these inferences ? We are now in a position to consider some of these problems in terms of the methods and the theory that we have discussed. Let us begin with the stone cultures which lasted from the earliest beginnings until some time in the first half of the first millennium B.C.

We have already seen that it was Pole who first started collecting stone implements in this country. He picked them up on the surface, on eroded hill-sides, and on river beds, from all parts of the country. They were mainly of two types—quartz and chert. Pole's conclusion was that the chert tool was palaeolithic in date, while the quartz was neolithic. The basis of this conclusion was the similarity which he felt existed between these and european types. There was no stratigraphical evidence. Pole's finds were not regarded as genuine stone artifacts until the Sarasin brothers made collections of their own. Not only did they have no doubts as to the authenticity of the implements but they assigned their finds to the Magdalenian phase of the palaeolithic, in the belief that the european divisions were universal. Seligman agreed with Pole and the Sarasins about the genuineness of the stone implements and this ended the controversies as to whether or not Ceylon was inhabited during stone age times. Unlike the Sarasins he assigned the quartz implements to the neolithic. Seligman was the first to attempt an excavation and the cave that he examined revealed three layers of occupation. In the lowest there was only quartz, the next yielded quartz and pottery and in the most recent layer there was pottery, charcoal and iron. This was during the first decade of this century.

Hartley's excavations confirmed the general pattern which Seligman's efforts had revealed. Small stone tools or microliths were Hartley's special interest and he was of the view that they belonged to an earlier age than the larger implements and the pottery. Hartley's contemporary, Wayland, came to prehistory by way of geology, as he was the Government Mineralogist at the time. He had therefore, the opportunity of collecting implements in the course of his official duties. He divided the stone tools then known into a Hill series and a Lowland series. The Lowland he further sub-divided into early and late phases, and assigned the Early Lowland to the palaeolithic. What was the basis of his argument ? His contention was that they were found in what he termed " plateau deposits " and he attempted to explain how these deposits might have formed. According to him during the ice ages there was increased rainfall in tropical regions. The result was floods and movement of water to the plains. Sedimentation took place in these areas on a large scale and it is these deposits that Wayland described as plateau deposits. As all this took place in glacial times Wayland has assigned the tools which were found in these deposits to the palaeolithic.

This was the situation in 1920. Very little excavation had been done and theorising was mainly on the basis of tools collected on the surface. Some classifications had been attempted on the basis of supposed similarities with european types and we see this now as a mistaken procedure. Wayland's attempts were promising in that he attempted to give dating a geological foundation. As for the later stone cultures it seemed likely that there was a pre-pottery phase as well as a pottery phase, while nothing was known about the transitional cultures just before the historic period. For about twenty years after this, that is almost until 1940, no work was done except for a few notes on isolated discoveries by Hocart, the Archaeological Commissioner. Since then there has been the work of Deraniyagala and the Department of National Museums and also a single investigation by the Noones. The Noones classified

some finds (mainly microliths) which they had picked up on the surface in the vicinity of Bandarawela, and concluded that little could be said in the absence of any sort of stratification.

Deraniyagala has worked much longer than anyone else and his finds are much more voluminous. The impact of his findings has however been poor. The University History of Ceylon seems to suggest that his work has made little contribution to the study. It is true that his presentation often lacks clarity and that there are basic errors of method and inference. Yet it can hardly be denied that his work has amplified the very bald sequence suggested by Seligman and Hartley.

Deraniyagala has worked mainly on the later stone cultures (from about 1000 B.C. onwards), but he has also examined some artifacts which were obtained from gem pits and which he has assigned to earlier times. These were apparently found in association with elephant and hippopotamus bones. Little can however be said until many more recoveries are made from well stratified sites.

During a period of about twenty years, Deraniyagala has examined a dozen or so caves and one open habitation site and his data has been derived from these investigations. At various stages during this period he has given his views about the sequence of culture in later stone times and the quickest way to discuss his work is to assess these summaries and reviews. Five of these will have to suffice for the present purpose.

In the first of these Deraniyagala calls the later stone culture of Ceylon the " Balangoda Cult " and says that a lower level and a higher level can be discerned. Stone tools—such as scrapers, points and lunates—and charcoal occur in the lower level while in the higher level the artifacts are smaller and occur in association with fish and animal remains and pottery.

In the second ' review ' the Balangoda Cult changes its name to the " Balangoda Culture " and the higher level is now described as being characterised by ground and polished celts occuring with microliths. This culture is also supposed to have a pitted pebble phase and this we are told is a complex which has South Asian, American and European branches.

In the third summary the Balangoda Culture is regarded as consisting of mesolithic and neolithic phases. Conical drilling of pits, grinding and the presence of a rough surface are apparently the marks of the mesolithic phase.

In the next one Deraniyagala states that regional variations can be observed within the Balangoda Culture and infers from this that there were five tribes. Megaliths and cists (which we shall discuss presently) are also assigned to this culture.

The fifth presents quite a drastic rearrangement of the material. The mesolithic and neolithic are now referred to as the Bellan Bandi Palassa phase and the Udupiyan phase respectively (after two sites). The Udupiyan phase is further subdivided: in the earlier sub-phase there is conical drilling and the pottery is hand-made and sun-baked. In the later sub-phase cylindrical drilling is added to the conical style, the implements are ground and polished and the pottery is wheel-made and fired. Finally we are told, " The discovery that this race had been using simultaneously stone artifacts of palaeolithic, mesolithic and early neolithic types indicates that it dates back to Ceylon's palaeolithic times, which on paleontoligical grounds is assignable to as far back as the second glaciation while the typological evidence suggests the third inter-glacial ".

These then are the sequences which Deraniyagala suggests at various times. In addition he draws various other inferences. Their food, in his view, consisted of snails, shells, fish, flesh, yams, fruits and cereals. Agriculture is inferred from the presence of

sorghum grains. There was apparently a division of duties between men and women, hunting and agriculture being the province of men, whereas the women did the collecting of snails, yams and fruits. Deraniyagala has apparently found enough evidence to substantiate the view that cannibalism was practised. He feels that his race of people would have survived until the 5th Century A.D. and while at one-time he says that they would have been absorbed by the Sinhalese, at another he is of the opinion that they must have degenerated into the Veddhas.

The reader is hardly to be blamed if all he is left with is a feeling of confusion. Each re-statement of sequence is not the amplification or modification that it should be ; it is often a contradiction. We can only conclude that there has been premature classification and theorizing based on inadequate data. It is true that the volume of material has increased and there are many types of objects now which Hartley, Seligman and Wayland had not come across. But we are not much nearer than they were to a coherent, reasonably comprehensive account of the development of the later stone cultures—an account of the type that is available for South India. What then is wrong with the material ?

It is primarily a weakness of method. Excavation is poor ; occupational levels do not appear to have been noted carefully, recording on the site seems to have been perfunctory and there is nothing like an adequate excavation report.

In the circumstances what has happened is not surprising. Not only is it impossible for anyone else to check on the excavator's interpretation, but the excavator himself finds it difficult to extract a meaningful sequence from his data. And as each review has been presented as final and definite, contradictions are inevitable.

What should have been the technique ? Primarily, the intensive excavation of selected sites. For it is as the quantum of data increases that a pattern becomes evident and a tentative framework

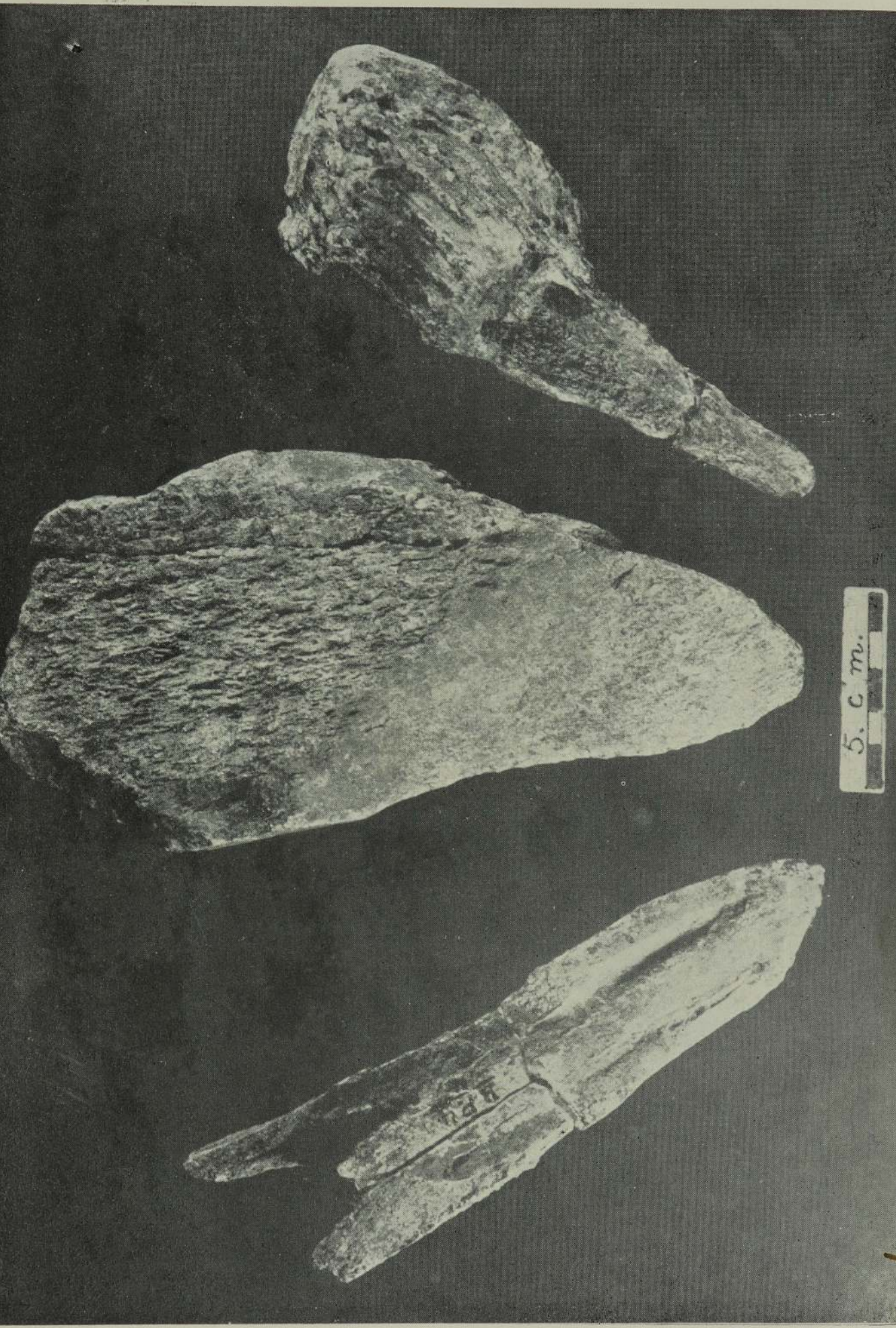
possible. As the data increases still further, this outline becomes clearer, modified, and precise. Indian archaeology affords at many points examples of the soundness of this approach. A desire to construct definitive sequences before the material is ready for it can only lead to confusion even when the excavations are good. When they are not, chaos is the result.

All this relates to the sequence and its phases. Deraniyagala's other conclusions also deserve comment. There is little evidence to support the division of duties that he suggests, nor can the practice of cannibalism be inferred from the limited evidence that he adduces. The megaliths (as we shall see presently) are not a part of this culture. The most surprising inference of all is that the people of late stone times were divided into tribes. A tribe is a social entity distinguished from other similar entitles in terms of number of characteristics. Before the term is applied at least a limited enumeration of these must be attempted, and this is hardly possible in these circumstances. It is for this reason that the word 'tribe' scarcely occurs in archaeological writings. Besides, within any group there are regional variations and it is possible if Deraniyagala has noted differences, that they are at the most these variations. These then are the obvious criticisms of Deraniyagala's work—criticisms which can be made in terms of basic method. This is not to say, however, that his work is entirely valueless, for it does provide indications, both of problem and of area, for more scientific investigations. He has, after all, amplified the earlier work and we are therefore better aware of the problems that a sequence will have to deal with.

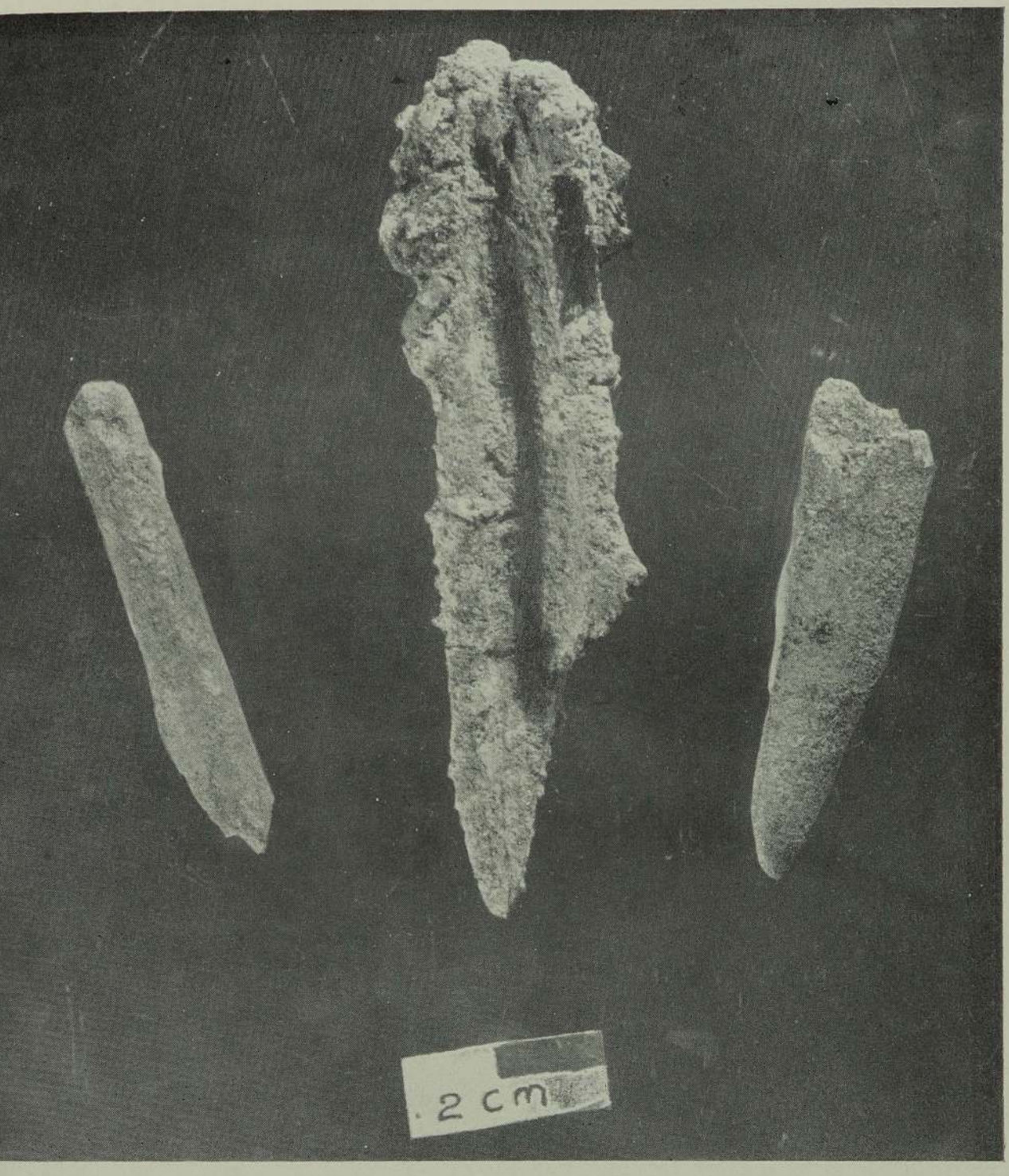
What then can we say about the stone cultures of Ceylon ? Our finds do not enable us to say when man first settled in Ceylon although it is possible to make a guess in the light of the Indian data. We know little also about subsequent cultures during palaeolithic times. A few objects, possibly datable to this era have been found, but a much greater crop is necessary before an

Animal remains from a cave, Ceylon.

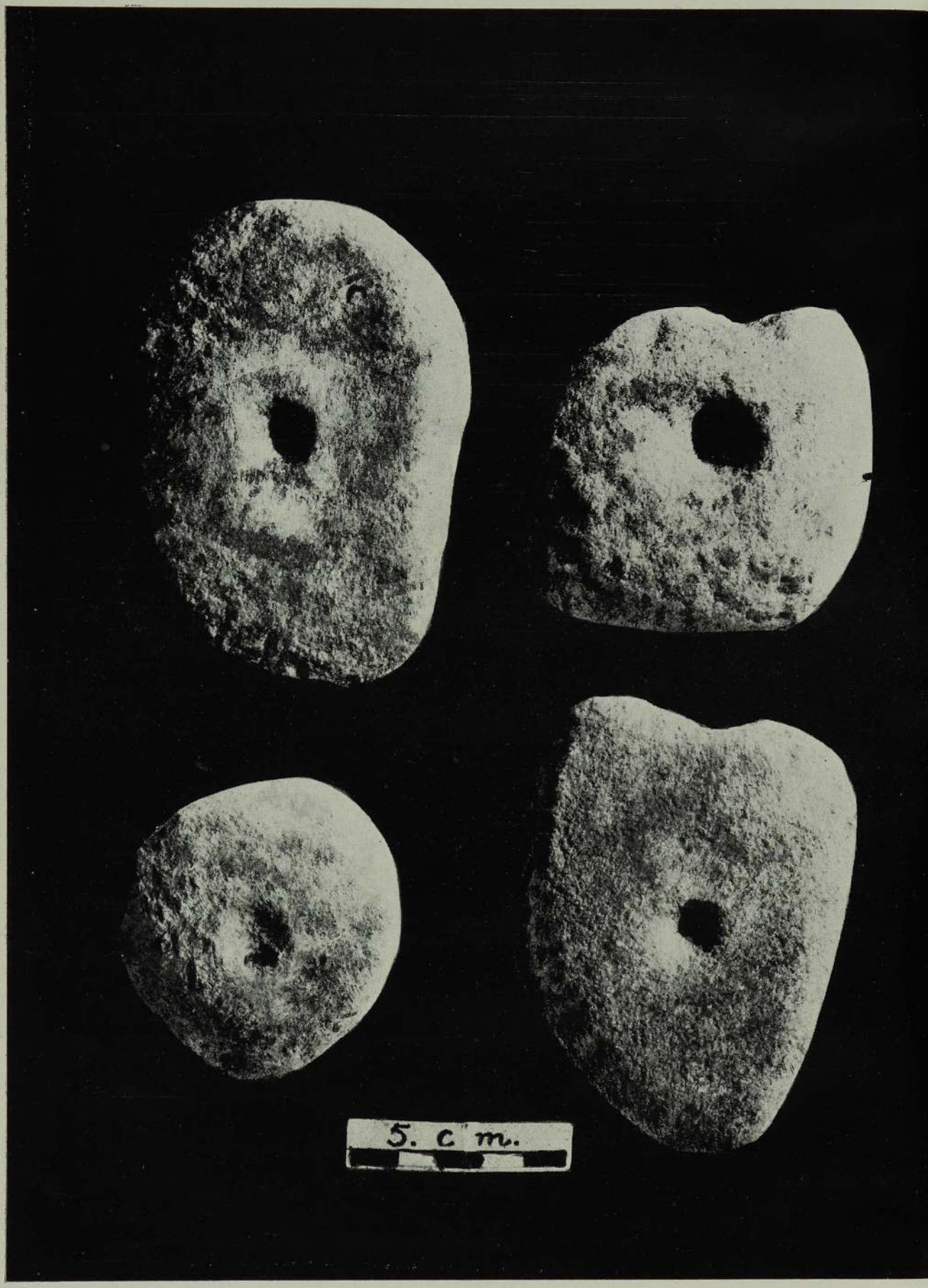
—CP 5416 (3/69)



Bone implements from Ceylon.

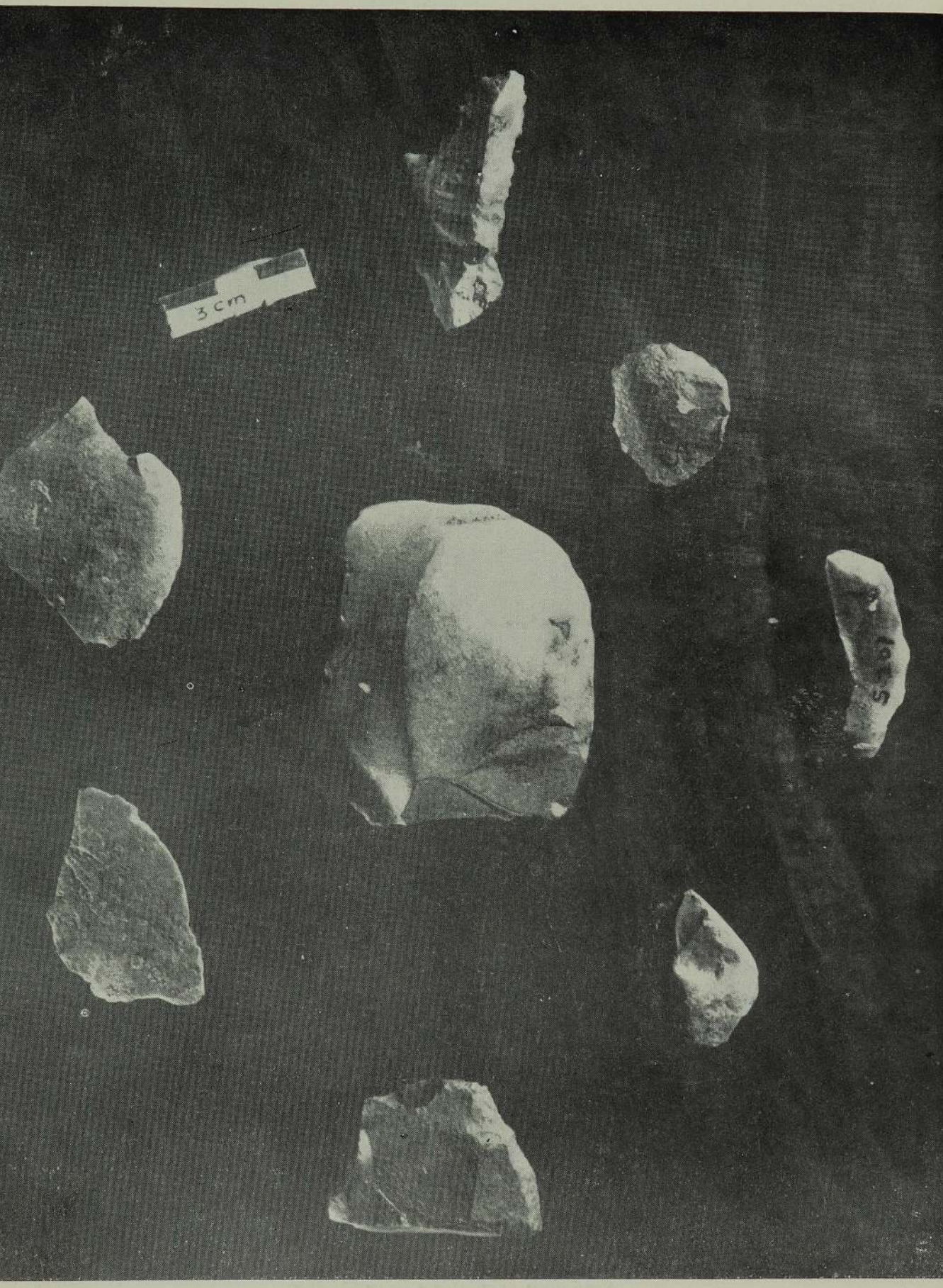


Bone implements from Ceylon.

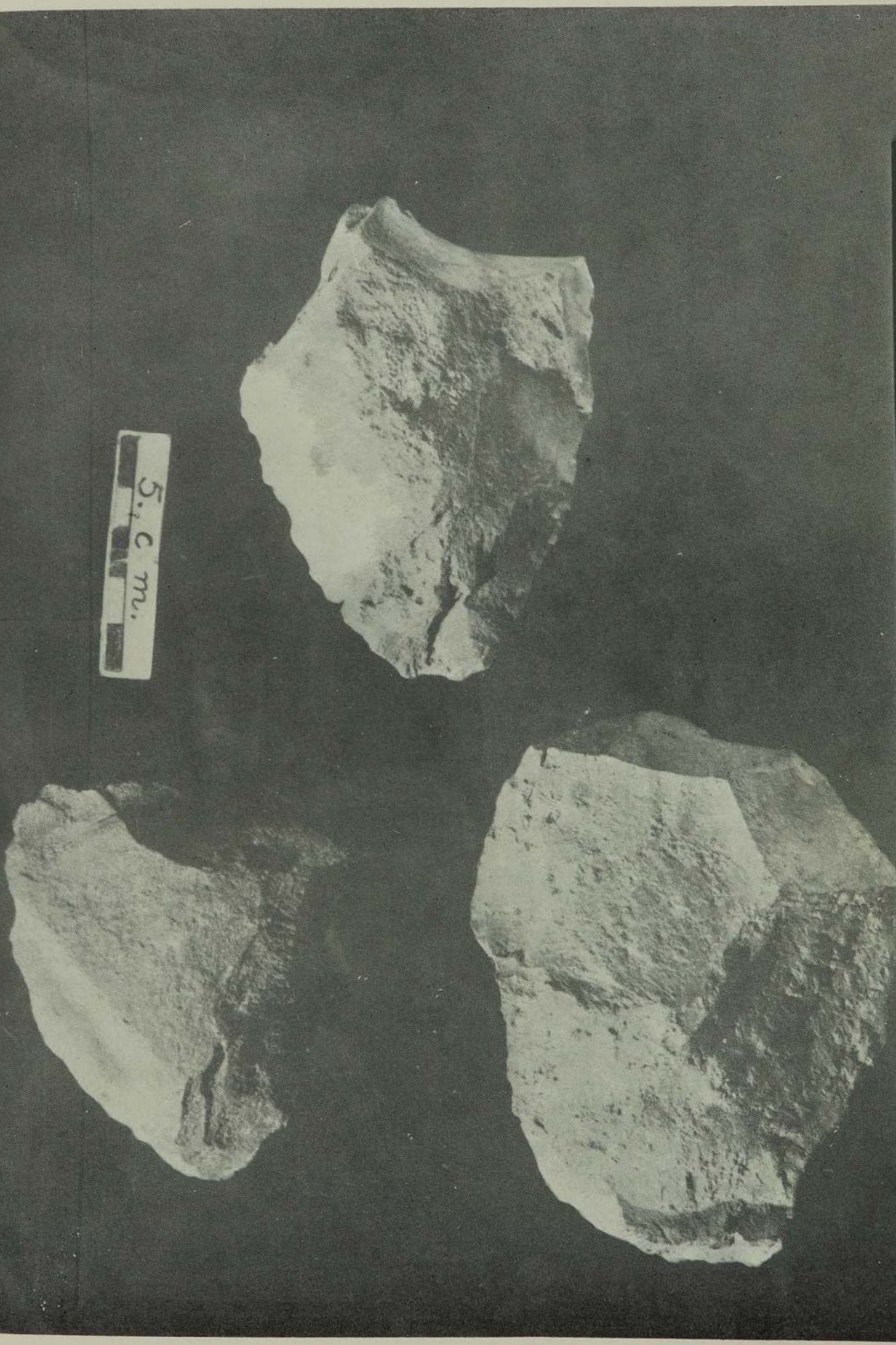


Pitted pebbles from Ceylon.

Anvi cum grindstone from Ceylon.



Stone implements (Chert) from Ceylon.



Stone implements (chert) from Ceylon.

A selection of quartz implements from Ceylon.

A selection of quartz microliths from Ceylon.

4—CP 5416 (3/69)

outline can be formulated. The gem pit areas are a source with which investigations can begin, as also are the plateau deposits which Wayland identified.

As for the later stone cultures, the evidence enables us to place the beginning around 10,000 B.C. Our data is sufficient to show us that in Ceylon too there were two main phases—a pottery phase and a pre-pottery phase. As in India the pre-pottery phase would probably have lasted till about 1,000 B.C. and the pottery phase would have ended—in some parts at least—with the introduction of metal three or four hundred years later.

But this is only the outline and within these broad divisions there would have been other divisions, time-wise and possibly region-wise. Pebble tools, microliths, scrapers, blades, bone tools, hammer stones, the different types of pottery—all these have to be placed in their proper contexts before changes of culture can be inferred. It is here primarily that the excavations done so far have let us down—their lack of precision does not permit this type of reconstruction.

5—CP 5416 (3/69)

CHAPTER 5

The Protohistoric Period

IN the last section we saw that a knowledge of metal would have been introduced into this country about three or four hundred years after the beginning of the first millennium B.C., that is, about 650 B.C. We know from historical records that by 250 B.C. a literate, technologically advanced culture was in existence in this country. It need hardly be emphasised then that this must have been a period of accelerated development. Within four hundred years, stone cultures undistinguished by any particular excellence were transformed into civilized societies, if not everywhere in the country, at least in several important centres. We may therefore refer to these centuries as the protohistoric period. The use of metal and a knowledge of its potential was undoubtedly a pre-requisite for these developments, while migration and contact provided the stimulus.

Before we discuss what we know, and what we do not know, about this period, there is one problem that must be disposed of. It is the difficulty of what now passes for the " early history " of Ceylon (550-250 B.C.). Let us consider it as it is expounded in what must be regarded as an authoritative work—*The University History of Ceylon.*

This work treats the account in the chronicles as being overlaid with legend, but accepts at the same time that colonization was fact. Pandukhabhaya and the kings who follow him are regarded as historical figures. Two migrations along sea routes, one from the North-East and the other from the North-West of India, are inferred. These migrants apparently came here for trade and brought with them such skills as the use of iron and the practice of irrigation.

It is extremely surprising that such an account of the period before Devanampiyatissa should pass off as history. What are the sources on which it is based and how have they been validated ? In point of fact, there does not seem to be any evidence, either historical or archaeological, which can substantiate this story. A detailed cirticism is hardly necessary here, but it may be pointed out that if the Vijayan colonization did take place in the 6th century B.C., iron could not have formed a part of this immigrant culture. On the present evidence iron working is not attested anywhere in India before 450 B.C, and irrigation as we shall soon see was not a skill that was brought in by the " Aryans ".

The point is simply this : we have no historical evidence for this period and it is therefore through archaeological means that it must be investigated. Speculation must not cloud the issues.

What are the sites and discoveries which relate to this period ? The most important of these is Pomparrippu on the western edge of the Wilpattu sanctuary. It was commented on by Hocart about 40 years ago and preliminary investigations were carried out in 1956 and 1957. A foot or so below the surface large urns were found, and in and around these were small pots. Bones, calcined through cremation, were found in both types, and there is evidence of fractional burial. Jet and carnelian beads, food and animal remains, bronze objects and an iron blade were also found. The urns and the pots appear to have been fired in an open hearth. The urns have a red and black finish with a " wicker basket " decoration, while the smaller pots have symbols incised on them.

This complex seems to date to around 300 B.C. and for the reasons for this dating we must look to South India. There are several sites there with which we could connect Pomparrippu, the most obvious being Adichchanallur, just across the water from Pomparrippu. Here the style of burial and the characteristics of

the pottery and the associated objects show a striking similarity to those found at Pomparrippu. The two could thus be regarded as being roughly contemporary and, since the Adichchanallur finds have been dated to about the 3rd Century B.C., the same date could tentatively be assigned to Pomparrippu.

We could leave it at this, but for the fact that there is much more to this connection. The urn burials are part of what is known as the South Indian Megalithic culture. This was an intrusive culture thought to have originated on the basis of recent discoveries, in the Nubian region) which came into South India some time after 500 B.C. This culture had several features. It was metal using, with implements chiefly of iron. The pottery was of a black and red type. A settlement had four distinct areas : a habitation area, a cemetery, a tank and fields. Irrigation was practised and the introduction of this technique to these regions is now thought to be the work of these people. It is clear that this was an important element in what subsequently emerged as South Indian culture and Haimendorf has gone so far as to trace the origin of the Dravidian group of languages to this influence.

In one respect the settlements differed from each other ; burial practices and funerary monuments varied. The variety includes dolmens, cists, stone squares and urn burials. Now, if in Ceylon we were to discover any of these other practices besides the urn burials, we could as a first inference link them up with Pomparrippu.

Has anything in fact been found in Ceylon ? Over eighty years ago Ievers described a stone square near Anuradhapura. A cist has been reported from Katiraveli. The dolmen at Pediyagampola is well known and other stone structures have been found elsewhere. Only excavation it is true will reveal the excact connection, but the Indian evidence indicates that all these sites are aspects of a single culture. Besides these other types, urn burials themselves

have been discovered in two other places besides Pomparrippu. The megalithic culture therefore seems to have had considerable influence on Ceylon and can hardly be dismissed as peripheral.

What can we say then about the period ? We have seen that Pomparrippu is a site which is very similar to certain South Indian sites, notably Adichchanallur. We have also seen that Adichchanallur is part of the South Indian Megalithic culture. We have looked at Ceylon in terms of this knowledge and seen that there are other sites which may be related to Pomparrippu. But we still do not have a full picture of this culture in Ceylon. It is only the cemetery area that has been tackled at Pomparrippu, of the habitation area nothing is yet known.

No sites have yet yielded data which could help us to identify some of the other influences which may have played on this country during these four hundred years. In particular, there are no finds which could be traced to either the west or the east of North India.

6—CP 5416 (3/69)

CHAPTER 6

Physical Types

WHAT of the races who inhabited Ceylon in prehistoric times ? No physical remains of the races who lived here in palaeolithic times have so far been found and India has yielded nothing either. Java Man and Peking Man from Asia are no doubt familiar as are other types from Europe. It is Africa, however, which holds the stage at the moment.

Along with the material remains of the people of later stone times some physical remains have also been discovered. These have been most numerous at a place called Bellan Bandi Palassa in the Balangoda District. Deraniyagala has decided that they belong to a hitherto unknown race and has taken the somewhat unusual step of naming it "*Homo sapiens balangodensis*". "Balangoda Man" is the popular term.

The impression that has got abroad, if one is to judge by the questions that are asked, is that "Balangoda Man" compares in age with Neanderthal Man. Some of Deraniyagala's statements have no doubt given rise to this popular impression. In point of fact the estimate of age arrived at by the Carbon 14 method is 2070 ± 114 years before the present time. This means that this "race" of people had not died out even as late as Dutugemunu's time.

Before pronouncements can be made on a racial group of this sort, indeed before it can be regarded as a distinct group, a certain procedure has to be followed. On the basis of a set of meaningful criteria analysis and comparison must be made between the new group and the other groups in the region which are most likely to be related. It is only if the differences are significant that a new race can be postulated.

This has not been done, and many of the earlier statements made about the " Balangodese " are consequently without foundation. Perhaps this is the reason why Balangoda Man does not figure prominently in Stoudt's " The Physical Anthropology of Ceylon ".

A systematic examination of a part of this material has already been made by Dr. K. A. R. Kennedy of Cornell University and other studies by scholars both in Ceylon and abroad, are expected to follow. In his study Kennedy inclines to the view that the Balangodese (as he calls them) show the strongest affinities with the Veddha, and states that " It is the variety and nature of physical differences between these two populations which suggest their bifurcation from a common stem at a time several millennia prior to the occupation of Bellan Bandi Palassa. " In these terms Kennedy contradicts Deraniyagala's view that the Veddhas are a mixture of " Balangodese and Sinhalese racial elements ".

The conclusion then is that there were two distinct racial elements (with the possibility according to Kennedy of an unidentified third in the same complex) during the later prehistoric periods.

CHAPTER 7

Conclusion

WHAT sort of outline can we now construct about the prehistory of Ceylon. There is no firm evidence about the first beginnings of human society in this country, although the Indian data might incline us to the view that it was about 500,000 years ago. Subsequent development is largely unattested. Objects from Wayland's plateau deposits and the discoveries from the gem pits are perhaps the only finds to which any degree of certainty can be attached. The South Indian picture, by contrast, has several clear stages.

Then about 10,000 years ago there were climatic changes, many species probably died out, and a new culture took shape in response to the new environment. The first phase of these later stone cultures was marked by microliths and pottery was absent. Food was probably obtained in many ways ; hunting and fishing may have complemented a rudimentary agriculture. In this sense the economy can hardly be called " neolithic " in the Middle-Eastern or European sense. Self-sufficient communities functioning at subsistence level was not the special feature of this culture.

The first phase, to judge by the Indian evidence, would have lasted until about 1,000 B.C. without any marked changes. It is from this time that the pace accelerates ; pottery comes in and this is closely followed by metal three or four centuries later (about 650 B.C.). The next four hundred years would have seen fairly rapid change and by 250 B.C. we have a recognisably literate culture at the centre even though outlying communities may have remained pre-literate.

It will be apparent that this narrative is not founded entirely on our own data. We are compelled to lean heavily on Indian evidence and this is an indication of the large gaps which have to be filled in.

Let us see what the strategy should be and what sites should be selected for excavation. However, before we do this we shall have to dispose of one problem—the problem of the role of legend.

Normally it should not be neccessary to discuss legend in an essay of this sort, but in this country there are still a number of people who think that the break-through in the study of our prehistoric past will come through the proper analysis of legend. There are quite a few attempts to analyse the events of prehistoric times through the examination of such traditions. The Nagas, it has been argued, were Mediterranean people and their migration has been traced from that area to this. The Yakkhas, apparently, were a Turko-Mongloid group who can be identified through their language, their architecture, and the custom of fraternal polyandry. The culture of Ravana's time has been described. Etymological arguments are adduced to support the inferences from myths and legends. Some answer must therefore be given ; where does archaeology stand in relation to legend ?

The general argument of those who use myths and legends as evidence of past happenings would seem to run as follows : legend has a core of truth which can be deduced through processes very similar to that of historical analysis. Let us examine this position ; is there a core of truth ? What is the nature of myth and legend ?

As is probably familiar there is a body of thinking in psychoanalytic psychology which relates to myth. The approach is that myths and the material of dreams have much in common. They are supposed to emanate from the same sources, deal with the same fears and develop along parallel sources. As Dr. Ernest Jones, Freud's champion in Britain tells us, the material of folklore, " is the product of dynamic mental forces, the response of the folk soul to either outer or inner needs, the expression of various longings, fears, aversions or desires. " Many myths and legends have been explained on this basis as for instance when Freud traces Medusa's

head to what he calls the " Motif of castration-fear ". The explanation of the Cedipus legend is of course a much better known example. If there is any substance in the arguments then it is clear that we cannot take the position that all legends have a core of truth.

The approach of Social Anthroplogy is not very dissimilar, for it too does not seek the explanation of myths and legends in factual happenings. Frazer demonstrated a connection between natural forces (such as seasonal change) and the primary wants (and therefore, the social life) of a community. He went on to show that rites are an attempt to control these natural forces and also that myths and rites are connected. This position has been developed and refined since Frazer's time and today it is generally accepted that myths and legends have certain social functions. The usual view is that they relate to the system of social relationships which operates in a society and to the values and sanctions which uphold that system. The implications are that myths and legends may become extinct, that their prominence may vary from time to time and that old elements may get incorporated into new myths. In short, as society changes so do myths and legends.

In the face of all this it is naive to assert that all legends have a core of truth in them. In some instance it may be so, but it is clear that historical truth is the subordinate element. It is not surprising then that no technique has been evolved to extract from a legend the core of truth that it is supposed to contain.

Does this mean that an archaeologist must dismiss legend completely ? Not necessarily so, for a legend may give clues to discovery and it may then be possible to investigate its degree of truth in archaeological terms. The best illustration of this is Schlieman's discovery of Troy. He was convinced that Homer's account of the city was based on an actual happening, and he set about finding it. After spending a considerable fortune he discovered not one, but nine Troys.

Not every venture ends in this way. Take the case of Theseus and the minotaur. Excavations at Knossos and the facts that have now come to light about the Cretan civilization support the description of the setting in which the story takes place. The palace at Knossos is maze-like and the Cretan seals do have figures with bull-masks. But archaeology goes no further. We do not know anything about Theseus and Ariadne, or whether the Athenians had to pay tribute to Crete. There is evidence about setting but none about events.

At times archaeology will provide evidence about an event (e.g., the biblical flood), at others about a setting ; and occasionally about both as in the case of Troy—the culture of Troy as well as its sacking. Against this there are numerous legends and traditions which archaeology has shown as having any basis in fact. If, then, we want to show in Ceylon that there was a developed civilization in the time of Ravana, or if we want to show that the Nagas brought with them a mediterranean culture, there is nothing for it but to excavate.

I need hardly emphasize that excavation is the urgent need of the moment - not just a haphazard increase in its volume, but a planned programme with a ' vertical , emphasis. What does this mean? It means an emphasis on sequence, that is on the succession of phases and stages rather than the unthinking concentration on any one phase or stage. In this way there is quick run through the field. Problems became clearer and filling in becomes more meaningful. The value of this approach has been well demonstrated in South India where a set of sites were selected primarily with this end in view. The result is that resources were used to best advantage.

In Ceylon we have now indications which are more than adequate for the purpose of working out a planned programme of this sort. A site in the gem pits area and two others involving the deposits that Wayland was talking about, should start us off on the palaeolithic. Four or five cave sites from different parts of the country

should yield data on the later stone cultures, while Pomparrippu and the related sites will provide material for the protohistoric period. To these must be added such sites as Mantai and Anuradhapura. What has been discovered there up to now falls no doubt within the historic period, but it is extremely likely that these places were occupied in later prehistoric times as well. Systematic excavation to prehistoric levels could be very rewarding. Not only will there be finds which could enlarge the picture of the period or phase in question, but the dating of such finds with comparative accuracy could also become possible, as they will have been found beneath dated historical levels.

Every country develops its own institutions and organisations to deal with archaeological problems. Local societies are very prominent in Britain ; in India the pattern is more centralized. In Ceylon statutory powers are vested in the Archaeological Department and this institution has final responsibility for exploration, conservation and excavation. The Museum's function is mainly that of collection and display ; through its study of the collections it should pose further problems for those working in the field. The subject is taught at two universities, but the emphasis is very much on the historic period and its epigraphical and art-historical problems. Vigorous excavation has not so far been a characteristic ; but, as more resources become available, the emphases will in all probability change.

There is no reason why under the overall control of the Archaeological Department, and in terms of its general policy, other groups should not provide valuable excavation assistance. Of course the guarantee must always be there that technical competence is adequate ; sites must not be destroyed, as has happened in Ceylon, through careless and incompetent excavation. The universities must train good excavation teams. It may even be that other cultural institutions and societies could be pressed into service and a scheme of training on the job devised. But apart from all these, the most vital step seems to be call on foreign assistance,

especially where the larger sites are concerned. In the present economic context one cannot see half a million rupees set aside for a single excavation.

In archaeological work there is a special niche for the layman, and this niche is "field archaeology" (discussed briefly above). It would certainly be a pleasant pastime to take an area and explore it in these terms : what is the surface evidence of life in former times ? Is the undulation of the land merely geological or is it the result of former agricultural activity ? Is a scheme of fortification suggested ? Can roads be traced ? Are there the remains of boundaries ? What objects can be picked up on the surface ? Is erosion adding to the yield ? The only tools required are maps for guidance as well as for record ; and this type of investigation, while being a pleasant form of relaxation could also be extremely useful to the archaeological planner and excavator.

APPENDIX

A BRIEF GUIDE TO THE PREHISTORY GALLERY OF THE COLOMBO MUSEUM

THE PREHISTORY GALLERY

THE intention behind the gallery is not merely to display the objects which relate to the prehistoric period ; it is also to say something about the general process of which these objects are an expression and about the methods which are used to study this process.

The gallery has four panels : (1) Man before history, (2) The methods of Prehistoric Archaeology, (3) Stone cultures of Ceylon, and (4) Protohistoric times. The objects are arranged in cases in the centre and are mainly from Ceylon with a few foreign ones for comparison.

The first panel deals in general terms (that is without reference to any particular region or country) with man's cultural development before he acquires the art of writing. In this we distinguish two broad periods—first, the palaeolithic in which man was essentially a food-gatherer and when his culture was largely determined by this economic mode. Following this there were the various stages—mesolithic, neolithic, Bronze age, Iron age, and so on where his life became progressively more settled. They form the second of these two broad divisions.

In the first part of this panel the different human species of the time are found. The illustrations around them indicate the different activities of palaeolithic man and are depicted mainly through the paintings of the time. During palaeolithic times, the climate fauna and flora was not what it is now. In temperate lands there were the ice ages with intervening periods of comparative warmth. In tropical lands there were the pluvial periods of heavy rainfall, marked again by inter-pluvial periods.

The palaeolithic is about a hundred times as long as all the other periods put together. There was development and change but in the light of what happened later this was absolutely slow. We have therefore not emphasized this aspect, although in certain areas the tools of later palaeolithic cultures can be immediately recognised as such.

The central sketches in the second part of the panel attempt to highlight the course of man's cultural evolution in post-palaeolithic times. We have picked out five stages for special emphasis. Man responded to the changes of environment which occurred about 10,000 years ago by leading a more settled life, by becoming a farmer and a herdsman. Such a life gave him the opportunity on the one hand, and made it necessary on the other, to experiment with various other skills—with arts and crafts. In time these endeavours led him to the discovery of metal. Its consequence was that the self-sufficiency of the earlier pattern was disturbed. Metal was not found in every garden ; exchange and barter became inevitable and trading centres grew up. These centres developed into towns and then into cities. Transactions became complicated and a means of recording them became necessary ; this was the beginning of writing. This then, is the sequence on which we have focussed attention.

The coloured drawings above and below illustrate man's new activities—the products of his settled life. They are drawings of actual objects from different parts of the world.

In a sense the whole story of this panel is an abstract ; not everywhere in the world did man develop in quite this way. Various stages were skipped through diffusion and contact. Yet this is a convenient framework within which to view the development of prehistoric man in a particular region.

The second panel deals with method under the headings which have already been described. The attempt is present in visual form the principles which we have already noted. Thus there are photographs which make clear the significance of air photography.

The need for systematic recording in an excavation should become apparent, as also its general layout and organization ; and the data that an archaeologist can draw on for his interpretaion would be clearer in this visual form.

With the third panel we get on to Ceylon. The first half deals with the earlier stone cultures—the palaeolithic. In the absence of a large corpus of direct evidence we have to fall back, to some extent on conjecture, based on comparable evidence for the adjacent region.

The second part deals with the later cultures and here as we have seen more information is available. There are a variety of tools and how these were used is demonstrated. Other aspects illustrated include dwellings and diet.

The final panel seeks to point out the importance of the proto-historic period. Only one influence that played on the country at this time has so far been archaeologically attested. The attempt here is to set out briefly what is now known about the influence of the South Indian megalithic culture on Ceylon.

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