FIELD ARCHAEOLOGY IN BRITAIN

John Coles

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Contents

Preface

This small book has emerged as a result of a belief on my part that the student of archaeology should possess a guide to some of the techniques of observation and recording of the material remains of man's past, to the processes of their recovery and conservation, and to the aims and methods of archaeologists in treating the evidence. The growth of archaeology as a subject for study in Universities, in national and regional societies, in Extra-Mural and Adult Education courses, allied to the increasing number of excavations in this country, clearly indicates a growing interest in the past; it is the purpose of this book to provide some information, selective though it may be, for people who are sufficiently concerned about this aspect of human history actively to participate in the recovery and consideration of the evidence.

The book is not aimed at the professional archaeologist, who will direct and supervise the recovery of evidence through fieldwork or excavation, but at those who may wish to understand the techniques of archaeology, and the reasons behind them, who will on occasion assist in small- or large-scale excavations and field projects, or who will sometimes undertake their own fieldwork in the discovery and explanation of ancient features.

The book has six main sections. In the first, archaeology is described as a technique for the recovery of evidence, and the roles of archaeologists, amateur and professional, are briefly discussed. The second section considers the ways by which

archaeological sites are discovered, through fieldwork, aerial photography and detection devices. There follows a section on the types and uses of maps in this country, and on the variety of simple surveying procedures which have been found useful in the recording of sites and field surveys; these procedures are presented in some detail as they are basic to the accurate recording of all kinds of evidence. A fourth section deals with excavation, and tries to describe the methods of digging, recording, sampling and conserving on a site; other chapters in this section discuss the differing ways in which sites are examined today, the organization of an excavation and the questions of labour relations and safety. The fifth, short, section outlines some of the ways by which archaeologists manipulate their evidence, to obtain the maximum amount of information from it. A final section briefly indicates how prehistoric archaeology is organized in Britain, and the kind of jobs that are likely to be available to students; the vital role of the amateur archaeologist in rescuing evidence of man's past behaviour in these islands is stressed.

The techniques that are described are applicable to most types of archaeological site in any area of human activity, but the illustrations have been restricted to prehistoric sites from England, Wales and Scotland. A list of some of these sites, chosen as examples of the application of the techniques described here, is given at the end of the book, following a general list of books that deal with archaeological approaches and procedures.

I am grateful to the following archaeologists who have given permission to reproduce illustrations from their reports: Mr L. Alcock and the Camelot Research Committee (fig. 12), Mr P. Ashbee (fig. 58), Miss M. Cra'ster (fig. 57), Miss E. Dowman (fig. 75), Mr P. Fowler (fig. 78), Miss A. Henshall (fig. 68), Professor S. Piggott (fig. 13, 59), Dr J. K. S. St Joseph (plates 1–4), Mr D. Simpson (fig. 4, 13, 59), Dr I. Stead (fig. 64), Dr M. Stewart (fig. 1), Dr G. Wainwright (fig. 62 and plate 6), the Society of Antiquaries of London (fig. 12, 62). All of the other drawings and photographs are the author's, sometimes redrawn from sources acknowledged in the captions.

Parts of the text have been read by a number of archaeologists and others, all of whom have made valuable comments and suggestions. I am grateful for this interest and assistance from

John Alexander, M.A., Ph.D., F.S.A., Department of Extra-Mural Studies, London University; Richard Atkinson, M.A., F.S.A., Department of Archaeology, University College, Cardiff; Elizabeth A. Dowman, B.A., London; Dick Feachem, M.A., M.Sc., F.S.A., Ordnance Survey, Southampton; E. T. Hall, D.Sc., Littlemore Scientific Engineering Company, Oxford; Hugh McKerrell, B.Sc., Ph.D., A.R.I.C., Research Laboratory, National Museum of Antiquities of Scotland, Edinburgh; L. P. Morley, Photographic Department, University Museum of Archaeology and Ethnology, Cambridge; Janice Price, B.A., Methuen; J. K. S. St Joseph, O.B.E., M.A., Ph.D., F.S.A., Committee for Aerial Photography, Cambridge; R. R. Shiach, C.Eng., F.I.C.E., Survey and Development Services, Edinburgh; Geoff Wainwright, B.A., Ph.D., F.S.A., Inspectorate of Ancient Monuments, Department of the Environment, London; Sister Pauline Willcox, S.R.N., O.N.C., Millfield School, Somerset. The whole text has been read by Bryony Orme, B.A., Department of History, University of Exeter, who has suggested various improvements, and to whom I extend my thanks. I also thank my wife Mona for her assistance during the preparation of the book, and for help in compiling the index.

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I Prehistoric archaeology

1 Archaeology as a technique

Archaeology means different things to different people. To some it conjures up delicious thoughts of treasure, to others a more controlled but equally satisfying feeling of excitement as the past is revealed. To some who have experience of digging on extremely large sites it may recall tedious work as a very small cog in a very big machine, to others who have led or worked on small-scale projects it may bring painful memories of evidence misunderstood or destroyed through lack of experience or other circumstances.

Archaeology has existed as a subject of serious study for over a century, yet there still remain many definitions of the term, even if it is restricted to the field of prehistory. Prehistoric archaeology may be said to deal with extinct non-literate societies, but this is not to say that archaeologists are therefore entirely restricted in the type of evidence they can use; literary evidence may have survived from contemporary and adjacent societies which can illuminate prehistoric groups (for example, Iron Age communities recorded by classical writers), and ethnographic observations from the recent past can be used to explain aspects of ancient behaviour (for example, hunting methods of African non-agriculturists).

Even so, prehistoric archaeology suffers from the difficulties imposed by its very definition, that the societies with which it is concerned *are* extinct and have left an incomplete record of their organization and activities. It is one of the tasks of archaeology to

recreate so far as is possible the events of the past, through the systematic accumulation of data and through the application of interpretive techniques.

Whether or not the aim of archaeology should be to project a simple backwards extension of history is debatable. Grahame Clark has said, 'It is often, and I think rightly, held that archaeology should not be counted as a separate field of study so much as a method of reconstructing the past from the surviving traces of former societies' (1957).[1] If so, it can be nothing more than a technique, and the archaeologist has been described as a technician who applies a set of established procedures to the surviving evidence both in the earth and above it. To this view there are several opponents, for whom Sir Mortimer Wheeler may speak, 'He is primarily a fact-finder, but his facts are the material records of human achievement; he is also, by that token, a humanist, and his secondary task is that of revivifying or humanizing his materials with a controlled imagination that inevitably partakes of the qualities of art and even of philosophy' (1956, 228). The lines are not, on reflection, all that divergent, and one might be said to carry on from the other.

Prehistoric archaeology is not prehistory, but exists as a scientific discipline, recovering and manipulating data that can yield information about human behaviour in the past. Beyond this, attempts can be made towards the ultimate 'revivification' of the data through the prehistorian's imagination, and here the scientific mantle of archaeology often falls away. The statement, 'But let us now ignore the "facts" which only tend to blur the truth and see if imagery can tell us more'[2] may be a somewhat uncontrolled exercise of the imagination, but it is legitimate, and necessary, to attempt to humanize the data, to bring them to life, wherever possible.

To do this, however, archaeologists should be equipped to study systematically to gain the evidence necessary for their objectives, and this must involve a set of procedures, learned, adaptive, and transmitted to all working on the problem. This need not mean that archaeologists are robots, methodically

[1] References thus quoted appear in the lists of books and articles at the end of this book.

[2] A. Davidson, Silbury Hill, in M. Williams (ed) *Britain. A Study in Patterns.* Research into Lost Knowledge Organization, London, 1971.

extracting information to be organized into behavioural patterns, but it does mean that they must be aware of the potential data to be gained through excavation and the application of interpretative methods. It is not good enough to recover evidence, however fragmentary, and not to ask questions of it; it is wrong to gather material for the sake of it alone, and not to seek to explain the reasons for its presence.

The achievement of prehistoric archaeology is that it provides a perspective for our own history and for our own behaviour. Its results may not be entirely pleasing to any ideas of the unique, possibly divine, character of man on earth, it may emphasize the less 'civilized' aspects of man, but it will also show up in bold relief the mainstream developments in the emergence of human culture as a thoughtful, adaptive and communicable state of existence. At a lower level, it can provide evidence about prehistoric communities that is more factual than historical documents produced by contemporary or near-contemporary alien groups. 'The spade is indifferent to the opinions or prejudices which lay behind the objects it digs up' (de Paor 1967, 106). In the same vein, it can produce data about historically-documented societies whose records reflect major political, religious and economic events and completely ignore the human achievements of ordinary people. At any level and at any time, prehistoric archaeology can amplify our meagre knowledge of an ancient society by a single stroke, by a unique discovery, whether it be a great treasure or a single grain of wheat, that casts entirely new light upon the achievements of a community.

The limitations of prehistoric archaeology are not to be underemphasized. The differing degrees of preservation of material remains may produce a distorted picture of human behaviour in the past; as an example, the non-survival or non-recognition of vegetable materials on many archaeological sites, coupled with the excellent preservation of animal bones, may lead to false impressions about major food supplies and economic activities in prehistoric times. As another, the absence through decay of wooden remains from most sites in Britain inevitably tends to diminish the importance of wood and wood-working in the mind of the prehistorian. Equally, the archaeologist may not be equipped, materially or mentally, to recover all that *has* survived,

or may not interpret correctly that which has been found (p. 233). Here sampling procedures (p. 217) are a start towards adequate recovery of potential evidence, and there is much to be said for leaving sites to the improved excavation techniques of posterity.

Finally, prehistoric archaeology recovers evidence of anonymous people, people with no names, either personal or tribal. No record survives of their language or their music, little of their leisure activities, less of their religion. No evidence of the relationship between selected individuals will survive except in unusual circumstances, and prehistoric archaeologists can rarely single out a particular person who made something of note, or who received special treatment, while alive, from his contemporaries. These limitations emphasize again the need for general vigilance on the part of archaeologists in recognizing and preserving evidence of all kinds.

In the past ten years the practice of archaeology, as a technique for recovery, has become more and more exacting, with ever greater precision in the application of procedures for dating and identification, with increasing sophistication of interpretive procedures and with an augmented sense of responsibility towards the evidence in the ground.[1] The days of nondescript and random excavation in barrows or on other visible prehistoric sites are happily drawing to an end, although some of the excavations of this character still in progress are disguised by the term 'rescue'. With the increase in technical know-how, and with the rapid rise of the explanatory approach to prehistoric remains, any participant in an archaeological operation must be fully aware not only of the potentialities of the site but also of his or her own capabilities; the latter is one of the subjects to be discussed under the heading of 'conscience' (p. 230).

Archaeologists need to be trained not only as technicians, but also as humanists, to understand and to explain the processes of behaviour that resulted in the deposition of the material remains undergoing examination. The technical procedures can be outlined, and experience will enhance the performance of these methods, by an *archaeologist*, but the other aspect cannot be neglected, and its acquisition is basic to a *prehistorian*.

[1] The historical development of archaeology, and its firm base on pioneering work done in the decades before 1960, are outside the scope of this book.

2 Roles in archaeology: the amateur and the professional

The roles of the amateur archaeologist and the professional archaeologist are not difficult to distinguish in Britain, if we can avoid the unpleasant and untrue connotations of amateur = inexperienced, professional = expert. Both should be expert in their own fields of participation, and the fact that one may make his or her living from the practice should not detract from the value of the other's contribution.

The organization and conduct of a competent field project in archaeology generally requires a variety of talents, a leader, specialists in various disciplines, supervisors who have experience in the field of study, and assistants who are generally called volunteers or, simply, workers, to distinguish them from the others. The relationship between these different groups of people on an archaeological site may be complex, and some aspects of this are considered later in addition to the following notes.

In a relatively large project, the workers' role is simple, to follow the instructions of their supervisor, to learn any necessary techniques from him or her, to gain an insight into the particular problems of the site through work, observation and thought. This holds true for both excavation and field studies where consistent walking and observation may be more important than the routine surveying or other procedures underway. But in both excavation and in field studies, the amateur will not generally be as efficient in workload as the professional who has all the help of his particular training and experience behind him. Where the amateur archaeologist cannot be touched for value is in his or her own geographical area. Only those people who live in or otherwise know a region intimately can be relied upon for consistent and accurate information about potential sites where inconsistencies in the geographical structure of the landscape may not be immediately apparent, or where traditional local activities may take place, or where local landowners may reveal data of importance to people known to them. Few professional archaeologists can possess such unrivalled knowledge about a particular area. For an amateur, starting fresh, such knowledge can be most easily obtained at a preliminary level through local societies and museums, but there

is no substitute for *consistent* fieldwork. And there can be no doubt that the value of such work is in direct proportion to the qualities of observation and recording that the amateur may possess through training and experience.

The importance of such detailed area knowledge and systematic fieldwork can be emphasized by an assessment of the proportion of sites discovered in recent years in France, where it is estimated that 25 per cent of known archaeological sites have been discovered by accident, over 70 per cent by systematic search, and less than 5 per cent by the sophisticated techniques of aerial and magnetic surveys. For Britain, a personal estimate of these three avenues of discovery would greatly increase the percentage found both by aerial photography and by accident, but nevertheless there would remain a sizeable proportion of finds made through the exercise of good judgment and consistent presence in the field on the part of amateur archaeologists. Doubtless the advent of motorway archaeology (p. 251) will add to the achievements of systematic search in this country, and the burden of this task is borne almost solely by local amateur societies.

Another field in which the amateur can contribute substantially is in small research projects that may not be considered important enough for large-scale operations or any financial aid. This work generally consists of area surveys for particular types of site, such as this survey of circular enclosures (hut-circles) in east Perthshire (fig. 1), or a geographical study of selected and known material such as pots or stone axes; the purely typological studies of artefacts, of great value to archaeology, are of course open to both professionals and amateurs, and there are notable contributions made by the latter in British prehistory; but these are outside the scope of this book.

What the amateur should *not* undertake on his own is clear enough. No project should be initiated if there is little or no chance that it will be completed, or if it seems likely that the problems, whatever form they take, will be beyond comprehension and solution. The problem of the non-completion of archaeological work in this country is extremely large, although not as large as in France, and refers mainly to excavations rather than other field projects where destruction is not initiated by the spade (p. 210). Some excavations in Britain are physically not completed, either

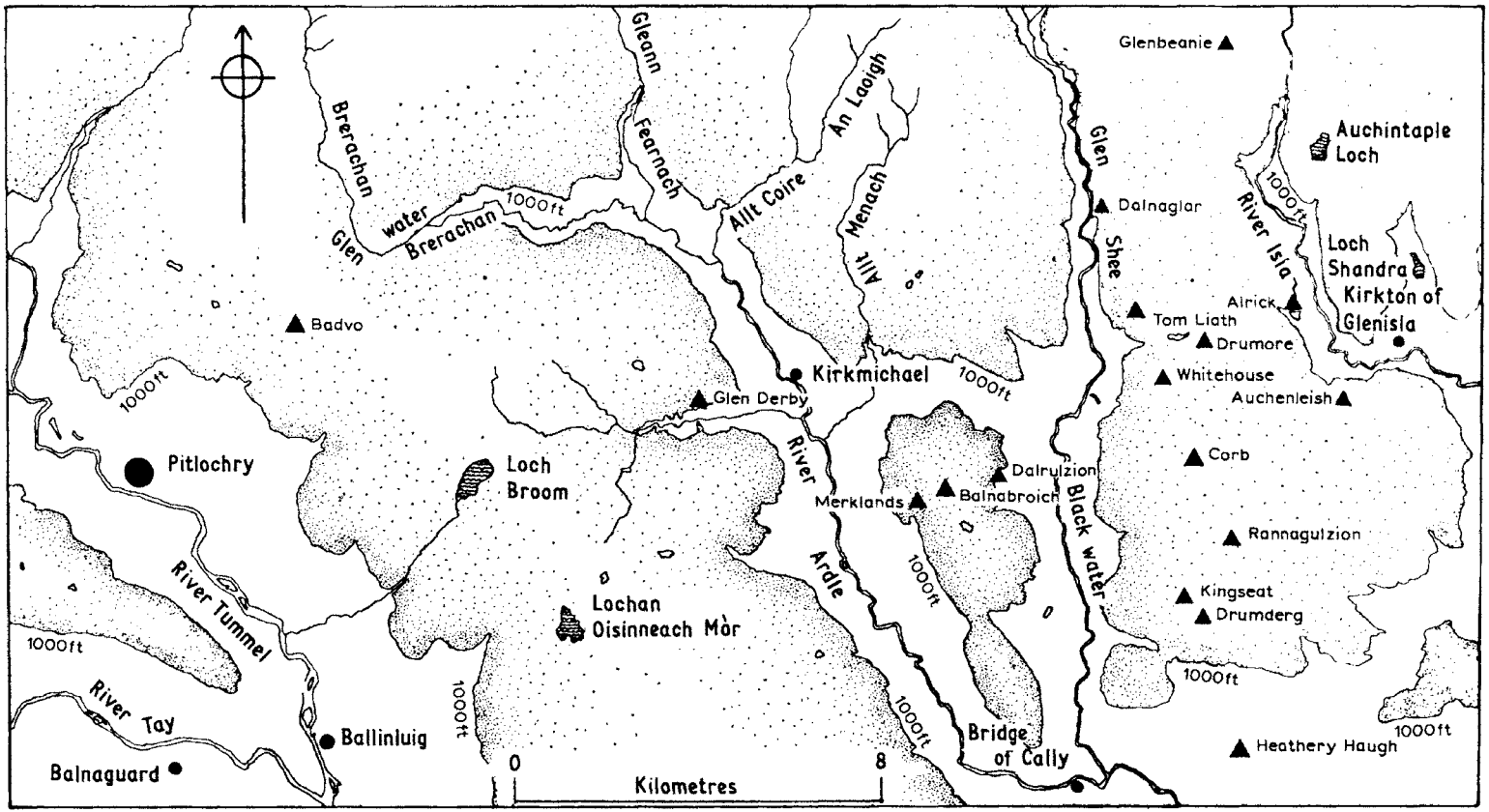

Fig. 1 Distribution map of circular enclosures (triangles) in eastern Perthshire; part of field survey 1957–60 to show the density and positioning of such enclosures in areas now of restricted agricultural value (after Stewart 1962).

because finance or, more usual, labour, dries up (through an excess of rainfall or cold weather), and some of this work is initiated by amateurs who do not acknowledge the potential interest and support of the local societies who might have been able to help finish the work.

The main reason for the preponderance of uncompleted excavations in Britain is the lack of publication of the results, and here again amateurs must bear some of the blame. Many sites have been excavated by professional archaeologists who steadfastly refuse to publish their results, and there can be no justification for this; at best, however, the records and finds, hopefully comprehensible, are accessible in some public institution, be it museum or university department. The amateur, however, may not have such inbuilt protection, and privately held notebooks and finds are most often irretrievably lost through the passage of time. It has been estimated that the study of material and records, and the writing of a final report on an excavation, will take about two or three times as long as the actual digging; such estimates should be considered before the amateur, who after all presumably earns his or her living doing another job, undertakes any excavation.

The possibility of a purely amateur-organized and -conducted excavation being successfully concluded can be considered under the following headings:

(1) are adequate funds and labour available?
(2) are the techniques for the recovery and conservation of the evidence adequate?
(3) is there enough knowledge available to allow the evidence to be interpreted in the field and afterwards?
(4) will there be sufficient time and energy left to study and report on the excavation in publishable form?

The prospect of treasure, however, is not to be dispelled by such reasoning, and doubtless many secretive excavations and tomb-robbing will continue in this country. In Belgium it has been estimated that over half of all excavations are undertaken by 'unqualified dilettanti, or by surreptitious excavators who often have no other aim than to enrich their collections with a sherd of pottery or a worked flint' (de Laet 1957, 79). Such a high percentage of unauthorized excavations does not exist in this country, but a certain amount does, and conscientious local

amateur archaeologists are likely to be the only people who have a chance of discovering the extent of the damage and halting it through local society or museum action; this may not be considered to be one of the more pleasant tasks of an amateur archaeologist.

A field of prehistoric archaeology in which amateurs and professionals tend to part company abruptly is that sometimes described as 'dotty archaeology' or 'the lunatic fringe'. In a country so abundant with prehistoric monuments, barrows and cairns, stone circles and standing stones, impressive forts and embanked enclosures, there has accumulated a body of opinion that concerns itself with alignments and positions of stones or trackways or field boundaries, themselves entirely legitimate areas for research; sometimes, however, these are considered as evidence for extraordinary, almost supernatural, events, involving not only migrations of unlikely tribes but also mystic and cavernistic presences such as are completely and utterly unrecorded by any scientifically observable evidence. The definition of archaeology as 'the unwarrantable deduced from the unverifiable' seems appropriate here, and one can only regret that so many imaginative processes are expended in this field.

Perhaps the greatest achievement of amateur archaeologists in Britain is the enthusiasm and interest they bring to a subject that may tend to be difficult, dry and tedious at times. Most fieldwork is physically hard, and a professional or amateur can expend much energy in directing or assisting on an excavation. Similarly, in studying the remains and writing the report, there is a large quantity of detailed information to be assessed, and in some cases the volume of this is quite beyond comprehension; individual examination of 20 000 potsherds or flints may serve as an example, and not an excessive one.

'There *is* a romance in digging, but for all that it is a trade wherein long periods of steady work are only occasionally broken by a sensational discovery, and even then the real success of the season depends, as a rule, not on the rare "find" that loomed so large for the moment, but on the information drawn with time and patience out of a mass of petty detail which the days' routine little by little brought to light and set in due perspective.'[1]

[1] C. L. Woolley, *Dead Towns and Living Men*. Cape, London, 1932.

To this the amateur archaeologist can bring dedication, interest and enthusiasm, and these will be a constant source of encouragement to the professional who is concerned with problems of approach, technique and adaptive procedures as the work progresses. There is no reason why both amateur and professional should not share in the momentary thrill of discovery, but it is essential that they do share in the *real* romance of archaeology, which is found in piecing together the past, in the excitement of following the processes of recovery and intepretation through to the writing of prehistory and the explanation of human behaviour.

II Discovery of the evidence

1 Discovery of sites by fieldwork

It is difficult to generalize about the methods used in the discovery of archaeological sites. Sites vary in their physical characteristics, their state of preservation and in their environmental setting, and where one site may be readily apparent to all, another of the same type may be entirely disguised through decay or cloaked by vegetation.

The first requirement for any archaeologist who sets out actually to discover ancient sites is an understanding of the geographical features of the area. A person who is familiar with a region in different seasons and at different times will soon learn what is entirely natural to the area, the line of the hills, the angle of growth of the trees and shrubs, the sources of water, the spread of low vegetation. There is only one way by which this familiarity with an area can be achieved, and this is by walking over the ground, where irregularities on surface features can be noted and questioned.

The archaeologist must train himself to search for the unusual elements in this landscape. Differential growth of vegetation may not be apparent at all times of the year, but observation will soon tell if such a feature appears in times of drought or flood. An unusual contour on a hill, a slight hump or depression on a slope, may also become apparent through consistent observation over time and in different lights; a low sun, for instance, may suddenly throw up in highlight or shadow the existence of a physical

feature not otherwise recognizable to the eye. Shallow floodwaters or light snow will do the same. Slight changes in soil colours are also a guide to the former alteration of the land, and may only be apparent at certain seasons and in certain conditions, where different rates of crop growth may also be apparent from the ground as well as from the air. Such unusual features as these are a first hint to the archaeologist that something is not natural to the scene, and further investigation can then take place.

One of the primary sources for the discovery of sites is natural or artificial erosion of deposits, through river or stream action, or through human interference. Running waters erode and deposit material, and constantly expose and mask other geological features. Consistent search is the only appropriate way by which an archaeologist can utilize such agencies, as a single ancient feature such as a pit may only be revealed for an extremely short time before being completely removed by continuing erosion. Features such as ditches will not disappear as rapidly, but delay again will lose potentially valuable evidence.

Of far greater significance to the archaeologist in particular, and to prehistory in general, is human interference with the landscape. Excavations in towns and cities for buildings and car parks destroy archaeological evidence incredibly fast, and the use of heavy earth-moving machinery on roads and motorways, in bridge-building, in pipe-laying and in gravel extraction processes, also lead to once-only, unique, opportunities to record features almost as they vanish (p. 251). Nonetheless, such chances to observe and record, sometimes to excavate, should not be missed by the archaeologist. The illustration (fig. 2) shows part of a Bronze Age cemetery and Neolithic settlement at Grantully, Perthshire; pipe-laying operations in 1965 produced a trench that was inspected just before it was filled in, and this inspection led to the discovery of the site subsequently excavated (see plate 7).

In any form of fieldwork involving the search for ancient sites, library and museum studies should feature at an early stage. Maps of the area should be consulted for the location of remains recorded by the Ordnance Survey (p. 52), and museum records and notes in the local society's journal should also be incorporated in the gradual build-up of knowledge about the area. Local landowners and occupiers should be consulted about possible sites

and areas that seem worth particular attention; ploughmen and especially shepherds are the best sources of information about unusual features. At the same time as this personal contact is made with landowners and tenants, permission must be obtained for access to the land. Most farmers and others readily give permission for a search, subject to the usual commonsense rules about crops and gates, and it is essential that archaeologists should respect the land and its occupants. The goodwill that

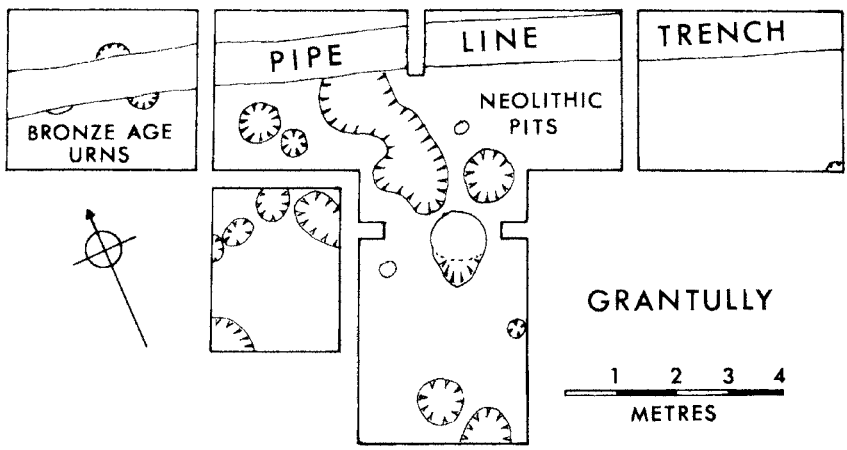

Fig. 2 Exploratory excavation of area around pipe-line trench at Grantully, Perthshire, 1966; Bronze Age urns discovered in trench sides, 1965. For area excavation of this site, 1967, see plate 7.

tends to build up over a period of time between landowners and archaeologists, leading often to the receipt of interesting data on both sides, can be dissolved by a single stroke of carelessness, a trampled crop, an escaped animal, a pile of litter. The effect is not limited to the person responsible, and future prospective archaeologists and naturalists may be surprised by their welcome.

Through the observation of geological features and processes, through adequate search of the records, through local information, the archaeologist can start his search for ancient sites with a good body of evidence already to hand, and in this country it is unlikely that from all these sources he would begin work with absolutely no clue as to the possible location of remains. The next logical step would be to gain an acquaintance, however nodding, with the sort of material likely to be encountered. This is not only

the structural features on the ground, but also the small artefacts, the implements and other equipment, that may be exposed on the ground through erosion or the activities of animals and plants. At this stage we should distinguish between the general search for ancient remains of all periods and types, and the particular search for traces of activity of certain groups. There is a difference, for example, between the likely positions of farmsteads and hunters' camps; the former would tend to be larger in size, and sited near or on arable land, the latter would be smaller, less permanent, types of structure placed near water supplies or in passages between hills where game might move. Systematic search for particular types of burial monuments would probably lead the archaeologist into local topographical situations where monuments of this type were already known to have been deliberately built.

A number of publications give descriptions of the major types of prehistoric sites in this country, with illustrations of actual surviving monuments in relatively intact and in decayed states. Such descriptions are nowhere consistently gathered together, but useful surveys appear in works by Corcoran (1966), Thomas (1960), Feachem (1963) and Wood (1963), as well as in the Ordnance Survey professional papers (No. 13, 1963). None of these have over-abundant illustrations, and in any case there can be no substitute for the actual inspection of known monuments as a guide to the recognition of ancient features. The principal surviving prehistoric monuments in England have been listed and briefly described in Thomas' book (1960), and those for Scotland by Feachem (1963), and the amateur archaeologist should be familiar with the material in his own area.

The recognition of the debris of occupation or other activity should also be a part of the archaeologist's preparation. From the geographical features noted above, likely areas of activity may be singled out, and then inspection for other remains can be carried out. Small fragments of pottery or stone are the most likely to have survived the processes of decay, and the archaeologist should be aware of the types of small artefacts, for recognition and collection at first, and for study and comparison afterwards. Potsherds from the Neolithic, Bronze and Iron Ages in Britain may not be immediately recognizable as anything of real value,

as they may be black or brown, rough and friable, crumbling with frost or rain; on the other hand, other pieces may be extremely well-preserved and at once attractive to the collector. Familiarity with previous finds from the area, available in the local museum, is essential for the recognition of such material, and for the awareness that not all potsherds are necessarily prehistoric if they have been collected from the earth. A glance at the 'midden' at the bottom of the garden, or in a farmer's yard or manured field, will soon disabuse anyone of the belief that modern material is not abundantly represented almost anywhere. It is a useful if unnerving exercise to inspect and excavate one's own 'dump' after a period of accumulation of non-flammable rubbish. And after centuries of carting manure out from a village and spreading it upon the neighbouring fields, the surface finds made are likely to represent a jumble of interests and periods of activity, with no doubt potsherds of all ages including the ubiquitous 'willow pattern'.

Stone fragments are the other type of debris that may be represented in some quantity on ancient sites. Chips of various stones, including flint, may be a guide to the presence of ancient activity, but some study is required on the part of the archaeologist before he accepts these as of human production. Many areas of Britain possess enormous natural deposits of flints, quantities of which are chipped by water or frost action and the archaeologist should be aware of the possibility of finding naturally deposited flint or other stone on his suspected sites. He should also be conversant with the types of fracture that occur on flint, and be able to separate thermal from mechanical fracture; useful guides to this appear in Oakley (1952) and Watson (1950), and the archaeologist will not only save himself time but also embarrassment if he can competently sort his material before landing it upon an overworked museum curator. He should also be aware that the ordinary flint-knapping site is likely to yield proportions of waste chips to finished implements in the order of 200 : 1 or thereabouts, if in fact the implements were left on the site.

Other types of stone fragments that may be significant include fire-crackled or burnt pieces which, if visible in quantity, may indicate the presence of ancient cooking-places or sites of other

activities involving the heating of stones; a search for potsherds should be carried out here with particular care.

In fieldwork involving a systematic search for stone or other small artefacts, the weather plays a large part. Freshly ploughed soil tends to cling to material and disguise its presence, but rain will often provide the right conditions for recognition of pottery and flints glistening in the light.

A prerequisite to any fieldwork of this character is the provision of adequate maps (p. 52) and the facilities for recording sites and other finds on them (p. 117). The proper use of maps will generally impose some sense of order on even the most absent-minded archaeologist, in the delimiting of areas for search and in the even coverage of the ground. All areas should be inspected, even the most uninviting, as sites are quite as liable to repose within a wood or beneath a piggery as standing proud on an open field. It should not be necessary to emphasize that the work should be done on foot, or at worst (or best?) on horseback, and not from a car or other mechanically propelled vehicle. Distribution maps of sites that run conveniently along road systems should always be suspect in this country, at least until they have been checked by fieldwork in the peripheral areas, and it is an interesting exercise on a winter's night to overlay a road network on a linear or spider-like distribution of ancient sites.

Grid and system walking

The area, then, must be covered completely, and to do this it is probably useful to operate a grid and system walk procedure. By this, the area to be covered is divided into sectors on the map, using visible boundaries such as fences, ditches and woodland as convenient divisions (e.g. fig. 3). Each sector then is systematically searched, either by a single archaeologist operating on a strictly controlled series of lines (a miniature grid within the sector), or, better, by a small group moving at a uniform pace over the sector so that no areas are missed; the boundaries should be inspected on all occasions they are used as sector edges. Only in this way can some assurance be gained that all the area has been searched, that all the plough furrows or molehills have been looked at, that all the visible and recognized features have been noted. Another advantage of this sytem is that where time is a problem, the