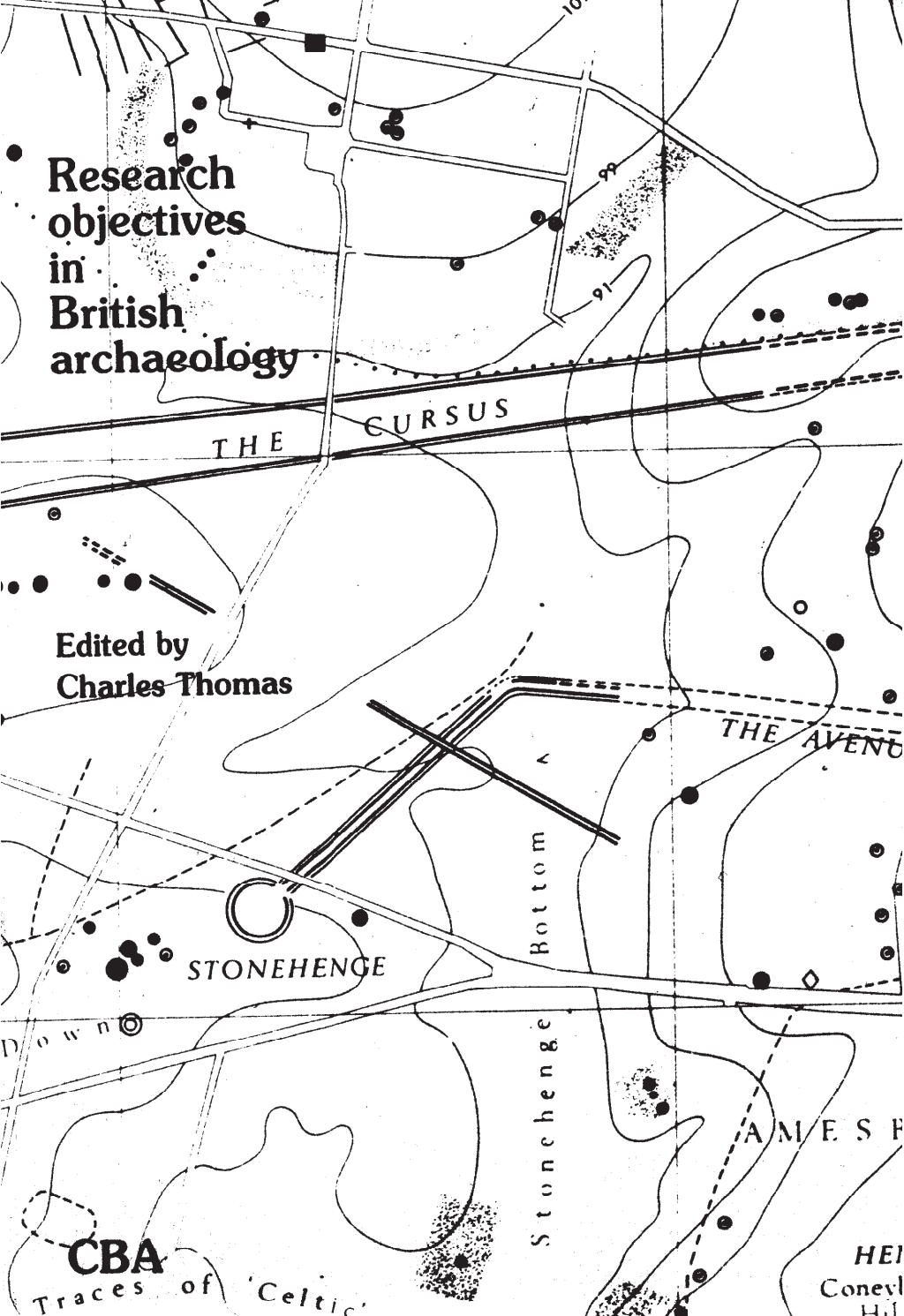
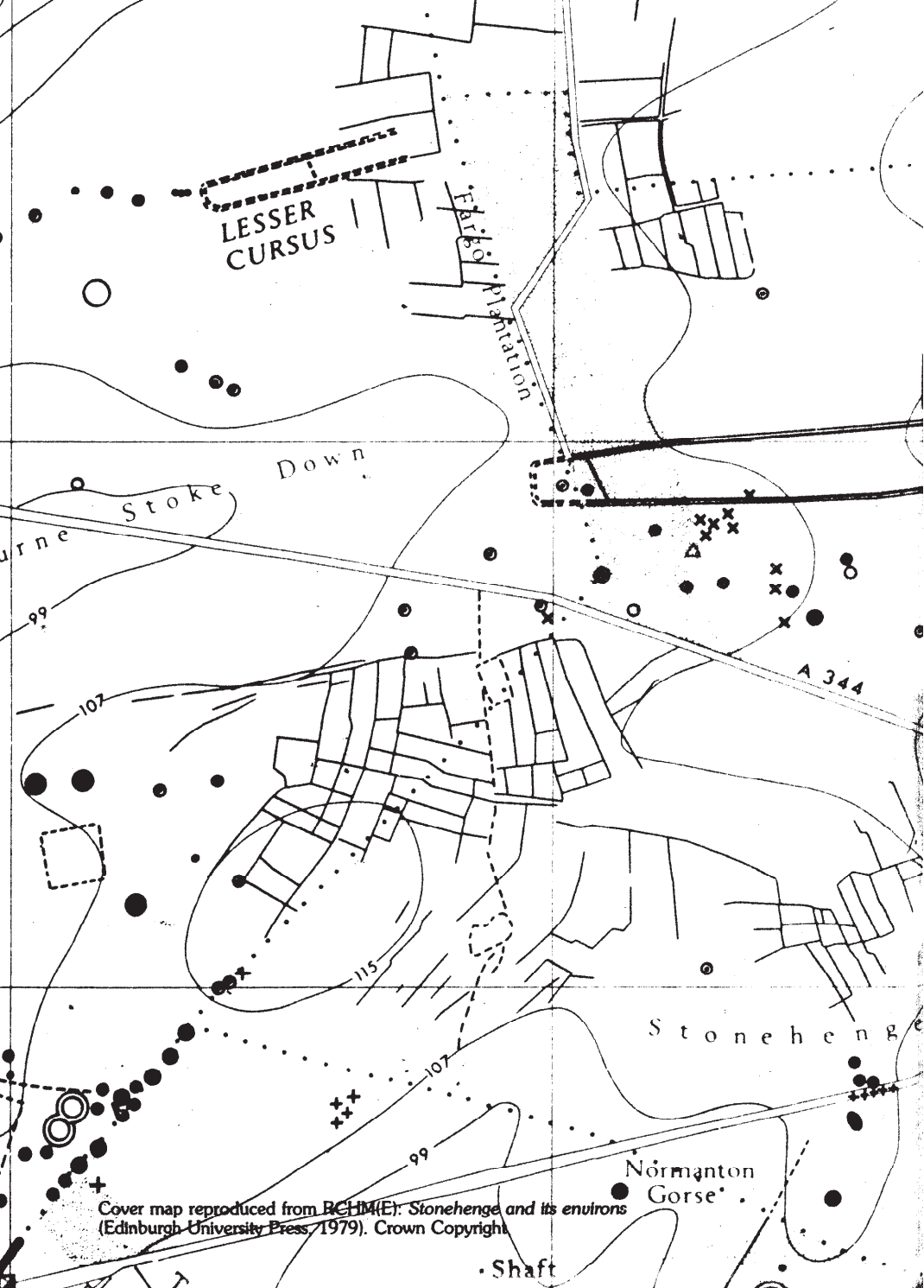



# Research objectives in British archaeology

Edited by Charles Thomas

CBA

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FOREWORD

Thirty-five years ago this Council produced A Survey and Policy of Field Research in the Archaeology of Great Britain (1948); in less confident but more socially sensitive times we now eschew a survey and baulk at stating policy, cloaking our aspirations in the neutrality of Research Objectives. The purpose, however, remains essentially the same: to inform, to encourage, and to add to the sum of human knowledge. Well over a hundred individuals, collectively contributing through-seven committees deployed through the Research Board of the Council, have brought their minds, skills, and experiences to bear in producing these papers. I hope at least a few of those who read this page will then read the whole booklet through to the back cover so that they, like me, will be able to experience the cumulative effect of so much deliberation.

These papers together place their strongest emphasis on research: this booklet is about what we want to know. This may be unfashionable, and indeed largely impractical, in 1983. After a decade, however, of pointless argument about the so-called rescue/research dilemma, of increasingly embittered argument with commercial, trivializing treasure-hunters, and of not always apparently fruitful argument to promote archaeology to its rightful place in the conservation world, to consider research on its own merits is both a relief and a challenge. We consider it here on a thematic rather than a chronological or geographical basis, reflecting the CBA's timely re-organization from period to subject committees in the mid-1970s; yet the considerations tend towards the empirical and intuitive in the well-tried tradition of British scholarship. Fifteen years after Analytical archaeology and all that it symbolizes, its lack of overt influence here, for better or for worse, is worth noting. Surely one hundred and more practising British archaeologists cannot all plead ignorance of 'New Archaeology' as the reason for its absence.

The old arrangements for conducting archaeology are changing, however, and this cannot be ignored. Archaeology in universities and archaeological societies in their communities, for example, are under examination; the state, at least in England, is about to discharge its statutory functions, and possibly more, through a new Historic Buildings and Monuments Commission instead of through the Directorate of Ancient Monuments and Historic Buildings of the Department of the Environment. The archaeological functions of the Ordnance Survey have recently been transferred to the three Royal Commissions on Ancient/Historical Monuments for England, Scotland, and Wales. Our objectives, defined without reference to such organizational matters, will surely nevertheless be affected by them and we can but humbly draw our deliberations to the attention of those in high places. In that context especially I would stress that this discussion paper is a publication of the Research Board and NOT a policy statement of the Council for British Archaeology.

It is hoped that these thoughts will provoke and help our own members, at local as much as at national level. Many of us remain, whatever career tricks fate has played, local archaeologists at heart and of no-one is that more apt a term than our internationally distinguished

editor. To Charles Thomas, to all those committee members who contributed, and to the CBA staff who have helped bring this project to fruition, thank you. And may I nod courteously, too, in the direction of our forebears who, thirty-five years ago, provided us with our model.

Peter Fowler
President

5 June 1983

Editor's Introduction

One could probably, with a good deal of research, discover occasions early in the present century - and just conceivably in the last? - when British archaeologists consciously foregathered to discuss the rationale of their work and to hammer out some kind of presentable research policy. For our purposes, the relevant publications (three) date from 1943, 1944, and 1948; the first two appeared as Occasional Papers of the Institute of Archaeology (then early in its great, or Inner Circle, period) and the third, if published from the same office, was nevertheless most firmly superscribed 'Council for British Archaeology'. Indeed, it must count as the prototype CBA research report, policy broadside, or exhortatory document. The joint editors (Christopher Hawkes and Stuart Piggott) state in their preface that the work had been compiled between 1945, when the old Congress of Archaeological Societies disappeared - bequeathing its funds to the CBA - and the late summer of 1947, when the printers took over.

The preceding Institute reports were, as seen in retrospect, remarkable enough: the 1943 instance, held at a not wholly encouraging phase of World War II, involved twenty-eight speakers prepared to foregather and to set out their ideas - often stimulating, frequently (for the date) novel, and to an alarming degree still relevant forty years on - on the entire policy, politics, planning, and immediate future of the discipline. Almost everybody who was anybody took part - Childe, Fox, Harden, Grimes, Hawkes, both the Myres, Clark, Corder, Kenyon, Richmond, Woolley, Zeuner. (The absence of Daniel, Grinsell, Piggott, Radford, and Brigadier Wheeler must be blamed upon external causes, but at least some of them were engaged, part-time, in the past of other continents). This Conference on the Future of Archaeology, most of which was concerned with archaeology in a, presumably victorious post-War Britain or with endeavours conducted abroad by Britons based on British schools, led to another meeting in 1944 specifically focused on Europe (palaeolithic to Roman), introduced by Childe and summarized by Hawkes, the body of which was constituted by eight individual chapters.

Anyone who takes the trouble to read both papers will sense that they mark a turning point, not so much in archaeological knowledge as in the whole approach to the human past, and that they make up a clarion call for fresh conceptual frameworks within which, for example, those old, leisurely, aristocratic papers so often discussing Romano-British remains in Wessex or the Home Counties - and the pre-War Archaeologia has plenty such - would seem like dinosaurs' footprints. O G S Crawford, who was in one sense born fifty years too early, summed up this largely forgotten world when he pinpointed[2] 'an account ... published in Archaeologia of the excavation of a Roman villa, but the writer forgot to say where it was.' And, in his 1944 summary, the still-young Christopher Hawkes had no doubt at all that the discipline had finally and irrevocably exploded into global relevance: 'The nature of archaeology indeed makes it a centre of convergence for both a human and a scientific range of interests, which it brings together to explore all the past but recoverable works of man as a social being. The field is immense, and ultimately world-wide'.[3] All that one could fairly add to such a pronouncement is that archaeology has since expanded

in another dimension to become, if there is such a word, 'time-wide'; not even the prophets of 1943-44 anticipated the arrival of archaeologies of the cinema, Highland clearances, Martello towers, crashed aircraft, Methodist chapels, and lead mines.

Given such a theoretical, if not actually doctrinal, start, it occasions no surprise to find that a few years later, when conflict ceased and when the various Wing-Commanders and Lieutenant-Colonels reverted to their black gowns and blackboards - and when, too, the CBA began that long process of making every penny do the work of twopence - the hubris of forward planning was, excitedly, directed inwards. What about archaeology at home? Those who still remember, or even consult, A Survey and Policy . . . . (Part) I will recall that the projected Part II never appeared. True, we have had our fill of isolated 'Part Ones' in British archaeology, but it would be grossly unfair to castigate the CBA and the post-War enthusiasts for this particular gap. The volume carries us to the 7th century AD, and into sub-Roman and early Anglo-Saxon facts, theories, and problems. Let us also remember that Anglo-Saxon studies then rested on some half-dozen reliable textbooks, that the- contemporary British and Early Christian researches were hardly under way, and that most of the thematic archaeologies we take for granted (medieval, agrarian, generally ecological, church, urban, and industrial) were either not yet recognizable or not even invented.

'The object of this booklet' wrote C F C Hawkes in 1948, 'is to consider briefly the present state and future direction of British field research in archaeology.' That, in a nutshell, is the object of this fresh collection of papers. During the intervening thirty-five years, it may legitimately be asked, could we not have had one or more updated versions? Surely further Conferences, characterized by missionary speeches, pleas for more interdisciplinary attitudes, and blueprints for action in the face of uncaring destruction of the Heritage, took place after 1948? Of course they did. One of them led to the foundation of RESCUE. Meetings and related endeavours gave us various seminal works, notably and more recently The Erosion of History in 1972 and The Future of London's Past in 1973[4]. And, narrowing the field from a national to a regional scene, the CBA's 1948 Survey and Policy did, during the following decades, inspire a great many other carefully planned meetings - right down to county and city level - at which short- or medium-term policies for the appropriate area were hammered out. Under the auspices of both local bodies and CBA Regional Groups, some of the resulting policy statements enjoyed publication.

It would be an interesting and doubtless rather revelatory exercise to take (at random) a dozen, nationally senior, British archaeologists, to confine them in an examination hall for three hours - the biters bit - and to oblige them to compile an essay on the topic 'What is the function of the Council for British Archaeology?' Former presidents of the CBA, who were all effectively forced to do something very similar in their outgoing addresses from the chair, would (naturally) be exempted But whatever combined outcome might be extracted from all these essays and addresses would have to include 'The duty to provide, periodically, reasonable and fully considered guidance as to the future potentials in British archaeological research'. And this, I suggest, takes us back to a point not very far from the statements in the 1948 Survey and Policy preface.

There is, however, a distinction to be made between affairs (and attitudes) in 1948, and those in 1983; I make it with all caution and diffidence, but it should be included by way of legitimate introduction. The words requiring particular stress in the hypothetical common passage quoted above are 'guidance' and 'potentials'. Over four decades, the pursuit and discipline we know, in the broadest sense, as archaeology has not only grown up, academically; its human support in this country, in terms both of sheer numbers and sizes of organized bodies and of an apparently still-expanding range of interests, has - happily - exceeded the kind of magnitude anyone would have envisaged in the 1940s. The CBA, as a democratically composed national council with its executive secretariat, is still the central co-ordinating bureau for a very major sector of the British heritage and, as such, has long enjoyed Government recognition. It has always avoided the pitfall of becoming a static forum where senior and professional archaeologists, no doubt from some feeling of duty, might begin to take decisions for (and perhaps impose them upon) their junior colleagues and their devoted amateur supporters. It is the CBA's continuing job to identify needs, to explore new ground, to represent and defend archaeology, and - here we encounter a comparatively recent development - to present, nationally, and from a base enjoying the support of public funds, the national archaeological viewpoint. By this last, I imply not so much statements to the half-million or so of us who already support archaeological endeavours in Britain - or in short, preaching to the generally converted - as the issuing of reasoned arguments, in reasonable cases, to all the other national interests whose activities, fears, triumphs, and campaigns touch at any point those of the CBA. The intended average reader of the 1948 Survey and Policy would have been a voluntary officer of a county archaeology-cum-natural history society or an eager yet slightly isolated schoolteacher, In this fresh statement, as in a number of its recent publications, the CBA is preferably writing for, and to - and they are cited just by way of illustration - a deputy county planning officer, a faculty head in a college of further education, a National Trust land agent, a member of a National Park board, a senior forester, a professional conservationist, and a concerned Member of either of the Houses of Parliament.

These are some of the essential differences between affairs and attitudes in 1948 and 1983, and they will explain why words like guidance, objectives, and potentials are used in place of demands and priorities. There is another radical distinction, too, in that the current range of research objectives is not being offered within the old chronological framework, from the Old Stone Age to - as we would now have to say - the Victorian era. That very convergence, of human (sc primarily humanistic ) and scientific interests, urged by Hawkes in 1944 did occur some years ago and, despite odd grumbles, has been judged to have occurred pretty successfully; the enriched world of archaeology is now trying to converge further, this time with the younger world of computer sciences. If this was not the sole reason for a shift in emphasis, from what might be called 'period-oriented' archaeology towards thematic groupings, future historians of ideas may well confirm the impression that it was the most important factor. Reflecting this change, the Council for British Archaeology set up a fresh structure where, under the Research Board, the active committees now bear not period titles but the names as indicated here in the Contents. The percipient will notice how these new names correspond, not just to relatively new forms of archaeological research, but to topics which enjoy other

and often non-archaeological support; for instance, from liturgically minded architects looking to church archaeology for inspiration, from town planners seeking historical justification for conservation policies, and even from major industries who deem it worthwhile to unearth, and then publicly to display, their pasts.

The status of this publication, then, is not quite the same as it (probably) would have been a quarter-century ago. The papers within it have been put together, through trial-and-error and long discussion, by committees of active practitioners, enthusiasts, experts, and practical advisers, by no means all of whom would conventionally regard themselves as full-time archaeologists. In preferring for the title the word 'Objectives', the CBA's Research Board, who take the responsibility for publication on behalf of the full Council, wished to avoid the value judgements - so vulnerable in any period of rapid change and development - implicit in 'priorities'. But at the same time the component Committees have put together their views to support stated aims, and it has not been the Research Board's intent that these should be whittled down to mere suggestions.

It will be seen, inevitably, that most of the papers contain references to other aspects of archaeological work and that most Committees seem to refer, directly or implicitly, to the activities of their fellows. The interdisciplinary cooperation that now marks true progress in British archaeology needs no particular stressing, and it has been the Research Board's wish that, in defining what are considered to be objectives in future research, each interest-group should pay special attention to the theme of such overlaps. Originally it was intended that the Archaeological Science Committee, whose work is perhaps the most all-embracing, should submit a multiple contribution after having sight of the other six papers produced by thematic specialists. In the event, and after considerable debate, the scientists have decided to confine themselves to a general statement, prepared by Dr Susan Limbrey, in which detailed advice has been sacrificed to a broad statement covering as indeed it does, the ideal relationship between archaeology and the applied sciences.

Though all the contributions are worded so as to embrace ideas, conditions and objectives on a national scale, they contain certain allusions to sites, contexts, and needs that will be interpreted both regionally and locally. The CBA is, after all, no greater than the sum of its constituent member-bodies, and most of British archaeological work takes place on a local basis. The Research Board, issuing here what could be said to amount to a set of high-powered Notes for Guidance, would be much gratified if these led to structured discussion - even to criticism, or replacement - by the CBA's Groups: CBA Scotland, Group 2 in Wales, and the English Regional Groups. In such a case it is, of course, hoped that objectives, geographically indicated, would at the very least be given serious consideration in the appropriate homelands.

The editor, though officially accorded a free hand by the CBA's Executive and Research Boards in preparing these contributions for a final and unitary version, has done his best to avoid substantial changes in wording or meaning, and has confined his work to editorial tidying

and some standardization of terms. Thanks are due to all those who helped to hammer the texts into shape, and who were prepared to revise and to condense successive drafts.

Charles Thomas

References


1 Conference on the Future of Archaeology . . . August 6th. to 8th, 1943 (Institute of Archaeology, Occasional Paper no. 5 (1943) ); Conference on the Problems and Prospects of European Archaeology . . . September 16th-17th. 1944 (idem, no.6 (1944)); and also A Survey and Policy of Field Research in the Archaeology of Great Britain, I: Prehistoric and Early Historic Ages to the Seventh Century A. D. (Council for British Archaeology, 1948)

2 Archaeology in the Field (1953)

3 Occasional Paper 6, supra (1944), 69

4 Published, respectively, by the CBA (Urban Research Committee) and by Rescue - A Trust for British Archaeology.

# ONE: RESEARCH OBJECTIVES IN AERIAL ARCHAEOLOGY

Aerial Archaeology Committee

## 1.1 Introduction

Air reconnaissance in Britain has during the past forty years yielded an enormous body of archaeological information whose character and significance are still only imperfectly understood by archaeologists or by air photographers themselves. Although the techniques of air reconnaissance have steadily improved, alongside those of excavation and conventional fieldwork on the ground, methods for collating and interpreting the resulting evidence have developed more slowly.

This situation derives, in part, from the belief of those responsible for aerial survey that their prime responsibility must lie in the collection of as large a sample as possible of the ever-diminishing evidence. Subsequent interpretation, although essential and even urgent, cannot proceed unless the photographs have first been taken, and the rate of destruction has accelerated to such a degree that the photographic programme cannot be postponed to a more convenient or less straitened time. More significant, however, has been the uneven allocation of financial resources for archaeological work in recent years. Only a tiny proportion of the national archaeological budget has been made available for air reconnaissance, photo-interpretation, and other forms of non-destructive survey. While such methods can never replace the remarkable and detailed results obtained by the expensive and destructive process of excavation, their proper and co-ordinated use can promote more economical and productive excavation strategies. At the same time, analysis of air photographs can yield insights into the character and evolution of a region's historic landscape unobtainable from any other technique.

The quantity of information now available from air reconnaissance is such that new techniques are required to handle it. While archaeology has made some progress in utilizing computers to handle large bodies of data, there are some special problems related to the character of the evidence derived from air photographs, ie the collation of numbers of photographs and the transcription of their collective testimony on to a map or plan, in a form that allows subsequent measurement, morphological comparison, and even typological assessment. Yet the 'cartographic statement' that results from all this manipulation is still, in archaeological terms, no more than raw data, for different periods of occupation and different types of site are often overlaid and inextricably mingled, while some features crucial to the archaeological understanding of the site simply do not appear on the photograph at all. These complications, coupled with the increasing inflow of new data, require a continuous process of rapidly sorting and re-sorting all the data within a changing conceptual framework, to which the results of excavation and fieldwork significantly contribute. This process can only be achieved by computer but would assist in the development of hypotheses - and thereby give direction to research - in landscape archaeology.

1.2 General

Archaeological air photography is concerned with remains of two distinct kinds: those where some relief still survives in the form of ruins or upstanding earthworks, and those that have been levelled by the plough and are now only visible as crop-marks or soil-marks. For earthworks, air photography is an indispensable tool in fieldwork and survey, both in the initial detection of sites and in their subsequent planning. Photogrammetry is of special value in the survey of complex or extensive groups of earthworks where ground survey would be arduous and time-consuming. There is much work to be done in the photography of surviving earthworks, repeated at different seasons to exploit natural differences of lighting and vegetation, particularly in areas of 'marginal' land which may yet be subjected to ploughing, as the Wessex and Sussex Downs have been since 1940. The techniques employed are, however, established and well understood and are not themselves a major field of research, unlike those connected with soil-marks and crop-marks which need further development and detailed study.

In assessing the evidence of soil-marks and crop-marks, account must be taken of the differing response of favourable and unfavourable soils. It is fundamental to the archaeological use of air photography to grasp the normal limitations of the technique, and neither to interpret distributions without reference to geological factors nor to expect abundant information from the stronger land. Less responsive soils are seldom totally unrewarding, and reconnaissance should be positively directed towards gleaning some information from them. At the same time we should appreciate the wider possibilities offered by abnormal conditions such as a prolonged drought, which not only brings a greater chance of crop-marks in heavy soils, but also extends it to permanent pasture and to parks and playing fields.

It is desirable to stress the importance of close liaison between aerial and ground archaeologists in those places where the two roles are not already combined in the same persons. Air reconnaissance should be integrated in an overall programme of exploration including field-walking, geophysical and geochemical surveys, as well as excavation. Soil-marks on an air photograph signal the fact that archaeological remains are being damaged by ploughing and that field investigation is therefore urgent. Finds made in field-walking draw attention to a site worth keeping under observation from the air. The comparative analysis of crop-marks permits recognition of what appear to be local types of site; they can then be sampled by excavation to obtain details of date, cultural associations, and possibly function, which in turn allows more refined interpretation of analogous but unexcavated sites.

How much excavation is desirable or feasible on any archaeological site depends on local circumstances, including finance and local research objectives, but even the most limited excavation can be of value, if directed towards the solution of specific problems posed by previous study of the air photographs. For the more enigmatic sites we cannot even say if they are prehistoric or medieval, so that the recovery of datable material from a signif-

icantly stratified context is already a major advance in understanding. Often the precise spot for excavation can be pinpointed by analysis of the photographic evidence. The objectives of selective excavation are limited but the effects can be far-reaching. Examination of a single ditch-intersection could establish the relative priority of two major structural phases in a complex site, with possible implications for similar sites elsewhere. Paradoxically, when it is used in this controlled and cost-effective way, excavation becomes an essential part of the technique of non-destructive survey, with which excavation is, for most other purposes, ordinarily contrasted.

Selective excavation cannot, of course, provide information about the general character of the remains, still less reveal associated features which did not appear on the original air photographs. These objectives can only be achieved by more extensive excavations, undertaken on a limited number of sites selected for their research potential (1.4b, 1.5c, below).

Air photography can be applied to architectural studies of historic towns. Stereoscopic oblique photographs provide an admirable means of evaluating the architectural character of the modern urban scene, while analytical photogrammetric methods allow surveys to be presented in an isometric or axonometric projection with minimal fieldwork.

Some attention should also be paid to the non-photographic methods of remote sensing, although these require expensive specialist equipment which makes evaluation of their archaeological usefulness difficult to organize. Limited tests of infra-red linescan have not yet shown that thermographic imagery can furnish archaeological information which conventional photography does not already provide. This needs further investigation, since temperature differences related to buried archaeological features have in fact been observed by other means. So, too, with automated image-analysis and computer-aided image-enhancement techniques: the equipment is again very expensive and designed principally for the study of satellite imagery, but these methods have already been found of some use in defining and clarifying the archaeological content of conventional air photographs. Developments in these fields should be watched and, if possible, followed up for their archaeological value.

There are four main areas of research in the use of air photographs for field archaeology (1.3-1.6 below). They seek to answer the following four questions, respectively:

What causes crop- and soil-marks?

How reliable and complete is the evidence so provided?

How can that evidence best be used in archaeological research?

How efficiently is the evidence being obtained?

## 1.3 The formation of soil-marks and crop-marks

a Important work has been done in the past ten years in identifying the physical and biological processes involved in the formation of soil-marks and crop-marks, and this has greatly improved

our general understanding. Variations in the response of soils and crops cannot be explained in general terms and will only be understood if individual sites are closely studied in relation to their own history and environment. This requires a co-ordinated interdisciplinary effort on a number of sites known to yield archaeological soil- or crop-marks, selected to represent different major soil types and different climatic regions. Over a period of several years regular records would be made on the ground of climatic, soil, and crop conditions, while photographic and perhaps other kinds of imagery would be obtained from the air as systematically as the weather might permit. Detailed comparison of these data should allow some assessment of the relative importance of factors such as rainfall, manuring, irrigation, and various cultivations in relation to particular soils and crops.

b It will also be useful to plot the distribution of soil-marks and crop-marks on a regional basis on detailed soil survey and land use maps. Land use is important in that it excludes certain areas from the study totally. Where possible, known patterns of reconnaissance should be taken into account, but usually the photographs themselves constitute the best evidence of this. It will be necessary to work out what level of classification of soils is significant for this study. Apparently anomalous occurences should be investigated for special local factors, including mapping error.

1.4 Correlation of air photography with excavation

a Where crop-marks or soil-marks have been the site of excavations, detailed comparisons should be made between the air photographs and the excavation plans to determine what known features were missed by one or other technique. Where detailed field-walking, geophysical, and geochemical surveys are available, they can be included in the exercise. In published reports such comparisons have seldom received much explicit attention; future excavation reports should not only itemize discrepancies, but seek also to explain them.

b Some soils favour a more complex rendering of archaeological detail on air photographs than others. This factor needs to be considered in the interpretation of sites on air photographs which it is not planned to excavate (ie the great majority). It would be useful for this purpose if a representative site could be excavated in detail on each of the principal soil types of a region, as a guide to the general reliability of the photographic evidence in relation to that soil. Therefore, when choosing between different examples of a given type of site for future excavation, the need for excavation on different soils would be one of the factors to consider. It might even be justified to select a site where the photographic evidence was mediocre, for that very reason, in order to learn if the underlying features were in fact as poor and meagre as they appeared.

1.5 Archaeological use of the evidence from air photographs

a The first requirement for effective exploitation of this evidence is its transcription on to maps and plans. This should be carried out to agreed scales and standards, region by region. Inaccurate plotting at too small a scale is valueless for research; on the other hand, overprecise plotting is wasteful, and the use of too large a scale is misleading. Appropriate cartographic conventions need to be developed to convey the subtleties, especially of crop-marks, on which accurate interpretation may depend.

b After transcription, the first analysis must be morphological and taxonomic. Plough-flattened features (soil-marks and crop-marks) need not fit readily into an existing framework of cultural or functional classes derived from excavation of earthworks in other areas. They must initially be classified on their own terms by shape alone; the groupings that emerge are then modified in the light of repeated associations, regional distributions, and, in so far as they may be available, the data derived from excavation. Work of this kind is going forward in a number of regions: if the results are to be compatible and susceptible of national synthesis, a common set of rigorous methodological principles needs to be agreed and generally adopted. To achieve this, the establishment of a regular seminar for workers in this field is a matter of some urgency.

Morphological study of plough-flattened sites arranges them in classes which range from typical examples to the decidedly atypical. Analysis of their distribution may draw attention to some that are significantly placed, and study of the development of the landscape in particular areas is likely to show some crucial relationships capable of being elucidated by fieldwork or excavation. In these and other ways analysis of the photographic evidence should form the basis for a well planned strategy of ground investigation through field-walking, geophysical survey, and (in the first instance) selective excavation. This would be followed up by further critical investigation from the air. This combined operation of air and ground survey should go far towards identifying key sites or archaeological areas for conservation or more intensive examination.

d The publication of analytical studies on the photographic evidence requires the development and general acceptance of standardized methods of presentation. These would include both cartographic conventions and a system of nomenclature. As with the publication of other forms of archaeological material, there can be no effective comparison and synthesis of individual studies unless there is a common graphical and verbal language.

1.6 Evaluation of the effectiveness of air reconnaissance

a A pilot study has shown that it is possible to obtain a crude measure of the effectiveness of air reconnaissance by calculating the rate of discovery of 'new' sites in relation

to hours flown and the proportion of new to repeat photography. At the least, this process would reveal any dramatic fall-off in the acquisition of new information. The method is capable of statistical refinement, however; it should be more widely applied, and data submitted as a matter of routine. Computerization would allow analysis of different areas over varying periods, to show where reconnaissance was ceasing to show results and might no longer be justified at the expense of more needy areas.

b It could be instructive to organize the study of a given area in such a way as to record the individual contributions of documentary research, field-walking, and air reconnaissance separately, so as to measure the relative achievement of each discipline working on its own, and then to observe the degree to which this was enhanced by consideration of the results obtained by other means.

## 1.7 Conclusions

Air reconnaissance and photo-interpretion are specialized techniques capable of serving many archaeological (and non-archaeological) purposes. The proposals made here, although put forward with the specific aim of developing improved methods in the archaeological use of air-photographs, may also serve as examples of how air photography (including photogrammetry) may be incorporated with advantage into programmes of research in many other fields.

## TWO: RESEARCH OBJECTIVES IN CHURCH ARCHAEOLOGY

Churches Committee

### 2.1 Introduction

2.1.0 It should not be imagined that churches have been so well studied that little remains to be said or done about them. In the past, antiquaries were often selective in the evidence they chose to examine or ignore. As a result, the structural sequence was usually oversimplified, liturgical evidence in early periods was neglected, and questions of origins were ignored or obscured by speculation.

2.1.1 Recent years have seen the emergence of a more inclusive approach, wherein church archaeology is taken to be the complete historical study of the material structure of a church, above and below ground, in relation to its site, contents, historic setting, and to the community it has served. Simultaneously, the CBA has been instrumental in promoting public interest and participation in church archaeology, and in setting up networks of archaeological consultants for Anglican dioceses, historic cathedrals, and the Church of Scotland. These developments in academic outlook and administrative provision for church archaeology form the background to the Committee's research recommendations.

### 2.2 General

2.2.0 Although the archaeological study of churches may demand special skills, it is not an independent sub-discipline. The claim of Christian sites and structures to a separate consideration within the larger framework of a research strategy for British archaeology arises mainly from the special regard in which they have always been held by their founders, makers, and users. That regard has been expressed in facts of location, structure, form, and development.

### 2.3 Themes

2.3.0 Research objectives for churches must have two immediate and complementary aims:

a Improvement of knowledge about religious sites, buildings, and building construction

b The integration of information generated by studies under (a) with data gleaned in programmes of study planned by other research committees.

2.3.1 The church is often the oldest recognizable building serving a rural settlement. Hence it can provide a point of reference for the analysis of developments around it. More than any other type of building a church reflects the fortunes and

aspirations of the community as a whole. The variety, intensity, and individuality of medieval urban life is reflected in an equally diverse pattern of churches.

2.3.2 In town and countryside alike, written evidence for the origins and early development of a parish church is almost always lacking. Hence the early history of a church will usually have to be derived solely from archaeological evidence. Where churches have survived in communities which have prospered or physically expanded, the concentration of wealth has often resulted in a sequence of enlargements which have obliterated evidence for the early stages of their developments; here again, therefore, an archaeological approach may be required as the only source capable of yielding new evidence. In Wales and Scotland the age of an ecclesiastical site will usually be very much greater than that of the existing building. Where informative deposits survive, archaeological investigation may be especially appropriate, in order to understand the earlier growth of the church, identify the previous use(s) of the site, and as a contribution to study of the development of the settlement pattern.

2.3.3 The relevance of church archaeology to the history of settlement in England is additionally usually conceived in late-Saxon and post-Conquest terms. However, there is much to be gained from the identification and study of sites which were in use in the 7th, 8th, and 9th centuries, since it is likely that these provided the foundation upon which the parochial system was built. Nor should we overlook the probable presence of distinct Christian buildings and graveyards in late Roman Britain. The fate of such sites, whether abandoned, re-used out of expediency, revived, or kept in continuous use, may have implications for the development of the settlement pattern in the post-Roman centuries.

2.3.4 So far as the 7th and 8th centuries are concerned, more effort is needed to apply the evidence of churches and monastic settlements to the problems of the metamorphosis from a pagan to a Christian society: for example, to date the appearance of the first secular churches at centres of royal or thegnly authority, and to examine the implications for settlement posed by the disappearance of pagan burial grounds and the emergence of a network of churchyards. The possibility that there may be 'lost' phases pertaining to these processes (eg short-lived private churches of the 7th-9th centuries which stood on sites different from those of their surviving stone-built successors) should be kept in mind.

2.3.5 In those parts of Britain which were affected by Scandinavian attack or settlement there may be the sites of churches which went out of use, or entered upon a period of dormancy followed by revival at a later date.

2.3.6 Throughout the pre-Norman period, churches contribute important evidence as to the methods and achievements of builders, and most of what we know about liturgical layout and use of space within churches and their precincts. After the 12th century the survival rate of military, domestic, and agricultural

buildings begins to rise and complements the evidence for building history that is provided by churches. Nevertheless, churches frequently retain features which have either been purged from or else were seldom incorporated in secular buildings. The greater churches, together with castles, provide the best insights into advances in building technology in stone.

2.3.7 In conclusion we wish to stress that:

a The archaeological study of churches in Britain must inevitably be undertaken in the light of international research.

b The prerequisites for informed discussion - a carefully investigated sample of parochial and monastic sites, yielding details of internal site morphology - are not yet available. In most cases we cannot even draw upon adequate first definitions about ecclesiastical sites.

2.4 Recommendations - secular churches

2.4.0 Secular churches are here defined as pre- and proto-parochial churches and chapels, together with fully parochial churches and their dependents after c 1100. We would list important tasks as follows:

2.4.1 Elucidation of the relationship between late-pagan and early-middle Saxon cemeteries and settlements and secular churches. The nature of the contrast between the 'developed cemetery' model which has been discerned as lying behind many of the oldest ecclesiastical sites in Atlantic Britain, and the supposed hiatus between most pagan burial grounds and ecclesiastical sites in eastern and central England, deserves close attention.

2.4.2 Acquisition of a framework of dates and events for the origins and early development of local churches. Unanswered questions to which archaeology could make a contribution include:

a When, why, and for whom were the churches founded?

b When did they prosper and when decay?

c Did the church have a special significance for its particular neighbourhood?

d How did the parochial system evolve?

2.4.3 Investigation of reasons for major regional differences in parochial provision (eg as between the Danelaw, and parts of southern and western England, or between the Norman-colonised parts of Wales and Purawallia) and difference between one town and another.

2.4.4 Study of archaeological evidence for the liturgical development of churches.

2.4.5 Investigation of the morphology of ecclesiastical sites, including ancillary buildings, the influence of earlier use(s), and

relationships of similar structures within churchyards.

2.4.6 In approaching issues arising under 2.4.1-5 above, there should be concentration on each of the following in some measure :

a Sites where ecclesiastical use was of a short duration, offering hope of liturgical evidence and information on the pre-ecclesiastical use of the site within a tight chronological framework.

b Churches with a known date of abandonment, where although disturbance may have been greater than under a, absence of post-medieval gravedigging, restoration or rebuilding may have left the earlier sequence relatively intact, and there is a terminus ante quem for the ecclesiastical/liturgical evidence, and for burial.

c Churches of intrinsic architectural importance (all periods), including consideration of their simplicity (eg the 'perfect Norman church') or complexity, where the structural sequence is in need of elucidation.

d Churches as components of extended settlements, whether rural or urban, which are themselves the objects of intensive study.

e Churches with diverse historical backgrounds (eg upon earlier settlement or cemetery, within pre-existing fortification, attached to cult focus).

2.5 Recommendations - monastic sites

2.5.0 The archaeology of monasticism embraces settlements as well as churches. Archaeology must focus beyond the church, on the economic, conventual, industrial, and public buildings that accompanied it, and upon the form and evolution of the establishment as a whole. Temporary quarters occupied while monasteries were being built have also not been much explored, and deserve attention.

2.5.1 The need to study monastic layouts as entities exists at all periods, but it is pressing in the pre-Conquest period, where present knowledge of the characteristics of monastic settlements is both minimal and restricted to a handful of sites. The point is enlarged upon below, but it may be noted that the tendency of some monastic churches of the 7th and 8th centuries to become parochial subsequently means that a number of early layouts may underlie and/or extend beyond 'ordinary' parish churchyards (eg Llandeilo, Abercorn, Brixworth), and hence may be approached for reasons outlined above.

2.5.2 We would identify important categories as follows:

a Early Christian (6th-8th century) houses which did not survive the Scandinavian invasions, though they may, like Bardney, have been re-founded after the Norman Conquest or, like Clynnog, have changed eventually to parochial status; and early monastic colonies in south-western England, Wales and Scotland which disappeared

before 1200. The diversity inherent in pre-Norman monasticism is not at all represented in archaeological terms: the double minsters of Kent, for example, are virtually unexplored; no Mercian monastery has been properly investigated; the background and early development of religious settlements to the west and along the Welsh border is unknown; and there has been no excavation of a Welsh monastery of the 6th-7th century. Under this head we should give serious consideration to a programme of investigations perhaps spread over 25 years or more, with appropriate steps taken now for the preservation, in expectation of study in the future, of the key sites that survive.

b At least one complete hermitage site, not subject to elaborate development.

c The two early Carthusian houses (Witham and Hinton), in order to resolve the development of the communal rooms and the emergence of the lay brothers' cloister.

d The full examination of at least one Cistercian grange.

2.5.3 Beyond these primary tasks, we would also commend the following:

a Investigations for the refinement of dating and data: eg in houses of canons, nuns, and frairs of late foundation, or the Observant houses in Scotland where most artefacts from a known terminus post quem can be of value for establishing regional dating (pottery, dendrochronology, or remanent magnetism). Secular cathedrals and cathedral priories where the building history is well attested in written records (not all yet published) may also be of value in these respects.

b Sites of short occupation, especially houses of friars where written records indicate that they were built on virgin sites (or clearly indicate the previous nature of the site), so that we may be sure that there was no limitation or compromise in the choice of layout. The development of these houses after c 1350 is also important.

c Field survey and selective excavation of the buildings and earthworks of the outer precinct (eg mills, brewery, fishponds, bell-casting), although care should be taken not to duplicate information which may already be accessible in written records, unless archaeology can usefully amplify what is previously known.

d Cistercian houses of short duration (10-50 year stay) to indicate the nature of these temporary houses and the development of the claustral plan. Preferably the choice of excavation should be on a site not subsequently used as a grange (but see above).

e Domestic buildings of Anglo-Saxon houses of the 10th century revival, and houses of canons not living according to the Benedictine Rule.

f Benedictine and Cluniac houses of short duration, particularly those in towns and the alien cells closed in c 1414. These

should throw light on urban conditions and on how far a continental mother house influenced church plans and material possessions; they should also indicate what level of accommodation was thought appropriate, especially after the epidemics of the later 14th century.

2.6 Burials

2.6.1 The archaeological study of churches frequently provides opportunities for the study of burials. These opportunities are recognized by this Committee as being of supreme importance, since from c 750 the acquisition of almost all burial data for the study of past populations is likely to be occasioned by church archaeology. The academic desiderata for such study lie beyond the competence of this Committee, but not beyond the proper concern of it; a scientific policy for this area of study is urgently required, and should be developed in concert with the CBA Archaeological Sciences Committee.

2.6.2 The recording of churchyards remains an urgent, and rewarding, task, which deserves to be continued and developed in all parts of Britain, along lines recommended by the CBA in its publication How to record graveyards, now in its second edition.

2.7 Conclusion

It is recommended that the greatest emphases be placed upon the following:

a The archaeology of liturgy in all periods.

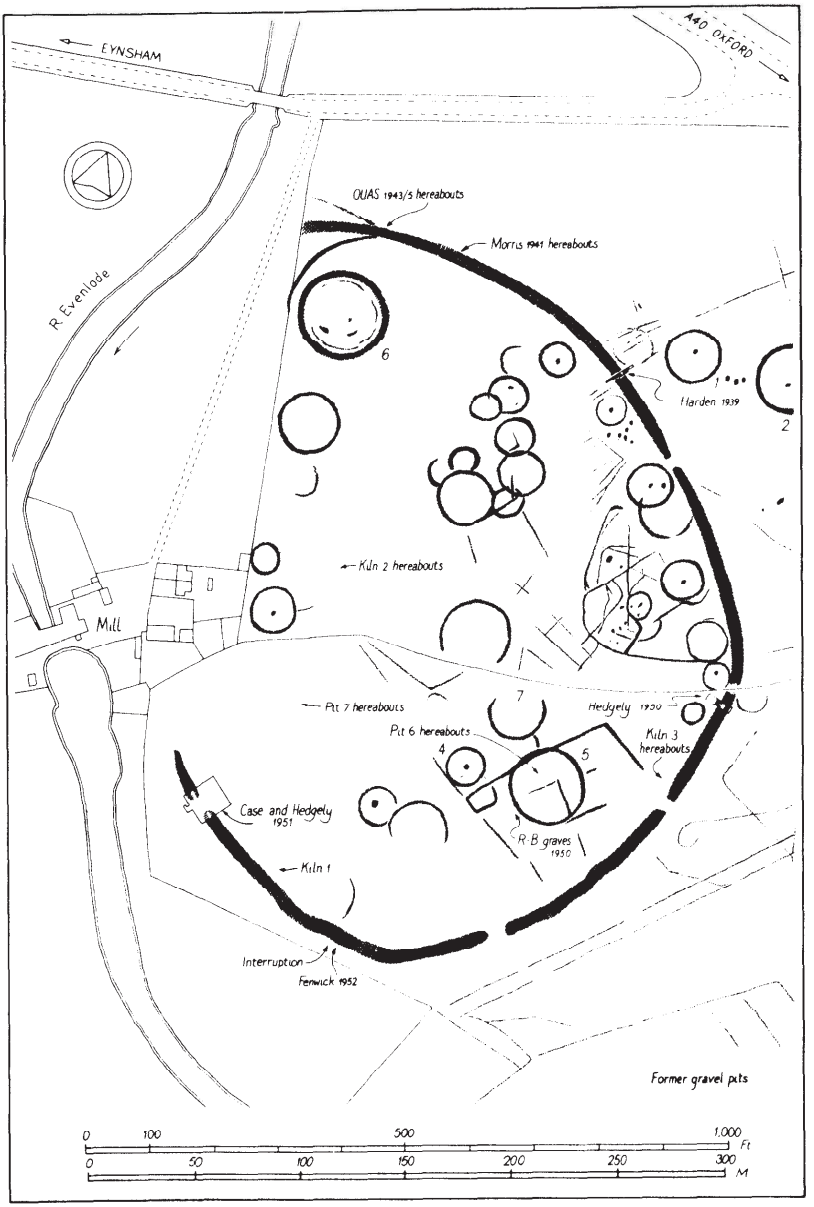
b Any Romano-British Christian site.

c British and pre-Scandinavian monastic sites, from their morphological and regional standpoints

d The origins of secular churches, with attention to regional patterns and contrasts.

e Sites which promise a coherent stratigraphical sequence, substantial deposits, and conditions which favour preservation, from which may be derived a framework of dates for those periods at which written records are lacking.

f Selected problems of the later Middle Ages (c 1200-1600).


EYNSHAM
A40 OXFORD
R. Evenlode
OUAS 1943/5 hereabouts
Morris 1941 hereabouts
6
Harden 1939
2
Kiln 2 hereabouts
Mill
Pit 7 hereabouts
7
Hedgely 1950
Pit 6 hereabouts
4
5
Kiln 3 hereabouts
Case and Hedgely 1951
R.B. graves 1950
Kiln 1
Interruption
Fenwick 1952
Former gravel pits
0 100 500 1,000 Ft
0 50 100 150 200 250 300 M

## THREE: RESEARCH OBJECTIVES FOR THE COUNTRYSIDE

Countryside Committee

### 3.1 Introduction

3.1.1 The countryside of Britain is well known but not known well. It is increasingly used for and by an urban-based society within a framework whereby strategic decisions are made regardless (or in ignorance) of the interests of the countryside by people who are not themselves 'countrymen', and some who are, such as landowners and farmers, and manage their land increasingly in terms of maximum monetary return to satisfy a scale of values imposed from outside by an urban-based capitalist economy supporting too large a population. Archaeology is of itself neither creative of food, nor productive of wealth, nor (save where exploited for tourism) is it directly beneficial to landowners.

3.1.2 Archaeology in the countryside is very much a minority interest, yet as an academic discipline it has in the last three decades revolutionized our knowledge of the nature of the rural landscape in cultural terms. To a certain extent, this knowledge has been communicated to a wider audience; but the subject ranks well below traditional natural history transmuted into nature conservation and, as a lobby, it carries relatively little weight within the field of rural environmental concern.

3.1.3 Within archaeology itself, investigation and research on a rural basis did not during the 1970s develop a coherent philosophy equivalent to that of urban archaeology, in part because, until the arrival of the latter, archaeology in Britain was to all intents and purposes 'rural' without our knowing such to be the case. Especially is this so in the prehistoric field, by definition based in a rural landscape. The escapist element provided by a country setting for excavations, and the relative ease of identifying apparently suitable subjects for excavation in the countryside, contributed to the continuing ad hoc way in which the archaeology of the countryside has come to be explored. In recent years, too, a belief that rural archaeology is 'cheap' when compared with the expense of urban excavation has led, inter alia, to an imbalance in the distribution of resources and a shortfall in fulfilment, at least in terms of academic return and the development of an appropriate methodology in relation to the nature of the problem and the scale of archaeological destruction.

3.1.4 The following three sections are part of a whole and are inter-related. For convenience of presentation, they are headed consecutively as Methodology, Research, and Conservation.

3.2 Methodology

3.2.1 This Committee stated in 1978, and here repeats, that 'rural archaeology should be:

1 Ecologically conceived
2 An integrated exercise based on the use of multiple investigatory techniques (ie not just excavation)
3 Area-based
4 Long-term, though not necessarily continuous
5 Academically motivated within carefully conceived research strategies . . . '

3.2.2 To our repeated emphasis on the need for an ecological basis for investigation into the historic development of the landscape, we would add a more overt recognition of the interdisciplinary nature of much necessary research and of the increasingly high scientific potential of cultural contexts for research other than archaeological (eg palaeobotany).

3.2.3 Both fieldwork and excavation need to be applied systematically and in an integrated manner within a series of projects. While we would see that very often the latter will be executed within a framework provided by the former, we also recognize that newly excavated evidence can stimulate renewed fieldwork and, indeed, provide the framework, cultural and chronological, within which fieldwork can be carried out. Nevertheless, while fieldwork can be pursued for its own sake independently of excavation - and certainly not only to provide sites for excavation - it has already become difficult to envisage adequate justification for a rural excavation being conducted without the prior establishment of at least a topographical framework by fieldwork.

3.2.4 On fieldwork Itself, several needs can be readily indentified:

a to locate and identify the surviving archaeological field resources in Britain which have not yet been even minimally recorded;

b to carry out, for record and improved understanding, analytical field survey of as many as possible of those archaeological sites, complexes, and areas whose surviving three-dimensional nature allows and requires such treatment;

c to test and improve fieldwalking, geophysical, and sampling techniques;

d to develop further application of air photography to the discovery, record, survey, mapping, and comprehension of archaeology in the countryside;

e to develop a common national standard of field record, including an agreed terminology, and to make that record easily and cheaply available locally as well as nationally;

f to encourage the participation and, indeed, commitment of as many competent people as possible to archaeological fieldwork;

g Ideally, perhaps, because the financial and staffing implications point to such agencies as the Royal Commissions, to undertake a series of comparative field-survey projects in separate and distinct areas of rural Britain, as a guide to such matters as survival of evidence, monument density, levels of agricultural destruction, cost-effectiveness, and the return (per man-week) of information gained.

3.2.5 On excavation itself, particular desiderata can also be identified, thus:

a to continue the technical development of excavation as an increasingly sophisticated research tool;

b to continue the trend towards exploitation of the art of excavation for environmental research in its own right as well as for cultural purposes;

c to re-assert the merits of small-scale, spot-specific excavation as an aid to understanding when applied within a framework established by survey;

d to provide appropriately for the placing and execution of a relatively small number of major, extensive landscape excavations which together should cohere as a national programme over, say, the next two decades;

e specifically, to examine the outstanding problem of archaeological features (artefactual scatters) in topsoils, whether as settlement debris, material displaced when former earthworks were destroyed to provide top-dressing, or any other non-stratified phenomena.

3.2.6 In view of the now demonstrable benefits of scientific experiment on rural field archaeology, we would strongly advocate the further development of experimental archaeology within an overtly research framework. Furthermore, we recognize the need for such experimental research to be institutionalized, because of its long-term nature, because of the need for standardized quality control, and because of the priority which must be given to the accumulation and permanent security of the experimental record. We are also increasingly aware of the public, and indeed professional, education importance of such experimental stations at a time of stress in our urban-based society, and, conversely of the dangers of ill-informed and/or commercial exploitation of this very fact.

3.2.7 Whatever methodologies become effective, or just fashionable, over the next twenty years, the crucial factor in their implementation will be educated and trained personnel. It is fundamental to any policy that adequate resources be put into the creation of the appropriately qualified people; we see a particular need to produce field archaeologists.

3.3 Research

3.3.1 'The concept of the 'site' is no longer appropriate to prehistoric archaeology' (National Priorities for Prehistoric Archaeology 1981, p 15). We underline the fundamental importance of this

statement by the Prehistoric Socety; we would extend the basic principle it embraces to the countryside at any time up to the present. In our view, all research - indeed any form of archaeological activity in the countryside (including conservation, below) - must stem from a grasp of this principle: perhaps the greatest intellectual challenge in the rural archaeology of the next twenty years is to convert the negative form of the above statement into a positive affirmation of principle. What, in our thinking and our operations, is to replace the concept of 'the site'? Should our approach include a redefinition of this term, embracing all the area between fairly closely related features (for instance, barrows in a cemetery, or a cluster of enclosures), plus - at the minimum - an arbitrary area around any monument suspected of being a settlement, notably in front of any supposed entrance?

3.3.2 Intellectual frameworks apart, a closely related basic need is the establishment of a common 'research language', a medium of communication appropriate to the reality of rural archaeology in the later 20th century rather than one compounded largely of words, and more importantly concepts fossilized in words, which have evolved into the archaeological language in which this paper is written. The grammar of rural archaeology' has still to be developed, and in two senses: a linguistic grammar as indicated above, and a related 'graphic grammar' expressing in codified visual terms the elements of that we would study. In both senses we remain trapped in Allcroft's Earthworks of England (1910) model, excellent for its time and fifty years thereafter, but inadequate and indeed positively misleading now. The need for analysis and definition as a means of releasing the mental blockage is paramount intellectually: in practical terms it is also vital so that we can order, in significant and usefully retrievable ways, the almost overwhelming data now to hand. We must persevere in any attempt to expand morphological classification, in the increased knowledge that the visible remains of many sites - even those subjected to 'total' field-survey or 'total' excavation - may prove to be only the nuclei of much wider contemporary development and exploitation of the landscape.

3.3.3 Whatever grand strategies may or may not be followed in rural archaeology, room must be found for detailed study. It is all too easy in framing research designs, costing 'landscape projects' or in going for the attractions of the prestigious to underestimate the value of detail and even to regard it as a luxury. As a principle, we regard select examination in detail as vital, whether it be on the fieldwork analysis of an earthwork complex, the minute recording of a stratified sequence or close examination of one small area over many years. Detail takes time, money, and patience; it is nevertheless, and perhaps paradoxically, more often than not the source of general hypotheses which themselves shift emphases in research elsewhere. Detail is good; it is the partner, not the antithesis, of theory.

3.3.4 While recognizing that the archaeological study of the material culture of the countryside is valid and illuminating in its own

right, we should advocate that one of the objectives of rural archaeology should be to sustain a dialogue between archaeological and documentary research, the one both testing ideas from and feeding questions to the other.

3.3.5 General research considerations:

a The following outline of some of those areas where further work could be useful does not attempt to include considerations from other CBA committees - Churches, Urban, Historic Buildings - even though many of them impinge on the country side; in general, we support their suggested objectives. Though the particular problems they identify reflect their specialist knowledge, we are struck by the similarities in principle and approach both in their papers and in equivalent ones recently prepared, at the invitation of DAMHB/DoE, by the Prehistoric, Medieval, Post-Medieval, and Historical Metallurgy Societies and by the Medieval Village and Moated Sites Research Groups. The following themes stand out, from our more general countryside viewpoint, as requiring attention; more particular topics are listed in 3.3.6.

b The problem of numbers: crudely expressed, how many people in what number and type of settlements were occupying any given area of land at any time in the past?

c Land use and allotment: how was the land being used, to what purpose, and through what territorial mechanisms at any time in the past?

d Regionalism: what, if any, are the regional characteristics of the British countryside at different times in the past?

e Settlement: if hierarchies existed, how can they be accurately defined and explained, eg what was the nature and role of 'leadership sites'?; can we define 'territories' at any time, and in what sense?; what is a 'settlement pattern' and what are its components at any one time (and through time) in an area?

f Topography: problems arising from topographic considerations would include the nature of 'marginal land', then and now; valley exploitation in relation to that on higher ground, and vice versa; river systems; land/water levels through time.

g Settlements: the origin, functions, and end of occupation sites and their relationships with contemporary features such as cemeteries; the variety of contemporary settlement from and function in an area.

h Towns: the relationships between towns and countryside at any one, and through, time.

i Bioclimatic zones: an exploration of what it was feasible, given the technology at the time and the natural constraints of a bioclimation zone, for a community to extract from a defined area - almost a predictive approach to former agrarian societies rather than deductions about their life style interpreted post hoc facto from the evidence

acquired (a useful process at least to define, and therefore recognize, the unlikely?).

j Evidence: further research is needed to explore the validity of different types of evidence to support different parts of the interpretative structure, eg is a circle of post-holes of the same, or different, weight evidentially as a stone hut-circle? Is a grain from a pit 'worth' the same as a grain impression on a pot?

k Settlement pattern: would answers to some of our questions, and new questions, appear if, instead of rural archaeology's concentration on 'dead sites', investigation was redirected, following urban archaeology, to 'live sites', eg extant farms and villages?

Air photographic evidence: granted that a major effort of basic importance is to make available the data already acquired, some fieldwork, and especially excavation, should be specifically dedicated to elucidating air photographic phenomena as such and to evaluating air photographic evidence against the reality on and in the ground. Such evidence now constitutes the largest part of Britain's archaeological data-base in the countryside, yet it has scarcely been tested and nowhere scientifically.

m Projects: we have no doubt that long-term projects hold out the best prospect of academically cost-effective research in the complexities of the British countryside. Most should be designed in terms of national needs; some at least should consciously relate to Britain's geographical and cultural position as one of Europe's groups of off-shore islands.

3.3.6 More particular research topics

a Agriculture: Britain and its economy were primarily agricultural until the 19th century, a fact which an increasingly suburbanized population - and archaeological profession - finds easy to forget. We do not overlook the fact that most (suburban) areas today are former countryside. Our palaeo-agrarian data-base is extremely poor for many areas of the country for most periods of time so, in view of the crucial significance of the topic to those we would study, an overall emphasis on agrarian research seems not unreasonable. Within that knowledge is needed, especially about, chronologically, c 4000-1500 BC and the 1st millennium AD; culturally the MesoEthic/Neolithic interface, that late Neolithic/Beaker/'henge-builders' horizon, and the Anglo-Saxons; and topographically, the North (Scotland and England), the West Midlands, East Anglia, and south-eastern England. The total excavation of large areas of fields, deliberately, instead of by accident and in fragments when excavating something else, is increasingly a priority, and the environmental potential of buried layers - indeed of whole landscapes beneath peat or sand - is especially high in such an agrarian context.

b Soils : much more research is needed on the correlation between land-use potential and contemporary activity.

In particular, the pre-medieval use of 'heavy' soils needs to be explored and techniques developed for their archaeological study.

Settlements: research is needed to correct the chronological imbalance in our knowledge with regard to Mesolithic, Neolithic, and late Saxon settlements in particular. The archaeological expression of the Scandinavian settlement needs to be identified; the pre-urban nature of sites which in Roman or later times became towns needs to be established Settlement characteristics such as 'migrations', 'shuffles', and 'drifts', now well established for medieval times, need to be examined in earlier periods, perhaps particularly where considerable data are already available: eg in the pre-Roman and Roman Iron Age.

d 'Flint scatters': what do they signify?

e Industries: industry as a rural phenomenon for the most part awaits its appropriate research from many angles. The (still largely rural) archaeology of simple manufacturing, prime-mover, and assembly processes, as the 16th and 17th century precursors of the Industrial Revolution, still awaits clarification and is very rarely encountered; we are conscious of a new interest - which began with 'Countryside Treasure' surveys, and in a few areas has been professionally expanded - in the remains of crafts, traces of lost agricultural processes, and in fact what may have to be defined as 'farmyard' or 'domestic' archaeology, the nature of which (as with ethnological parallels in prehistory) may require most careful consideration

f Church archaeology: while the subject is particularly discussed by the Churches Committee in the preceding Chapter, we would single out investigation of religious sites as nodes in settlement patterns as an approach fundamental to the archaeology of the countryside.

g Land allotment: recent research has demonstrated that much remains to be learnt from the major monuments, that many kilometres of surviving boundary (which begs the question) have yet to be plotted, dated, and interpreted, that much still in use as divisions in the countryside may be as relevant to previous arrangements as more conventional archaeological features, and that lengthy boundaries also exist as buried phenomena. All require further investigation, Pit alignments in particular remain a mystery.

h Air photography: a major effort is required to log, interpret, and express cartographically the archaeological data already photographed. Appreciating that this is controversial, we nevertheless opine that, if a choice has to be made, such research is more important than further air photography, at least in certain parts of the country. New flying should stem from a knowledge of what is already known and of the questions that knowledge poses. Here, too, we are aware that the very many sites and monuments units, registers, and offices around the country possess their own air-photographic archives, tend to follow non-standard indexing procedures, and - apart from being now at some

financial risk - can seldom afford to commission logical extensions to the covers they possess.

Bearing in mind the rewards that followed the drought years (notably 1959 and 1976), we would underline the desirability of planning, now, a contingent scheme to mount the maximum aerial surveillance when Britain experiences - as climatologists imply it probably will - its next prolonged drought; here we have in mind our biggest gap in knowledge, that of the numerous tracts of downland which were ploughed flat before the advent of aerial photography.

i Parks and gardens: areas emparked in the Middle Ages, or even the Age of Enlightenment, represent then-fossilized landscapes, often of large acreages: of Hampstead Heath, Holyrood Park (Edinburgh), or some of the ducal parks in the English midlands. Threats to these through sale, motorways, or any other agencies call for particularly full and energetic exploitation. On a more detailed scale, the archaeology of gardens, both as a topic (since Roman times) of considerable historic interest in its own right, and again as the chance to study pockets of land, socially stabilized and potentially incorporating elements of earlier landscape use, is a relatively new development and one that merits attention.

k 'Rural sociology': related to one aspect of modern church archaeology, notably the gravestone-based analysis of churchyards, this again is a rapidly growing interest stemming from the current family history vogue. Unsystematically, much light is being thrown, as far back as the medieval period, on the precise nature of village and hamlet evolution, situation of craft processes in a community, agrarian tenure, the separation and amalgamation of land-holdings, and the significance of place-name and field-name analysis. At some point, family history becomes local history and rapidly encroaches upon aspects of countryside archaeology, and enormous amounts of enthusiasm, often allied to real skills, are being expended here by non-archaeologists for non-archaeological ends. There may come a point where, properly, rural archaeology should involve itself.

## 3.4 Conservation

3.4.1 Any archaeological policy for the countryside in the later 20th century should include the conservation of the archaeological resource as one of its principal objectives. Achievement must depend on acceptance by archaeologists that conservation in the field is one of their prime obligations, on an informed public opinion, and on a range of professionally conducted exercises in the framework of statutory provision and co-operation with a variety of land-owning and land-managing interests. We must be aware that, at present, modern development can all too often dictate when, where, and how we work, since resources will never be equal to demands. Is this inevitable, let alone desirable? Does this pose the challenge to evolve national gulde-lines in respect of, say, plough-damage and purely agricultural

threats? We see here a need for fresh policy making and discussion.

3.4.2 We believe that Part II of the Ancient Monuments and Archaeological Areas Act 1979 should and can be applied to the countryside,

3.4.3 We accept in principle that archaeological conservation is a dynamic process, involving positive land management, rather than a fossilizing process of inert preservation, and in certain cases we equally believe that an archaeological land use must have priority over other land uses. That principle extends to a selection of flat sites revealed by air photography.

3.4.4 From archaeology's point of view, the priorities in a conservation policy now must be to secure:

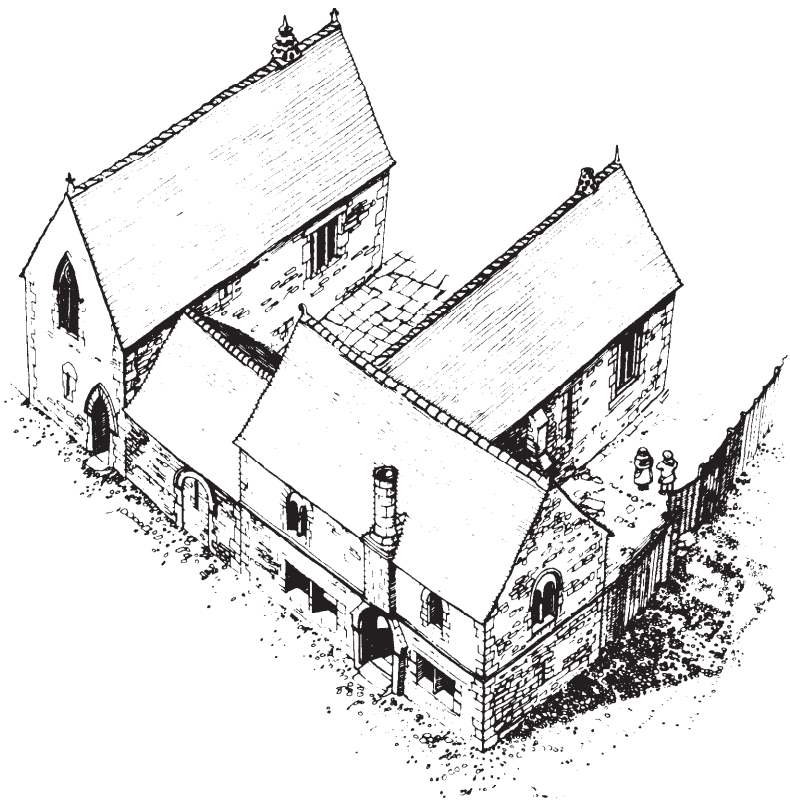
a a number of archaeologically representative areas, regionally disposed and each covering many hectares, in which relationships are preserved and can be studied in perpetuity;

b a more representative portfolio of Guardianship monuments;

c an academically based Schedule of sites of national importance which can effectively withstand pressures for rural land-use changes.

3.4.5 Fundamental to conservation is a positive programme of public participation in its heritage. Britain has a great deal to learn in this respect from long-tried practice abroad, especially in the USA. Immediately - and in terms of <u>any</u> research policy statement, this is (bluntly) essential to ensure that any arena for future research survives - we stress the need to identify the prime rural-interest groups, whether fully or quasi-statutory (eg the National Parks, the National Trust's regions, the Nature Conservancy Council, the Countryside Commission, and various forestry and farming interests) and to press on with developing systems of internal archaeological representation, a full advice capacity, links with appropriate sites and monuments units, etc. In this, still the unfulfilled aspect of British archaeology's entry into the wider world of all conservation, the Countryside Committee will probably continue to spearhead the CBA's efforts.

3.4.6 Continued erosion of Britain's archaeological heritage on the scale of the 1950s and 1970s is quite unacceptable and is not in the country's best interests. It is a sobering thought that, in parts of the country and for many types of evidence, the destructive experience of the last thirty years cannot in fact now be repeated, for less now survives than has already been lost.



## FOUR: RESEARCH OBJECTIVES FOR HISTORIC BUILDINGS

Historic Buildings Committee

### 4.1 Introduction - general principles

The study of buildings is at the present time commonly divided into archaeological, technical, and architectural aspects.

There is a great need for a common approach. If it can be evolved it will remove, or at least reduce, the criticisms which archaeologists and historians of buildings feel entitled to make of each other's work.

One possibility is for all to agree that they are archaeologists: that is, that they study the material remains of the past. In that sense, the stylistic or decorative features of a building are subordinate to elements of construction, as is the decoration of a pot. A more profound approach, which might seem unnatural or affected to the architectural historian, is to adopt the concept of stratification for the analysis of a building, whether vanished or standing. It would be a way of putting first things first and any changes, down to a layer of wallpaper, in their proper place.

Behind such modifications of practice lies the problem of different levels of recording, which can be compared in the terminology of the Frere Committee. These differences are very evident in the standards adopted for recording excavated remains (Level I) and the practice that is enforced upon those bodies in many cases when dealing with threatened remains (Level IV). It may not be reasonable to recommend that either should change, but recognition of the difference may clarify the quality of work.

To understand a building properly it must be studied as a totality. This must include, potentially, above and below ground features; structural arrangement and detail; the materials used; plan form; the uses of rooms; the sequence and date of subsequent adaptions, additions, and demolitions. Its relationship to its site and surrounding buildings should also be considered. This total approach requires archaeologists to take a greater interest in standing buildings and building historians to concern themselves with evidence that lies below ground. It demands an interpretative analysis of structure and plan forms and in many cases a judicious application of archaeological methods to standing buildings.

The importance of such studies is being made urgent by increasing damage to old buildings, not only from demolition of listed buildings, but much more by widespread and unrecorded conversion, restoration, and rehabilitation, which inevitably destroys the evidence of a building's history. The CBA could have a most important role in this situation since it provides a point of contact between those concerned with the different aspects of study that have been listed above. The Council should promote the following objectives:

4.2 Data collection, especially by fieldwork

4.2.1 Fieldwork should continue at all the four levels distinguished in the CBA booklet Recording old houses: a guide, ie superficial (external only), superficial (external and internal), measured, and destructive.

4.2.2 In addition to the continuing important work on vernacular buildings, recording of larger houses and ecclesiastical buildings (especially the ancillary buildings of former monasteries) is badly needed.

4.2.3 Regional priorities for study should be established; these may relate to characteristic plan forms or to particular building materials.

4.2.4 There should be greater emphasis on the very detailed study of building materials: eg petrological study of building stones; scientific study of bricks, brick-earth, firing methods, etc; study of timbers other than oak used in building.

4.2.5 There should be further development of fieldwork techniques to ensure accuracy and economy, and more comprehensive training in these techniques should be made available.

4.3 Data storage, indexing, retrieval, interpretation, and use

4.3.1 There should be strenuous efforts to make clear what existing records of buildings have been made, where they are kept, and how they may be seen and used (with due regard for security) by scholars and students.

4.3.2 Efforts begun by the National Monuments Record (England) to establish a national archive for all kinds of information on buildings should be intensified; regional or county duplicate archives are also needed.

4.3.3 Efforts, perhaps with the aid of increasingly cheap microcomputers, should be made to communicate available information in a form which is readily useful to scholars.

4.3.4 In order to maintain and develop the interdisciplinary approach to the study of buildings, the methods of other disciplines should be understood and adopted where appropriate and archaeological information should be available to scholars in a form which they can use.

4.3.5 While knowledge of the whereabouts of records is the first priority, publication remains important and publicity concerning good examples, especially of deep investigation and interdisciplinary work, is needed.

4.4 Archaeology and building techniques

4.4.1 Pre-Conquest secular buildings are known only from excavated remains; with rare exceptions (Mawgan Porth, Ribblehead) they were built of wood and there is no clear evidence for mass-walling. With equally rare exceptions they have been destroyed

to below the level from which they were built. The excavator must:

a accurately record truncated features (post- and stake-holes, trenches);

b formulate correct inferences about forms of walls and roofs;

c refine the means of distinguishing residential buildings from those intended for other uses;

d produce reconstruction drawings to demonstrate his conclusions, or models to test his interpretation.

4.4.2 The use of ethnic terms (Saxon, Viking, etc) should be avoided since it begs questions; so also should simplistic assumptions about progressive improvements in techniques. Rather, the archaeologist should assume a plentiful supply of timber, a widespread knowledge of woodworking techniques, and possession of essential tools, especially the axe (not the adze). The correct assessment of the social status of a building is fundamental, in terms of its scale, the elaboration of its plan, the quality of timber used (whether dressed or natural), and the types of joint evidenced or to be inferred.

4.4.3 The excavator must be prepared to call on architects to ensure that interpretations make sense in terms of principles of building, and on architectural historians to correlate his conclusions with what is known of surviving buildings of later date.

4.4.4 Since most pre-Conquest settlement sites are found by chance (eg Cowdery's Down), there is little point in recommending priorities for excavation, except to say that the large corpus of excavated sites includes only two clearly of manorial status (Goltho and Sulgrave) and two royal palaces (Cheddar and Yeavering). Central sites in villages and market towns of southern England might help to correct the present picture based mainly on deserted sites in the midlands and north.

4.4.5 Secular buildings of the 13th-14th centuries offer when excavated problems of the same sort, with the possibility of closer comparison with standing structures. They call for:

a correct assessment of the influence of large-scale building operations (cathedrals, monasteries, castles) on practices adopted for small buildings, such as the use of mass-walling (stone, mud) and braced forms of roof;

b further work on the relation between timber building with earth-fast posts and fully framed structures, especially to identify hybrids.

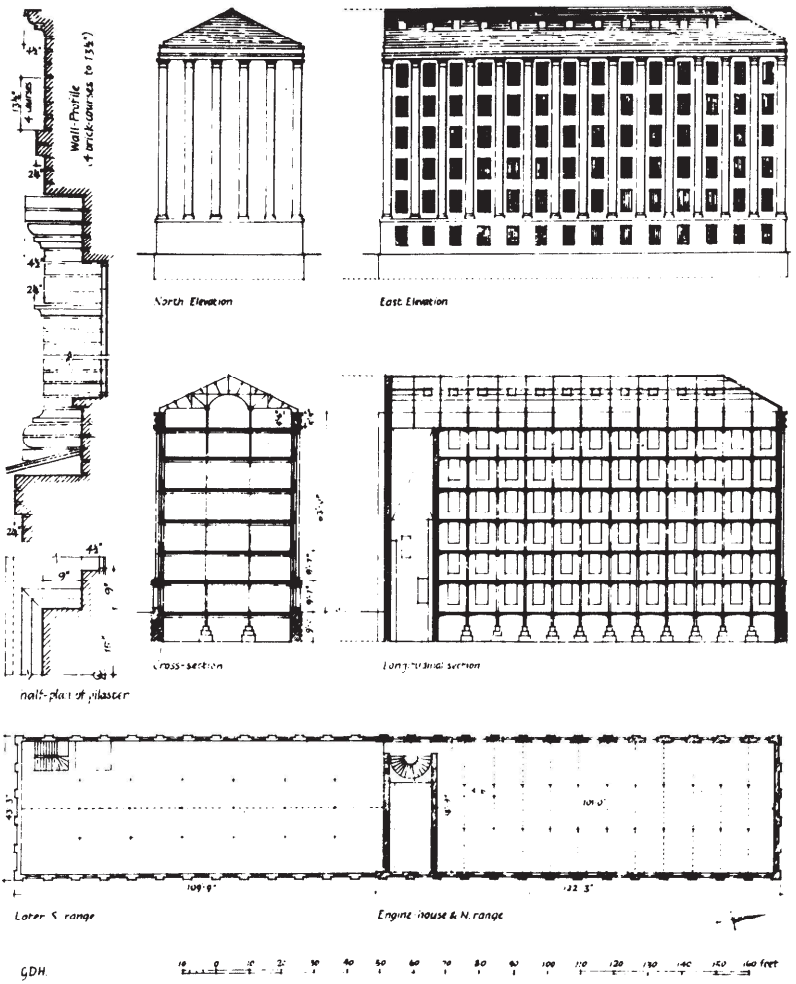
4.5 Research into building types under threat

4.5.1 Examples of all building types may be under threat from demolition or drastic restoration : such threats provide opportunities for thorough study and it is important that resources including expertise should be available to seize opportunities which are often brief and unexpected.

4.5.2 In dealing with applications for listed building consent or planning permission (involving demolitions, alterations, gutting, or simple changes of use), the planning authority may well be able to bring about an opportunity for study. Owners occasionally offer funds to help such study.

4.5.3 Certain building types are especially vulnerable at the moment: among these are farm buildings of all sorts and dates, industrial buildings - again including some quite recent - and workers' houses (cottage property). In some cases information (eg deposited plans) may be available in archives: nevertheless, in many cases study of such buildings in the brief period between final occupation and demolition is of the nature of rescue archaeology and demands a corresponding priority.

4.5.4 It may be that regional objectives need to be established where certain building types of particular regional significance are under threat (as was done, for instance, with shielings and bastles twenty years ago).


Wall-Profile
4 brick-courses to 13½'
4 courses
North Elevation
East Elevation
Cross-section
Longitudinal section
half-plan of pilaster
Later S. range
Engine house & N. range
GDH.
feet

## FIVE: RESEARCH OBJECTIVES IN INDUSTRIAL ARCHAEOLOGY

Industrial Archaeology Research Committee

### 5.1 Introduction - the background

5.1.1 Despite more than twenty years' recognition by the CBA, the subject of industrial archaeology still occupies a rather anomalous position vis-a-vis other branches of archaeology. In many respects the subject is still in its infancy. It has no substantial cadre of professional workers either in the field or in universities and only in the realm of museums is it reasonably represented.

5.1.2 The CBA Industrial Archaeology Research Committee (IARC) was formed as the result of a conference held in 1959 and, for much of the succeeding period, has had to provide whatever leadership there was in the subject. The Committee took its brief from the wording of the CBA's first mention of industrial archaeology in the Annual Report for 1959, where the subject was described as 'a new aspect of research . . . relating to the archaeology of the industrial age, a period beginning in about the 16th century and reaching its climax in the 18th and 19th centuries, with allowance for regional variations. The subject ... includes objects, sites and buildings which had a direct industrial use, communications and transport . . . '. In 1963 the Committee disseminated thousands of CBA record cards as a field survey aid to the Industrial Monuments Survey, which was also established in that year. The Survey was a joint venture of the (then) Ministry of Works and the CBA, and retained Mr Rex Wailes as consultant until his retirement in 1971. In 1967, an Advisory Panel on Industrial Monuments was constituted from within the Committee's membership to review the Survey's work and to recommend statutory protection for sites identified as of sufficient significance by the Survey Officer. Meanwhile, responsibility for the completed record cards had been transferred to Dr R A Buchanan at the University of Bath, where they formed the National Record of Industrial Monuments (NRIM).

In 1971 a full-time Survey Officer was appointed to carry on Rex Wailes's work and the Survey Officer remained a CBA employee, under the direction of the Panel, until 1977 when the Department of the Environment assumed responsibility for the Survey. Subsequently, in 1981, the Survey was transferred to the Royal Commission on Historical Monuments (England) along with responsibility for the NRIM. Thus, for the last few years, the IARC has had little involvement in the direction of its progeny. It did, however, in this period, constitute two working parties to consider the rate of destruction of the industrial heritage and the recording of industrial sites respectively. The latter working party recently published its deliberations in a review.

5.1.3 Most of the problems facing industrial archaeology are common to other branches of archaeology and indeed are discussed

in several of the companion papers but these problems, in the case of industrial archaeology, are aggravated for a number of reasons:

a the subject matter being studied is extremely diverse and has a wider spread of technological disciplines than most other branches of archaeology.

b the physical discovery of sites is not a major problem: it is the assessment of significance that is difficult.

c the rate of destruction of sites in the last few decades has been catastrophic. A recent case study in Glasgow has suggested that 60% of the sites noted in a survey conducted in 1969-72 had disappeared by 1981.

d industrial sites are relatively under-represented in the lists of protected sites: only 3% of the entries in the historic buildings lists can be considered of an industrial nature and only 2% of the sites scheduled as ancient monuments. As a consequence, unlike most other standing structures with which archaeology is concerned, there is little or no warning of threat to the majority of sites and in the face of demolition there is, in all but a few cases, no right of access to record (see below).

5.1.4 Most of the current research in industrial archaeology is being undertaken by voluntary enthusiasts, and the organizational framework of these enthusiasts is quite distinctive. There are, in fact, two quite different frameworks: a geographically based framework of local societies and a thematically based framework of national societies. The former tend to be based on a county or smaller unit of area and the coverage of the country is by no means complete nor necessarily related to the CBA regional structure. Although there is considerable thematic specialization amongst the members of these societies, generally interest tends to be focused on what is often called 'the archaeology of industrialized society', ie the emphasis is on the last two centuries. The thematic societies, on the other hand, generally do not recognize temporal divisions and study a specific industry (or group of industries) from its earliest beginnings.

Since 1973. the Association for Industrial Archaeology has existed to represent the universal interests of the subject, but its lack of resources or any permanent secretariat has muted its impact.

5.2 The Industrial Committee's role in identifying research objectives

5.2.1 In those industries where a national society exists for their study, the Industrial Committee is perhaps better qualified to comment on general research objectives than on specific topics. Thus the mining of metal ores is the province of the National Association of Historical Mining Societies, while the smelting and working of those metals is the province of the Historical Metallurgy Society. Similarly, the study of wind and watermills is adequately served by several groups, including the Wind

and Watermill Section of the SPAB, the Mills Research Group, and the International Molinological Society. The list of special interest groups stretches through the British Brick Society and the Kiln Research Group to the Railway and Canal Historical Society, while several professional bodies such as the Institution of Electrical Engineers and the Institution of Civil Engineers have their own historical study groups. In addition, there are umbrella organizations such as the Newcomen Society which interest themselves in the history of technology. Not all these organizations have a specifically archaeological approach to their subjects, but in general many of their individual members use the study of the physical remains to amplify their research findings.

5.2.2 The Industrial Committee can contribute to these studies by:

a identifying the significant gaps in coverage between the interest areas of the national societies. Thus a wide range of industries, including many rural and domestic-based industries, light engineering and chemical industries, and dockland service industries, fall outside the interest of a parent national society and are relatively neglected.

b stressing the interrelationship between industries since, though often studied separately, they seldom if ever develop in isolation and usually in direct response to a demand from another industry.

c emphasizing the importance of studying industrial landscapes as a whole as opposed to the present concentration on discrete sites.

5.2.3 The Industrial Committee is better placed to identify research objectives for local societies and to provide advice on research methods. The severity of the threat to industrial archaeological subject matter demands that a very high priority be given to recording at all levels of detail. Thus there is still a need for the non-intensive accumulation of data, though at a somewhat more sophisticated level than that of the pioneer CBA record card. A minimum requirement is that the data be ordered in such a way and detailed enough to make comparisons worthwhile. To this end, the use of thematic survey sheets such as those developed by the Mills Research Group or the British Brick Society should be encouraged. The non-intensive surveys should be linked, as has only happened so far in a few isolated instances, to the intensive recording of representative examples identified from the location survey. Lowe, in South Wales, has shown the value of such an approach to the study of industrial workers' houses, a subject of almost universal applicability, and one whose stock of worthwhile cases for investigation is being rapidly eroded by slum clearance and modernization programmes.

5.2.4 Certain types of industrial structure which have not been the subject of intensive study are seriously at risk because of industrial obsolescence or programmes of urban renewal. Of these, we consider that the following are the most important and deserving of urgent attention and detailed investigation:

dock and warehouse installations, both at estuarine ports and at inland ports:

b textile mills and their dependent communites.

There is often, however, a very real problem of identifying the immediacy of the threat to sites. In the rare instances where the site is statutorily protected, the provisions of Listed Building Consent allow for reasonable access for recording by the three Royal Commissions, but in the majority of cases there may be no warning and certainly no right of access. The present resources of the Royal Commissions are scarcely adequate to cope with the recording of protected buildings threatened by demolition or significant alteration; the recording of unprotected buildings under threat must thus be undertaken by locally based groups, preferably integrated with the local industrial archaeological society. The creation of an effective network of field recorders able to respond to the demands, and work within the constraints, of rescue recording is therefore of the highest priority.

## 5.3 Conclusion

The objectives facing industrial archaeology for the next few years, therefore, fall into two main groups - organizational and thematic. First, there must be a thorough overhaul of the organizational framework of recording to ensure that, at all levels of detail, there are adequate responses for the needs of both rescue recording and research recording. Secondly, there should be increasing emphasis on the interrelationships between industries, on the study of the development of industrial landscapes, and on the recording of those industries most at risk through obsolescence and contraction.

## SIX: RESEARCH OBJECTIVES IN URBAN ARCHAEOLOGY

Urban Research Committee

### 6.1 Introduction - General

6.1.1 Towns have some claim to be more indicative of the nature of the society of which they form part than any other type of site. It will be there that we are most likely to find archaeological evidence of both long-distance and local trade, of specilization and technological advance in manufacture, of the exploitation of natural resources, of social differentiation, of the means of political control, and of the religious aspirations of the population. In spite of the initial capital costs, urban archaeology in the long run is highly cost-effective and makes a contribution to our understanding of a wide range of human activities in the past, whether or not they had a specifically urban setting. The urban archaeologist, therefore, should not solely be concerned with the town as an isolated artefact. One of his most readily identifiable objectives is the need to investigate the relationship between the town and its wider context. Such studies would necessarily be regionally based and the choice of areas would depend upon a careful assessment of the range of questions which could be asked of them, the survival of the evidence, and the degree to which sites will be available for investigation.

6.1.2 This choice would be a major academic exercise in its own right, but some special consideration might be given to regions where we already have, or are in the process of obtaining, understanding of the archaeology of the principal urban centres or of the rural hinterland. Thus programmes investigating the continuity (or otherwise) of human activity from prehistoric times to the present might be based on the regions of Canterbury, Ipswich, Lincoln, Oxford, Winchester, and Southampton or York; and there are other areas for which good cases could be made. A strong candidate would be a region which adjoined both London and the area surrounding a provincial centre, so that we could study not only the interaction between the two major towns but also the special influences of the capital on its hinterland. Specific sites to be studied would include the larger urban centres, the smaller market towns, and the full range of rural settlements: relics of agriculture and industry; and meeting places, communications, and other public works. The research should be coordinated rather than piecemeal and for the sake of the quality rather than the quantity of data recovered so that valid comparisons may be made between periods and between different types of site. Selection of particular sites for excavation should therefore be made within the regions designated for intensive study rather than between them. Knowledge of the development of villages in the north of England, for example, can make only the crudest contribution to our understanding of the patterns of demandwhich led to the growth of an early

medieval trading settlement on the south coast. The typological fallacy still has too firm a grip on the archaeologist's iagination.

6.1.3 Such investigations will require as wide a range of disciplines and techniques as are available. Nor should they be hampered by too rigid an approach to problem solving, for new evidence will undoubtedly reveal new questions to be answered. Such a policy would inevitably involve an element of intellectual risk, but offers the possibility of achieving a real understanding of the past as an alternative to the present tendency towards the random accumulation of data.

6.2 Specifically urban problems

6.2.1 There are still areas of Britain where we know practically nothing of the archaeology of towns. There are also major aspects of urban development which are imperfectly understood and where archaeology will help to provide answers. These include:

a Origins: what stimuli encouraged a particular place to become a major centre of population? What was the nature of the settlement beforehand?

b Continuity: what evidence is there for the continued importance of the site through periods of major change (eg pre-Roman to Roman, Roman to Anglo-Saxon)? What was the nature of this continuity as a settlement, as a political centre or other place of resort, or simply in physical installations? Particularly important here will be the evidence of the defences, streets, approach roads, and extra-mural cemeteries and churches. Attention should also be paid to activity in the area surrounding the town: eg royal residences, sites of fairs, hundred meeting-places.

c Development: how large and how densely populated was the settlement and at what dates? What were the specialized activities of the inhabitants and their standard of living?

Questions of overall size are best approached through a study of successive enlargement of the defences, stages in planned or organic growth, and extent of suburban settlement, to which highly specific small-scale excavations and routine observation are well suited.

6.2.2 For the other matters, intensive investigation of a small number of carefully selected sites is most appropriate. They should cover several complete properties or units of occupation: houses, subsidiary buildings, back yards, gardens, alleys, and street frontages, especially on sites undisturbed by later medieval or modern building activity. The sites of urban castles, apart from their intrinsic importance, fall into this category, for they will often contain sealed sequences of earlier occupation with a well-defined chronological terminus. Some cathedral closes present a similar opportunity.

6.2.3 Many of these problems have been tackled, not always successfully, in major programmes of urban excavation undertaken during the last fifteen years. These have concerned many of our most important towns, and in them we are now placed to choose specific sites which will answer important questions on the history of urban development. When a major programme has been successfully completed the maintenance of a continued but less expensive archaeological presence in selected centres will for this reason be extremely effective in terms of the results. This would be preferable to using the same level of resources simply to scratch the surface of towns of which little is now known.

For these towns, and for the mass of lesser market towns of whose archaeology we are ignorant, the best means of concentrating resources would be through the intensive regional investigations suggested in the first section of this paper. For the smaller towns within a chosen region the most productive policy would be to concentrate resources on one or two carefully chosen examples, rather than to tackle a random scatter of sites.

6.3 Summary of policy objectives for towns

6.3.1 Where major excavation programmes are now in progress, the most careful and informed thought should be given to the choice of sites to be excavated.

6.3.2 Where such programmes cease, a continued archaeological presence should be maintained in order to capitalize on existing knowledge.

6.3.3 Building on the substantial achievements of urban archaeology, several regions should be identified as suitable for intensive investigation of sites of all types and of all periods.

6.4 The town and its environment

6.4.1 We would endorse the view (put forward in 6.1.1 above) that the urban archaeologist 'should not solely be concerned with the town as an isolated artefact. One of his most readily identifiable objectives is the need to investigate more fully the relationship between the town and its wider context'.

6.5 Urban functions for their regions

6.5.1 Commercial; often, though not always, the prime and earliest. The study of markets, fairs, shops, and inns as indices of trading activity in the regions. The size and location of the town (in terms of coastal, river, or road communications) as a measure of trade routes.

6.5.2 Industrial: often following from the preceding function. The reasons for location of urban industries in terms of accessibility to raw materials, transport, labour supply, and markets.

6.5.3 Military: whether in terms of colonia, fortified town, castle, or naval base. The siting of such towns in relation to rivers, roads, outlying forts, etc.

6.5.4 Administrative, whether ecclesiastical (episcopal sees) or secular (municipia, cantonal capitals, capital cities, county towns).

6.5.5 Cultural, including religious houses, centres of pilgrimage, hospitals and colleges, schools, univerities.

6.5.6 Leisure, overlapping with the preceding; generally true of any large town attractive to seasonal residence of wealthy, and especially of spa towns (Roman and Georgian Bath).

6.6 The identification of a region

6.6.1 Regions are now difficult to define because they overlapped for towns of differing size and importance, and varied over time, since human organization is as important a factor as geographical determinism. Some idea of the region of any one town may be obtained by the distribution of its products (coins, pottery) or of its trading connections as measured by market records (as Rogers and Dyer have done for 16th century Preston and Worcester respectively). But any large town would have a series of different regions for weekly markets, annual fairs, specialized luxury manufacturers, etc. Perhaps the best approach is to define a coherent region with a distinct geographical identity (eg Thames basin, Cotswolds, East Anglia), and to study the interactions of all towns and rural settlements within it.

6.7 Conclusion : topics on which a study might throw light

6.7.1 The origins of towns: why did certain places in the network of settlements become urban, and of those why did some thrive more than others?

6.7.2 The changing urban hierarchy: why did some towns rise at the expense of others? Why did some disappear or migrate (Wroxeter, Silchester) and others prosper in apparently poor locations (late medieval Coventry)? Did large towns prosper at the expense of other settlements in their vicinity, or did they all prosper or decay simultaneously?

6.7.3 The agricultural hinterland: long sequences of stratified environmental deposits in towns may reflect regional agricultural developments more than can rural excavations. The variety of trades and manufacturers in towns reflects (at least partly) the resources of their regions - leather, meat, wool, grains, timber etc. Conversely, with a large 'pull' (London from the 12th/13th centuries) agriculture would respond to urban demands and might change its intensity or specializations.

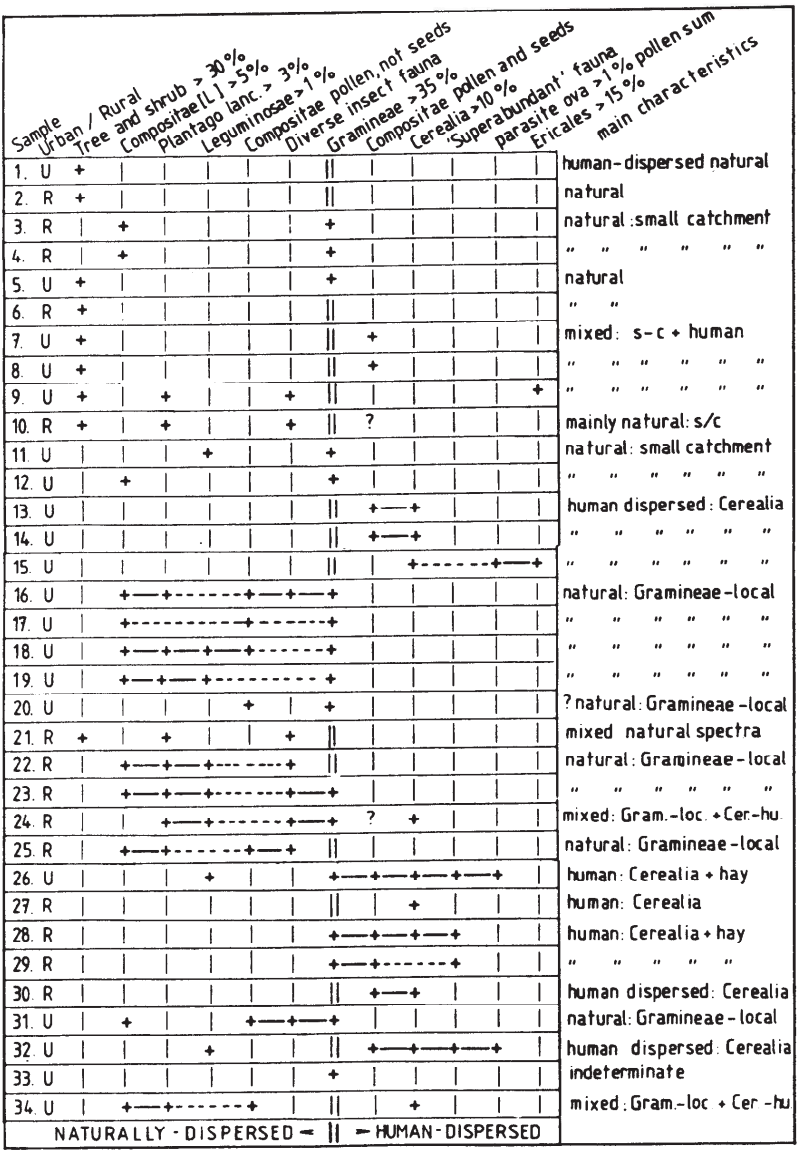
6.7.4 Administrative and military organization: why did some Roman towns and Saxon burhs prosper permanently and others fail

to develop or even become deserted? Why did county towns migrate - Somerton to Taunton, Wilton to Old Sarum, Lancaster to Preston, Buckingham to Aylesbury, Wallingford to Reading?

6.7.5 Cultural influences between town and country: did contact, or even the movement of countrymen into towns and prosperous townsmen into country houses, cause common regional fashions in say, housing? The Wealden house may, for example, have been a London type exported to the countryside. On the other hand, a study of Vale of York houses by Hutton (Medieval Archaeology 17 (1973), 87-99) suggests towns with common housing types, and the countryside between them with quite separate traditions. Or again, how far afield are pilgrim badges found, and can they locate the size of what might be called a medieval tourist industry?

6.7.6 Industrial shifts: where towns depended on rural raw materials, why did the industry often migrate from one town to another or from town to countryside? Old cloth centres (Beverley, Lincoln, Sleaford) gave way to newer centres in the 14th and 15th centuries (York, Wakefield, Lavenham), and only later to villages.

6.7.7 The disparity of wealth and self-sufficiency: why were some places primarily residential/service centres for wealthy countryfolk (Roman Cirencester, Georgian Bath) and why did others manage a flourishing economic life of their own? Why did some towns manage to prosper despite poor hinterlands, or by tapping the prosperity of rich hinterlands, while others (Droitwich) remained poor as the wealth they generated was siphoned off by outsiders?


Sample
Urban / Rural
Tree and shrub > 30%
Compositae[L.] > 5%
Plantago lanc. > 3%
Leguminosae > 1%
Compositae pollen, not seeds
Diverse insect fauna
Gramineae > 35%
Compositae pollen and seeds
Cerealia > 10%
'Superabundant' fauna
parasite ova > 1% pollensum
Ericales > 15%
main characteristics
1. U + human-dispersed natural
2. R + natural
3. R + natural: small catchment
4. R + " " " " " "
5. U + natural
6. R + " "
7. U + mixed: s-c + human
8. U + " " " " " "
9. U + " " " " " "
10. R + ? mainly natural: s/c
11. U natural: small catchment
12. U + " " " " " "
13. U human dispersed: Cerealia
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16. U natural: Gramineae-local
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20. U ? natural: Gramineae-local
21. R + mixed natural spectra
22. R natural: Gramineae-local
23. R " " " " " "
24. R ? mixed: Gram.-loc. + Cer.-hu.
25. R natural: Gramineae-local
26. U human: Cerealia + hay
27. R human: Cerealia
28. R human: Cerealia + hay
29. R " " " " "
30. R human dispersed: Cerealia
31. U natural: Gramineae-local
32. U human dispersed: Cerealia
33. U indeterminate
34. U mixed: Gram.-loc + Cer.-hu
NATURALLY-DISPERSED
HUMAN-DISPERSED

## SEVEN: THE CONTRIBUTION OF ARCHAEOLOGICAL SCIENCE

Archaeological Science Committee

### 7.1 Introduction

Archaeology is increasingly scientific in its own right, and participation by specialists in other sciences is needed to extract the maximum information from most sites. The archaeological and scientific processes are essentially cooperative: science can be an aid to the fullest elucidation of the nature, extent, environment, technology, economy, and dating of a site or a community which the archaeologist is studying, and the scientist may also see the project as contributing to a line of research of his own, which may have its own objectives and impose its own bias on his work. Even with the more 'service-orientated' scientific work, such as geophysical survey or dating methods, each site adds to our understanding of the processes involved and develops our ability to deal with subsequent sites.

Much information has been lost in the past through excavations being done by scientifically uninformed archaeologists, and one should be wary of totally excavating unthreatened sites because of the virtual certainty that new or improved scientific methods will appear in the future that will increase the information available from excavation, or even without it. Misinformation has also been produced by scientists who are not archaeologically informed, and archaeologists should beware of recruiting the archaeologically naive scientist, particularly since they themselves are often not in a position to assess the resulting contribution. Every scientist involved in archaeology should be well versed in its techniques and problems, and should have experience of excavation as an ordinary digger, both to know the nature of archaeological materials and problems and to appreciate what it is that the archaeologist really needs to know from him.

This note is intended mainly for those whose primary training is in archaeology and who may have had little scientific education. The scientific specialist we assume to be one whose primary training is in his or her own field of science. We believe that it is usually more practicable for the scientist to learn enough archaeology for collaboration to be fruitful, than for the archaeologist who has no grounding in the appropriate science to do original work in a scientific field.

The role of the non-specialist varies in different fields, and it may be filled by the archaeological personnel or by the specialist-in-training according to need and circumstance. In some circumstances, if a specialist is associated with the project, there may be considerable value in having some of the work carried out by the archaeologist concerned, under appropriate supervision. In other fields, the risk of error or misunderstanding is so great that the work should only be done under a level of supervision justifiable as part of the training of a specialist. While it is necessary for all excavators to have enough familiarity

with archaeological science for them to be able to identify problems of interpretation in the field, to recognize opportunities for scientific work as they arise, and to participate in discussion of results at the stage of their integration with the archaeological interpretation, we recommend considerable caution on the part of archaeologists proposing to carry out scientific investigations by themselves. The acquisition of competence in the application of standard techniques does not always go hand in hand with the understanding of basic principles, necessary when techniques have to be developed empirically in response to the unusual and unpredictable circumstances encountered in archaeology; or with the understanding which derives from a deeper and broader knowledge of a particular science needed to interpret results in the light of limitations upon their validity and implications which they may possess.

7.2 Training and facilities

Botanists and zoologists need constant access to comprehensive reference collections and to such facilities as scanning electron microscopes or X-ray facilities; physical scientists need a range of expensive analytical equipment: all need access to libraries, and may require computer facilities. Scientists need to work among colleagues in other branches of their science, as well as among those engaged in other aspects of archaeological work. For these reasons, support of people and groups in existing centres of specialization is advisable. Since those specialisms in which much work is available can support a large number of people, local and regional responsibility is possible. This provides opportunities for close collaboration with archaeologists, and it can satisfy the environmental scientists' need to make frequent visits to sites, and to integrate accumulating information about past conditions in an area with an intimate knowledge of the landscape today. In fields in which opportunities for work are less frequent, or which are as yet not fully enough developed for general application, regional responsibility is not feasible, but the presence of individuals or groups in regions provides a framework of scientific collaboration into which the rarer specialist can fit, and which the scientist doing basic research in development of technqiues can exploit in his search for suitable sites or materials.

The very great need for scientists coming into archaeology to work under the guidance of experienced people, and to have access to good facilities and reference materials from the beginning, is best satisfied by the establishment of junior posts in assocation with existing centres. This is much to be preferred to the establishment of isolated junior scientific posts associated with archaeological organizations where there is no opportunity for training and supervision. However admirable may be the efforts of people in such positions to train themselves and to build up their laboratory facilities and reference collections, it is wasteful of resources, and carries a high risk that results will be published before adequate standards have been reached.

In those fields where opportunities for work far exceed the

availability of people to do it, the expansion of existing centres and of their provision for training, the extension into these fields from centres already established in related fields, and the establishment of new centres under experienced scientists are all urgently needed.

## 7.3 The basis for collaboration

Collaboration demands communication throughout the processes of fieldwork, planning and carrying out of excavations, and the synthesis of results in a temporal and regional framework. The practical basis of such communication is a common language. Just as the scientist should know in outline the cultural sequences of the areas in which he works, and should understand the principles and know something of the problems of excavation and of archaeological analyses, so the archaeologist should be familiar with the principles of biological nomenclature, the descriptive terms of the geologist and the soil scientist, and the elementary basis of the physical and chemical sciences.

Collaboration in the various stages of research can be outlined as follows :

a Discussion of a programme of fieldwork and excavation in the light of possible opportunities for scientific work and awareness of outstanding problems in particular fields.

b Planning of excavation strategy before excavation begins and as it progresses, so as to seek the best opportunity for examination of soils and sediments, extraction of biological materials, and examination of technological features,

c Adoption of recording techniques which will facilitate communication and accommodate the needs of soil and sediment description and biological and technological sampling.

d Arrangements for specialists to meet on site at an early stage and as often during an excavation as they find necessary, and for them to keep in contact throughout the work.

e Recognition of the importance of exploration of the landscape around a site, allowing time for off-site survey work and for parallel studies of non-archaeological situations in the neighbourhood to provide a background for, and to complement work associated with, the site itself.

f Provision of facilities on or near the site for specialists to carry out preliminary investigations, with assistance by excavation personnel if necessary.

g Sufficient documentation to inform specialists of the stratigraphical and archaeological context of the material they handle, together with full expression of the archaeologist's confidence in his dating, stratigraphy, and associations. Doubt or uncertainty about stratigraphy, or suspicion of mixing or contamination of deposits, must be conveyed to the specialists.

h Provision for discussion of preliminary results, scientific and archaeological, so that the programme of work during and after excavation can be adapted to concentration on particular problems as they arise.

Provision for discussion between specialists, and between them and the archaeologists, during the process of analysis.

j Discussion of timing of work and provision for partial or staggered publication, should some aspects of post-excavation work take much longer than others.

k Discussion of the form of publication and of titling and attribution to reflect the importance of contributions and to recognize the specialist's need for bibliographic status.

l Arrangements for specialists to collaborate in the writing of sections in which their results are discussed, to see drafts of the whole work, and to read the proofs of their own contributions.

m Agreement on separate publication in the literature of the specialist's own field.

## 7.4 Refereeing

Once an assemblage of scientific data or an opinion is made available in an archaeological publication its use by archaeologists is free of all scientific control, whereas in scientific publication generally not only is refereeing of manuscripts standard practice, but the process of presentation to fellow scientists before dissemination to non-scientists provides a better chance of filtering out low-quality data and mistaken interpretations. It is essential that scientific work done in association with archaeology be subject to the scrutiny of scientists in the appropriate field. Publication in national and international specialist journals is to be encouraged, and the refereeing of manuscripts submitted to archaeological journals by scientists is regarded as essential for the maintenance of acceptable standards.

## 7.5 Use of data

Scientific data will usually be relevant to a wider study than that of the site with which it is initially associated, and the scientist must have the right to use and publish his data in other contexts, whether or not the excavation report has been published. The scientist must inform the archaeologist of all such use of data and give full acknowledgement of its archaeological sources and significance.

APPENDIX A

## TOWARDS A NATIONAL POLICY OF DATA STORAGE, INDEXING, RETRIEVAL, AND USE

'The setting up of data banks is not making much progress and should be encouraged'
(European Science Foundation, Report for 1979; Archaeology Committee p.15)

Since future advances in any discipline must depend on an effective flow of information, it will be important for archaeology in Britain that means are found to get the right information to the right people at the right time. One solution might be to set up a large, national, archaeological data bank of, at least, very generously indexed material (cf Verhaeghe 1979, 77). However, there is a school of thought which holds that smaller specialized data banks are more effective (eg Doran 1979, 330-2: Scollar 1980). Until the problem has at least been examined, therefore, we cannot know the best way to try to proceed. What is already clear is that various organizations are collecting and storing information, each in its own way, and to its own standards; there would therefore be many advantages to be gained from at least a census of such data files. It would then be possible to assess the task involved in pooling all these resources. (Since each organization adopts its own 'slant' in the way that it selects and stores information, there can be no simple merging of different information streams.)

The new statutory commission (Commission for Historic Buildings and Monuments) would be a natural centre for such cooperative action; but it would not be too soon for the CBA to initiate discussions with the Department of the Environment, the National Monuments Records, the Museums Documentation Association, the Standing Conference of Unit Managers, and other bodies engaged, formally or incidentally, in handling large amounts of information.

It is important to realize that, although the collection and analysis of information can be much more conveniently carried out when access to large amounts of machine storage is available, technology is only a part of the story. The principal need will continue to be for skilled indexing of the literature, the manual records, and other sources of information such as museum catalogues. Moreover, if an information network of some kind can ever be set up, the means of interrogating it (postal, telephonic, or conceivably on-line) will need to be worked out.

References


Doran, J E 1975 — Mathematics and computers in archaeology, ed J E Doran & F R Hodson, 330-2

Scollar, I 1980 — (Review of Doran & Hodson 1975) Bonner Jahrb, 180, 681-90

Verhaeghe, F 1979 — Archaeology, natural science and technology: the European situation. A survey prepared for the European Science Foundation, Strasbourg

APPENDIX B

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