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A Research Agenda for Archaeology in South West England

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15.1 Introduction

The Resource Assessment has shown the breadth and depth of archaeological research in this very diverse region; a region perhaps largely characterised by its coast but also containing the mineral-rich uplands of Cornwall, Dartmoor and Mendip, the dry chalk uplands of Salisbury Plain as well as the great inland river valley of the upper Thames. The predominantly maritime nature of much of the South West has, however, produced a region always open to external influence and increasingly during the Medieval and later periods influencing an ever wider geographical area of the globe. This means that the archaeology of the South West of England is of significance to the archaeologies of many other parts of the world. The region also occupies an important place in the origins of the discipline itself: as home to the birth of modern British archaeology in the work of pioneers such as General Pitt Rivers, OGS Crawford and WG Hoskins.

This diversity of landscape and long history of research has, however, led to an unevenness of knowledge that is set out in the following Research Agenda. A list of aims for the future to redress the balance will be addressed in the forthcoming Research Strategy.

Chronological Overview

In the earliest periods, the research framework for the Palaeolithic and Mesolithic of Britain and Ireland (Prehistoric Society 1999) set out a series of themes for research (colonisation, settlement and social organisation) whilst also highlighting methodological issues (survey, assessment and publication) and the need to promote wider understanding of these periods. Whilst embedded in those guidelines, the research agenda themes presented here also reflect developments since 1999 (in methodologies,

scientific techniques and research priorities) and the specific requirements and needs of the Palaeolithic and Mesolithic archaeology of the South West.

Published literature (such as Jacobi 2004; Wymer 1999) and ongoing research (for instance, Wessex Archaeology's *The Colonisation of Britain by Modern Humans* project) in Palaeolithic archaeology has indicated a relatively (in comparison to other regions of southern and eastern Britain) sparse archaeological record, consisting of a mixture of key cave-based assemblages, surface scatters, and deeply-buried secondary context assemblages. With regards to Mesolithic archaeology (Jacobi 1979; Wymer 1977), there is a similar mixture of key sites (cave and open-landscape) and surface scatters. In both cases, the key limitations of the extant resource include the currently available chronologies and frameworks, difficulties in interpreting the lithic scatter resources, and the problems of identifying fine-grained and/or organic deposits with high archaeological potential.

Parts of the region have featured prominently in synthetic accounts of the Neolithic and Early Bronze Age (for instance Barrett 1994b; J Thomas 1999; Parker Pearson 2005); though the archaeology of Wessex is frequently perceived to have an unhealthy domination in terms of providing an idealised "norm" for social life during these periods against which other regions might be measured. Despite this problem of bias, such focus does acknowledge the supra-regional, even international, significance of this part of the South West's Neolithic and Early Bronze Age archaeology. As a consequence, any agenda for this region will be asking questions and setting research aims that may have a greater than regional significance.

Interest in the Neolithic and Early Bronze Age remains healthy, as indicated by major projects currently underway or reaching completion (such as the

Cardiff Neolithic enclosure and long barrow/cairn dating projects, the Avebury “Longstones” Project or the Stonehenge Riverside Project). Recent discoveries continue to surprise, including several Neolithic enclosures in Devon (Griffith 2001). Large-scale developer-funded projects more than anything have altered our perception of the region’s prehistory.

The chalklands of Wessex have also been important in the study of later prehistory; a period seemingly dominated less by the monuments and ritual of the Neolithic and Early Bronze Age and more by an intensification of farming and enclosed (and increasingly defended) settlements. Development-led archaeology has broadened our knowledge of the settlements across the region but there are still important questions to be answered about the intensification of agriculture and regional diversity. Questions of diversity are also evident in our lack of knowledge of the defended settlements across the region and also in the effects of an increasingly visible cross-channel trade.

The South West has not been at the forefront of Roman studies, probably because of the traditional Romanist’s attachment to military activities in the North of England and the “civilised” South East. It is becoming clear, however, that the reasons that made the region less attractive to earlier scholars may actually make it more interesting; military activity was short-lived but covered a period of change in the Roman army which may be reflected in sites that here have no later changes and the less “Romanised” towns and countryside may give better clues to the response of people to the empire. The region may also be important for the study of the later Roman period with hints that the four provinces of the late empire followed different trajectories after the end of imperial control; did this follow from differences during the Roman period or does it only reflect the Germanic influences in the east of Britain?

Sub-regional differences are also seen in the succeeding Early Medieval period where the region has seen some of the most important work over the last 50 years. The increasingly late date of Anglo-Saxon take-over as one moves west should produce an ideal area to test hypotheses on the nature of this change but this is hampered by the extreme dearth of material culture. Scientific techniques may hold the key to important questions such as the scale of Germanic immigration but they are also limited by the non-survival of bone from many parts of the region. In the later first millennium the historical sources become much more reliable but the archaeological evidence for such things as the effects of Viking raids, appears as elusive as before.

Research into the post-Conquest Medieval period has proved (with a few notable exceptions) to be one of the weaker areas of archaeological activity in the South West. There appears to have been very little

work in the eastern counties of Dorset and Wiltshire, with the exception of some development-led work in towns, and few of the large-scale projects that have proved so fruitful in the Midlands have been undertaken in the South West. The evident gaps in our current knowledge need to be addressed to test if they are evidence of real variations in the past or the results of fieldwork bias and this is a period where the lack of synthetic work is clearly hampering research.

Archaeological research in the Post-Medieval and Modern periods (SPMA 1988) is of recent origin and, in the main, work has been carried out by volunteers and/or professionals working outside colleges and universities. Work has often been interest-driven, but much has been stimulated by actual or perceived threats to surviving structures, artefacts, landscapes and below-ground survivals during the long post-war boom which ended c.1975. Believers in long-waves, or twenty-five year economic cycles, suggest we are now in the first few years of another such period of growth and development. This will bring similar threats to those of the 1960s which gave birth to industrial archaeology.

Archaeology applied to these recent periods should not be seen as a secondary and very junior partner to those disciplinary approaches (architectural history, local history, historical geography, etc.) that traditionally occupy this territory. As has been shown since the 1960s, collaboration with these disciplines as with newer disciplines such as palaeoecology and anthropology can be extremely fruitful. Collaboration however depends on understanding the different outcomes that archaeological approaches can contribute. Ways of widening such understanding need to be found to inform the general public and more specialised audiences.

Finally we should not forget that the resource takes the form of objects, people and institutions as well as field archaeology. There are rich archival and artefactual collections within many of the region’s museums, research-active University archaeology departments, contracting units, local societies and some very talented non-professional archaeologists. All these need to be harnessed if we are to maximise the potential of the region.

15.2 Research Themes

15.2.1 Methodology

Many of the research aims identified during the project can be classified as a need for improved methodologies; not questions about the past itself but suggestions to improve the way we find out about it. In some periods this extends to the very discovery of sites and deposits that could be studied; in early prehistory because of geomorphological change and later because of a lack of diagnostic artefacts. There are

also techniques that, once developed, are not applied routinely when they would provide very valuable basic data.

- Research Aim 1 on page 274

Synthesis

The study of several periods is also hampered by the lack of synthetic studies with only the Iron Age relatively well served. Even here, much is due to the work of a single individual: Barry Cunliffe (2005). For the period from the Mesolithic/Neolithic transition to the Iron Age a first attempt at national synthesis based on “grey literature” has been made by Richard Bradley (2006) and this method is being extended into the Roman period (Neil Holbrook pers. comm.).

- Research Aim 2 on page 276
- Research Aim 12 on page 280

Spatial and Temporal Biases

The Resource Assessment exercise has highlighted the uneven coverage of some periods across the region; whilst some of this is due to a bias towards areas with good evidence at a certain periods, there does seem to be a worrying lack of interest in the later periods in the east of the region. As well as providing an incomplete picture in any one area these gaps also masks any intra-regional variation and prevent us from answering the old “is absence of evidence, evidence of absence?” issue.

- Research Aim 3 on page 276

Public Interest

Public interest in archaeology has never been higher and we need to respond to this. Increased public involvement is a requirement for many funding streams and also raises the profile of the historic environment with decision-makers. Thousands of people already volunteer their time and enthusiasm to care for and interpret the archaeological resource in the South West and to draw in other resources to help them achieve their goal. They work for major national organisations such as the National Trust, a plethora of local museums and trusts and through local societies. They have a vital role in conserving the archaeological resource, in spreading sympathy for archaeology and an enormous potential for improving public understanding of archaeology. Finally, most archaeological research is now funded by developers and we need to show that their money is being spent in ways that benefit research, community interests and the profile of the industry.

- Research Aim 4 on page 277

Recording

Many of the artefacts that survive from the past are not found in the secure contexts of an archaeological excavation. Whether found by field-walkers, dog-walkers, earlier excavators or metal detectorists, these finds need to be addressed to provide the widest possible evidence-base for study. Responsibility for collection, recording and preservation of archaeological remains needs to be recognised as a fundamental role held in common by all archaeological institutions including archaeological societies. There is scope for far greater collaboration in carrying out research and applying standards of approach, process, preservation and dissemination of the resulting information.

- Research Aim 5 on page 278
- Research Aim 6 on page 279
- Research Aim 7 on page 279
- Research Aim 8 on page 279
- Research Aim 9 on page 279
- Research Aim 56 on page 292

Transitions

Most of what we study is visible to archaeological research because it has changed from a previous state; the periods that cause us most trouble are characterised to a large extent by a lack of change. Large-scale transitions are used too often as academic boundaries between one period and another. Study across boundaries should be encouraged to define and explore the changes that occur in these transitional periods.

- Research Aim 10 on page 279

Hidden Resources

Many of the archaeological resources of the region lie not in the ground but in the stores of museums, archive offices, contracting units, individuals and HERs. Study of these records and artefacts can be far more cost-effective than excavation or other fieldwork.

Museum collections need constant reworking to ensure that material is reassessed and where appropriate reclassified in the light of recent fieldwork. Skilled identification of any artefact type of any period can only derive from such research. Some of this work can be very low cost and on-going (such as the work of the South West Implement Petrology Committee); other programmes can be more intensely dedicated to artefact assemblages (the Early Bronze Age grave-goods project) or involve the reinterpretation of previous fieldwork (for example Coles and Minnitt 1995).

Museums contain not only collections of chance finds but also some large excavation archives that have

never been published. The current post-excavation work on the Crandon Bridge site (a small Romano-British port) shows that it is possible to revive these old excavation projects but writing up large urban excavations will be far more expensive.

- Research Aim 11 on page 280
- Research Aim 12 on page 280
- Research Aim 13 on page 281

Artefact studies

There has been a move away from “traditional” artefact studies over the past few years which has led to a slowing in the growth of our understanding of this fundamental class of archaeological evidence. There have also been advances in analytical techniques which have shown the potential for improved provenance studies, with their implications for improved understanding of trade and social relations. Most of the effort appears to be concentrated on the development of novel techniques with few resources available to follow this up with large numbers of routine analyses that provide the quantity of data that we need. These techniques could be more widely employed, given better dissemination of their benefits and the availability of appropriate personnel and equipment.

- Research Aim 14 on page 281
- Research Aim 15 on page 281

15.2.2 Science

It was widely felt that the routine application of archaeological science would bring great benefits, particularly in the areas of chronology and past environments. These are issues where the study of the past has a direct relevance to modern issues such as climate change.

Dating

Many areas of research in the region are hampered by the lack of the detailed and accurate chronologies that should be available with modern techniques. More radiocarbon and other scientific dates are required on well-contexted samples where the date obtained will accurately reflect the archaeological event. Existing dates need to be re-evaluated by a stringent examination of the taphonomy, composition and final contexts and associations of the samples on which they were measured. This should include the collation of radiocarbon determinations available from watching briefs, evaluations, excavations and environmental recording projects that are occurring across the region, many of which are unpublished in “grey literature”, unpublished, or in geological publications. The timescales, of developer-funded work in particular, mean that dates

are often produced after the report has been written and can become “orphaned” from even “grey literature”.

The example of the (re)dating programme at Stonehenge (Allen and Bayliss 1995) and of several southern British long barrows (Bayliss and Whittle 2007) shows what can be achieved by the combination of rigorous sample selection and Bayesian modelling of the results. Targeted key-hole excavation could provide an efficient technique for obtaining dating and environmental samples.

- Research Aim 16 on page 281

Past Environments

As well as providing information on the conditions in which people lived in the past and their relationships with nature, environmental archaeology has a valuable part to play in the great debate of our time: the evidence for environmental change and the likely impacts of global warming. The South West has a wide variety of modern environments which preserve evidence from the past and for early prehistory this study is vital, whether there is direct evidence of humans or not. In later periods, roles are to some extent reversed and it is human impact on the environment that holds the greatest interest; in some areas whole landscapes were remodelled and there was a huge increase in pollution levels.

The location of the coast has changed in the past and the submergence of once-occupied land holds the potential for enhanced preservation of structures, landscapes and environmental evidence.

- Research Aim 17 on page 282
- Research Aim 18 on page 283
- Research Aim 21 on page 284
- Research Aim 19 on page 283
- Research Aim 20 on page 284
- Research Aim 22 on page 284
- Research Aim 23 on page 285
- Research Aim 24 on page 285
- Research Aim 25 on page 285
- Research Aim 26 on page 285
- Research Aim 27 on page 286

15.2.3 Settlement

Rural

The South West has always been predominantly rural and the changing patterns of land-use and settlement form a key component of any study of the past. The size of the resource means that innovative techniques will be needed to study it at an appropriate scale. There is also a need to recognise activity that took place off traditional “sites”, including the locations of boundaries and also understand the locational forces that produce settlement patterns in different periods.

- Research Aim 15c on page 281
- Research Aim 28 on page 286
- Research Aim 29 on page 286
- Research Aim 30 on page 286
- Research Aim 31 on page 286
- Research Aim 32 on page 286
- Research Aim 33 on page 287

Urban

Towns formed an important part of life for many people in the past and not just for those that lived in them. The increasing effects of a city such as Bristol can be seen in the rural area that surrounded it. Towns also provide concentrations of buried deposits containing well-stratified artefacts and, often well-preserved, environmental evidence that have a wider relevance.

- Research Aim 32e on page 287
- Research Aim 34 on page 287
- Research Aim 35 on page 287
- Research Aim 36 on page 287

15.2.4 Production and Trade

Maritime and Fishing

The South West is a maritime region with only one land-locked county and 79% of its border defined by the coast. As well as providing a food resource, the sea was vital for communications, bringing the South West into contact with Wales, Ireland, Brittany and, later, Africa, America and the rest of the world. The location of the coast has changed in the past and the submergence of once-occupied land holds the potential for enhanced preservation of structures, landscapes and environmental evidence.

The archaeology of fishing has received little attention, and cross-cuts the maritime/land divide. As well as the strictly maritime resource there is also a considerable intertidal resource, notably of fish-weirs,

fish-traps and netting installations existing from (at least) all post-Roman periods. Onshore assemblages of structures, artefacts, and fish-bones, and isotopic studies of human skeletal remains, also need to be integrated into any understanding of fishing and its importance.

- Research Aim 37 on page 288
- Research Aim 47c on page 291

Mineral extraction

Mineral extraction, whether for metals, stone or peat has affected large areas of the region. In the earliest metal-using periods it is assumed that the region was the source of tin and much copper but little evidence for this has been found. Later extraction has obscured this but is also an important field of study in its own right; an importance highlighted by the inscription of the Cornwall and West Devon Mining Landscape in the list of World Heritage Sites.

- Research Aim 38 on page 288

Food Production

Food production is central to human existence, from the earliest periods of hunting and gathering, through the development of agriculture and animal husbandry to the predominantly farming landscape with associated industries that we see today. While the overall picture is well-understood there are specific periods, places and processes that need more work.

- Research Aim 39 on page 289
- Research Aim 40 on page 289
- Research Aim 41 on page 290
- Research Aim 42 on page 290
- Research Aim 43 on page 290

Technology

In certain periods technological change appears to be important. This may involve social changes brought about by new technologies or, more difficult to understand, a return to “lower-level” technologies presumably for social reasons.

- Research Aim 44 on page 290
- Research Aim 45 on page 290

Trade, Transport and Communications

The movement of objects, people and ideas is most widespread in the more recent periods but, obviously, began with the first humans to explore the region. Ports, from the Roman period onward, and the fast-disappearing remains of modern communications are identified as important areas to be considered.

- Research Aim 46 on page 290
- Research Aim 47 on page 291
- Research Aim 48 on page 291

15.2.5 Social Relations

Identities and Interactions

Perhaps the most difficult area of human existence for archaeology to attempt to understand, issues such as social groupings, population movements are key in some periods. Modern identities, such as that of Cornwall, have their origins in the past but are poorly understood in material terms. Information may also come from studies of religious activity, mortuary behaviour or conflict (see below).

- Research Aim 49 on page 291
- Research Aim 50 on page 291
- Research Aim 51 on page 291
- Research Aim 52 on page 291
- Research Aim 53 on page 292

Religion

Religious activities are another difficult area for archaeology but have produced significant archaeological remains in some periods. At other times, for instance in the later Roman period, we know from historical sources of significant change which is, as yet, practically invisible to us.

- Research Aim 32 on page 286
- Research Aim 54 on page 292
- Research Aim 55 on page 292
- Research Aim 56 on page 292

Mortuary Practice

Often seen as part of religious behaviour, new approaches are stressing the social processes that influence the treatment of the dead by the living. Study of key episodes can, hopefully, be used to shed light on wider social questions as can scientific analysis of the body itself.

- Research Aim 57 on page 293
- Research Aim 58 on page 293
- Research Aim 59 on page 293
- Research Aim 60 on page 293

Conflict

Conflict usually manifests itself in the archaeological record as defensive structures but may also be represented by battlefield artefact scatters or evidence of trauma on human remains. There has been much study of surviving monuments but some types of site, particularly those peripheral to actual fighting, are less well known. Broadening the study of conflict archaeology may throw light on wider social questions, large-scale historical change and changing technology.

- Research Aim 61 on page 293
- Research Aim 62 on page 294
- Research Aim 63 on page 294
- Research Aim 64 on page 294

15.3 Research Aims

15.3.1 Methodology

Research Aim 1: Extend the use of proven methodologies for site location and interpretation, and encourage the development of new techniques.

See also Research Aim 39c on page 289.

- a. There is a need (and potential) to exploit aerial survey technologies such as lidar in order to create high resolution landscape-scale digital terrain models (DTMs). Lidar intensity can be used to show variations in soil moisture to look for ditches and palaeochannels that may have no surface visibility using other techniques. Existing aerial photographs (verticals) also offer the potential to highlight geomorphic features which have not previously been plotted.
- b. We must try to integrate cave-based and open landscape (lithic scatter) archaeology, for all periods, but especially for the Upper Palaeolithic and the Mesolithic where recent improvements in chronology have offered the opportunity for the relationships between cave and open sites to be explored for and between the different periods of the Upper Palaeolithic and Mesolithic respectively.
- c. There is a need for controlled excavation of stratified Palaeolithic and Mesolithic sites in order to address research questions that have arisen in recent years. Such excavations have not taken place in the South West for the last two decades, while over the same time period investigative and analytical techniques have markedly improved (e.g. OSL and AAR dating). The need for controlled excavation is particularly strong in the

- South West given the general failure of PPG-16 work to generate appropriate archaeological information for the Palaeolithic and Mesolithic periods, and the limited range of aggregates extraction-derived archaeology for these periods.
- d. Identification of potential stratified sites will best be pursued through the development of methodologies and strategies underpinning the prospection for, and the assessment of the preservation potential in, deeply buried Pleistocene and later deposits. Specific reference should be made to organic sediments (including palaeoenvironmental evidence) and/or low energy sediments conducive to the recovery of in situ archaeology, following Wilkinson's (for example Wilkinson 2001) successful predictive modelling of fine-grained sediments. In particular we need better understanding of deep stratigraphy in river valleys, underlying urban development on flood plains (including in established towns) and in the intertidal zone. These challenging areas can be investigated using a range of techniques including boreholes (cores), cone penetrometry, GPR and many more. However care should be taken that boreholes, for example, should not be used as an excuse not to excavate when excavation is warranted and feasible.
 - e. It is also important to consider the archaeological potential of all Quaternary deposits likely to be impacted upon by development, including those often termed "natural". This is particularly important for the study of the Middle and Lower Palaeolithic as primary context sites or secondary context artefact assemblages of this date may be buried within or beneath "natural" deposits. There is a clear need to understand deposit stratigraphy (through commercial boreholes, dedicated archaeological boreholes, and GPR) and the potential of that stratigraphy to preserve Palaeolithic material. Chronology is an important part of assessing the potential of Pleistocene deposits (see Research Aim 16 on page 281) and therefore there is a need to make extensive use of techniques such as OSL, uranium series and AAR dating. Work in the Hampshire basin and West Sussex, the Lea valley, and the Middle Thames tributaries have demonstrated that studies to investigate the potential of Pleistocene strata can be built into the PPG-16 archaeological management cycle, particularly where a large development is planned. Deposit modelling and prospection of the type described above needs to be fully integrated through GIS-based mapping into county HERs and the minerals planning process, with regard to management of the archaeological and minerals resources, and supporting integrated, landscape-scale research.
 - f. Greater use should be made of ceramic petrology, lipid analysis and other techniques to track pottery production and use in all periods.
 - g. Considerable potential exists to study life-time mobility, diet and health through re-analysis of human remains. Extensive analysis of oxygen and strontium isotopes, in both people and animals, should revolutionise our understanding of patterns of mobility during these periods (see, for instance, the current Sheffield "Beaker People" project).
 - h. The value of focused research on a town, village or parish (as has been shown, for example, at Shapwick and Eckweek) has provided a model for a detailed research objective at the local level. Further work is needed at a larger scale to look at sub-regional area or thematic topics such as has been done for Exmoor Iron or landscape surveys such as Exmoor, Bodmin or the Quantock Hills by English Heritage (Riley and Wilson-North 2001; Johnson and Rose 1994; Herring *et al.* forthcoming; Riley 2006). It is notable that all these have been carried out on uplands and also that the wider regional research approaches such as the Whittlewood survey (R Jones *et al.* 2006), carried out in the Midlands are largely absent in the South West region.
 - i. Trace-element analysis of pottery has produced extremely interesting results in the Medieval period but needs to be developed and extended throughout the region and across other periods.
 - j. It is not yet agreed practice that Post-Medieval and later monuments will be recorded in all HERs. Guidance needs to be agreed on the systematic recording of monuments and landscapes of these periods in HERs and means found of ensuring that existing HERs have resources to adhere to this guidance.
 - k. The English Heritage programme of recording landscapes and monuments related to specific activities should be developed and its findings far better publicised.
 - l. Initiatives such as the Medieval Pottery Research Group's development of a European-wide study of ceramic production sites should be further encouraged.

Synthesis

Research Aim 2: Encourage works of synthesis within and across periods, settlements, monuments and areas.

- a. Syntheses need to be made of existing palaeovegetational data from different zones of the South West.
- b. Archaeological frameworks for all the earliest prehistoric periods need development and refinement (as appropriate), acknowledging regional and sub-regional patterning in the South West. Such work is heavily (although not exclusively) dependent upon the re-assessment, dating and discovery of stratified sites (see also Research Aim 1c on page 274 below).
- c. Landscape use models need development and refinement, principally for the Mesolithic, including raw material transfers, human mobility (including the relative usage of upland, lowland and coastal environments and topographical locations), subsistence strategies, and landscape modification, amongst other factors. In the case of the Mesolithic this goal reflects the relative richness of the archaeological record for this period, especially, but not limited to, Somerset. Although similar approaches can (and should) be applied to the more limited data sets of the Upper Palaeolithic, due regard must be given to the issue of coastline “mobility” during the Pleistocene and the changing “upland/lowland” status of the same location at different periods. Within these models attention should be paid (as appropriate) to the integration of key sites (such as Westward Ho!, Balaam *et al.* 1987) with their surrounding landscapes and sites.
- d. It would be extremely useful to draw together existing information on earlier Bronze Age grave assemblages. This may facilitate a better understanding of material sequences, object biographies (such as the presence of heirlooms), the expression of social identity through material culture, and bodily display.
- e. The Later Bronze Age is lacking in synthetic treatment and thus interpretation often remains at the site level. This is exacerbated by the large and increasing amount of data for the Middle Bronze Age, particularly for settlements. A systematic regional review of these data would significantly increase our understanding of the period, particularly if it is integrated with the often good burial data and well-documented metalworking traditions.
- f. In many periods, and particularly in the Early Medieval period, the current interpretive frame-

work is still conditioned by the meagre historical narrative. Greater weight needs to be attached to multi-disciplinary work with colleagues in areas such as landscape studies, historical geography, history etc.

- g. In the Industrial and Modern periods personal interest and responses to threats have produced gazetteers, assessments of significance and, latterly, emergency investigation, recording and, sometimes, excavation under the aegis of PPGs 15 & 16. Much work is still to be published, some of the “grey” literature is not easily accessible and the uneven nature of HERs reflects this (see Research Priority 12 on page 280). There is, therefore, an urgent need for synthesis to develop our understanding of work already completed and to encourage the development of a broader archaeological view of the period.

Spatial and Temporal Bias

Research Aim 3: Address apparent “gaps” in our knowledge and assess whether they are meaningful or simply biases in current knowledge.

- a. Fieldwork and the assessment of extant collections should focus upon the explicit evaluation of apparent regional biases. For example, the relative paucity of Lower and Middle Palaeolithic archaeology in the western half (especially Devon and Cornwall) and the extreme north (e.g. Gloucestershire) of the region, the limited presence of Upper Palaeolithic archaeology in the extreme west, north and east of the region, and the over-emphasis of coastal archaeology for the Mesolithic period in Cornwall.
- b. Our knowledge of the region’s Neolithic and Early Bronze Age archaeology is inevitably uneven, not least because of the huge disparity that exists in levels of archaeological investigation. Certain areas, such as the Mendip Hills, the Isles of Scilly and parts of Gloucestershire, have seen little work. Overall, there has been an undue emphasis on uplands, with little attention so far being paid to river valleys, coastal plains and lowlands in general (work on the Somerset Levels being a notable exception: for instance Coles and Coles 1986). In eastern and central England, it is becoming clear that lowlands and river valleys can have a different kind of prehistoric archaeology to the uplands (see Barclay *et al.* 1996; Dawson 2000; Cotton and Field 2004). Stray artefact finds show a Neolithic-Early Bronze Age presence in many lowland areas, and use of the whole landscape by prehistoric populations, but this is needs to be investigated further.

- c. The Wessex chalklands are better studied than most areas, particularly in the prehistoric periods, but there are significant gaps in our knowledge. The long barrows of Salisbury Plain, extensively investigated by early antiquaries but receiving little attention beyond field survey (McOmish *et al.* 2002) since, provide an example of a topic where more work is needed.
- d. Apparent gaps in Neolithic-Early Bronze Age settlement across landscapes need testing. Which areas have had work carried out under PPG16? Which have been the focus for research-based fieldwork?
- e. Can we identify different regimes of mobility and sedentism? What is the significance of agriculture at different times and in different places across the region?
- f. Where farming is concerned, local distinctiveness may be the result of social and cultural factors as well as the constraints imposed by geology, soils, topography, aspect, etc. One example is the new finding of the cultivation of Emmer wheat in parts of the Thames valley in the Saxon period (Pelling 2003), but with better data coverage and resolution of radiocarbon dating, other examples showing regional or local distinctiveness should emerge.
- g. The rocky uplands of the south-west of the region, particularly Cornwall, have provided the context for new approaches to understanding monuments within natural landscapes (i.e. the relationship between “natural” and “cultural” forms). Are comparable approaches possible for the “softer” landscapes of the chalk and the lowlands?
- h. Are there regional traditions of pit digging and deposition, and what might these tell us of residency, settlement duration, composition, social relations and relations with places and other agencies?
- i. Is the apparent intensification in plough agriculture during the Early Bronze Age, evident at least in the east of the region, real and wide-spread?
- j. How do the ceramic sequences and types of the Neolithic and Early Bronze Age differ across the region and what are the overlaps?
- k. In later prehistory the pioneering role of the study of the Wessex chalklands has also produced biases. At a broad level there are clear and enduring differences between the south-west peninsula and the rest of the larger South West region. There are also important differences between areas such as the presence of Trevisker or Deverel-Rimbury pottery in the Middle Bronze Age, and cist burials or Durotrigian burials in the Later Iron Age. Difference as well as similarity is worth exploring.
- l. In the Roman period the South West appears to show several unique features when compared to the rest of the country: the apparent late founding and wealth of the villas, later Roman pagan temples etc. These need to be understood, not just for our understanding of the Roman period but also to understand the way the region developed in succeeding periods.
- m. There is a very marked bias in the amount of fieldwork and synthesis in the Medieval and later periods across the region; Cornwall and Somerset have been well-served but Dorset and Wiltshire are in particular need of synthetic treatment.
- n. In the Post-Medieval and Modern periods the South West region has, to some extent, examples of most of the sites, monuments and features of these periods that are found elsewhere in England. But it has some significant groups of national importance such as mining heritage (Research Aim 38 on page 288), the remains of textile manufacture and associated housing, telecommunications and military survivals. Also, it has some things that are unique, such as china and ball clay extraction sites. These important topics need further study.
- o. In the Post-Medieval and later periods (if not before) it is also becoming clear that there are real variations in material culture across the region. Without further synthesis (Research Aim 2 on the facing page), we cannot start to describe more fully what these are and offer reasons for them. There are also cultural similarities outside the region which are evident (with Breton house-types, for example). All of this is masked to an unknown extent by the marked intra-regional biases in recording Post-Medieval and later sites and landscapes. The “real” variations may well, at least in part, be the manifestations of genuine regional and other identities (see 15.2.5 on page 274).

Public Interest

Research Aim 4: Encourage wide involvement in archaeological research and present modern accounts of the past to the public.

- a. Museums have a vital role to play in engaging the public in archaeology and landscapes. For example, museums such as those at Alicante

and Leipzig indicate that this can be successfully achieved for the Palaeolithic and Mesolithic periods. Single, large displays at major regional museums are necessary to complement the multiplicity of necessarily small scale displays in local museums. Particularly in these early periods, museum presentations should also emphasise the close relationship between archaeology and landscape evolution and change.

- b. The active promotion and maintenance of public reporting of Palaeolithic and Mesolithic archaeological material and Pleistocene and Holocene geological exposures should be encouraged (ideally through the Portable Antiquities Scheme, county archaeological societies, the regional British Geological Survey office (Exeter), and geological organisations such as the RIGS groups), alongside sufficient resourcing of the local and regional museums permitting them to cope with the generated information and material. Promotion of artefact finding and reporting should also highlight the lithic raw material diversity in the South West, and the potential for lithic scatters consisting of non-flint (for instance, chert and quartzite) artefacts.
- c. The location and importance of key collections (e.g. the CE Bean artefact collection at Dorset County Museum, Dorchester) should be highlighted, both with regards to archaeological research and public engagement.
- d. Relationships need to be built (and re-built) with civil engineering and aggregate extraction companies. Although in the past such companies often informed the British Geological Survey of borehole finds (and other discoveries), this now tends to occur less frequently. Yet such finds (e.g. 10m of till identified in a recent borehole from the north Devon coast (Tony Brown pers. comm.) can be highly significant for our understanding of the Palaeolithic. It should be acknowledged that the extraction industry in the South West is distinctive to that of the South East for example, with a much greater emphasis on hard rock products over “soft” rock aggregates such as Pleistocene sands and gravels.
- e. The Early Medieval period holds the key to the origins of the current nations of Great Britain and yet current academic thinking is divorced from popular ideas of the nature of these origins. We need to ensure that the latest thoughts on the period are fed into current debates.
- f. The origins of many of our towns, villages and farmsteads can be traced back into the Medieval period and these places provide an important

physical link between the 21st century and the landscape of Medieval England. There are important regional and local variations that help to provide a sense of place and define the character of settlements. The story of the Medieval manor, the Medieval church, monastic estates, Medieval agriculture and the management of the Medieval landscape provide clear and tangible links between the present day and the Medieval period (see, for instance, the work of the Shapwick Project: Aston and Gerrard 1999; Gerrard and Aston forthcoming).

- g. The public continue to visit and enjoy Medieval castles, abbeys, towns and villages often without understanding the true story about what they are visiting or looking at. Presentation of archaeological sites, earthworks, monuments and castles is an important priority for the region. Existing audiences visiting the South West often state that heritage sites are one of the key attributes of the area.
- h. Understanding and presenting the full story of the later use of monuments is crucial. This is true, for instance, for the interpretation of sites such as Medieval castles and abbeys where the later uses, which explain how anything survives to look at, are very often ignored. Matters are improving but we could do a great deal better.
- i. Industrial heritage is important in the public perception of the South West, from rural heritage in the form of farming and rural life museums to mining remains on the uplands. Recent interest in Brunel and the promotion of the Great Western Railway as a World heritage Site should be capitalised upon.
- j. The media, especially television, and adult education programmes are known to have a major impact on public appreciation of, and support for, archaeology. Approaches need to be examined for their effectiveness and relevance – and good practice encouraged.

Recording

Research Aim 5: Encourage the study of artefact scatters using innovative methodologies both in the field and on previous collections.

- a. Attention should be paid to lithic scatter resources, in particular the specific evaluation and/or re-evaluation of “grey collections”, and the development of appropriate interpretive methodologies which maximise the potential value of this landscape-scale, off-site resource. The “grey collections” principally consist of

artefact assemblages from both museums (see Research Aim 11 on the following page) and private collections. Emphasis should also be given to assessing the presence and potential size of the non-flint lithic component of the South West's archaeological record.

- b. Lithic scatter artefacts remain problematic, given the frequent absence of independent dating and the tendency of much of the material to be highly undiagnostic. There is therefore a need to review the relationships between the resource, the Portable Antiquities Scheme (PAS), and the local/regional museums, and consider developing or modifying strategies to promote the accurate reporting of lithic material and providing (where possible) artefact identification services.
- c. Approaches to the investigation and interpretation of lithic scatters have become rather mechanical. We need to think of new forms of interrogation and interpretation, perhaps working within finer temporal and spatial scales.

Research Aim 6: Encourage the accurate reporting and identification of metal-detected items in ways that benefit archaeological research as a whole.

- a. The continuing popularity of metal detecting combined with the rolling out of the Portable Antiquities Scheme will continue to offer new opportunities to examine the depositional contexts and associations of new finds. This will also represent a great opportunity to increase our understanding of older "isolated" or "stray" finds.

However, the data produced by the Portable Antiquities Scheme needs to be critically reviewed to assess its quality – both in terms of identification and locational accuracy. There is an urgent need to link PAS data to HER records across the region and see if it tells any stories other than chance loss!

- b. The potential for identifying (and the costs of dealing with) any surviving context for the finds also needs to be considered.

Research Aim 7: Increase and develop the recording of the built environment and improve the recording of archaeological collections and other information sources.

- a. Recording buildings, which should embrace recording evidence and analysis of current and earlier active use of space. There needs to be a greater understanding of different kinds of structure and the detail to be recorded.

- b. Methods of recording and analysing settlement landscapes need development from the approaches tested in Cornwall and Somerset.
- c. Museums should be recognised as the proper repositories of archaeological material and archives by all involved in the process of acquiring archaeological evidence. Museums, particularly the MLAC and its constituent domains, should explicitly acknowledge the duty of care to preserve contextual information. There is a duty on all in the archaeological community to apply the standards and good practice developed between 1975 and 1995 in the accessioning and choice for retention of archaeological material.

Research Aim 8: Utilise the survival of Medieval and later artefacts and buildings to their full extent.

The survival of buildings, landscapes, artefacts, archives and the availability of oral testimony for these periods contrasts with earlier times. It is important that we take an holistic, or interdisciplinary, approach in future research which exploits all of the above. The development of specialist disciplines, and divisions within some disciplines (e.g. debates on the role of buildings archaeology within archaeology) will need to be addressed by joint-working arrangements. Post-Medieval vernacular architecture is relatively neglected compared with the study of Medieval structures.

Research Aim 9: Prioritise a recording strategy for buildings related to Post-Medieval to Modern social provision.

Social archaeology is now attracting academic attention and there is an urgent need for the archaeological consideration of many of the buildings included under this heading (other than public utilities). Urgency is again indicated by rapid change affecting such things as football stadia, leisure facilities retail outlets and social housing.

Transitions

Research Aim 10: Address our lack of understanding of key transitional periods.

- a. Understanding of the processes behind, rates of change, and local consequences of the Mesolithic–Neolithic transition is hindered by a long-standing scholarly divide between people working on these periods. We need to adopt a "joined-up" approach to the events of the late 5th–early 4th millennium BC. What does the apparent absence of "complexity" in the region's late Mesolithic tell us about the Mesolithic–Neolithic transition? Were there really no monumental shell middens (such as in the West-

ern Isles or the west coast of Brittany), or complex mortuary rites (such as at Hoëdic), or has the potential evidence been lost to sea level rise? We need to know more about the extent and chronology of coastal change during this period, given the evidence elsewhere for the coastal focus of latest Mesolithic communities. Understanding this critical transition will also require the excavation of the right sorts of contexts, especially accumulative deposits such as those encountered in the Fir Tree Field shaft on Cranborne Chase (Green and Allen 1997). How do we expect “transitional” sites to manifest themselves, and can we confidently identify transitional lithic assemblages? We need to establish better dated chronologies to improve understanding of this crucial period in British prehistory (Research Aim 16 on the next page). High resolution analyses are needed over a 1000-year period. Specialists should also look for evidence of domestication in deposits considered to be late “Mesolithic”. Detailed palaeoenvironmental analysis, excavation and dating of tufa deposits may help to further elucidate the Mesolithic–Neolithic transition (Research Aim 18b on page 283). Further information could be obtained from a study of insect evidence for browsing under woodland conditions around the transition (suggestion from Robinson 2002).

- b. We need to understand better how the arrival of metalworking impacted upon later Neolithic societies. Is there evidence for change in the construction/use of monuments and are there any changes consistent across the region? What social and ideological changes accompanied the uptake of Beaker pottery and the traditions that went with it? How much was the movement of people involved?
- c. When and under what conditions did fieldsystems and traditions of roundhouse settlement begin? Did fieldsystems begin in the early 2nd millennium BC?
- d. What are the processes and motivations behind the new tenurial and settlement regimes that appear in the 2nd millennium BC, and what evidence exists for variation in these across the South West?
- e. There has been a lot of recent discussion about the nature of the late-Roman/post-Roman period – the “Late Antiquity” model of a modified classical world continuing or a model of systems collapse into barbarism – and the South West has the potential to provide this evidence due to

the late date of Germanic influence. We need to understand better just how long “Roman” sites continued in use. There is also a need to continue to seek to identify an essentially post-Roman British material culture. The influence of Christianity on these transitions also needs to be examined. This links to chronological issues (see Research Aim 16h on page 282) and also the need for palaeoenvironmental sequences (see Research Aim 18a on page 283).

- f. There is much more work to be done on the diagnostic material culture of the transition from the early to later Medieval periods, particularly pottery. The EH/MPRG strategy similarly highlights the dearth of good contextual material to help understand the transition from the Medieval to Post-Medieval tradition. At both transitional periods there are radical changes in type and technologies but we do not understand the detail of these changes, let alone what they mean.

Hidden Resources

Research Aim 11: Improve knowledge and study of under-utilised museum collections.

- a. Many collections are often catalogued under very general classifications because of lack of skilled identification. Important diagnostic artefacts, such as post-Roman imports or Post-Medieval coarsewares, may lie unrecognised. Similarly many finds made on sites primarily of a different period are not recognised for their importance as part of an overall pattern of finds.
- b. Opportunities should be taken to consolidate closely related assemblages when programmes of publication are initiated. Publication of evidence of Post-Medieval pottery production from North Devon at Barnstaple, Bideford and Great Torrington would not only benefit from this approach but has been identified by English Heritage and the Medieval Pottery Research Group as a high priority for action given the significance of their products to New World archaeology (Mellor 1994).
- c. As well as the excavation archives in museums there are also extensive artefact collections that deserve study; recent work on quernstones (Shaffrey 2006) shows the potential for this kind of study.

Research Aim 12: Improve access to, and synthesis of, “Grey Literature”.

- a. The national synthesis for later prehistory based on “grey literature” that has been made by Richard Bradley (2006) should be considered for

other periods in addition to the pilot project on the Roman period that is underway.

- b. HERs provide a vital index into the growing amount of archaeological information but this is biased towards information generated by the planning process. Mechanisms need to be agreed to access the growing volume of “grey” literature that is accumulated by colleges, universities, museums and others. The uneven HER coverage of Post-Medieval sites (see Research Aim 1j on page 275) implies, and reinforces, severe biases in the “grey literature” coverage of this period, and should be addressed as a matter of urgency.

Research Aim 13: Identify and bring to publication key unpublished excavations.

- a. Whilst most of the major prehistoric excavations which remained unpublished for many years have now been completed, there exists a legacy of important unpublished work, such as the Neolithic phases at Cadbury Castle, Crickley Hill and the 1980s’ work at Robin Hood’s Ball. Compromise should not be made in funding of analysis and publication when the national significance of the site is widely acknowledged, Gwithian being a case in point.
- b. This publication record is not true of important excavations of later period sites. In the Roman period many of these were undertaken in the towns (Exeter, Dorchester, Gloucester), but there are important rural sites as well (villas such as Atworth and Wortley, non-villa settlements such as Butcombe and some of the Cornish rounds such as Grambla and Penhale). See also Research Aim 34 on page 287.
- c. There are also important Medieval and Post-Medieval sites which need publication, such as Barnstaple, Roadford, Glastonbury Abbey and several sites in Bristol. The impact of PPG16-related work on Medieval towns and villages in the South West has yet to be assessed. Quantification of existing HER records has been partly covered but more detail is needed to identify the number and range of sites examined throughout the region.

Artefacts

Research Aim 14: Widen our understanding of Later Bronze Age and Iron Age material culture.

With the exceptions of pottery and Bronze Age metalwork, material culture has generally been neglected. Material studies on excavated material are too rare and work on types of materials or specific museum

collections has become less popular with research students. This must not, however, obscure the importance of metalwork and metalworking; the huge quantities of Bronze Age metalwork given to the gods attest to that.

Research Aim 15: Use innovative techniques and methodologies to ask sophisticated questions of Post-Medieval to Modern artefacts and buildings.

- a. There is a much work still to be done at the basic typological level. It has been demonstrated that a low level of resources continuously applied to for example pottery studies can achieve a great deal. Such an approach should not be lost among demands for resources for larger scale programmes.
- b. At a higher level the value of the record and study of artefacts in context has been demonstrated but rarely applied. Locations and assemblages should be identified for specific study to address issues such as identity. Where themed issues are being addressed opportunities should be identified of applying these techniques as well as recording structures.
- c. The period is characterised by a growing diversity of rural settlement and activities within that rural settlement. More systematic studies of vernacular architecture as applied to both housing and other rural buildings are required, particularly at the humbler end of the scale. Little work has been done to examine the archaeological evidence of agricultural improvement apart from a few specific examples of landscape.

15.3.2 Science

Research Aim 16: Increase the use and improve the targeting scientific dating.

See also Research Aim 54i on page 292.

- a. The expanded application of recently developed and/or modified dating techniques, principally optically stimulated luminescence (OSL) and amino acid ratio (AAR), to open-landscape deposits (especially, but not exclusively, those containing, or with the potential to contain, Lower and Middle Palaeolithic archaeology). Recent research has indicated that OSL dating may be particularly effective on lower elevation (i.e. younger) river terraces deposits (e.g. valley gravels). Use of these techniques will aid contextualisation of extant archaeological collections in already known, key areas, including the Solent River (and its tributaries) and the Bristol Avon’s fluvial terrace systems.

- b. Widespread application of radiocarbon dating (where possible) to Mesolithic sites, especially in Cornwall and Devon, is urgently required in light of the extremely poor chronological frameworks currently available.
- c. Further re-dating where possible of faunal (including human) assemblages from Upper Palaeolithic and Mesolithic cave sites, particularly in light of the recent methodological developments in the radiocarbon technique (Mellars 2006). The key importance of these new radiocarbon dates are their implications for understanding Late Glacial environmental change through fluctuations in faunal communities, reflecting re-colonisation/extinction events. The extinction of key species (particularly in Late Pleistocene cave assemblages) also needs to be better understood in order to improve the calibration of those biostratigraphical models that are currently used to date Upper Palaeolithic sites.
- d. The lack of understanding of the period between 12,000–9,000 BP highlights the need to develop higher resolution frameworks with reference to the timings and geography of the Late Upper Palaeolithic (LUP) re-colonisation of Britain. While this will principally be based upon absolute dates from securely stratified sites, assessments of extant Upper Palaeolithic (and Mesolithic) lithic scatters (see also Research Aim 5a on page 278) should also evaluate the presence/absence of chronologically diagnostic artefacts from different periods. This will support testing of apparent trends (e.g. the seeming absence of Creswellian open-air sites in the Upper Palaeolithic of the South West, in contrast to the remainder of Britain), and may also permit potential integration of those scatters with absolutely dated cave-based and open landscape assemblages from the region (see also Research Aim 1b on page 274).
- e. A better definition of key transitional phases (such as the beginning of the Neolithic, the introduction of metalworking and Beakers and the change from the Earlier to the Later Iron Age) is required. See also Research Aim 18a on the facing page and Research Aim 10 on page 279.
- f. The Late Bronze Age is poorly defined chronologically for several reasons. Burials with accompanying grave goods are very rare, in contrast to the situation in the Early and Middle Bronze Age, perhaps because excarnation was practised increasingly frequently. Pottery styles become less distinctive, and pottery use may have been less common. There is a lack of radiocarbon dates and the lack of a systematic collation of them for this period.
- g. The dating, nature, and development of prehistoric tin and copper production remain very poorly understood, to the extent that the sites which should produce samples for radiocarbon, dendrochronological, and other dating methods have largely not been identified. Analysis and dating of heavy-metal profiles in upland peats and in alluvial sequences may provide a useful route into site location, as well as providing direct information on environmental impacts.
- h. In the Early Medieval period, where diagnostic material culture is hard to recognise, the centrality of scientific dating cannot be over-emphasised. In particular dates are needed from “undated but probably prehistoric” sites such as enclosed settlements and sites that appear “late Roman” on the basis of their artefacts.
- i. In the Medieval and Post-Medieval periods diagnostic material culture becomes more commonplace but there is a need to link scientific dating techniques to documented and well-researched Medieval sites. The use of dendrochronology on a range of waterlogged sites such as riverside structures, urban wet sites and timber bridges can be linked to more detailed analysis of standing buildings and roof structures.
- j. Take opportunities that arise to develop further the tree-ring chronologies for the South West, by carrying out sampling in association with building recording.

Past Environments

Research Aim 17: Improve the quality and quantity of environmental data and our understanding of what it represents.

- a. We need to improve consistency in sampling, assessment and analysis for all types of palaeoenvironmental evidence. This requires agreement of details such as sample size, mesh size, methods of recording etc. Examples given by Serjeantson (forthcoming) of where this would help are:
 - Standard recording of tooth wear should be employed to establish the age of death of pigs, sheep and cattle for inter-site comparison.
 - Standardised recording should be employed to allow inter-assemblage and site and period comparisons of butchery and cooking methods. This would also facilitate the

understanding of the relative importance of hunting red and roe deer.

- b. A range of context types should be sampled for plant macrofossils, especially for the Iron Age where most work has concentrated on pits. For example, sampling only obviously rich deposits misses evidence for crop processing and leads to mis-interpretation of site function and plant use.
- c. We should maximise sample size by targeting areas where preservation of animal bones (including micro vertebrates) is good. However this needs to be balanced to make sure that context related variation is also understood (suggestion by Serjeantson forthcoming).
- d. We should look at the environmental evidence that exists in new ways, such as by conceptualising what we would expect to find under different scenarios and then interrogating the archaeological record. This approach could particularly lend itself to a new understanding of past farming.

Research Aim 18: Target specific soil and sediment contexts for environmental information.

- a. Targeted use should be made of pollen analysis to investigate particular archaeological questions or gaps in knowledge and not just carried out on long sequences “because they are there”. Examples include the Late Glacial (i.e. the environment of the Late and Final Upper Palaeolithic) from catchments including archaeological sites of this period; the Mesolithic to Neolithic transition; the timing and duration of Neolithic and Bronze Age clearance and reforestation; the development of heathland and the immediate post-Roman to Saxon period (Sub-Roman and Early Medieval). High resolution dating strategies will be needed to allow detailed interpretation and not restricted to top, middle and base of sequences unless judged to be appropriate.
- b. Tufa sequences hold great potential for understanding landscape change over long time periods in limestone and chalk areas where sources of data are usually poor. This is demonstrated by recent work on Mendip by Paul Davies (Davies and Lewis 2005). Pollen, molluscs and plant macrofossils are preserved and material suitable for radiocarbon dating can be recovered from these deposits.
- c. There is a need to quantify peat wastage, which can be done by establishing age/depth curves which highlight where deposits survive. This has been done for part of the Somerset peat moors,

but has wider applicability including in the upland areas.

- d. Little is known about when, how and where soils were artificially improved in the past. Are there temporal trends in soil improvement? Micro-morphological studies can begin to address these questions and carbon isotope and geochemical studies can also be used in some circumstances. Areas such as the Isles of Scilly, Gwithian and other island or coastal locations would be particularly amenable to study, but the question is relevant throughout the region.
- e. Colluvial and alluvial sequences as markers for forest clearance, agricultural intensification and for metal mining and smelting need to be exploited. In order to do this both types of stratigraphy need to be investigated in more detail than present and much better dated, rather than being written off as archaeological and palaeoenvironmentally sterile. Magnetic and geochemical techniques can be used to source such deposits and suggest why deposition occurred, while OSL dating is now a reliable technique (sometimes more so than radiocarbon) for accurately dating the onset of alluviation etc.

Research Aim 19: Improve our understanding of wild and domestic animals in the past.

- a. Stable isotopes and laser ablation could be used profitably to reinvestigate old collections of human remains and more work could usefully be done on material from Badger Hole and Gough’s Cave and Kent’s Cavern.
- b. A baseline needs to be established for the distinction between dogs and wolves and there is a need for reconsideration of the size range of Neolithic dogs which could be larger than previously thought (suggestion from Serjeantson forthcoming).
- c. The natural history of mammals needs to be better understood. Current gaps include exploitation of wild animals in the late and post-Roman to Early Medieval period and the origins of current breeds of domestic animals. The former may just involve a synthesis of current excavation reports, while the latter could involve DNA and metrical studies of well dated animal bone collections. Assemblages from towns may offer the best opportunities.
- d. Isotopic studies are needed on animal as well as human bone assemblages to understand transhumance, pasturing practices and trade in domesticated animals. Recent isotopic work for the

Wessex Iron Age hillforts suggests that Iron Age horses were bred in different geological zones to those where their bones were found.

- e. Establish when the decline in Red deer size took place and whether it is correlated with a decline in woodland.
- f. Establish base-line size (or other criteria) to distinguish wild from domesticated animals.
- g. Establish when cattle became smaller. This has implications for understanding husbandry, subsistence and environment.

Research Aim 20: Improve our understanding of wild and cultivated plants in the past.

- a. We need to be open to the possibilities of regional and even local distinctiveness in the contribution of unusual or infrequently cultivated plants. Our understanding of plant cultivation in the past is based on a small range of species, largely because of the processes responsible for preservation in non-waterlogged conditions. Thirsk (1997) gives some indication of the possibilities for the historic period.
- b. Saltmarshes presented a valuable resource for past societies. Remains of intertidal and submerged saltmarshes should be included in intertidal studies in the rest of the South West, as done for the Severn Estuary.
- c. Most evidence for management of pasture and meadows comes from the east of the region in the Thames valley where the evidence from pollen, insects and plant macrofossils has been integrated. Waterlogged deposits which provide information on this important aspect of farming which is frequently overlooked should be a high priority for all periods as the information is of use both to archaeologists and to the nature conservation sector.

Research Aim 21: Improve our understanding of the environmental aspects of farming.

- a. Our knowledge of plant use especially remains patchy. This extends beyond food; fibres, building materials, adhesives and drugs should also be considered. See also Research Aim 3f on page 277.
- b. Better understanding is needed of how the process of agricultural intensification can be detected on archaeological sites. Better use of the evidence should be made by integrating environmental and artefactual evidence to test theory, coupled with comprehensive dating programmes.

For example, better understanding of the development of field systems and increase in arable between c.2000 and 1500 BC remains important.

- c. Later prehistory is often characterised as the domestication of the land, with the appearance of permanent settlements and fields; from wild-*scape* to *landscape*. The environmental evidence for agriculture, whether charred plant remains or animal ones, remains poorly studied in comparison to structures or ceramics. In this regard archaeological science needs to be taken out of the black box and treated as mainstream.
- d. Site-based studies have provided environmental evidence in the Medieval period but further work is needed to link sites to the wider landscape and better-dated contexts. This will provide opportunities for understanding what happened at documented historical events around the region. Understanding the changing patterns of land use and their environmental impact has yet to be fully realised.
- e. As in other regions, the potential of environmental studies in the Post-Medieval periods remains under-exploited; there is substantial opportunity to enhance our understanding of agricultural, industrial, and urban environments and their development.

Research Aim 22: Improve our understanding of insect faunas and what they can tell us about past environments.

The following specific targets for insect studies are taken from Robinson (2002):

- a. Insect faunas from areas with little waterlogged evidence, for example the chalk and limestone areas.
- b. Insect faunas in the extreme south-west where conditions are most Atlantic.
- c. Carbon and oxygen isotope measurements on insect faunas from sequences which suggest climate change, to give direct measurements for dating and temperature.
- d. Insect assemblages that can be closely related to the elm decline.
- e. Early–Middle Bronze Age insect faunas.
- f. Insects from Iron Age hillforts, oppida, and coastal trading settlements in relation to aspects of the synanthropic insect fauna.
- g. Insect faunas from Roman urban deposits, especially where the site has a Late Iron Age origin.

- h. Post Roman to Middle Saxon insect faunas.
- i. Late Saxon and Medieval rural insect faunas.
- j. Insect faunas from major towns such as Bristol and Gloucester.
- k. Changes in the Medieval and recent insect fauna of the major rivers.
- l. Comparative studies of modern death assemblages which can be related to the surrounding habitats from which they were derived.
- m. The development of improved techniques of data analysis to cover more aspects of the urban fauna.

Research Aim 23: Improve our understanding of past climate and sea level changes together with their effects on the peoples relationships with landscapes and the sea.

- a. Opportunities should be taken to better understand climate change by ensuring that a range of proxy data (multidisciplinary palaeoenvironmental analyses) is obtained from well-dated wetland sequences from both the uplands and lowlands.
- b. Opportunities should be taken to understand the scale and nature of sea level change throughout the region. This will involve multi disciplinary biostratigraphic analyses and high resolution dating programmes.
- c. The continuation of the Palaeolithic and Mesolithic archaeology of the South West offshore highlights the need for topographic modelling, deposit and site prediction, and palaeoenvironmental reconstructions to be extended below the current tidal limits to improve understanding of the landscapes occupied by Upper Palaeolithic and Mesolithic populations. The marine archaeological resource has the potential to be particularly relevant to the issue of Upper Palaeolithic re-colonisation strategies (such as, how did modern humans reach the extreme west of the region?)
- d. The submerged forests and peat bed resources surrounding the present coast are an endangered resource, with widespread evidence for their ongoing erosion. Yet these locations contain well preserved proxy data for Mesolithic and Neolithic environments that have only rarely been studied in the South West. It is important that the remaining resources are studied in detail before they are destroyed.
- e. In light of the importance of Mesolithic coastal strategies (as indicated by key midden sites such as Westward Ho!, Balaam *et al.* 1987), the extant

terrestrial resource should be integrated with the marine resource (such as submerged forest landscapes and artefact/ecofact material), especially in the west of the region. Particular focus should also be given to the palaeoenvironmental evidence for coastal management during the Mesolithic (such as reed beds management).

Research Aim 24: Improve our understanding of Pleistocene vertebrate faunas.

More work needs to be carried out on existing Pleistocene vertebrate faunas, particularly Late Pleistocene cave assemblages. In particular, extinction of key species needs to be better understood in order to improve calibration for the biostratigraphic models that are currently used to date Upper Palaeolithic sites.

Research Aim 25: Improve our understanding of Palaeolithic and Mesolithic landscapes.

- a. It is notable in the South West that such Late Upper Palaeolithic (LUP) material that is present is typically represented by single finds. This situation is extremely different to the river basins of northern France and there is a need to assess and explain the differences (particularly since the two landscapes were connected during the Upper Palaeolithic, albeit by a landscape with a major fluvial system (the Channel River). With respect to the identification of LUP sites, the issue of river valley burial and tin streaming (especially on the uplands) needs to be acknowledged.
- b. The South West also provides an opportunity to study the Mesolithic/Neolithic transition, for example in the Land's End area or the uplands (such as Dartmoor or Bodmin Moor) where there may be relevant stratified material preserved under peat deposits. Jacobi (pers. comm.) has also highlighted tufa deposits as a potential source of well-preserved evidence for this transition period and for the Mesolithic more generally (Research Aim 18b on page 283).

Research Aim 26: Investigate the changes in landscape and population at the end of the Roman period.

In the Early Medieval period environmental studies have the potential to provide an independent witness to activities which are currently obscured by the lack of site-based evidence. Studies such as the use of pollen to assess woodland regeneration can provide broad indicators of population densities – but they must be dated independently rather than by links to supposed historical events as has sometimes happened in the past.

Research Aim 27: Investigate the origins of free-threshing wheat.

Despite this being a priority for archaeobotany for many years, when, where and how the change from cultivation of hulled to free-threshing wheats took place is still not understood. This major change which will have affected husbandry and crop-processing practices occurred sometime in the centuries covering the late/post-Roman–Early Medieval periods. Efforts must be made to target suitable assemblages.

15.3.3 Settlement

Rural

Research Aim 28: Improve our understanding of Neolithic settlements and landscapes.

- a. A greater focus needs to be placed on the landscape surrounding Neolithic sites. Although such an approach has been applied to some areas of Wessex (such as Cranborne Chase, Stonehenge, Durrington Walls etc) there are many areas where sites are studied in isolation.
- b. The potential of “small-scale” evidence such as pits and stake-holes needs to be realised. While individually not seemingly significant, will cumulative patterns emerge?
- c. We still require a better knowledge of “domestic” architecture, in both ephemeral and more permanent forms.
- d. More attention should be paid to tree-throws and other “natural” features within which occupation debris occurs.

Research Aim 29: Improve our understanding of non-villa Roman rural settlement.

- a. Whilst work in the past has concentrated on villa buildings, developer funded work has made considerable advances in the study of non-villa rural settlement in certain parts of the region, such as the M4/M5 corridors, the Upper Thames valley and the outskirts of the Bristol conurbation. Elsewhere the record is very patchy and there has been little study of the environmental/economic data such as bones and seeds which ought to provide information on the agricultural base in different parts of the region.
- b. Some areas, such as West Dorset and North and West Devon, currently have very little evidence for settlement in the Roman period. This needs to be assessed by extensive field survey (such as the National Mapping Programme) and targeted excavation to test whether this is a reflection of a real absence or only a lack of archaeological work.

- c. Apart from in these areas, the visibility of Roman sites should allow more geographical approaches to their study, such as the identification of differing settlement densities and types across the region (and perhaps beyond). This would provide a useful counterbalance to earlier studies of villa distributions and provide a greater understanding of the nature of the Roman countryside. Developer-funded work associated with linear schemes such as roads and pipelines provides raw data which requires further synthesis before it can be used to address such questions.

Research Aim 30: Develop and test methodologies to identify Early Medieval rural settlement.

The lack of visibility of smaller rural sites has led to a reliance on more visible elite settlements. The known sites (of all types) are so few in number that it is impossible to assess how “typical” a site such as Trethurgy or Cadbury Castle is. This needs to be addressed by wider landscape studies and careful targeting of fieldwork.

Research Aim 31: Address the long-running debates about Early Medieval landscapes and territories.

- a. New questions, such as the location and role of “assembly places” or execution sites need to be considered in landscape terms along with older, but still unanswered questions, such as the continuity of Roman estate boundaries.
- b. We need to confirm the dates of the various linear earthworks that have been produced much debate about their function as boundaries at various dates. See also Research Aim 62b on page 294.
- c. The origins of the parish, the manor or township, the hundred, the monastic estate and the shire occur in the transition period between Early Medieval times and the end of the 11th century and are a key area for further research.

Research Aim 32: Investigate and identify the locations of Early Medieval religious buildings, monuments and landscapes.

- a. Recent discussions on the origins and typological usefulness of circular churchyards (Petts 2002) and rectangular minster enclosures (Hall 2000) need to be addressed by fieldwork – in particular for dating evidence.
- b. The location of churches in relation to landscape and territories needs to be studied as does the location of the inscribed stones.

- c. There is a particular need to identify and explore the early development of monastic sites.
- d. Inscribed stones that appear to be in their original locations should be considered for detailed fieldwork.
- e. Similar questions need to be asked of churches in urban topography.

Research Aim 33: Widen our understanding of the origins of villages.

The transition from the Early Medieval period into the pre-Conquest period is one of the main research areas for rural settlement studies in the region. The origin of villages and their field systems in some areas (notably in the east of the region), is thought to date from the 10th century in this area but further detailed investigation, analysis and dating is urgently needed. Further work needs to be addressed by wider landscape studies and the careful targeting of fieldwork/excavation. There is a particular need to explore the origins and development of landscapes characterised by dispersed settlement patterns in the west of the region.

Urban

Research Aim 34: Improve our understanding of early Roman urban settlement.

- a. The wealth of towns in the late-Roman South West has led to a focus on their later histories. We know very little of the sequence and form of the crucial late 1st–early 2nd century development of the *civitas* capitals and *colonia*. Non-publication of excavations in, for example, Gloucester has led to competing theories which are difficult to evaluate in the absence of detailed publication of key sites.
- b. The seemingly very different early development trajectories of towns such as Cirencester, Dorchester and Exeter also needs to be explained. The old dichotomy between urban and rural needs to be re-evaluated in the light of new theoretical models from other places and periods.

Research Aim 35: Develop our understanding of Early Medieval urban settlement.

- a. We need to understand better the end of Roman urbanism where a mixed picture is emerging across the country but where little evidence has been published from the South West.
- b. We need to investigate the origins of Late Saxon urbanism. Landscape studies may help in assessing the context in which burhs are located and further work is needed to assess John Blair’s theories on the minster origins of towns. Much

basic data has been collected by the Extensive Urban Survey projects (Section 1.2.4 on page 11) but these need to be completed across the whole region and also studied synthetically.

Research Aim 36: Improve our understanding of Medieval and later urbanism.

- a. The origins of towns in the South West are linked with the development of settlement patterns and the apparent expansion of the population at the end of the 10th century. This is an area requiring further detailed analysis and dating, similar to the research questions for rural settlements. Much basic data has been collected by the Extensive Urban Survey projects but these need to be completed across the whole region and also synthesised.
- b. There is a clear overlap between Late Saxon urbanism and the development of towns after the Norman Conquest. The Domesday Book helps by providing a range of information but making a link between the documentary record and the reality of the archaeological evidence is still a challenge.
- c. The growth and development of towns throughout the middle ages provides a substantial archaeological resource but work is needed to understand the form, function and specialisation that towns offered.
- d. The transition from Medieval towns to their Post-Medieval and industrial phases needs to be documented and researched. Archaeological research in the major urban areas such as Exeter, Plymouth, Bristol, Gloucester and Bath has been going on for many decades but a synthetic volume has yet to appear for the “Urban Archaeology of South West England”.
- e. Understanding the nature of change that towns have undergone in the past five hundred years has been a recurrent theme of past research agendas but it is the areas peripheral to urban centres that are being subjected to intensive redevelopment at the moment. These are the areas of early Post-Medieval urban expansion which later “declined” into areas of intense but incredibly diverse economic and social activity. The opportunity must be found to identify locations which would benefit from full excavation and post-excavation analysis.
- f. Techniques of recording and analysis which have been well tried and tested in the New World and in Commonwealth nations should be adopted and applied (see, for instance, examples in Egan

and Michael 1999). The unrivalled opportunities for recording and understanding inter-related archaeological assemblages offered by urban excavation should be recognised as significant in trying to answer some of the research issues raised about the chronology and nature of change of material culture.

15.3.4 Production and Trade

Maritime

Research Aim 37: Increase our knowledge of maritime archaeological sites.

Indirect evidence indicates that the seas around the region were busy with shipping in the past and this must have led to a large number of wrecks. However, many of these are likely to have been lost in waters that are not frequented by sport divers because of low visibility or high energy currents. How can we access this resource?

See also Research Aim 46 on page 290.

Extractive Industries

Research Aim 38: Widen our understanding of the extraction, processing and transportation of minerals, stone and aggregates.

- a. Given the importance of exploitation of metal ores in the South West in both prehistoric and historic times, alluvial and peat sequences can be used to provide a chronology for and to assess the impact of mining activity (see, for example, Thorndycraft *et al.* 2004). A combination of geochemistry and OSL dating can be used.
- b. Mining remains themselves have the potential for well-dated and stratified deposits which may also exhibit technological change with wider implications.
- c. More work is required on the exploitation of flint, chert and other stone sources, and the transportation of these materials in prehistory.
- d. The scale and organisation of metalworking during the earlier Bronze Age remain poorly defined as are the reasons why metal objects are comparatively rare in those areas which have ores when compared to those that don't.
- e. The apparent lack of evidence for Bronze Age mining (now clearly demonstrated in Ireland, Wales, and Cheshire) is very surprising in view of the region's rich and well-exposed mineral resources. While tin extraction may have been entirely by streaming, this should not be uncritically assumed, and copper ores do not accumulate in stream deposits. The main site indicator

in other regions has proved to be the hammerstones (though these do not in themselves prove a prehistoric date); their apparent absence from the South West may possibly indicate a different mining technology in which hammerstones were not used, in which case other site indicators will need to be identified. Prehistoric streaming sites would also be of considerable importance. A genuine absence of Bronze Age mining, for tin and/or copper, would itself be of considerable interest if the "negative" results of substantial well-designed research allowed this to be argued with any confidence.

- f. Our knowledge of early metal extraction, production and distribution remains thin. When, for example, were tin and Mendip lead sources first exploited, and on what scale?
- g. The iron industry of the Forest of Dean was of major national importance from at least the Roman period until the 18th century, with some important 19th-century sites. Iron mining "scowles" are now starting to receive good archaeological attention, but there is a surprising lack of modern work on Roman and Medieval bloomeries and other smelting sites. For the Post-Medieval charcoal iron industry, blast furnaces are relatively well-known, but there is a lack of survey, excavation and archaeo-metallurgy on forge sites (in Dean as elsewhere); the recent comprehensive historically-based gazetteers of Peter King offer a new starting-point for field-based research. Although Dean ceased to be major iron-producing area with the switch to coke smelting, its very peripheral-ness at this stage has aided the survival of some important coke blast furnaces and experimental steelworks.
- h. Work on the iron industry over the last couple of decades, in other areas such as the Blackdown Hills, Exmoor and South Gloucestershire, has started to show the real potential which has long since been suspected. More work is needed, especially concerning the chronology and organisation of the industries and their associated settlements.
- i. Primary evidence for lead extraction in the Late Iron Age and Roman periods has been obtained from Charterhouse, and may have been a major focus for early Roman activity in the region, but the character of the mining area and its associated settlement is still poorly understood, particularly after the 1st century AD. The Medieval mining and smelting industry on Mendip was of considerable importance and remains virtually unstudied archaeologically; the four main "minery" (centralised ore dressing and smelting) sites

- are of huge scale, and appear to be nationally unique. A 16th-century horizon of innovation in the Mendip lead industry (currently known entirely from historical evidence) was also of importance for the industry nationally, with important developments in ore dressing and smelting.
- j. Although the massive Medieval and Post-Medieval rise of the tin and copper industries in Devon and Cornwall is relatively well-known archaeologically, its sheer scale, importance, and variety means that there is still much important work to be done.
 - k. The South West also played an important part in the development of the reverberatory furnace, both for smelting and for other metallurgical and pyro-chemical processes, in the late 17th century; this development cross-cuts several industries, with early uses in calamine (zinc ore) roasting on Mendip, arsenic “burning” and tin smelting in Devon and Cornwall, and copper and lead smelting in the Bristol area.
 - l. As well as the “major metals” of tin, copper and lead, the Devon and Cornwall orefield is also notable for its range of other extracted metals and minerals, ranging from antimony and arsenic to wolfram (tungsten ore) and uranium. While production varied from the substantial (arsenic and wolfram) to the economically-insignificant, these industries form an important part of the national range of ore-dressing, smelting, and chemical industries, and most are confined to the region. Many have received little or no archaeological attention.
 - m. Although the coalfields of the South West (the Bristol, North Somerset, and Forest of Dean coalfields) are relatively minor in terms of national production figures, Monuments Protection Programme coverage showed that they punch above their weight in terms of archaeological importance, since site preservation is remarkably good by national standards. Good-quality archaeological recording and research on collieries, coke ovens and other coal industry features must therefore remain a priority.
 - n. Quarrying has been a further major extractive industry of the region, ranging from the Medieval and later freestone quarries of the Jurassic belt in the east to the granite quarries of Dartmoor and Cornwall, and also including underground “stone mines” such as Chilmark and Combe Down. These quarries, and their associated infrastructure in their wider cultural and economic setting, remain under-studied.
 - o. Roman salt production is another area where there is good evidence from the South West (Somerset and Dorset) and the potential for wider (technological, social, trade etc) studies. However later salting has been little studied, even the range of technologies employed in the region, and their chronology and distribution, being poorly understood.
 - p. The broader industrial and social development of the Bristol region in the 17th and 18th centuries, fuelled at a technical level by its coal and other mineral reserves, and at an economic and social level by trade (including important and uncomfortable links to the slave trade and exploitation of convict and indentured labour) and colonialism, forms a major element in British industrialisation more generally. This broader field archaeology, and the ramifications that underlie it, have now started to receive good archaeological research; this should be continued and developed.

Food Production

Research Aim 39: Understand better the relationships of Neolithic and Bronze Age people to plants and animals.

- a. Further work is needed on the use of woodland resources and woodland management.
- b. The changing role of marine and freshwater resources requires more adequate investigation.
- c. Isotopic studies need to be carried out on animal as well as human bone assemblages to understand transhumance, pasturing practices and trade in domesticated animals. See also Research Aim 1 on page 274
- d. Better understanding is needed of the status of arable in the Neolithic and Early Bronze Age as the debate on the importance of arable versus collection of wild plant resources continues (but see also Research Aim 21f on page 277). More assemblages are needed from a range of contexts, particularly associated with domestic rather than ritual activity. All Neolithic and Early Bronze Age samples are important, but any waterlogged deposits are particularly so as they may preserve material not susceptible to charring.

Research Aim 40: Improve our understanding of agricultural intensification and diversification in later prehistory.

There is a need to better understand the chronology and regionality of crop diversification and intensification of production, which appears to take place from around the Middle Bronze Age onwards. Well-dated

assemblages from a range of settlement contexts are required to examine introductions of new crops and associated wild species.

Research Aim 41: Assess the impact of the Roman empire on farming.

We still do not fully understand the effects of “Romanisation” on plant and animal use and cultivation methods or whether regional differences can be attributed to this or other factors.

Research Aim 42: Improve our understanding of Medieval farming.

- a. There is very little direct environmental evidence for the use of grassland/pasture/meadows in the South West. The pastoral side of the landscape was the major land use for many areas, and vital for producing winter food for stock. However the types and management of meadowland and pasture is still very poorly understood except in parts of the Thames valley. The integration of plant macrofossil and insect evidence and in some cases pollen as well, is the key to success here. See also Research Aim 20a on page 284.
- b. Better use should be made of documentary evidence to help interpret plant and animal assemblages. Plant and animal assemblages could also be used to challenge or confirm the accuracy of the documentary record. Monastic accounts relating to demesne land, for example, give insights into the control of the Abbeys, on the farming of large parts of the Medieval landscape. Better understanding of how farming was managed could lead to more innovative and useful interpretation.

Research Aim 43: Address the lack of knowledge of Post-Medieval to Modern food production.

- a. The uneven nature of work here has been noted – more is needed on small food processing establishments of the earlier periods and the larger concerns of the late 19th and 20th centuries that eventually replaced them. For example, the recent closures of breweries within the region indicate the urgency for study and recording.
- b. The question of how food production changed through the period might be profitably addressed by selecting locations for a more holistic approach relating buildings, landscape, land use and artefacts.
- c. Research is needed into the introduction of new crops and farming methods in the 18th century in particular. The impact of innovative plant and

animal breeding and the use of mechanisation is almost totally unstudied by archaeologists. However, this evidence is vulnerable to loss through development and modern farming practice. The innovations will affect the composition of assemblages and our interpretation of them.

Technology

Research Aim 44: Develop an understanding and identification of Early Medieval technologies.

- a. The hints of continuing pottery production and use in some parts of the region need to be examined as a potential key to non-elite material culture and other classes of artefact identified and considered in the same way.
- b. Classes of site such as mills (wind, river, tide and animal) and fishtraps need to be sought out.

Research Aim 45: Broaden our understanding of Post-Medieval to Modern technology and production.

- a. For the period 1550–1750 the following areas of research need further work:
 - the regulation, products and structures of textile manufacture
 - the mining, processing and manufacture of metals (Research Aim 38 on page 288).
 - the quarrying, processing and transportation of stone and aggregate (Research Aim 38n on the previous page)
 - regional and temporal variations in the production and use of fuel
 - the early development of the glass industry
 - the development of the pottery industry
 - alum, copperas and saltpetre
 - estate industries.
- b. The period after 1750 is seemingly well-covered by industrial archaeologists but coverage has, in fact, been uneven with the neglect of many of the minor industries represented in the region. In particular, the industries of the “second industrial revolution” of the late 20th and early 20th centuries have been largely ignored. The study of industrial estates (pre- and post-war) is required.

Trade, Transport and Communications

Research Aim 46: Assess the information for Roman ports.

Ports are poorly known in Britain, yet the South West has many potential sites both on the Channel coast (Hamworthy, Seaton, Topsham, Plymouth) and on the

banks of the Bristol Channel (Oldbury-on-Severn, Sea Mills, Clevedon, Crandon Bridge, Comwich and Padstow). Despite the obvious importance of the sea in the region, very few of these sites have been studied. Work on sea level change may also be of value in understanding the Roman coastline. There has been some work on this topic in Poole harbour but little elsewhere.

Research Aim 47: Assess the archaeological potential for studying Medieval economy, trade, technology and production.

- a. Trade and interaction in the South West expanded considerably during the Medieval period with the growth of market towns, ports and an improved communication network. By the Medieval period pottery production developed at several centres and the study of markets and trade within the region is a key research item.
- b. Classes of sites such as mills and fish weirs, building-stone quarries, iron production sites (such as the Blackdown Hills) were all expanded to satisfy the economic needs of the estates within the region. The Forest of Dean iron industry is perhaps in a different category, as a major national industry of strategic importance. Similarly, the tin industries of Dartmoor and Cornwall, and the lead industry of Mendip, were of supra-regional importance. The Crown-controlled lead-silver industries of Bere Alston and Combe Martin, although of more limited geographical extent, were also of strategic value, and their archaeological survivals are potentially of great importance in conjunction with the good historical documentation of their advanced technology.
- c. The importance of ports, harbours, coast and maritime archaeology develops in this period and much needs to be done to link this with more traditional rural studies and the Medieval market patterns of the South West.

Research Aim 48: Widen our understanding of Post-Medieval and Modern transport and communications.

- a. Minor, less glamorous but essential features of early road, rail, inland and coastal transport have been neglected in the literature and need to be studied along with the viaducts, stations, etc. Of particular importance are the survivals of motor transport systems such as bus depots, petrol stations and small garages.
- b. Recent telecommunications systems are subject to rapid change and need to be studied, recorded and artefacts conserved, as a priority.

- c. The region played a pivotal role in Britain's interface with the rest of the world. Increasingly the archaeological concerns of these periods have to be addressed in a much wider context. International collaboration is already bearing much fruit and further opportunities should be pursued.

15.3.5 Social Relations

Identities and Interactions

Research Aim 49: Improve our knowledge of Neolithic and Early Bronze Age social life.

- a. We need to understand whether the "catchments" of communities involved in the building of large communal monuments can be determined?
- b. We need to use the rich Early Bronze Age grave assemblages from the region to study bodily ornamentation and display. Equally, how does the presence of non-rich or multiple/token burials inform our understanding of individual identities.

Research Aim 50: Improve understanding of the effects of the Roman army on the local population.

The effects of the sudden presence (and then withdrawal) of the large 1st-century garrison in the south-west peninsula on the indigenous economy and settlement pattern is poorly understood. There is very little evidence for *canabae* and *vici* and what there is is poorly understood (for instance the relationship between the apparent late Iron Age settlement and subsequent fortress at Kingsholm).

Research Aim 51: Utilise the high-quality evidence from the region to investigate Early Medieval ethnicities and identities.

- a. Most of the studies of "pagan Anglo-Saxon" cemeteries have been carried out in the east of England but study of such sites in the South West has the potential to provide evidence (artefactual and scientific, such as stable isotopes) for the nature of Anglicisation in the region.
- b. Sub-regional identities need to be examined.

Research Aim 52: Use archaeological evidence to better understand identities, such as Cornish, through time.

The archaeology of identity is an important factor within the region, spanning the Early Medieval to Industrial periods. The most obvious intra-regional identity is that of Cornwall; there is a need for good cross-Tamar research to investigate how the very-separate Cornish cultural identity does, or does not,

manifest itself in the various forms of material culture that make up the archaeological record. However the region also includes a segment of the Anglo-Welsh border; research agenda for this national identity should be drawn up in conjunction with Welsh archaeologists, and with the West Midlands and North West England regions. Other intra-regional and cross-regional identities would also benefit from research; examples include cross-Channel contacts, elements of “Celtic” and “Atlantic Province” identity, the material-culture manifestations of the various Post-Medieval religious identities within the region, and occupational communities such as mining and fishing settlements.

Research Aim 53: Increase our knowledge of the effects of colonialism on the region and the wider world

An important aspect of modern Post-Medieval and Historical Archaeology worldwide is the archaeology of colonialism, and the South West has important contributions to make to this. The archaeology of Bristol and its connections to the slave trade are the most obvious element of this, but other ports also had strong connections to the colonisation of the New World, the industries of the region were strengthened by supply to, and investment from, both of these aspects of colonialism, and the reverse influences of colonial and non-white cultures within the region probably remain under-recognised. The 19th-century “Cornish diaspora” of miners and mining technology can also be seen to an extent as within a colonial context.

Religion

Research Aim 54: Widen our understanding of monumentality in the Neolithic and Early Bronze Age.

- a. Certain kinds of monumental construction within the region (such as the diminutive Exmoor stone settings) remain very poorly understood.
- b. All areas of the region contain monuments that challenge “conventional” categories and sequences. Rather than being relegated to the status of “oddities”, we should acknowledge and seek to better understand non-conventional monument forms.
- c. Likewise, there is a need to better interpret differences in scale, complexity and histories of use in what are seemingly single “categories” of monument.
- d. How can the emergence of ceremonial centres (clusters of monuments) be understood?
- e. So-called rotundas, associated with Cotswold-Severn long barrows, are still poorly compre-

hended. In general, a better understanding of the structure and sequence of long mounds is needed.

- f. There is a need to establish whether some of the suspected Tor enclosures are in fact similar in character and chronology to Carn Brea and Helman Tor. This will enable a better understanding of whether these are regional or local centres, or if they are the consequence of a “topographical determinism” (i.e. monuments deriving from a particular response to spectacular landforms).
- g. What evidence is there for Late Neolithic and Early Bronze Age enclosure in the south-west peninsula where henges are rare? Are there equivalents elsewhere for sites such as Bartinney with a non-defensive enclosure around ceremonial monuments?
- h. How common and widespread are Neolithic round barrows?
- i. More work is required on the chronology (see also Research Aim 16 on page 281) and function of linear monuments in the south-west peninsula – stone rows, bank cairns, possible cursus sites, and so forth.
- j. Approaches to Bronze Age round barrow cemeteries as “communal monuments” potentially have much to offer.

Research Aim 55: Improve our understanding of later Roman religion.

The South West has some of the best evidence for later Roman paganism in the country but the relationship of this to Christianity in the region is poorly understood. The evidence for the presence and strength of Christianity in the region needs to be reassessed, particularly in the light of the need for knowledge of the Christian basis of the Early Medieval period.

Research Aim 56: Utilise surviving buildings and records to understand liturgical and social change in Post-Medieval to Modern places of worship and cemeteries.

- a. A systematic record of surviving early liturgical arrangements is required as well as of places of worship in their context of the period post 1850.
- b. Local analysis of burial memorials should be encouraged as a relatively low-cost high-yield field of study.
- c. Although holy wells form a substantial element of the field archaeology of parts of the region (notably Cornwall), they have been omitted from

most mainstream archaeological research. While any comprehensive research should include critical analysis of traditional research assumptions such as continuity from pre-Christian religion, and early Christian origins, it should also include analysis in terms of a broader Christian “religious landscape”, and of the Post-Medieval survival, use, and even instigation of holy wells as manifestations of local and other identities. Holy wells could also be looked at as expressions of domination and resistance in terms of dialogue and opposition between the institutional archaeology of the church and the vernacular archaeology of the holy well.

Mortuary Practice

Research Aim 57: Widen our understanding of Neolithic and Early Bronze Age mortuary practice.

See also Research Aim 2c on page 276.

- a. The simplified, traditionally understood sequence of earlier Neolithic collective burial, replaced by single burial (cremation or inhumation) by the earlier Bronze Age, clearly masks a reality of considerable diversity in mortuary treatment. The full complexity of treatment in time and space needs addressing, and within single monument contexts (such as Cotswold-Severn and earthen long barrows), in part through synthesis of existing information.
- b. We need to address the problem of later Neolithic mortuary practices in view of the extreme rarity of human remains from the period.
- c. More dates are needed on cremated bone, with and without direct material associations, so that this aspect of mortuary behaviour can be fitted into established chronologies. See also Research Priority 16 on page 281.
- d. Greater attention needs to be paid to the occurrence of isolated human bone finds within a range of contexts, both for the information they might provide of mortuary and ancestor rites, and, via direct scientific analysis, as a source of information on diet, health and mobility.
- e. Does the presence of human bone in barrow sites and other monuments always equate with funerary activity or ancestral rites *per se*, or in some cases was human bone just another form of symbolic resource?

Research Aim 58: Widen our understanding of Roman burial traditions.

Inhumation burial occurs in a number of areas of the South West in the Late Iron Age and early Roman period (areas such as Dorset and the Cotswold/Severn valley) and study of these may throw light on changes in belief brought about by the conquest. Similarly large later Roman urban cemeteries occur (as at Dorchester, Gloucester and Cirencester) as do rural ones which frequently span into the post-Roman period (Cannington, Henley Wood, Bradley Hill etc.) which provide a similar resource at the end of the period. Museum collections also represent a considerable resource to which new scientific techniques can be applied such to provide information on geographic origins and family associations. The very poor burial record in Devon and Cornwall needs to be remedied.

Research Aim 59: Utilise the potential for good evidence from Early Medieval burials to address research questions.

- a. The distribution of discovered burials needs to be assessed in relation to bone survival across the region and efforts made to locate dated burials from 7th – 11th centuries; the key period for the start of 1000 years of churchyard burial. Re-examination of the sites of antiquarian reports of undated burials may help here. See also Research Aim 60.
- b. Modern excavation of furnished burials will provide a useful contrast to the evidence from eastern England.
- c. The existence of isolated “final phase” cemeteries, such as at Camerton, needs to be explained.

Research Aim 60: Use the excavation of Medieval and Post-Medieval burials to study wider population and social issues.

The development of the Medieval churchyard provides an important resource for understanding human populations, family groups, disease and genetic mapping through developments in scientific studies of skeletal remains. The transition to Post-Medieval burial traditions also important. See also Research Aim 59 a.

Conflict

Research Aim 61: Address the lack of knowledge of Neolithic and Early Bronze Age conflict.

The nature, scales, and contexts of conflict throughout the period remain undefined.

Research Aim 62: Examine the evidence for Early Medieval defence and conflict sites across the region.

- a. Battlefields are commonplace in the historical record but are unlikely to be easily located by archaeology in this period. Their locations may be better explained in terms of landscape but we need a better appreciation of how Early Medieval conflict operated.
- b. Linear earthworks and defended sites may provide some of the answers and their date and distribution (in relation to landscape and potential territories) needs to be assessed – were hillforts only reoccupied in Somerset? See also Research Aim 31b on page 286.

Research Aim 63: Deepen our understanding of Medieval and later defence and conflict sites.

- a. Future archaeological understanding of these issues will benefit immeasurably if Medieval sites associated with defence and warfare are not interpreted narrowly as features of “military heritage”, but examined as integral components within their contemporary environments, whether urban or rural.
- b. A priority for future studies of the region’s castles a clear priority must be the baileys of these sites. We still have remarkably little idea of the activities undertaken in castle baileys and archaeological investigation of these zones holds particular potential to illuminate interrelationships between lordship sites and their settings.
- c. Another priority area concerns the region’s Medieval urban fortifications. In several cases important urban castles have been subjected to both large- and small-scale excavation and detailed archaeological surveys, although highly significant findings remain to be fully published and contextualised. This point can also be extended to several of the region’s Medieval town walls, which have similarly seen multiple developer-funded archaeological interventions. Excavation is only one tool, however, and the complementary roles of other non-intrusive methodologies are vital; in particular geophysical survey has under-used potential for the study of Medieval fortifications, while a number of significant sites with upstanding masonry remains have yet to benefit from detailed standing building surveys.
- d. The origins and diversity of the coastal artillery defences that are so characteristic of the region’s coastline deserve greater scrutiny.

- e. Battlefield archaeology is a growing field of study for all periods up to the Glorious Revolution. A more rigorous and structured approach to their study is needed of the maximum information is to be obtained.

Research Aim 64: Improve our understanding of the less-researched areas of Post-Medieval to Modern defence and warfare.

These aims need to be read in addition to the national aims expressed in Schofield (2004).

- a. Opportunities should be identified to better understand the nature of fixed defences, particularly the less monumental structures. This would include study of earthen defences and siege works of the Civil War which need to be integrated with the historical work of Mark Stoye (Stoye 1995; 1998; 2003) and others. Also the lesser works of the 18th and 19th centuries, earthwork batteries, barracks, depots and training grounds need to be identified and placed in their social and military contexts.
- b. There is massive scope in the later period, one in which the ratio of civilian and support activity to the front-line has developed to meet rapid technological change and “total” war in the later twentieth century. Particular areas in urgent need of study are logistics (depots, dumps, repair and transport facilities), command and control resources, personnel services (training, medical care, recreation, security for service people) and “civilian” aspects, such as railways in war, temporary housing and fire/rescue services.

Authors

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