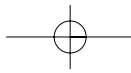
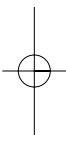
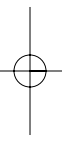


section 4
**Research
Strategy**



SECTION 4 – RESEARCH STRATEGY

'The only interesting answers are those that destroy the questions'
(Susan Sontag 1963, 240)

CREATING OBJECTIVES

Defining coherent issues through the close specification of questions is the first step towards developing new knowledge or understandings. This section seeks to move the process forward by identifying objectives that can form the basis of projects or initiatives wholly or partly to resolve issues. The plan for problem-orientated research, and the proposed context for the promotion and support of curiosity-driven research, over the next few years is here called the *Research Strategy* and is the programme of work referred to in the management plan for the Stonehenge World Heritage Site (English Heritage 2000, 4.7.2). Like archaeology itself, however, knowledge generation is a destructive business as Sontag so forcefully reminds us in the quotation above.

There is no one-to-one relationship between issues and objectives; some objectives may address more than one issue while other issues are addressed through several objectives. Some issues may be recognizable but cannot be addressed without further definition and analysis. Equally, the infinite nature of what cannot currently be perceived needs to be accepted, and an ability to respond to unforeseen possibilities and curiosity-driven research is firmly embedded in the overall plan of action for future operations. In this there is a positive recognition that issues listed in Section 3 will inevitably arise as the research process unfolds, while unexpected discoveries will either prompt previously unimagined avenues of inquiry or lead to the redefinition of recognized issues. Thus a balance must be struck between setting out a pathway that can be followed to produce first-rate research outcomes and allowing enough flexibility to respond quickly and decisively to unforeseeable opportunities.

Most of the issues recognized in Section 3 carry through into the objectives set out here, although some only in a minor way. Table 4 summarizes the linkages and relationships between the objectives discussed here and the issues identified in Section 3.

Any strategy is, in a very real sense, the art of war: the way of achieving clearly defined general aims through the implementation of specific actions. In this case it involves the struggle to overcome our ignorance of the past. The overall aims are to aid public awareness, improve current ideas about the past in the public interest, engender a sustainable approach to the use of archaeological resources, and inform appropriate management. It is achieved by creating and then implementing a set of clearly defined objectives which seek to produce:

- New **perspectives** on the nature and meaning of archaeological remains
- Better **understandings** of what has already been discovered
- Fresh **comprehension** of existing interpretations and conventional wisdom

- Original **knowledge** about the past
- Robust **baseline data** for monitoring and characterizing the archaeological landscape.

The defined objectives will individually or collectively contribute to the overall resolution of currently identified issues as problem-orientated research and/or put in place a structure for the pursuit of curiosity-derived research to exploit unforeseen opportunities. Thus objectives are components of the overall strategy that can be aimed for, sought after, and realistically achieved in a reasonable time. In defining such objectives it is important to address a series of important matters:

How will the objectives be achieved? Is the work a one-off operation; a recurrent activity involving many separate events; a short-term activity; a long-term activity; or could it only be achieved through the gradual accumulation of source data?

Who will pursue the objectives? Is the work a single venture; a collaboration; promoted by a facilitator; and does it need a manager? It is hoped that this and earlier sections will stimulate interest and action amongst individuals and in many different organizations, including: national heritage agencies; local authorities; archaeological contractors and consultants; university departments; postgraduate students and research fellows; and amateur societies and groups. Success in implementing a research strategy will come through individuals and organizations wanting to carry out research rather than feeling that they must.

In what contexts can the objectives be pursued? In some cases the collection and analysis of data sets can be made integral to site management works and thereafter carried out as part of a capital programme or ongoing conservation programme. Other contexts include those provided by property development and land-use change (often funded in such cases by the developer), or initiative-based programmes of investigation and research undertaken by university departments, local societies, or in some cases individual researchers.

What issues does an objective relate to? Having defined and specified the things that are considered to be of current concern the objectives of future research programmes can be securely tied back to these to ensure that they are being addressed. As noted above, Table 4 summarizes the main linkages.

What priority does an objective have? Given constraints on resources available to carry out archaeological research it is important that priorities are established. In general, the greater the number and range of issues that a defined piece of research can realistically address the higher its priority,

Objective	Links to main issues	Other related Issues	Priority	
<i>The BIG Questions</i>				
1	Investigating the essential importance and distinctiveness of Stonehenge past and present	1, 18	5, 8, 10, 15, 22	H
2	Monument dating programme	2, 9, 19, 28	21, 22, 27	H
3	Modelling environment and land-use change	10, 17, 25	12, 13	H
4	Understanding occupation	4, 12	17, 19, 20, 23	H
<i>Stonehenge and related monuments</i>				
5	The Stonehenge structural sequence, phasing, and interpretation	5, 19	3	M
6	The Avenue – ground checking geophysical anomalies and mapping	7, 10,	6, 12, 17, 22	M / H
7	Mapping the surfaces of the Stonehenge stones	6, 29	5, 12	H
8	Investigating the Palisade Ditch northwest of Stonehenge	1, 5, 7, 10	11, 12, 17, 22	H
9	Review of oval barrows and the excavation of a selected example	21	10, 19, 22	M
<i>Landscape and regional objectives</i>				
10	Barrow cemetery surveys	9	7, 10, 11, 12, 17, 21	M / H
11	Creating a database of place-names and cartographic data for the Stonehenge Landscape	24	11, 17	M
12	Characterizing and investigating the main fieldsystems within the Stonehenge Landscape	16	12, 25	M / H
<i>Integrating monuments and landscapes</i>				
13	Extending the fieldwalking data set	4, 12, 23	16, 17, 25, 26, 27	H
14	Compiling a geophysical map of the Stonehenge area	16, 23, 26, 27	4, 9, 10, 12, 17, 24	M
15	Filling data gaps	23, 26	19, 25	M
16	Validating and dating features revealed by aerial photography	10, 23, 26, 27, 28	12, 16, 17	H
17	Understanding recent land-use change	25,29	26	M
<i>Research infrastructure</i>				
18	Create SARSEN: The Stonehenge Archaeological Research, Study and Education Network	33, 36	32	H
19	Establish a Stonehenge Research Centre	33, 36	32	M
20	Publish outstanding investigations in the Stonehenge Landscape	30	33	H
21	Prepare and publish a Stonehenge Landscape Research Handbook	32, 36	31	M
22	Compile a corpus of material culture from the Stonehenge Landscape	20	12, 19, 27, 28, 31, 33	H
23	Compile a corpus of human remains from the Stonehenge Landscape	9, 20	2, 19, 23, 24, 27, 28	H
24	Develop enhanced mapping and visualization programmes for archaeological data sets	10, 11,12, 18, 20	4, 15, 16, 17, 23, 32, 34, 35	H
25	Create a social history archive of the twentieth-century excavations at Stonehenge	37	30, 31, 32	M

Table 4
Relationships between defined Issues (Section 3) and proposed Objectives (Section 4).

although there will be exceptions. Table 4 summarizes the priority established through consultation for each objective.

Implementing the Research Strategy through the pursuit of the recognized objectives inevitably means a degree of engagement between researchers and archaeological materials whether those materials are *in situ* in the field or *ex situ* in archives and museum collections. The exact nature of such engagements will of course depend on the methodologies being pursued, while the form of the outcomes and resultant discourse from these engagements will very much depend on the philosophical and theoretical perspectives used. It is not the intention here to privilege particular methods or perspectives, but because of the need to provide inclusive access to researchers both now and in the medium- and long-term future it is appropriate to apply a few simple rules to structure the engagement between researchers and primary archaeological data.

ETHICS AND PRACTICE

The valuable, important, and finite nature of the archaeological resource within and around the Stonehenge World Heritage Site is well recognized and widely acknowledged. Sustainability is fundamental to policy development and accordingly a balance has to be struck between the conservation of the archaeological materials for future generations to exploit as they see fit and the more immediate use for tourism, recreation, and education, and as the source of material for new insights and knowledge of the past to fuel the activities and aspirations of the present generations. Naturally, there exists the freedom for anyone to pursue research of any kind that does not damage or diminish the archaeological resource or impact on the rights of others to do the same. Where intervention is involved, careful management provides the means of achieving the necessary balances, the principles and implementation of which are set out in the *Stonehenge Management Plan* (English Heritage 2000, 4.7.8-9). A more extensive explanatory statement of how these principles apply to archaeological work has been agreed between the partners to the Stonehenge Master Plan (English Heritage et al. 2001) and may be summarized as follows:

- Make the best use of data that have already been collected before new material is acquired
- Make the best use of non-invasive techniques before using destructive invasive techniques
- Where invasive techniques are applied the interventions used should cover the minimum area necessary to resolve the issues being addressed
- Archaeological works should not erode, and where possible should enhance, the visual character of archaeological monuments or their setting
- All archaeological work should be carried out by competent and archaeologically qualified individuals and organizations following appropriate professional codes, guidance, good practice, and standards
- The results of all interventions should be disseminated in an appropriate format and assimilated into the local Sites and Monuments Record and the Stonehenge World Heritage Site GIS record.

The need for archaeological interventions to advance archaeological knowledge of the area is widely accepted,

although views vary about exactly how and when such works may usefully be carried out (e.g. Pomeroy-Killinger 2003). The guiding principle here relates to the balance between the perceived value and importance of the issue, and the rarity and value of the material available to address it. Thus, for example, any proposals involving the examination of deposits within Stonehenge itself where only a few square metres of the site remain intact should be viewed in a rather different way from proposals to examine a small sample of extremely extensive deposits such as the boundaries of later prehistoric fieldsystems. It is not proposed that archaeological deposits should be formally zoned in terms of their availability for research, although attention may be drawn to the broad grading of importance and sensitivity based on the recorded extent of known monuments and the results of extensive fieldwalking (Batchelor 1997, plan 5).

CURRENT INITIATIVES

At the time of constructing the Research Framework a number of projects of different scale and duration were known to be taking place within the Stonehenge Landscape. In some cases these will contribute to the resolution of issues identified in Section 3 above, and all have been contributory to the development of the objectives set out in this section. The following projects were brought to the attention of the team constructing the Research Framework.

Stonehenge Visitor Centre improvement works

Preparation studies and the development of planning applications and environmental impact statements for a series of proposals for the resiting of the visitor centre and ancillary works have been undertaken at intervals since 1990. Current work is focused on the proposed new visitor centre site east of Countess Road. This area was subject to a desk-based assessment in April 1993, and a first phase of field evaluation in 1995. Further evaluations were carried out by Wessex Archaeology in spring 2003 and spring 2004. A planning application and accompanying Environmental Statement were submitted to the Local Planning Authority in September 2004 (Chris Blandford Associates 2004). Ongoing.

A303 improvement scheme

Initial surveys with the aim of providing a general overview of the archaeology of the area were carried out in 1992 on behalf of the Department of Transport. Since that time detailed studies have been carried out, including geophysical surveys, fieldwalking, and field evaluation on a large number of options. Following the announcement in June 1999 of a preference for an on-line solution, efforts have focused on the corridor defined by the present A303. Several phases of field evaluation were carried out by Wessex Archaeology in 2002–3 and an environmental impact statement prepared (BBCHG 2003). A Public Inquiry into the proposals was held in Salisbury between the 17 February and 11 May 2004. Ongoing.

WHS Earthworks Condition Survey

In spring 2002 English Heritage commissioned Wessex Archaeology to undertake a baseline survey of the condition of recorded earthwork monuments within the



Stonehenge World Heritage Site and to make management recommendations for each. The survey is the first of its kind at a detailed level (Illustration 92); the first results have been presented as a client report (WA 2003b).

Stonehenge Landscape Project

Based in the Department of History and Archaeology in Birmingham University, this project is the largest digital analysis of the archaeological landscape and monuments of Stonehenge ever attempted. The study uses data from more than 1200 monuments within a phenomenological study of the development of the Stonehenge landscape from the Mesolithic to the early Bronze Age. The contents of the Stonehenge barrows are also collated for the first time and presented in a series of appendices to the published work. The project explores how the Stonehenge landscape emerged over time, the developing relationships between the public monuments, and how these monuments created new spaces for social action in prehistory. The manner in which monuments were used and perceived is discussed and the results are demonstrated through interactive software which displays GIS data, and animations of movement along monuments and through the landscape, as well as 3-dimensional views of the landscape, embedded panoramic photographs, and videos. Readers can access all the project data from the publication and via a web browser, permitting them to perform their own studies and produce their own reading of the landscape of Stonehenge. The full version of *Stonehenge Landscapes* was published in November 2001 (Exon et al. 2001). Ongoing.

Avon Valley Landscape Survey

Selected cultivated areas of SPTA land in the Avon Valley north of Durrington are being systematically fieldwalked by staff and students from Salisbury and South Wiltshire College and the Department of Archaeology at Bristol University. To date the work has mainly been to the north of the Stonehenge Landscape, focusing on Casterley Camp and around Netheravon, but other areas will be examined in future. Ongoing. [Information from Paul Tubb, November 2004]

Flint scatter analysis

The Stonehenge Environs Project produced an enormous quantity of lithic material that has been the subject of only a

most basic analysis. Using a sampling programme designed to maintain total coverage my ongoing doctoral research utilizes a technological and metrical approach to reveal the extent of technological variability across the landscape. This project gives an alternative understanding of the nature of inhabitation of the Environs, and provides a counterpoint to previous monument-based interpretations. [Contributed by Ben Chan, October 2001]

Grave goods from Bronze Age burials

In order to refine the digital database used in the Stonehenge Landscapes project it was necessary to collate various categories of data concerning grave goods from the barrows. This involved the correlation of project identifier, Wiltshire SMR number, parish, Grinsell barrow number, Devizes Museum Catalogue number(s), and published corpus numbers for Beaker pottery, collared urns, food vessels, daggers/knives, daggers, and amber. A definitive list of all 'Wessex Culture' graves was also prepared. This task has never been attempted previously, and the results will provide a launch pad for further detailed analyses. [Contributed by Ann Woodward, October 2001]

Examination of ritual and dress equipment from early Bronze Age graves

The exotic and impressive grave goods of the 'Wessex Culture' in early Bronze Age Britain are well known and have inspired influential social and economic hypotheses, invoking the existence of chiefs, warriors, merchants, and high-ranking pastoralists. These traditional interpretations are now being increasingly queried, not least through a renewed interest in the archaeology of ancient religious activity, including shamanism. This project aims to identify more accurately the significance of these burial assemblages using technical scientific studies of the objects themselves, for example use-wear analysis, characterization, and sourcing. [Contributed by Ann Woodward and John Hunter, June 2003]

The Stonehenge Riverside Project

This is a study of the relationship between Stonehenge and its Avenue and the timber circles and henge at Durrington Walls as linked by the course of the River Avon. The Project will investigate the riverside and riverine deposits close to Durrington Walls and at the southeastern end of the Avenue, with the aim of identifying any deposits and structures associated with activities in the third millennium BC. The project is expected to run until 2008. [Contributed by Mike Parker Pearson, October 2001; and see Parker Pearson et al. 2003 and www.shef.ac.uk/archaeology/research/stonehenge/index.html for results of ongoing investigations]

SPACES: The Strumble–Preseli Ancient Communities and Environment Study

Although not directly focused on the archaeology of the Stonehenge Landscape per se, this Project is concerned with the archaeology at the western end of the Bluestone trail in west Wales. It therefore directly contributes to understandings of the Stonehenge World and the communities that are tied to Stonehenge through the supply

Illustration 92
Durrington 35 round
barrow in the Old King
Barrow cemetery.
[Photograph: Timothy
Darvill. Copyright reserved.]

of source materials. Ongoing. [Contributed by Timothy Darvill and Geoffrey Wainwright, June 2002; and see Darvill and Wainwright 2002 and Darvill et al. 2003 for recent results]

STRATEGY, OBJECTIVES, AND PROJECTS

In the following five sub-sections the main objectives identified during the construction of the Research Framework are arranged under a series of general headings that reflect the nature and the scale of the work proposed. All are outline proposals and they are arranged in no particular order of priority; they should not be taken as commitments on the part of any organizations or individuals who might be involved in the implementation of these objectives. In some ways, each objective set out here can be seen as a 'Project Outline', the implementation of which will require detailed consideration and further discussion. In most cases this will involve the preparation of some kind of Project Design (cf. English Heritage 1991), whether to structure the unfolding of the project or to seek funding and consents for its execution. It is also hoped that the definition of these objectives will prompt the recognition of others either related to them or tangential in other cognate areas. It should be noted, however, that few objectives map onto the issues identified in Section 3 so as to totally resolve them; indeed, this would be very difficult since most identified issues are extremely broad. In all cases, therefore, the attainment of the following objectives should be seen as contributions to the resolution of identified issues.

Until recently, the sites available for research within the Stonehenge Landscape have been mainly confined to those outside the Salisbury Plain Training Area. Since 2001, however, archaeological monuments within the military training lands are now available for academic archaeological research (A Morton pers. comm.). This provides a major opportunity for new research, especially in such matters as the integration of monuments with wider landscape issues.

THE BIG QUESTIONS

This first group of objectives relate to some of the BIG questions that are asked by archaeologists and ordinary visitors to Stonehenge alike: What was Stonehenge? Who built it? Why? When? What was the landscape really like back then? Superficially, these questions seem simple and obvious, but in fact they are complicated and contain many hidden dimensions. They can be answered at many different levels, and in greater or lesser detail, but in all cases can really only be addressed by breaking them down into smaller, more easily manageable pieces. The focus here is therefore to start quarrying away at them in a modest way rather than trying to crack them all at once.

Objective 1: Investigate the essential importance and distinctiveness of Stonehenge past and present

Researching why Stonehenge was, and is, important to past and present communities holds the key to many of the 'who built it and why' questions. Critical here is an appreciation of the extent to which, at its height in the late third and early second millennia BC, the monument itself and the

cluster of contemporary structures around it were truly unique in local, regional, and Neolithic World terms. This requires a view outward from Stonehenge to other areas as well as the reverse, looking in to Salisbury Plain from other areas. The extent of the similarities and overlaps with other contemporary structures will illustrate its familiarity and integration, or lack of it, amongst other communities. The historical context of its appearance in relation to pre-existing traditions will help explain why it is like it is.

The modern preoccupation with Stonehenge needs to be compared with what can be glimpsed of its ancient status. It may be that Stonehenge seems important only because of the way it satisfies modern desires: it is eighteenth-century and later scholars who have become so preoccupied with it despite the abundance of equally old and unusual monuments elsewhere in Britain.

This objective could be pursued as a series of interlinked parallel investigations focusing on different aspects of the problem. Perspectives from a wide range of sources are needed to be successful, although in many cases these may be lone researchers brought together to explore these issues through workshops and seminars. A medium-term project is needed here, one that will feed directly into the interpretation of the site.

Objective 2: Monument dating programme

The collection of new dating evidence to help answer the 'when' questions is a high priority (English Heritage 2000, 4.7.6). Some progress could be made using material in existing museum collections, although cautions regarding reliance on multi-year samples for radiocarbon dating (Ashmore 1999) point towards the importance of newly collected high-integrity samples. The needs of radiocarbon dating and environmental sampling in terms of exposed deposits for sampling are very similar and could usefully be combined (see Objective 3 below) through the selective reinvestigation of antiquarian excavations dug into barrows and earthworks. The samples selected for study need to be spatially structured to provide good areal control of the Stonehenge Landscape and chronologically structured to span the fourth to second millennia BC, bearing in mind that buried soils represent the period preceding the foundation date of the superimposed monument that serves to protect them.

Key extant samples that might be considered for dating include:

- The skeleton of a young man buried on the bottom of the ditch at Woodhenge (Pitts 2001b, 132-3)
- Human bone from postholes C13 and C14 at Woodhenge (?in Devizes Museum)
- Antler from the Durrington flint mines (?in Salisbury Museum)
- Antler from postholes in the southern circles at Durrington Walls to refine the chronology of the various phases to the structure (antler in Salisbury Museum)
- Cremation deposits from Stonehenge and Woodhenge (see Aerts et al. 2001 on dating cremations)
- Cremation burials from a selection of excavated round barrows in the Stonehenge Landscape.

This objective requires a multi-disciplinary team with access to radiocarbon facilities and environmental laboratories. It might usefully be pursued as a collaborative

venture involving specialist teams from a number of universities using externally derived initiative funding. Short or medium term in its execution, it would be set within the context of exploiting development-related opportunities wherever possible and targeted investigation.

Objective 3: Modelling environment and landscape change

One of the great fascinations of the Stonehenge area in particular is the long-term pattern of how periodically people and natural forces transformed the landscape. In many ways the Stonehenge Landscape represents a microcosm of this over much wider areas, and also provides a way of communicating this particular piece of research to a wider audience. Over the last 150 years, there have been more studies undertaken within a relatively limited compass than for almost any area of the country, not least through the numerous extensive surveys undertaken in connection with management initiatives over recent decades. This evidence needs to be synthesized and used. Critical here is the use of environmental data in order to help reconstruct the local environment and answer some of the 'what it was like' questions (English Heritage 2000, 4.7.6).

Although a fair amount of data relating to environmental change is already available from within the Stonehenge Landscape it has been gathered as and when it can within the context of other determining factors. As a result it is patchy and there are gaps in coverage both spatially and chronologically. A programme of sampling to achieve high-quality environmental reconstruction is urgently needed. The results will form a major component of future interpretative and presentational materials. Like the dating programme (Objective 2), use can be made of antiquarian excavations to recover samples from existing sections. This objective should be pursued whenever development-related opportunities arise, and may also be relevant in cases of relatively minor management works. Targeted investigations will be needed as well, and this can be done in conjunction with monument dating work.

Objective 4: Understanding occupation

Finding out where the builders and users of Stonehenge lived is widely perceived as a key issue, although not without problems in terms of how it can be resolved. A primary objective is therefore to identify the 'signature' of the sort of settlements (using the term here in a general sense) that might be expected within the Stonehenge Landscape. Key data sets can then be reviewed. One is the concentrations of surface lithics that have been identified and characterized, but which we know little about in terms of what lies beneath them. Stray finds also need to be considered, residual material in the matrix of later monuments, and the structure and variability of identified pits and pit clusters.

The objective needs some desk-based research to start with, followed by sample excavations and field-checking. It is one of the areas, however, where unexpected discoveries could make rapid advances. Every opportunity provided by development work and ground disturbance as a result of management works should be checked for postholes, pits, beam slots, and occupation debris. During the 1930s and 1940s this kind of observation was very successful around Countess Road, and it could be again. Especially important

is the full investigation of medium and large areas along the Avon Valley where occupation is most strongly suggested.

STONEHENGE AND RELATED MONUMENTS

This second group of objectives relates to issues connected with specific monuments and our interpretation of them, including Stonehenge itself.

Objective 5: The Stonehenge structural sequence, phasing, and interpretation

The publication in 1995 of the twentieth-century excavations at Stonehenge (Cleal et al. 1995) allowed for the first time a clear view of the supporting evidence, or lack of it, for the main threefold phasing of Stonehenge. The report highlights many areas of uncertainty, the fact that many key features cannot be firmly attached to established core phases, and the plethora of other undated features. The post-Bronze Age history of the monument and its decay is hardly touched upon through the twentieth-century excavations and this needs to be solved. Many of these could be tied down with limited closely targeted excavation and re-excavation.

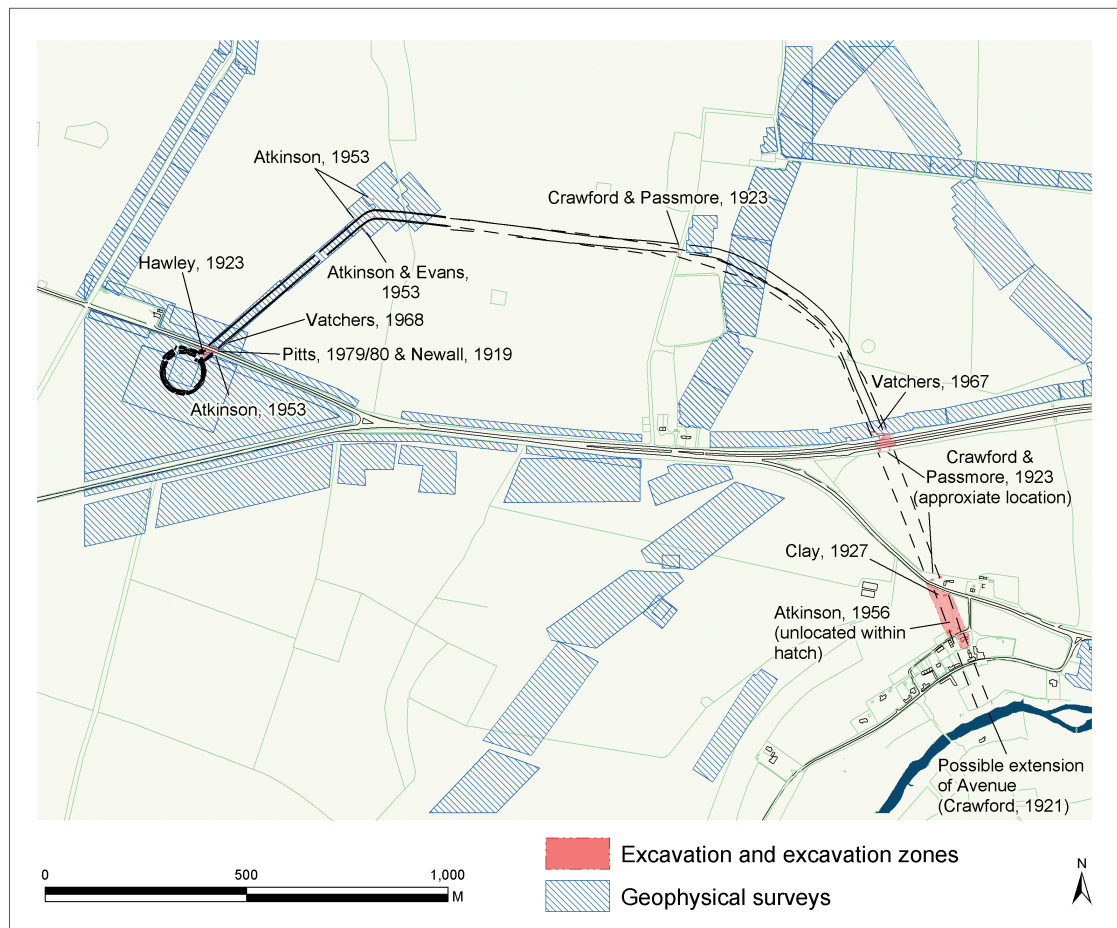
This objective could be achieved in one season with relatively little damage to undisturbed deposits. It needs to be done under the direct control and patronage of English Heritage, although the participation of specialists and other interested parties is to be encouraged.

Objective 6: The Avenue – ground checking geophysical anomalies and mapping

The geophysical surveys carried out on the Avenue in 1990 revealed localized anomalies tentatively interpreted as pit-type features and in some cases perhaps stone sockets on the line of the internal banks (Cleal et al. 1995, 506–10; Illustration 93). Testing this proposition is relatively straightforward and would involve the excavation of only about 25 square metres. If these anomalies are stone sockets then the conventional interpretative reconstructions of the Avenue will need to be significantly amended; Stonehenge would also fit more closely into the wider pattern of contemporary avenues, as at Avebury and Stanton Drew.

Only a part of the Avenue has so far been surveyed and mapped using geophysical survey. Confirming the exact location and route of the remaining (eastern) section of the Avenue would be of very considerable benefit for the management of the site as well as being of importance for interpreting its construction and use.

The first part of this objective could be undertaken as a straightforward piece of contract-based research that could be carried out by any one of a number of organizations over a short period. There would probably be considerable public interest in such an investigation and this should be factored into the project. Mapping the remaining length of the Avenue (east of Stonehenge Bottom) is a piece of non-destructive research which might make a valuable field-testing ground for new approaches, or the practical component of a geophysical training programme. Equally, the need for future management decisions relating to land-use patterns may provide a suitable opportunity to carry out and fund this work.



Objective 7: Mapping the surfaces of the Stonehenge stones

Although a number of attempts have been made to record the surfaces of the stones of Stonehenge in the past, none has been entirely successful and none has been useful in the analysis of carvings (ancient and modern). The availability of high-resolution laser scanners that can produce highly accurate surface models means that the technology is now available to overcome this long-overdue need. As well as providing a resource for the study of the carvings it also provides base-line data for monitoring the condition of the stones. The process is indirect in the sense that there need not be any direct contact with the stone surfaces, although a number of control points would need to be established to allow sections of the survey to be tied together.

Either tied to this work or separately, further characterization of the stones themselves would be desirable, especially the 'bluestones'. The use of a portable XRF device would allow the non-destructive analysis of the near-surface geochemistry of the stones and provide a quantitative study of intra-stone variability as well as inter-stone comparisons to complement the petrological studies and laboratory-based chemical analyses undertaken to date.

This objective is a one-off short-term initiative in the first instance, repeatable at intervals (perhaps every 10 years or so) for monitoring purposes. Such monitoring might be done on a sample basis rather than with total

coverage, as a full survey to the level of detailed required to measure change over short time periods would be very time-consuming. The data would be of interest to a wide range of researchers.

Objective 8: Investigate the Palisade Ditch northwest of Stonehenge

One of the little-known features of the Stonehenge Landscape whose potential importance was highlighted in the report on twentieth-century excavations is the Palisade Ditch northwest of Stonehenge revealed by excavations and perhaps also in geophysical surveys (Cleal et al. 1995, 154–60). The dating, constructional details and interpretation of this feature urgently require definition. Initially, a single well-placed excavation would provide most of the essential data, but tracing the feature to determine whether it is a linear boundary or an enclosure will require further geophysical survey in the area between the present A344 and the Stonehenge Cursus together with a series of targeted sample excavations to ground-truth the geophysical survey. Consideration must also be given to the relationship between the palisade ditch and the fieldsystems on Stonehenge Down. The implications for the interpretation of Stonehenge itself, whether for example this feature is an enclosure or a boundary, are very considerable. The broad similarity of the Stonehenge Palisade Ditch to the boundaries of the West Kennet enclosures near Avebury has been noted (cf. Whittle 1997b); this is an objective

Illustration 93
Geophysical surveys and excavations along the Avenue. [Based on Cleal et al. 1995, Plan 3, with additions.]

that might be pursued in parallel with additional work under the research agenda for the Avebury World Heritage Site (AAHRG 2001, 64, item 10).

This objective requires a sustained programme of complementary destructive and non-destructive studies over perhaps two seasons. Much could be achieved by making this objective a research training school involving the geophysical survey capabilities of English Heritage and the excavation and teaching skills of a contracting unit and a university department. Both elements should include scope for wider participation and in such a way may be self-funding. The results of this work will potentially have a huge impact on the interpretation of Stonehenge and the Stonehenge Landscape. High priority.

Objective 9: Review of oval barrows and the excavation of a selected example

The range of established and familiar monument classes within the Stonehenge Landscape is very considerable, and examples of many have been explored in modern times illustrating the great diversity that exists even within superficially simple classes. One group of monuments that has been relatively neglected, however, is the Neolithic long barrows. John Thurnam, working with an example on Winterbourne Stoke Down northwest of Stonehenge (Thurnam 1869), suggested that long barrows as the large trapezoidal and rectangular structures might usefully be separated from oval barrows which are generally shorter and, as the name suggests, oval in plan. During the twentieth century the differences between these two groups were played down, and instead the class of long barrow was seen as all-embracing. Recently, however, excavations in Sussex (Drewett 1986) and Oxfordshire (Bradley 1992) have reopened the earlier debate and shown that oval barrows do seem to exist as a discrete class, and moreover that in chronological terms they seem to have been built over most of the fourth and third millennia BC and were thus a tradition of far longer duration than the more conventional long barrow.

Within the Stonehenge World Heritage Site it is clear that Winterbourne Stoke 1 and Amesbury 42 are long barrows in the conventional sense, the latter having been sampled as part of the Stonehenge Environs Project (Richards 1990, 96–108). Most of the remaining ‘long barrows’ in the Stonehenge Landscape have been ploughed at some stage, and their form, shape and size altered. Some are likely to be oval barrows. The whole category deserves to be surveyed using topographic and geophysical methods and any possible oval barrows identified and differentiated from long barrows. The absence of any modern investigation of such a class of monument makes the excavation of such a site a medium priority, should a suitable opportunity arise through development work or management needs.

Overall, this is a two-stage objective, the first of which involves surveys and analysis that could be cumulative and carried out over several seasons, perhaps as a project taken up by an independent research team, or perhaps based in a university or local society. Any plans to sample-excavate a selected oval barrow would need to await the outcome of the initial study and the identification of suitable examples. Oval barrows are probably the least well-known class of prehistoric barrow in the Stonehenge Landscape.

LANDSCAPE AND REGIONAL OBJECTIVES

Beyond the scale of the monuments there are many other kinds of archaeological deposits and structures, some of which extend beyond the Stonehenge Landscape into the Stonehenge Region and indeed still further into the Stonehenge World.

Objective 10: Barrow cemetery surveys

Barrow cemeteries are one of the most conspicuous features of the Stonehenge Landscape, and yet very little is known about them. None remains intact, and yet none has been excavated or surveyed to modern standards. They represent a real articulating element that comprises numerous monumental built components yet blends in with the landscape as a whole around about. Nationally, very few barrow cemeteries have been looked at in their entirety. Much could be achieved here using non-destructive techniques. In the first instance detailed topographic surveys and geophysical surveys of the principal barrow cemeteries in the Stonehenge Landscape need to be carried out as an initiative-based study. A selection of barrow cemeteries would also provide a very useful measure of change and decay rates in relation to known land-use patterns. The extent to which the Stonehenge barrow cemeteries are surrounded by peripheral features is a major consideration for site management. For presentational purposes, consideration might also be given to the way barrow cemeteries may have looked when in use. To be carried out by a competent body or consortium who would seek initiative funding for the work.

Objective 11: Create of database of place-names and cartographic data for the Stonehenge Landscape

The need for an up-to-date study of the place-names of the area is widely recognized, especially in relation to fieldnames and general topographical names (hills, valleys etc.). Such work could usefully be linked to a cartographic study that took a holistic view of the mapped information from the seventeenth century AD down to the mid-twentieth century AD (Illustration 94). The product could be linked to the existing Stonehenge Landscape GIS.

This objective needs special handling and should be undertaken by a small expert team perhaps attached to a local library or source of suitable historical documents. If public access to the cartographic and related sources is given priority this may be an objective to develop into a project for National Lottery Funding.

Objective 12: Characterize and investigate the main fieldsystems within the Stonehenge Landscape

Fieldsystems of one sort or another cover a high proportion of the Stonehenge Landscape and are assumed to originate during many periods from the Bronze Age through to the twentieth century AD. Some provide the framework of the modern agricultural landscape. The detailed information available from aerial photography combined with existing and perhaps future geophysical



surveys, excavations, and fieldwalking provides the opportunity for detailed morphological study of the fieldsystems both as synchronic monument-like phenomena and in the diachronic perspective of changing structures and relationships. The degree of reuse and the integration of earlier elements into later systems are important threads to explore as well.

Initially this objective is essentially a desk-based analysis of existing data, probably using GIS technology for mapping and analysis. Some fieldwork and ground-truthing will, however, be necessary in order to understand the different structures and constructions, and to verify relationships and collect samples for dating (Illustration 95). The extensive nature of fieldsystems means that opportunities to sample the boundaries will occur during development related and management related work and these should be seized wherever possible. The longer-term

analytical work could be carried out by an interested researcher or research team and would make an ideal project for initiative funding, perhaps as a postgraduate research studentship.

INTEGRATING MONUMENTS AND THE LANDSCAPE

Linking up the archaeological evidence within the Stonehenge Landscape itself and with surrounding areas is critically important, and is the subject of this fourth group of objectives.

Objective 13: Extending the fieldwalking data set

The extensive data set compiled from systematic fieldwalking during the Stonehenge Environs Project provides a robust foundation for the mapping of activity over a wide area through prehistoric and later times. Although subject to certain constraints inherent to the sampling process used and the visibility or otherwise of sections of the archaeological record, this is one of the finest such data sets in the country. Some land that was not available for the Stonehenge Environs Survey has since become available and in some cases has been walked to the same specification as the original surveys. Over time further areas will become available through the natural succession of land-use change in the landscape. Other areas might become available through development. Expanding the existing data set to comparable standards would greatly enhance and assist studies into the social use of space, where people lived at

Illustration 94
Nineteenth-century Tithe Award map (c.1840) of the Stonehenge area. [Reproduced courtesy of the Wiltshire County Council Library and Heritage Service Wiltshire Buildings Record.]

Illustration 95
Targeted excavations of low-relief fieldsystem boundaries east of Fargo Plantation. [Photograph: Timothy Darvill. Copyright reserved.]



various times, the Anglo-Saxon landscape, and in some cases finding the missing slices of time.

The Stonehenge Environs Project used two different collecting grids, the most appropriate for further work being the extensive surface survey strategy (Richards 1990, 11-12). Consideration must also be given to the post-survey treatment of the material as thinking and practice in this area has naturally developed since the late 1980s. Simplistic post-survey treatment will only add further dots to the map and confirm things that are already known from the very substantial sample. Further work is needed to establish a new set of approaches to bring existing data sets into line with what is now possible.

This objective is a long-term one that can be built up cumulatively. The key contributors will be curatorial archaeologists. Within the development control process any land within the Stonehenge Landscape that is identified for field evaluation should be fieldwalked to the Stonehenge Environs Project specification. In some cases it may be reasonable to ask for fields to be ploughed as a one-off for this purpose, albeit out of step within prevailing rotational arable cycles. Within managed land-use change schemes (for example the extensification of pasture land and the balancing of pasture and arable proposed in the *Stonehenge Management Plan* (English Heritage 2000, 4.4) fieldwalking could be introduced as a land-use transition activity, especially where cultivated ground is likely to be converted to long-term pasture. The costs of the work could be covered by organizations and individuals making applications for land-use change where such work falls under Town and Country Planning Regulations. In other cases alternative funding will need to be found; for example as part of the landscape topic reports produced for land covered by the Countryside Stewardship Scheme (Carey et al. 2000, 15-17).

Objective 14: Compiling a geophysical map of the Stonehenge area

The landscape around Stonehenge is highly susceptible to geophysical survey, especially magnetometry, and has consistently yielded good-quality results. Large areas have been covered, but mainly as closely targeted blocks relating to particular monuments or specific management-related or development proposals. This objective suggests a more carpet-based approach, taking in large tracts of the available landscape around Stonehenge that have hitherto not been surveyed and joining these together and with existing survey units. A number of issues could be addressed with extensive geophysical surveys to hand, and it would usefully complement the replotting of aerial photography. Other objectives also call for geophysical surveys of one sort or another and these could be rolled together.

This medium-term objective could be achieved by a consortium of universities, geophysical survey groups, and the English Heritage geophysical survey group at relatively modest cost. The data could be amalgamated on the English Heritage GIS as well as made available to other related projects. This process could be helped by the inclusion of geophysical surveys in the specification for all field evaluations undertaken within the Stonehenge Landscape.

Objective 15: Filling data gaps

Information about the archaeology of some parts of the Stonehenge Landscape is absent or meagre. With notable



exceptions, much effort has been directed at the monuments, with the consequence that the spaces between are less well documented (Illustration 96). Sampling the apparent gaps through geophysical survey, auger transects, and perhaps test-pitting would allow clear insights as to the responsiveness or otherwise of these areas to particular techniques (e.g. aerial photography, fieldwalking etc.). In this sense the objective is about validating the voids, although to do so will mean applying the same approaches to areas with known archaeology in order to develop valid comparisons. Additionally, there is a need to test assumptions inherent to current understandings of the archaeological data based on small-scale work and low-level sampling.

Attention may also be given to the hidden landscapes in the river valleys and beneath colluvium. Any geological sections relating to the late Pleistocene and Holocene in particular should be checked for buried land surfaces, and drift deposits in particular should be sampled for artefacts and environmental data. Such data would usefully contribute to the identified research themes relating to the Palaeolithic and Mesolithic periods in Britain (Gamble 1999, 4-5).

This objective can be fulfilled incrementally by using opportunities presented by development control works (especially field evaluation programmes) and routine management operations (e.g. fence replacement etc.). The work would be funded by those requiring the operations to be carried out.

Objective 16: Validating and dating features revealed by aerial photography

The extensive indications of archaeological remains throughout the Stonehenge Landscape as a result of detailed studies of aerial photographs provide an extremely detailed picture (Illustration 97). Cropmarks and other features visible on the photographs do not always correspond to archaeological features, however, and these need to be verified wherever and whenever possible. Likewise, many of the features plotted are undated. While some may be attributed to broad cultural-historical phases on the basis of plan, morphology, or spatial association, there are dangers inherent to the perpetuation of traditionally (and mainly untested) assumptions. Where possible, features recorded through aerial photography need to be evaluated and independently dated.

This medium- to long-term objective can be fulfilled incrementally through the close involvement of curatorial archaeologists by using opportunities presented by

Illustration 96
Linear evaluation trench at Larkhill, showing one approach to the problem of checking apparent voids and filling data gaps.
[Photograph: Timothy Darvill. Copyright reserved.]



development control works (especially field evaluation programmes), mitigation schemes connected to development or land-use change, and routine management operations (e.g. fence replacement etc.). In all cases the verification of cropmarks as archaeological features and the dating of those features where present is the main aim. The work would be funded by those requiring the operations to be carried out.

Objective 17: Understanding recent land-use change and Historic Landscape Characterization

The way in which the Stonehenge landscape has changed over the last 100 years or so is widely recognized as a significant factor in the preservation or otherwise of monuments and in large measure determines the pattern of survival and decay in the archaeological record as a whole. Tracking the land-use history, and especially the history of agricultural practices, through map regression, available aerial photographs, and perhaps recent remote sensing from satellite images would provide an important set of controls on understanding the disposition of existing data sets, the potential for the collection in due course of new data, and the constraints and opportunities for management. In interpretative terms, such an exercise would provide real insights into why it is that the modern landscape looks the way it does. Part of this work would involve the characterization of the landscape (HLC), focusing at the sub-regional level on what it comprises and what makes it distinctive. The development of an effective methodology in this landscape would have considerable potential for application elsewhere in the British Isles and beyond.

This objective can be pursued as a series of connected studies by interested researchers; the map regression

studies might be connected with other objectives noted above and would link with the national programme of Historic Landscape Characterization (Clark et al. 2004). Achieving this objective requires initiative funding.

RESEARCH INFRASTRUCTURE

Research cannot exist in isolation and does not simply happen in a magical kind of way; all research develops off the back of or in response to what has already been done. For this reason it is important to have a robust infrastructure so that researchers can be aware of what has been done and is being done, have access to the results and data from earlier work, and know where to find the things they need. This final group of very important objectives is concerned with these matters of infrastructure.

Objective 18: Create SARSEN: The Stonehenge Archaeological Research, Study and Education Network

Establish an independent Stonehenge Archaeological Research, Study and Education Network (SARSEN) with formal links to the Avebury Archaeological and Historical Research Group (AAHRG) to co-ordinate and facilitate research in the Stonehenge Landscape. Membership would simply comprise anyone actively pursuing research in the area, convened in the first instance by English Heritage and the National Trust but supported in the medium and long term by the proposed WHS Co-ordination Unit. This objective is closely linked to the development and enhancement of the management-related infrastructure, especially expanding and periodically updating the

Illustration 97
Henge monument on Coneybury Hill, Amesbury, looking northwest in 1954. The line of the A303 can be seen top-right.
[Photograph: English Heritage. NMR 968/169 ©Crown copyright.]

interpretation of Stonehenge and its landscape. High priority. In due course, SARSEN would become the vehicle for the review and revision of this Research Framework.

Although the overall membership of SARSEN would be wide, a small committee would probably be needed to review proposals for excavation or intrusive investigation within the World Heritage Site. On a wider front, a simple membership scheme for anyone carrying out research on the Stonehenge Landscape would allow (through the Internet) access to the Stonehenge GIS, bibliography, and updated index of research.

Objective 19: Establish a Stonehenge Research Centre

Set up a Stonehenge Landscape Research facility at the proposed new visitor centre to form a physical focus for ongoing research programmes and the dissemination of information and research results to land managers, the general public, and the archaeological community (Illustration 98). There may be scope to link the use of this centre with work in both the Avebury and Stonehenge sectors of the World Heritage Site. It could be built and supported by the visitor centre operators, and run by SARSEN in the context of ongoing long-term site management. This objective is directly linked to the issues of co-ordination and interpretation.

The proposed centre would not be a venue for the display of finds or collections currently held by existing museums in the region, although material from new investigations might be displayed on a temporary basis before being deposited with an established museum for long-term curation. The focus of the centre would be very much orientated towards ongoing research and as such it would be a 'shop-window' for research, office



accommodation and meeting space for SARSEN, and an operational base for those carrying out research in the area.

Objective 20: Publish outstanding investigations in the Stonehenge Landscape

The publication in 1995 of the twentieth-century excavations at Stonehenge and its immediate landscape illustrates very well the value of such collective reports on scattered investigations and survey events. Looking rather wider, a similar exercise would be highly desirable to bring to publication any remaining investigations from the twentieth century outside the immediate environs of Stonehenge and to present the results of the very considerable programme of field evaluations carried out in connection with the selection and development of plans for the Stonehenge Visitor Centre Site and the early stages of implementing the Stonehenge Master Plan, the removal of existing visitor centre facilities, and the rerouting of roads. Most of these form part of the 'grey literature' of archaeological endeavour, although they have been listed and summarized up to 1996 (Darvill 1997b) and copies are available in the library of the Society of Antiquaries of London. An analysis of the Excavations Index records for the Stonehenge Landscape would reveal other known fieldwork events that have not yet been written up and placed in the public domain through publication. Part at least of this objective could be met using a combination of conventional publication and the Internet.

The objective could be pursued and funded by English Heritage, perhaps in partnership with other interested parties.

Objective 21: Prepare and publish a Stonehenge Landscape Research Handbook

Interest in using the Stonehenge landscape, and monuments within it, as case studies and exempla within a wide range of research contexts runs high. The last consolidated bibliography of Stonehenge publications was published in 1902 (Harrison 1902) and while there have been a number of smaller-scale endeavours (e.g. Hatchwell 1969) and some extremely useful lists of references in recent major publications a consolidated reference list remains problematic. A printed and web-based research handbook covering material produced since 1945 together with listings of the major museum collections, archives, and collections of photographs and illustrations would be a considerable help to a very wide range of researchers. The web-based version could include links to electronic publications and might include a sample of illustrations of Stonehenge. Especially important is the inclusion of limited circulation reports and outputs disseminated in less accessible sources or media. In due course it may be possible to make the texts of existing conventionally published texts available on-line too. This work requires a consortium of interested parties, perhaps involving museums and university departments, and will require initiative funding.

Objective 22: Compile a corpus of material culture from the Stonehenge Landscape

Existing record systems for the Stonehenge Landscape naturally focus on sites and monuments as the essential unit

Illustration 98
Researcher visiting Stonehenge in the early eighteenth century. [From *Stukeley 1740, Tab XIX.*]

of record because of their role in the curatorial and management process. Although finds and connected archives are recorded in some cases, treatment is far from exhaustive, and individual finds and their contexts are not routinely recorded. Finds from the Stonehenge Landscape are distributed between several museums, and while there are exceptionally good illustrated catalogues available for some sectors of the collections (e.g. Annable and Simpson 1964), coverage to date is partial. Good progress has been made assembling inventories of finds from barrow excavations in the area (see above), but there is a larger body of artefacts and environmental materials than this which deserve listings with appropriate drawings and archive/storage information. One important body of data is the prehistoric metalwork from the area. Such a catalogue would fill a data gap (see Objective 15) and assist with the dating of monuments containing metalwork (cf. Objective 2), while identifying what classes of metalwork were present or absent (tools, weapons, ornaments etc.) could help explain occupation patterns (cf. Issue 4/Objective 4). Another task would be to document the increasingly important source of information represented by the stray finds made by metal-detector users, many of which help to populate the Roman and later record of activity. The potential benefits of even a basic inventory with identifications are considerable, and impact on many issues. There are three stages to the development of the corpus: an inventory that is essentially a list of what there is, where it comes from, and where it is now. Beyond this a detailed illustrated catalogue would benefit from specialist input to the description and analysis of particular bodies of material (which might include the results of selected analyses and technical studies). Further down the road still is the full corpus which cross-relates the catalogue to contextual material relating to the discovery and subsequent history of the material and its treatment. It would include copies of the relevant archival sources and may be delivered wholly or mainly on-line.

This objective is a long-term task that will require the involvement of numerous specialists and experts. Being staged, progression to each successive level can be based on the results of previous work. Getting an inventory is therefore the immediate priority, perhaps to be linked with the creation of the Stonehenge Research facility discussed above.

Objective 23: Compile a corpus of human remains from the Stonehenge Landscape

The Stonehenge Landscape has yielded remains from a large number of human beings, many recovered through the excavation of round barrows and burial monuments (Illustration 99). There is no detailed list of what has been found, what exists, where it is, and what it is. Although many antiquarians arranged for anthropological studies of the remains they found, the descriptions were often ad hoc and could not benefit from modern methods of study and standardized reporting. In addition to locating and documenting human skeletal material and cremated remains a preliminary examination and recording should be carried out by a suitably qualified physical anthropologist/forensic archaeologist. A standardized recording system should be applied. The listing should include records of skeletal material uncovered by excavation and subsequently reburied on the site. A later stage of the work might include the selective recovery of a sample of this material for analysis and dating.

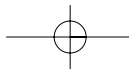
Illustration 99
Reconstruction of the Beaker burial found in Shrewton 5k. [Photograph: Salisbury and South Wiltshire Museum. Copyright reserved.]

This objective is a medium-term project that will involve trawling museums, SMRs, published sources, and anatomical collections regularly used by antiquarian investigators and their advisors. It will involve a multi-disciplinary team of researchers.

Objective 24: Develop enhanced mapping and visualization programmes for archaeological data sets

Archaeological data sets are complicated and both methodologically and theoretically tied to the collection procedures used to acquire them. Hitherto many data have been viewed as unproblematic, 'actual' and perfectly well provided for in normatively constituted input and retrieval systems such as GIS. These approaches and their associated technologies will probably not satisfy future needs. This objective focuses on the experimental development of new approaches. Developed with reference to the Stonehenge Landscape, they are equally likely to have utility and application elsewhere. The aim is to further develop software and hardware to provide an enhanced reality environment for data capture and display. It is already apparent that future research and public display will require a more personalized immersive experience. In some cases these will be wearable and could be taken into the field. Such a system would combine data on the real world (e.g. aerial photographs, astronomic data etc.) with visualizations of transformed archaeological data (e.g. geophysical data or artefact concentrations etc.) and archaeological interpretations (e.g. reconstructions). GPS referenced, seamlessly overlain, the hardware tools should allow real-time movement through both worlds simultaneously (Illustration 100).

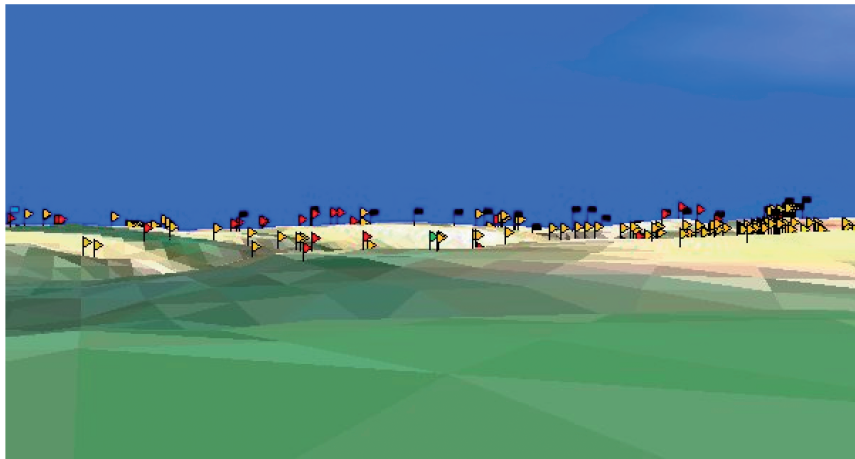




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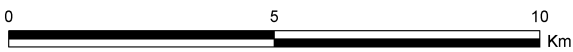
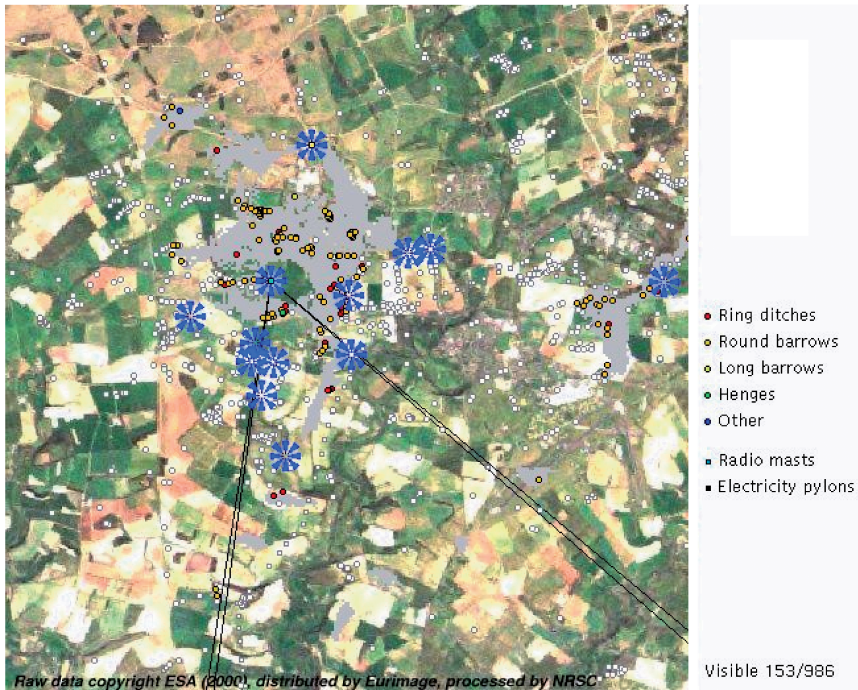
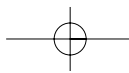
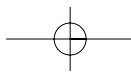


Illustration 100 Immersive technology providing simultaneous access to virtual worlds. Seeing things differently. Three views of the same place. Beacon Hill from Woodhenge. [From Exon et al. 2000, reproduced courtesy of Vince Gaffney and the Institute of Archaeology and Antiquity, Birmingham University.]





This objective requires the involvement of researchers working in the field of immersive and integrative computing, probably a collaborative team working in a university department. Initiative funding will be required. Medium to long term.

Objective 25: Create a social history archive of the twentieth-century excavations at Stonehenge

The human side to the twentieth-century excavations at Stonehenge has rarely been approached, but in large part is still within reach. Key sources will be interviews with living

archaeologists who have excavated at Stonehenge in any capacity; private and public photographic and cine-film collections; television and radio archives; testimonies from friends and colleagues who have worked with previous excavators of the site, custodians and site staff, and perhaps visitors and local people who remember the work taking place.

This objective requires the involvement of researchers experienced in collecting social history material and with access to means for copying and storing a variety of source-types. Ideally, all source material will be transferred to digital media for ongoing curation and dissemination. Initiative funding will be required. Short to medium term.

