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STONEHENGE WORLD HERITAGE SITE

AN ARCHAEOLOGICAL RESEARCH FRAMEWORK

Stonehenge is one of Europe's most eminent prehistoric monuments, a fact recognized in 1986 when the site and its surrounding landscape was inscribed on the World Heritage List. Since that time, much effort has been given to improving the conservation, management, and presentation of Stonehenge and its environs. Research has also played an important role with several extensive surveys and selective excavations helping to improve understandings of the site and its setting.

But how does all the archaeological work carried out over the last century or so fit together? And what should we do next? This volume sets out to provide an overview of achievements and a framework for future research at and around Stonehenge.



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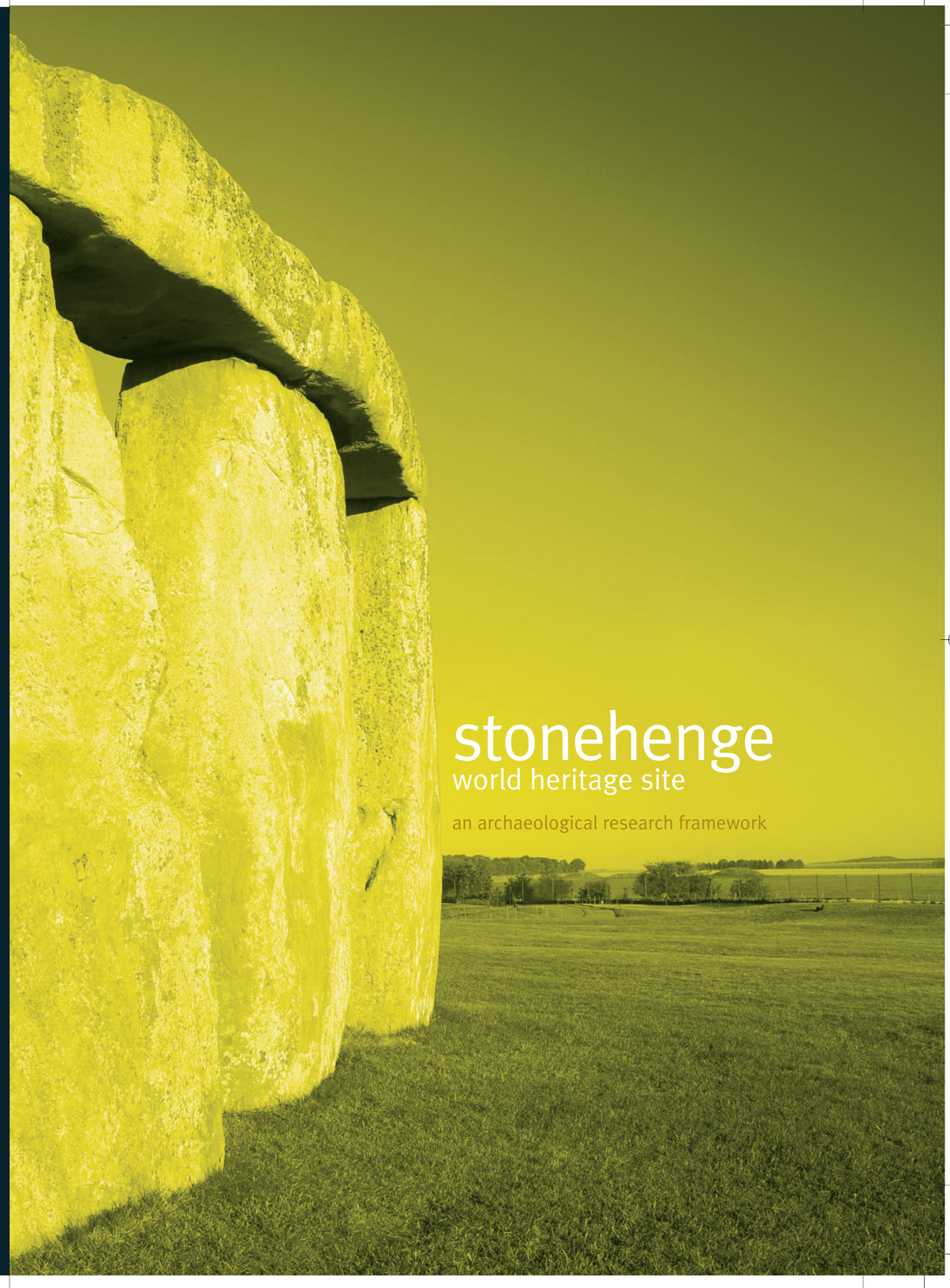
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STONEHENGE WORLD HERITAGE SITE

AN ARCHAEOLOGICAL RESEARCH FRAMEWORK

Timothy Darvill



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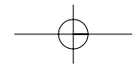
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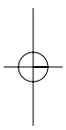
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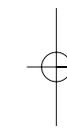
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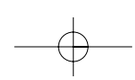
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STONEHENGE WORLD HERITAGE SITE:

AN ARCHAEOLOGICAL RESEARCH FRAMEWORK

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Comments, additions, and corrections relating to this draft document are most welcome and should be sent to:

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FOREWORD

From Sir Neil Cossons
Chairman of English Heritage

The best-known monuments are not necessarily the best understood. Our concern to care for them can sometimes inhibit imaginative research. So it is with particular pleasure that I welcome Stonehenge World Heritage Site: An Archaeological Research Framework to kick-start a new era of responsible management combined with important, query-driven investigation.

This publication complements the Archaeology Research Agenda for the Avebury World Heritage Site – published in 2001, the first of its kind for any World Heritage Site – and the regional and period-based research frameworks which English Heritage is currently helping to promote across the country. The production of the Stonehenge Research Framework, co-ordinated by English Heritage and Bournemouth University, has brought together a wide range of people with different interests in Stonehenge and its landscape to debate and argue about what we think we know, and would like to know, about this world-famous and often contentious monument. What are the questions we should ask about Stonehenge and how might we prioritise and tackle them? What information might still be locked within the archives of previous investigations, the collections of museums and the landscape itself? How shall we pursue these questions while caring properly for the World Heritage Site and passing it on to future generations in a better state than it was passed on to us? For we cannot be proud of Stonehenge's treatment in recent decades: ploughed and scoured, pincered between busy roads; it deserves better.

This document is not meant to strait-jacket research, which should be dynamic and responsive. On the contrary, I hope that it will further stimulate interest and proposals. Success will be measured in future years by the extent to which the questions posed here have been addressed, our understanding has improved, and people are able to enjoy Stonehenge both as an outstanding monument and as a place that not only puzzles and intrigues but constantly generates ideas and diverse opinions.



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PREFACE AND ACKNOWLEDGEMENTS

In preparing this Research Framework a number of conventions have been adopted. The chronology used is a backward projection of the modern Gregorian calendar expressed in years BC and AD. Dates BC are mainly based on calibrated radiocarbon ages. Where specific dates are cited they are expressed as a date-range calibrated from the original age determination at two standard deviations ($\sigma 2$) which broadly equates with the 95% confidence limits; the laboratory number and original uncalibrated age determination in years BP (Before Present) are also given. All radiocarbon age determinations have been calibrated using OxCal version 3.5.

Parish names are those prevailing at the time of researching the material and writing the initial document (2001). Where no explicit source reference is given for a site or finds the information has been derived from the English Heritage Stonehenge World Heritage Site GIS model, which itself incorporates information from the Wiltshire County Council Sites and Monuments Record.

The term 'Stonehenge Landscape' is used as a proper noun to refer to an explicitly defined block of land centred on Stonehenge, defined further in Section 1. References to the landscape in general are denoted by use of the common noun.

Some of the references cited relate to what is often called 'grey literature', that is printed reports and studies with a limited circulation that are not published in the traditional sense. Sometimes these are hard to track down, but the Society of Antiquaries of London has made a special effort to acquire copies of such reports and papers for their library. Any bona fide researcher without access to the Society's library wishing to consult these papers may contact the Librarian seeking permission to see them. The Archaeological Investigations Project records ongoing archaeological excavations and interventions, providing an annually up-dated on-line listing available at:

http://csweb.bournemouth.ac.uk/aip.htm

We would like to thank all those individuals and organizations listed in Appendix IV, and/or named in the text, for their contributions to the development of this Research Framework. In addition, we especially wish to thank the following for their encouragement, support, assistance in sorting out queries and questions, or providing information as the project unfolded: Pam Barton, David Batchelor, Laura Butler, Roy Canham, Jeff Chartrand, Andrew Crookston, Simon Crutchley, Andrew David, Sue Davies, Marianne Eve, Andrew Fitzpatrick, Lesley Freeke, Vince Gaffney, Tom Gaskar, Sarah Green, Lorna Haycock, Martyn Henderson, David Hinton, Jim Keyte, Andrew Lawson, David Miles, Robert Moody, Patricia Moore, Richard Osgood, Louise Pearson, Mike Pitts, Melanie Pomeroy-Kellinger, Paul Robinson, Bronwen Russell, Miles Russell, Chris Scull, Neville Stokes, Yvette Staelens, Dorothy Treasure, Geoff Wainwright, Gerry Waite, Katy Whitaker, Tim Williams and Martin Wright.

This volume was designed by Grant Campbell and Philip Silk; original photographs for the cover and section dividers are by Philip Rowley; Frances Brown copy-edited the manuscript and assisted with proofreading; Susan Vaughan prepared the index; and James Samson co-ordinated the production and printing.

The maps bound into this volume are derived from data held in the Stonehenge GIS maintained at English Heritage's Centre for Field Archaeology in Portsmouth, with additions. All the maps, together with the line drawings and plans in the text, were produced by Vanessa Constant from source material acknowledged in the relevant captions. Neville Stokes kindly assisted with digitizing the colour photographs. Grateful thanks are extended to the following institutions and individuals for generously allowing the use of pictures and photographs singly or as part of composite illustrations: Birmingham University Institute of Archaeology and Antiquity (100); Bodleian Library, Oxford (65); Jane Brayne (33); Timothy Darvill (9, 18, 19, 26A, 26B, 39A, 68, 71, 74, 76, 82, 84, 88, 89, 90, 92, 95, and 96); Devizes Museum/Wiltshire Archaeological and Natural History Society (5, 7, and 42); English Heritage/RCHM Aerial Photographic Library (1, 10, 11, 24, 40, 41, 46, 52 (left), 63, 64, 70, 72 (bottom), 73, and 97); Express Newspapers (91); Gifford and Partners (52 (right)); Peter Goodhugh (45); Illustrated London News Picture Library (72 (top)); Ministry of Defence (8); Chis Musson (85); The National Trust, Wessex Region (66); Punch (72 (middle)); The Guardian Newspaper Group (17); Prehistoric Society (16); Salisbury and South Wiltshire Museum (8, 75, and 99); Neville Stokes (67); Wessex Archaeology (13, 56, and 78); and Wiltshire County Building Record (66 and 94).

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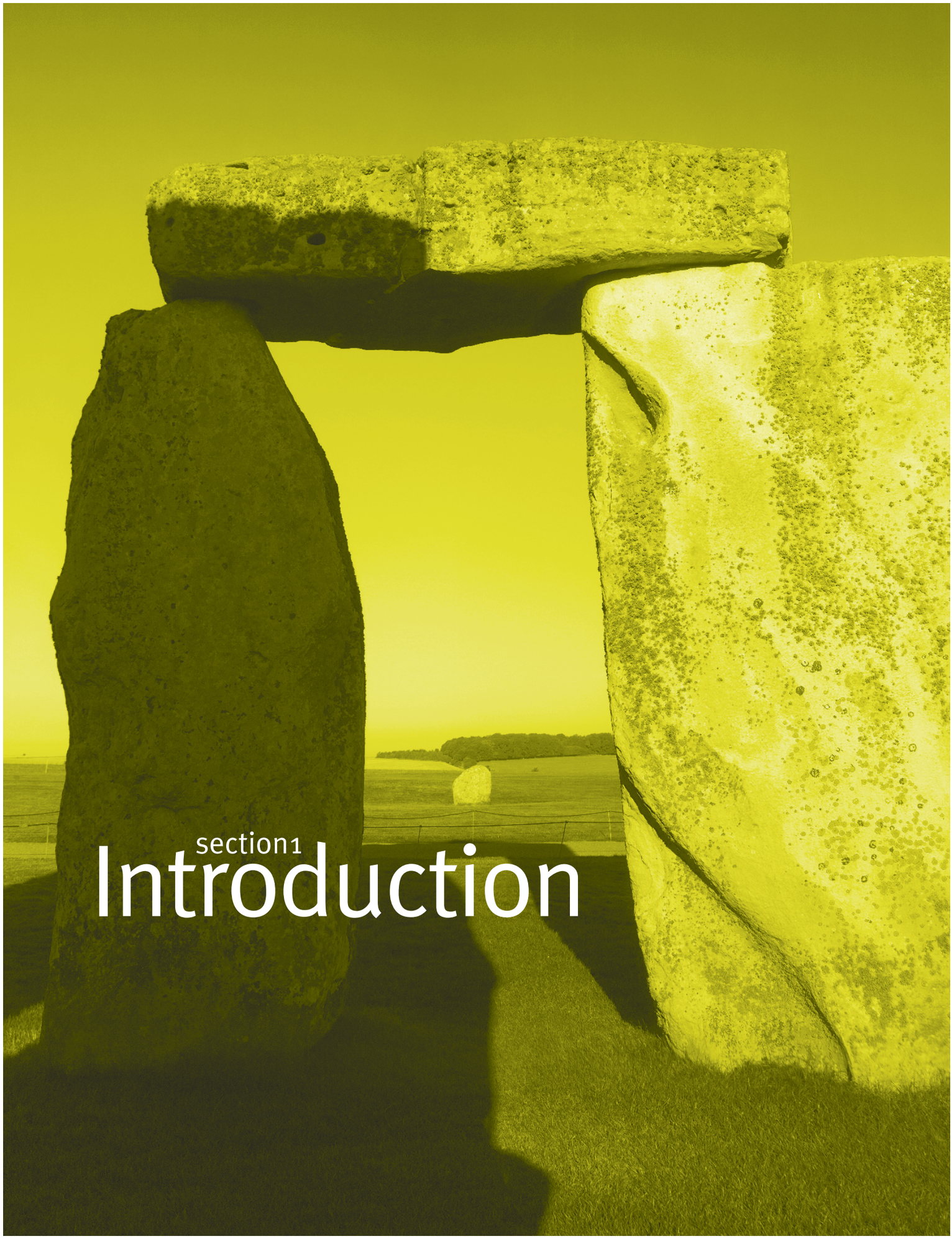
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ABBREVIATIONS AND ACRONYMS

AAHRG	Avebury Archaeological and Historical Research Group
BAR	British Archaeological Reports
CBA	Council for British Archaeology
DCMS	Department for Culture, Media and Sport
DLA	Defence Land Agent
DM	Devizes Museum
DNA	Deoxyribonucleic acid
DoE	Department of the Environment
EIA	Environmental Impact Assessment
GIS	Geographical Information System
HBMCE	Historic Buildings and Monuments Commission for England
HMSO	Her Majesty's Stationery Office
ICOMOS	International Council on Monuments and Sites
LH	Lords Hansard
LiDAR	Light Detecting and Ranging
OS	Ordnance Survey
PPG	Planning Policy Guidance
PRN	Primary Record Number
RAF	Royal Air Force
RCHM	Royal Commission on the Historical Monuments of England (now part of English Heritage)
Revd	Reverend
SM	Salisbury and South Wiltshire Museum
SMR	Sites and Monuments Record
SPTA	Salisbury Plain Training Area
WAC	Wessex Archaeological Committee

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section 1 Introduction

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SECTION 1 – INTRODUCTION

'Every age has the Stonehenge it deserves or desires'
(Jacquetta Hawkes 1967, 174)

BACKGROUND, NEED, AND PURPOSE

For centuries, Stonehenge and the monuments that surround it have been central to the understanding and interpretation of Britain's ancient past. Ever since Geoffrey of Monmouth wrote his *History of the kings of Britain* in AD 1139, Stonehenge has been a chronological anchor-point for histories and prehistories alike. For while the exact date of the monument has been much discussed over the years, the idea of an 'Age of Stonehenge' is deeply embedded in both popular and academic literature. Each new generation has interpreted what it sees in a different way as a result of different social conditions, a tradition of change perceptively encapsulated and mirrored back on the archaeological world and its followers by Jacquetta Hawkes in her oft-cited remark set out above.

Research has been at the heart of these changing approaches. The first excavations were carried out at Stonehenge on behalf of the Duke of Buckingham in AD 1620, with many more investigations in the area over the following centuries. Throughout, Stonehenge has remained an enigma, regarded as self-evidently important and yet never fully understood. As a result it has become the most written-about and most photographed prehistoric monument in Europe (Illustration 1), an icon of the idea of prehistory and the challenge of archaeological inquiry. The results of archaeological investigations in the region, and considerations of the finds from them, have provided the basis for numerous analyses, studies, classifications, and interpretative models that run right to the heart of our understanding of prehistoric communities of northwest Europe. The Bush Barrow dagger series, the Wessex Culture, and the wide-ranging debates about possible connections between Bronze Age Wessex and Mycenaean Greece are amongst the most memorable of the many matters debated over the years. Less widely recognized, but significant on an international scale, is the much more recent role of Salisbury Plain in the early development of aviation and the training of the armed forces. Moreover, the place of Stonehenge as a symbol of the ancient past in contemporary culture has provided a rich field for the investigation of modern social relations and the value of our heritage to a range of communities.

Research also lies at the heart of managing Stonehenge and its environs. The importance, significance, quality, authenticity, and legal protection of the physical remains at and around Stonehenge led, in 1986, to its inscription on UNESCO's World Heritage List, as half of the site formally known as the *Stonehenge, Avebury and Associated Sites*



Illustration 1
Aerial view of Stonehenge and the Avenue looking northeast. The site is under a light snow cover which enhances the circular earthwork enclosure and the ditches of the Avenue. [*Photograph: ©Skyscan Balloon Photography. English Heritage Photo Library.*]

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World Heritage Site (WHS number C373). Such designation is intended not to fossilize the areas to which it applies, but rather to provide for effective, robust, and sustainable management. Conserving the outstanding universal value of a World Heritage Site takes place within the context of maintaining visitor access and experience, retaining a sustainable working agricultural economy, and supporting the long-term social, economic, and amenity needs of the local community. Archaeological research linked to conservation and management policies is explicitly referred to in the World Heritage Convention (UNESCO 1972, art.5) and is implicit to the key task of presenting the heritage to the public. The management guidelines published by ICOMOS for world cultural heritage sites note that 'every World Heritage Site contains a wide range of elements deserving of research, much of which is purely academic' (Feilden and Jokilehto 1993, 28). It goes on to urge that research should be planned and programmed.

Locally to the Stonehenge sector of World Heritage Site C373, all these matters are extensively dealt with in the *Stonehenge management plan* (English Heritage 2000). A complementary management plan also exists for the Avebury sector (English Heritage 1998). Both recognize that archaeological research is an important strand of the management regime of any World Heritage Site. For Stonehenge the management plan notes that 'the current state of our knowledge about the cultural landscape of Stonehenge as a whole is still incomplete' (English Heritage 2000, 4.7.1), a theme that is developed in Objective 26 of the plan which states that:

> *Research should be encouraged and promoted to improve understanding of the archaeological, historical and environmental value of the WHS necessary for its appropriate management.*

It then proposes the development of a **research agenda** for the Stonehenge World Heritage Site, which, in due course, will form an appendix to the Management Plan itself. This document is the first published iteration of such an agenda, prepared in line with the definition and structure recommended in *Frameworks for our past* (Olivier 1996) and accordingly hereafter referred to as a **research framework**. A research agenda for the Avebury area has already been published (AAHRG 2001), the first such document for a World Heritage Site in the UK.

The overall importance of developing, discussing, and agreeing an archaeological research programme for Stonehenge, as anywhere else, is emphasized in the review document Power of place which notes that (English Heritage 2001, para. 12):

> *Before we do anything, we need knowledge ... We need targeted, integrated research and regular 'State of the historic environment' reports to identify priorities and provide the basis for informed decisions.*

These sentiments find further expression in the Government's response to the Power of place review which looks to a future in which, amongst other things (DCMS 2002, 9):

> *The full potential of the historic environment as a learning resource is realized ... the historic environment's importance as an economic asset is skilfully harnessed.*

The overarching aim of the Stonehenge Archaeological Research Framework is therefore to recognize the importance of research in the World Heritage Site and actively to encourage, within a conservation ethic, well-planned, clearly focused, and closely targeted research. Such work will lead to increases in knowledge, enhance understanding of the past, and both respond to and inform management efforts. It is not intended to be over-regulatory or highly prescriptive, and it seeks both to recognize and to embrace a wide range of approaches to research and the theoretical and philosophical positions that lie behind them. Through the summary accounts, position statements, illustrations, and maps it is hoped that new and innovative research questions will be identified and acted upon; in this sense the research framework may act as a practical stimulus to new ways of looking at and thinking about the data.

Because of the nature and sensitivity of the World Heritage Site it is proper that all research carried out there should be compatible with World Heritage Site values. In practical terms the archaeological research framework is intended to:

- underpin curatorial work in relation to the management of the archaeological resource in the area, allowing decisions to be firmly based and fairly judged;
- maximize the return in terms of archaeological knowledge and insight that arises from routine land management works, property development, and land-use change;
- stimulate dynamic and innovative approaches to the study of archaeological deposits and materials in the area through problem-orientated and curiosity-driven research initiatives in order to expand the knowledge-base and increase public understanding and awareness of the past;
- inform the presentation and interpretation of the World Heritage Site to the public.

Crucial to the attainment of these is the creation of a long-term sustainable approach to research, meeting today's need for improved knowledge and understanding within the World Heritage Site and its hinterland without jeopardizing the ability of future generations to continue the tradition of research and investigation.

TOWARDS AN ARCHAEOLOGICAL RESEARCH FRAMEWORK

Attempts to define research questions and align efforts to solve recognized problems have been a feature of the archaeological landscape since the mid-twentieth century, many of which were published as 'strategy' or 'policy' documents of various kinds (see Darvill and Fulton 1998, 292–6 for a summary list). Together, these documents provide a secure basis for the rational and communally endorsed selection of sites and themes to investigate. They also allow relatively scarce resources to be deployed effectively.

Wiltshire has been the subject of a number of reviews leading to the definition of problem-orientated research strategies since the late 1960s, the most comprehensive early examples being the series of papers by Derek Roe on the Palaeolithic (Roe 1969), Jeffrey Radley on the Mesolithic (Radley 1969), and Stuart Piggott on the Neolithic and Bronze Age (Piggott 1971). Roughly a decade later the Wessex Archaeological Committee published *A policy for*

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archaeological investigation in Wessex (WAC 1981) which took a thematic approach, well grounded in the prevailing processualist thinking, to the structuring of future investigations and included proposals for work around Stonehenge under the theme of 'Subsistence, population, and social organization' (WAC 1981, 14). This work subsequently took place and represents a major contribution to present understandings of the distribution, nature, and relative intensity of activity in the landscape around Stonehenge (Richards 1990).

In 1997, CBA Wessex and the Forum for Archaeology in Wessex convened two seminars to discuss research strategies for archaeology in the twenty-first century AD; contributions to the seminar dealing with prehistory were later published (Woodward and Gardiner 1998). More recently still, the *Archaeological research agenda for the Avebury World Heritage Site* (AAHRG 2001) provides a well-informed synthesis of current knowledge and an agenda for future research within the Avebury sector of the Stonehenge, Avebury and Associated Sites World Heritage Site. Many of the issues and research questions posed for the Avebury area are also relevant to the Stonehenge Landscape, and in due course it might be appropriate to produce a single research framework covering both sectors of the World Heritage Site.

Several period-specific and thematic research agendas have been published which are relevant to the Stonehenge Landscape and which have been taken into account in later discussions (e.g. Gamble 1999; Haselgrove et al. 2001; James and Millett 2001). Stonehenge and its surrounding landscape have also been the subject of a number of forward-looking discussions that helped structure and scope future work. Suggestions about further work were made by the surveyors of the Royal Commission on Historical Monuments following their study of Stonehenge and its environs (RCHM 1979, xv) and more recently in the detailed publication of the twentieth-century excavations at Stonehenge (Wainwright et al. 1995), and as a contribution (Wainwright 1997) to the conference entitled *Science and Stonehenge* held under the auspices of the British Academy and the Royal Society in March 1996. Some of the themes identified in these papers were incorporated into the *Stonehenge management plan* as potential areas for research, especially: environment reconstruction; understanding ritual, ceremony, and sacred use; documenting settlement patterns, land-use, and land division; and enhancing details of the chronology of particular monuments (English Heritage 2000, 4.7.6).

The last 50 years have also seen substantive changes in the way that research policy documents and strategies are formulated and framed. A strategic review of the subject by Adrian Olivier for English Heritage (Olivier 1996) found that:

> *There is fundamental agreement that in order to make longer term objectives sustainable, regional frameworks are needed in which all those active in archaeological work can participate, and on which curatorial decisions can be firmly based and fairly judged.*

Whereas earlier documents emphasized the inter-linked ideas of 'policy' and 'priorities', since Olivier's work a more staged or nested approach has developed in which the overarching structure is that of a 'research framework' in which different interests can be advanced and evaluated in a systematic and structured way. The main users of such frameworks are archaeological curators, planners, and decision-makers, and those involved in the development and execution of structured research programmes.

WHAT IS A RESEARCH FRAMEWORK?

In an archaeological context, a *research framework* is essentially a tool for promoting and facilitating a wide range of research in such a way as to make the best of opportunities to extend knowledge and understandings of the archaeology of an area. It comprises three main components:

Resource Assessment: A statement of the current state of knowledge and a description of the archaeological resource. Effectively, a critical review of existing achievements linked to a series of maps and listings of key investigations and publications.

Research Agenda: A list of perceived gaps in current knowledge, work which could usefully be done, linked to explicit potential for the resource to answer the questions posed. Essentially, a statement of the main identifiable issues and priorities for systematic incremental investigation over the next decade or so.

Research Strategy: A statement setting out priorities, methods, and a selection of initiatives that can be pursued to address the agenda. Essentially, proposals for progressing all archaeological research by matching needs to anticipated operations and providing a structure to link recognized objectives with unanticipated opportunities in the future.

These components fit together in a tightly structured way (Illustration 2) so that the resource assessment relates to what has happened (i.e. past research). Defining the research issues or setting the agenda is very much a contemporary exercise (i.e. present research), while taking these issues forward involves the formulation of new programmes and initiatives (i.e. future research).

Sections 2, 3, and 4 of this document relate to the principal elements of a research framework and follow through the logical sequence already outlined. The remainder of this introductory section sets the parameters on the study and describes the practical and theoretical context for existing and anticipated work in the area.

Throughout, it is recognized that research happens in a variety of ways, two of which dominate. **Problem-orientated**

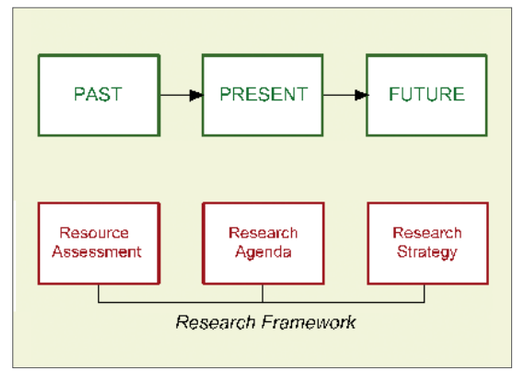


Illustration 2
Schematic representation of the main components of an archaeological research framework showing the relationships with other kinds of framework. [*Based on Olivier 1996, figure 1.*]

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research is the main focus of this document as it relates to matters, generally formulated as questions, that can be recognized and defined as worthwhile endeavours likely to lead to new knowledge. Stress is placed not only on the way questions are framed, but also on the source of the questions, the specification of appropriate methods, and the standardization of practices (Binford 1964; Daniels 1972). One of the major ongoing debates about the way problem-orientated research is carried out revolves around the relationship between identifiable 'problems' or 'questions' and the data-sets or materials used to answer them (Binford 2001; Odell 2001). Scientific approaches tend to focus on data generated from the study of the subject matter itself to answer the question in the form of an 'explanation' of some kind. In contrast, humanities-based approaches typically impose a problem onto a body of data in order to generate an 'understanding' of the matter under scrutiny.

A second kind of research is what in Britain is commonly called **curiosity-driven** research, and this also needs to be taken into account and encouraged because it is often extremely productive and can yield major advances. In this the questions are not pre-formed but rather emerge out of an ongoing relationship between researchers and the material that is the subject of study. Such work is essentially opportunistic, and is typically linked to the recognition of significance in newly revealed evidence or fresh observation of existing evidence. This makes it difficult to plan and programme. However, there are two main stimuli to such research. First is the purely serendipitous conjunction of unforeseen discoveries, ideas, or approaches that provide new insights or make sense of previously intractable patterns. Second is the exploitation of opportunities provided by non-archaeological activities such as land-management, property development, or construction works of some kind. Both of these are relevant to future research within the Stonehenge Landscape.

CONSTRUCTING THE STONEHENGE WORLD HERITAGE SITE ARCHAEOLOGICAL RESEARCH FRAMEWORK

This document is the end product of a process of construction and consultation, and the starting point for an ongoing self-critical research programme (see below). The work of assembling the document was commissioned by English Heritage from the Archaeology and Historic Environment Group in the School of Conservation Sciences at Bournemouth University in April 2001 following a series of earlier discussions and meetings. The research team was led by Professor Timothy Darvill, assisted by Vanessa Constant and Ehren Milner. This team was responsible for drafting, compiling, and editing the present document, drawing on original work and commissioned sections (the authors of which are identified in the text), as well as on material, comment, and suggestions supplied by others. The approach used here, which differs slightly from that used in earlier published research frameworks, evolved during early meetings with officers of English Heritage and the working party of the Stonehenge Interpretation Panel who guided and steered the progress of this project.

Central to the construction of this research framework has been the wide circulation and discussion of draft sections and earlier iterations of the whole document. In addition to input from the working party of the Stonehenge Interpretation Panel already mentioned, three publicly advertised open focus-group sessions were held, two in London and one in Salisbury. Hard copies of the document were circulated widely, and all the documentation was placed on a dedicated World Wide Web site to ensure the greatest possible opportunity for anyone interested in the subject to read and comment. Appendix IV provides a summary of the main elements of the consultation process. The overall aim was to promote discussion at local, national, and international levels.

Because of the multiplicity of sources that have been drawn on during the construction of this framework it is hoped that it can be owned and pursued by the archaeological community and others as a whole. In presenting a series of identified issues and objectives in Sections 3 and 4 respectively, all the matters raised which fall within the scope of research defined in a fairly broad way have been included. In a few cases specific proposals have been amalgamated, but it is hoped that they have gained strength as a result. The only proposals specifically excluded were one or two relating explicitly to the display/presentation of Stonehenge itself which, it was felt, were essentially management matters rather than research questions.

DEFINITIONS, SCOPE, AND GEOGRAPHICAL CONTEXT

The Stonehenge World Heritage Site does not exist in isolation either physically or intellectually. Although geographically separate, the two landscapes centred on Stonehenge and Avebury respectively are included in the same World Heritage Site designation. Thus when reference is made to the Stonehenge World Heritage Site it should be read as meaning the southern part of the *Stonehenge, Avebury and Associated Sites World Heritage Site*.

What is presented here is an explicitly archaeological research framework, recognizing that the area occupied by the World Heritage Site might also allow for the development of research interests in a wide range of other matters, for example the contemporary natural environment (fauna, flora etc.). These, however, are matters that need to be considered and set out by other discipline-specific communities. The following definitions and parameters set the scope of this archaeological research framework.

Philosophically, the construction of an archaeological research framework can only take place within the prevailing traditions of the discipline of archaeology even though much of the evidential basis of the subject that can be drawn upon at any one point in time will have been created within quite different interpretative schemes. Current approaches can perhaps most easily be summarized as being post-processual in the very general sense of being characterized by a wide-ranging mixture of different, and sometimes conflicting, approaches, many of which are grounded in critical theory. Such plurality of endeavour is something the *archaeological research framework* will seek to encourage, recognizing the interests and aspirations of a whole range of diverse research orientations and respecting the rights of each to have

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physical access to relevant research materials provided that this does not compromise the ability of other researchers to pursue their inquiries. Attention is given to the historical development of approaches to the recovery and processing of data and to the understanding and interpretation of Stonehenge and its associated structures in later sections.

Chronologically, the Stonehenge World Heritage Site is best known for its archaeological remains dating to the Neolithic and Bronze Age, the 'Age of Stonehenge', for it is these that form the basis of the designation. The environs of Stonehenge have, however, been exploited more or less continuously since the end of the last glaciation of Britain and both the emergence of the spectacular monuments and the subsequent use of the area after their abandonment are very much part of the overall history of the landscape. In more recent times the area has been especially significant in terms of its military history. Thus, although greatest emphasis will be placed on the periods best represented by the currently known archaeology, attention will be given to all periods from the late Pleistocene through to the late twentieth century AD (cf. English Heritage 2000, 4.7.5; AAHRG 2001).

Geographically and temporally, the boundary of the World Heritage Site, which covers about 2000ha, is an artefact of modern mapping, contemporary landscape features, and the differential survival of archaeological monuments in surrounding areas. As such it is an arbitrary slice of earlier patterns, however they may have been defined. Equally, it is accepted that the world that was known to those who lived in, worked, and used the landscape around Stonehenge was a continuous space that extended out in all directions to limits that today we can only surmise and which were never constant. While Stonehenge itself now provides the focus for a great deal of attention, it is fairly certain that for much of its existence Stonehenge as we know it today was not the centrepiece of the world in which it stood.

Stonehenge lies on the chalk downs of central southern England, to the west of the River Avon and about 63km from the mouth of the Avon on the English Channel coast at Christchurch (Illustration 3). For the purposes of this study, and to provide a reasonable archaeological context for the material within the World Heritage Site, an arbitrarily defined rectangular study area of 135 square kilometres is used, the southwest corner being at SU 405000 138000, the northeast corner being at SU 420000 147000 (Map A). This study area is referred to as the 'Stonehenge Landscape', a term that has some academic basis since it broadly reflects the visual envelope extending out from Stonehenge and its main associated monuments (Batchelor 1997, Plan 9), although it must ultimately be seen as no more than a convenient and manageable study-space.

The Research Framework will simultaneously look inwards from the boundary of the Stonehenge Landscape in a detailed way, and outwards into wider worlds in a general way. Summarized as a nested series of geographically scaled spaces, the following terminology has been adopted even though the reality of boundless spaces and seamless timescales is recognized:

- *Stonehenge World Heritage Site*: The roughly square designated World Heritage Site centred on Stonehenge, currently covering about 2000ha.
- *Stonehenge Landscape*: A rectangular territory of 135 square kilometres centred on and fully containing the World Heritage Site (Map A).
- *Stonehenge Region*: A broadly defined area represented archaeologically as the main catchment from which materials, people, and ideas were drawn when building and using the sites and structures known. This region

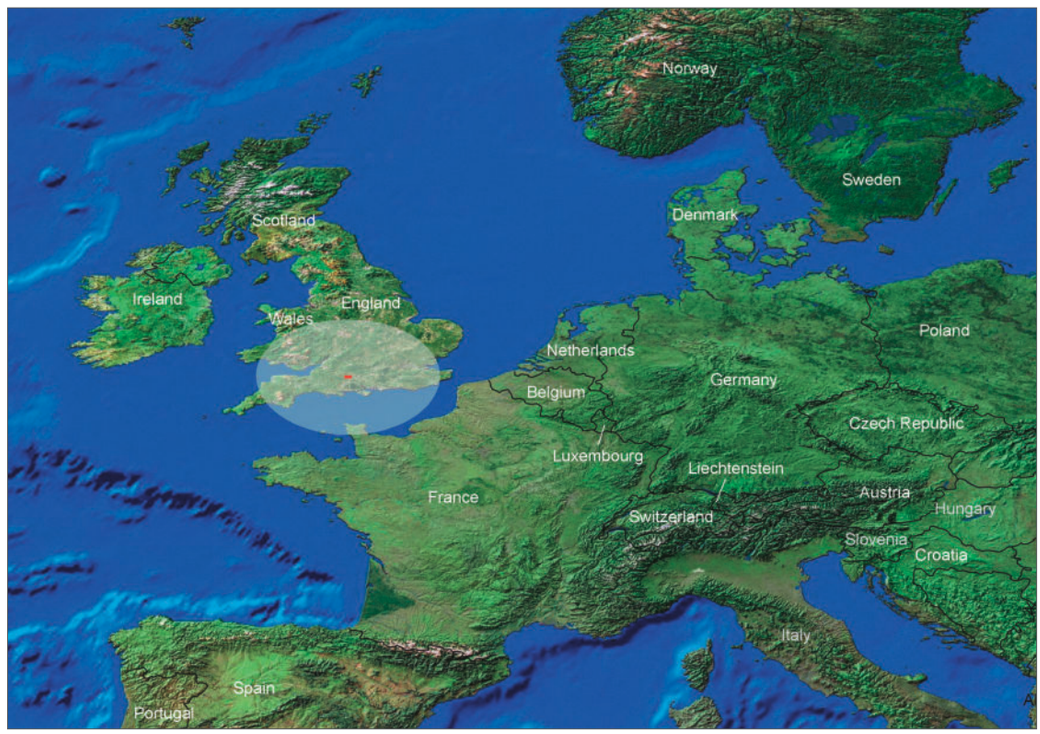


Illustration 3
Location map showing the position of the Stonehenge Landscape within northwest Europe and the topographical form of the Stonehenge Landscape. The highlighted circle centred on Stonehenge has a radius of 200km. [*Reproduced courtesy of NASA – Visible Earth, and ESRI. ESRI® Data & Maps, 2004.*]

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includes the northern part of Salisbury Plain and the Marlborough Downs in which Avebury lies, but includes more geographically remote areas too.
- *Stonehenge World*: The wider context within northwest Europe (Illustration 3) and beyond that provides the broader socio-cultural setting for what was happening within the Stonehenge Landscape.

All these terms should be seen simply as a vocabulary with which to conceptualize and communicate ideas about space, time, and social relations: they are not intended as fixed geo-spatial classifications. **Functionally**, views of the Stonehenge World Heritage Site have tended to focus on what are widely regarded as ritual and ceremonial monuments such as Stonehenge itself and the barrow cemeteries round about. Investigations over the last 50 years have shown that there is much more than this in the area: Bronze Age settlements, fieldsystems, and multi-period flintscatters, for example, have all now been recognized. Moreover, archaeological theory has emphasized the absurdity of thinking in simplistic terms about ritual or domestic sites in a prehistoric context. All of what might be regarded as recognized strands of life should be seen as deeply, and in many senses inextricably, embedded in each other.

Interest in Stonehenge itself and the monuments around it is wide and diverse, and extends well beyond the traditional boundaries of archaeology. Archaeoastronomy is one area with a substantial literature and considerable achievement that will be considered, as too the appreciation of the wide range of values that recognize a contemporary interest in the sacred nature of place. It is recognized that matters such as ley-lines, geomancy, earth-magic, and druidism, amongst many others, also interest sectors of the community who visit and respect the Stonehenge landscape, and who draw on its content for inspiration and insight. These are not explicitly considered here although it is recognized that each could be the subject of separate interest-group-prompted considerations in future.

HISTORY OF RESEARCH

Investigations have taken place within the Stonehenge Landscape for more than four centuries, and for a wide range of different reasons. In some respects this work represents a microcosm of archaeological endeavour in Britain across the centuries, but in other respects it is unique in terms of the opportunities taken and the way that the results influenced developments in method and interpretation elsewhere in northern Europe. Work at and around Stonehenge includes many 'firsts' in the application of new techniques and approaches: milestones in the history of archaeological field practice and analysis. Sometimes this results from a genuine desire to find out more about the monument and its setting, in other cases it can be suspected that such a world-famous site is used as a case study in the hope that something of its perceived importance will pervade the results of the new work.

Four broad phases or eras can be identified in the history of research, the main elements of which are briefly summarized below. As a result of these studies it is possible to assess the contribution that has been, and continues to be, made by a series of key data sets and the techniques applicable to their recovery and analysis. These are considered in the following sub-section, headed 'Finding the archaeology of the Stonehenge Landscape'. The investigations and research implicit in the work described here provide the raw material for developing interpretations and understandings of Stonehenge and its landscape; the changing nature of this knowledge is discussed further in a later section entitled 'Interpreting the archaeology of the Stonehenge Landscape'.

The Antiquarian era (before 1900)

The idea of investigating archaeological sites by digging into them started early at Stonehenge when, in 1620, George, Duke of Buckingham, had a hole dug in the middle to see what was there (Chippindale 2004, 47). Later reports suggest that the 'heads and horns of stags and oxen, charcoal, arrowheads, rusty armour and rotten bones' were found (quoted in Long 1876, 49) and there is more than a suspicion that the diggings were directly responsible for the fall of Stone 55 on the 3 January 1797. The Duke also examined some of the round barrows on King Barrow Ridge, in one of which was found a 'bugle-horne tip't with silver at both ends' (Long 1876, 39). This work so intrigued the monarch of the time, James I, that he commissioned the well-known neo-classical architect Inigo Jones to make a survey and study of the site (Illustration 4). As it turned out, much of the fieldwork was done after the king's death in 1625, mostly during visits to Wiltshire between 1633 and Jones' own death in 1652. The work of producing the publication was completed by John Webb, Jones' assistant (Jones and Webb 1655).

Further surveys and descriptions followed during the later seventeenth century, notably by John Aubrey in the 1660s (Aubrey 1693a; 1693b). However, it was William Stukeley's five seasons of fieldwork in the early eighteenth century that represent the next major investigation. Starting in about 1720, the work included drawing and describing Stonehenge

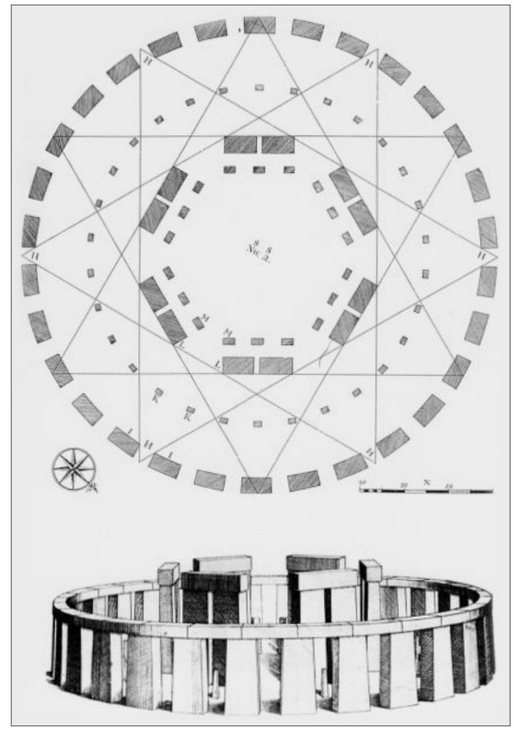


Illustration 4
Idealized plan and elevation of Stonehenge by Inigo Jones published in 1655. To make the site fit his model he has added an extra trilithon and arranged the two innermost settings as a regular hexagon. [*From Jones and Webb 1655.*]

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Illustration 5
Watercolour by Philip Crocker showing William Cunnington and Sir Richard Colt Hoare (left) supervising Stephen and John Parker opening a round barrow in the Normanton cemetery. [*Reproduced courtesy of the Wiltshire Archaeological and Natural History Society, copyright reserved.*]

and its landscape setting. In 1721 he found the Stonehenge Avenue, and on 6 August 1723 he discovered the long narrow embanked enclosure north of Stonehenge that he called the *cursus* (Piggott 1985, 93). In 1722 and 1723 he investigated 13 barrows (12 round and 1 oval), most of them in Amesbury and Wilsford parishes. His published account (Stukeley 1740, 81–93) represents the first illustrated excavation report in British archaeology (Atkinson 1984).

Relatively little work took place during the later eighteenth century, although two barrows within Vespasian's Camp were excavated in 1770, probably in the course of landscaping works (RCHM 1979, 22). However, from about 1800 onwards interest seems to have been rekindled, the early nineteenth-century investigations being dominated by the work of Sir Richard Colt Hoare and William Cunnington. These notable, eminent, and some would say destructive, antiquarians individually or together investigated more than 200 barrows around Stonehenge using the shaft technique (Meyrick 1948; and see Cunnington 1975, appendix IV for a list of sites investigated). This popular, and in retrospect rather economical, approach involved digging a pit in the centre of the mound, the investigations continuing downwards until a burial was found or the old ground surface under the mound was reached. Cunnington began work about 1802, being sponsored by the Revd William Coxe and H P Wyndham, and employing Stephen Parker and his son John as labourers (Illustration 5). From March 1804 the costs of employing Cunnington and the Parkers were assumed by Richard Colt Hoare, who assisted with the work and took control of its overall direction. The results of this fieldwork were published in two volumes as *The ancient history of Wiltshire* (Colt Hoare 1812 and 1821). Stonehenge and its surroundings are included in the first volume (Colt Hoare 1812, 113–78), the account being accompanied by numerous high-quality illustrations, made by Philip Crocker, and the first detailed map of the archaeology of the Stonehenge environs (Colt Hoare 1812, op. 170). Both Cunnington and Colt Hoare deposited a coin or specially made token in their excavation trenches to alert future archaeologists to the fact that they had been forestalled, a tradition started by William Stukeley (Grinsell 1978, 11).

The most spectacular discovery made by Cunnington was the richly furnished Wessex I burial at Bush Barrow (Wilsford 5) uncovered in September 1808. It contained an inhumation with accompanying grave goods. These included a bronze axe, three daggers, one of which had a pommel decorated with gold, a stone sceptre, and two gold lozenges (Colt Hoare 1812, 203–5). But Colt Hoare and Cunnington did not confine their investigations to barrows. Cunnington excavated at Stonehenge at least three times before his death in 1810. Work also took place at Rox Hill, and numerous other sites described in *The ancient history of Wiltshire* were tested by the spade in various ways.

Cunnington and Colt Hoare's work naturally inspired others to engage in excavation. Amongst them was the Revd Edward Duke (1779–1852) who inherited Lake House in 1805. In 1810 he excavated barrows within the Lake Cemetery, the Wilsford Down Cemetery, and the Lake Down Cemetery. Although these excavations were small scale Duke attempted grand interpretations on a wide canvas, elaborating the ideas of Stukeley in maintaining that the early inhabitants of Wiltshire had portrayed in their monument-building a vast planetarium or stationary orrery. He saw the earth being represented by Silbury Hill while the sun and the planets revolving around it were marked by a series of earth and stone 'temples' in which Stonehenge was supposed to represent Saturn (Duke 1846).

After a lull of about 40 years, investigations of sites around Stonehenge continued in the later nineteenth century with the campaigns of John Thurnam, medical superintendent at the Devizes Asylum (Piggott 1993). He opened long barrows and round barrows in the Stonehenge

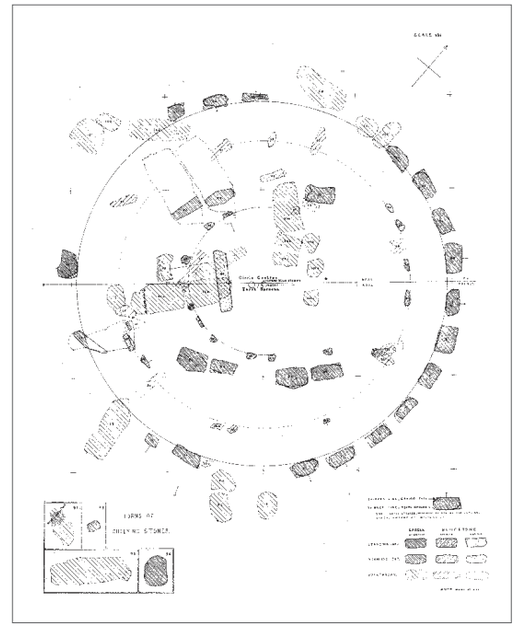


Illustration 6
Plan of Stonehenge by Flinders Petrie, completed in 1877, with the stone numbers and provisional geological identifications noted. [*From Petrie 1880, plate II.*]

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Landscape between 1850 and 1873, mainly because of an interest in human remains and the anthropology of early populations. His results were published in site-specific reports, in two more general papers (1868; 1871), and in the *Crania Britannica* (Davies and Thurnam 1865).

In 1874 and 1877, Professor Flinders Petrie surveyed Stonehenge in detail and published his enumerated plan in *Stonehenge: plans, description, and theories* (1880). Characteristic of the positivist traditions behind his investigations is the fact that the sections of his book are divided into two blocks: facts and theories. His numbering system of the stones and the Aubrey holes within the monument remains in use today (Illustration 6).

By the end of the nineteenth century a significant proportion of sites and upstanding monuments within the Stonehenge Landscape had been sampled using the techniques of the day. The volume of literature generated was considerable, so that by the beginning of the twentieth century W Jerome Harrison (1902) was able to list nearly 950 items in his bibliography of Stonehenge and Avebury.

The early professional era (1900–1945)

Compared with the early nineteenth century, the first half of the twentieth century was a period of relative quietude for investigations around Stonehenge. The work that was carried out took place under the direction and leadership of a range of professional experts, often under the auspices of an established committee set up by a learned society or government department.

The purchase of large tracts of land on Salisbury Plain by the army in 1897 fundamentally changed the character of the area, and access to it. There were also considerable advantages to having a military presence nearby, and in 1906 Stonehenge became the first archaeological site in Britain to be photographed from the air (Capper 1907; Wilson 1982, 10–11).

In 1901 Professor William Gowland excavated around Stone 56 at Stonehenge (Illustration 7), prior to its restoration to the upright position (Gowland 1902). Following the presentation of Stonehenge itself to the State in 1918 a further campaign of works was initiated with the combined purpose of exploring the site and assisting in the periodic consolidation of the standing remains. This work was directed by William Hawley and took place between 1919 and 1926, with further work by Robert Newall and George Englehart in 1929. In all, about a half of the ditch circuit and approximately 40 per cent of the interior was examined.

Investigations in connection with management works around the monument also took place: a section of water-pipe trench along the A344 was watched by Newall in 1919, an investigation of the Avenue close to the Stonehenge–Amesbury Road was carried out by R Clay in 1927, and in 1935 W E V Young excavated in advance of the construction of the first of a long series of car-parks on the north side of the A344 (see Cleal et al. 1995, table 2, for a listing of recorded twentieth-century investigations at Stonehenge).

In the surrounding landscape the emphasis shifted from a preoccupation with barrows to include an interest in other classes of site. Mr P Farrer observed sections cut by pipe-trenches through the bank of Durrington Walls and the central part of the Stonehenge Cursus in 1917. The discovery of Woodhenge through aerial photography in 1926 led to very extensive excavations by Mr and Mrs B H Cunnington (last of three generations of archaeologically inclined Cunningtons) between 1926 and 1928 (Cunnington 1929). In addition, they excavated four ring-ditches/barrows immediately south of Woodhenge and the middle Bronze Age enclosure known as the Egg (Cunnington 1929, 49). At Upavon, the construction of military facilities revealed the remains of a Roman villa in 1907 (Anon 1930). Barrow excavations were, of course, still carried out from time to time. The investigation of Amesbury 101 in the 1920s by Passmore and Hawley, for example, revealed a collection of oddly shaped natural flints rather improbably interpreted as a witch-doctor's outfit (Passmore 1940). At Boscombe Down, the creation of an airfield led to the excavation in 1930 of Amesbury G85, probably a two-phase monument (Newall 1931).

Dr J F S Stone, a chemist based at Porton Down with a great passion for archaeology, excavated at numerous sites along Countess Road and around Ratfyn that were brought to light in the 1920s and 30s through property development, road-widening, or the laying of pipelines. Many other sites no doubt went unrecorded to judge from the incidence of stray finds and poorly provenanced accounts.

Research investigations of various kinds were undertaken during the early part of the twentieth century. Aerial photography, for example, played an increasingly important role in the documentation of sites in the Stonehenge Landscape as the twentieth century unfolded, Crawford and Keiller including images of Ogbury Camp, Bush Barrow, Amesbury Down, and Stonehenge in their now classic volume entitled *Wessex from the air* (1928). Surface collections were also assuming a more prominent place in archaeological research, evident for example in the work of Laidler and Young (1939) on King Barrow Ridge. Excavations were carried out at, amongst other sites, Casterley Camp in 1912 (Cunnington and Cunnington 1913) and Winterbourne Stoke in 1925 (Newall 1926). In 1938 J F S Stone directed the excavation of a mini-henge monument in Fargo Plantation, a site revealed by potsherds collected by Boy Scouts from a rabbit scrape in November 1937 (Stone 1938). Research into the origins of the bluestones at Stonehenge and several nearby sites (including the Fargo mini-henge) expanded earlier theories, helping to fuel what has since become a long-running controversy on the relative merits of human agency as against glacial action as the means by which the stones were transported from southwest Wales to Salisbury Plain (Thomas 1923; see Thorpe et al. 1991, table 5).



Illustration 7
Professor William Gowland (second from the left) supervising the excavation of Stone 56 in 1906. [*Reproduced courtesy of the Wiltshire Archaeological and Natural History Society, copyright reserved.*]

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The rescue era (1945–1980)

Although investigations prompted by property development, engineering works, and agricultural change had been a feature of investigations during the early twentieth century, the post-war period down to about 1980 saw a massive increase in this kind of activity. One of the first within the Stonehenge Landscape was the work at Boscombe Down West, directed by Mrs K Richardson and others in 1948–9 in advance of the construction of the Boscombe Down RAF station. Such was the scale of the work that a dragline excavator was used to remove ditch fills (Illustration 8): one of the earliest cases in Britain of major plant being used in an archaeological excavation (Richardson 1951, figure 5).

The range of sites recorded expanded, and the opportunities for small-scale investigations at known monuments increased greatly. Flint mines were discovered and recorded east of the Stonehenge Inn in 1952 (Booth and Stone 1952). A pipe-trench through Durrington Walls in 1950–1 revealed deposits to the south of the enclosure that were explored in further detail in 1952. It was charcoal from this excavation that provided material for radiocarbon dating, as it turned out the first two radiometric dates on archaeological material from the British Isles (Piggott 1959).

At Stonehenge itself a new campaign of excavations, again linked to the needs of restoration, began in 1950. Work was carried out in 1952–4, 1956, 1958–9 and 1964, under the auspices of Richard Atkinson, Stuart Piggott, and J F S Stone, and in 1950 and 1952 by R Newall (Cleal et al. 1995, 11–12). Although this was relatively modest compared with Hawley's earlier work, a number of important relationships were explored and documented. Two further excavations were undertaken in 1978, one involving Alexander Thom at one of the Station Stones, the other a cutting through the ditch by John Evans in order to recover environmental samples. By far the largest excavations in the immediate vicinity of Stonehenge were those connected with the construction of extensions to the car-park in 1966 and 1979, the creation of an underpass and associated works in 1967, and a whole range of pipe-trenches and cable-laying in 1968 and 1979–80. Faith and Lance Vatcher undertook much of this work, with later seasons undertaken by Mike Pitts and the Central Excavation Unit of English Heritage (formerly the Department of the Environment). In total, these investigations added considerably to what was known about the area immediately around Stonehenge, and included major discoveries that have fundamentally changed understandings of the monument: a partner for Stone 96 (the Heel Stone); the Mesolithic postholes and early tree pit in the western end of the car-park; and the so-called Palisade Ditch north and west of Stonehenge (see Section 2). There were also opportunities to explore the eastern end of the Avenue near the Avon west of Amesbury in advance of house-construction (Smith 1973).

Post-war decommissioning of military installations and increases in demand for cultivated land led to large tracts of landscape around Stonehenge being ploughed up between 1945 and the early 1950s with the result that earthworks were levelled and important sites destroyed. The biggest casualties were amongst round barrows (see for example Grinsell 1978, 5) and the Stonehenge Cursus. Campaigns of excavations were launched, in most cases after sites had already been heavily damaged. Amongst the barrows there were major investigations at G51–54 on Wilsford Down and Normanton Down in 1958 (Smith 1991); eighteen barrows near Shrewton in 1958–60 (Green and Rollo-Smith 1984); Wilsford G2–5 in 1959 (Grimes 1964); twelve barrows in Amesbury and Winterbourne Stoke between 1959 and 1961 (Gingell 1988); Wilsford cum Lake 1, 33, and 33a in 1960 (Field 1961); Amesbury 51 in 1960 (Ashbee 1978a); and Amesbury G70 and G71 in 1961 (Christie 1964; 1970). A few of the sites explored at this time remain unpublished, but the discoveries made during the early years of this flurry of barrow excavation within a limited geographical area contributed much to the shaping our understanding of Bronze Age round barrows in Britain as a whole (see Ashbee 1960).

The excavation of the Wilsford Shaft between 1960 and 1962 was an unexpected consequence of investigating pond barrow Wilsford G33a that was being eroded by ploughing at the time (Ashbee et al. 1989). Excavations around the west end of the Cursus, and at barrows Winterbourne Stoke G5 and G30 within the Cursus (Christie 1963), have since allowed the restoration of the Cursus's western terminal and barrow G30 to their pre-1950 appearances.

An early geophysical survey using a Megger Meter took place on the so-called long mortuary enclosure on Normanton Down in 1957–8, no doubt encouraged by Richard Atkinson's enthusiasm for remote sensing prior to excavation. The site was subsequently excavated and dated to the middle Neolithic, but remains difficult to interpret (Vatcher 1961, 160; and cf. Clark 1990, 12–13).

Alterations to the road network around Amesbury in the later 1960s provided numerous opportunities for archaeological investigation. Works included the construction of a dual carriageway along the A303 in the eastern part of the Stonehenge Landscape, the creation of a bypass around the north side of Amesbury (also A303), construction of a roundabout and modification to the road alignments at Winterbourne Stoke Crossroads, and the realignment of the A345 through Durrington Walls. All revealed important finds and structures. The single largest operation was at Durrington



Illustration 8
A dragline excavator and lorries being used in the excavation, directed by Miss K Richardson, of the inner ditch of the Iron Age enclosure at Boscombe Down West in 1949. [*Photograph: RAF Station, Boscombe Down. Crown Copyright/MoD.*]

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Walls where extensive excavations took place between 1966 and 1968. As at Boscombe Down earlier, earthmoving machinery was extensively used by Geoffrey Wainwright to uncover a large area for excavation, here using highly manoeuvrable JCBs to remove topsoil and clear the site (Wainwright and Longworth 1971, 10). It was an approach that caused much disquiet in the archaeological community at the time, but set a precedent much followed since (Wainwright 2000b, 913). Amesbury barrow G39 excavated in 1960, in advance of widening works on the A303, was subsequently reconstructed with a revetment to support the underlying chalk (Ashbee 1980). The most unexpected finds associated with the A303 widening was probably the so-called plaque-pit west of King Barrow Ridge (Harding 1988): a small chalk-cut pit containing two rather unusual decorated chalk plaques datable to the later third millennium BC.

An essentially research-driven excavation was carried out at Robin Hood's Ball in August 1956 to assess the age and nature of the earthworks (Thomas 1964). Elsewhere, a wide range of construction works, pipe-trenches, and cable-laying led to numerous watching briefs and small-scale excavations, as for example at Amesbury 25 and 103 barrows in 1978–9 (Pitts 1980). Rather more substantial excavations took place in advance of tree-planting on the later prehistoric and Roman site southwest of Durrington Walls in 1970 (Wainwright 1971).

The flow of stray finds reaching museums and local collections continued throughout the post-war period, many being reported in the annual register of archaeological finds published in the *Wiltshire Archaeological and Natural History Society Magazine*.

The management and conservation era (since 1980)

A switch from the re-active approaches of rescue archaeology to the pro-active approaches inherent to conservation archaeology around 1980 also saw changes in the nature of the investigations carried out in the Stonehenge Landscape.

The need for investigations directly related to site management and conservation works can be seen in the excavation of new visitor routes within Stonehenge (Bond 1982), the recording of barrows on King Barrow Ridge and in Luxenborough Plantation damaged by storms in 1987 and 1990 (Cleal and Allen 1994), and extensive geophysical work at Durrington Walls and in the Stonehenge Triangle (David and Payne 1997, 73–113). Strategic planning needs (for both development control and site management) and detailed contextual information to set alongside the work at individual monuments was provided by the extensive Stonehenge Environs Survey directed by Julian Richards between 1980 and 1986. This work included systematic fieldwalking over available cultivated land (*c.*750ha), sample excavations at 15 sites ranging in date from the early Neolithic through to the later Bronze Age, and the sampling of dry valley fills (Richards 1990). Alongside this work there were strenuous efforts in many quarters to publish the excavations carried out in previous decades, well exemplified in the publication dates of work from the rescue era. The single most substantial contribution in this area was the publication of the twentieth-century investigations at Stonehenge itself, including work on the Avenue and other monuments in close proximity to the main site (Cleal et al. 1995).

Survey work in the area north of that investigated by the Stonehenge Environs Project, within the Salisbury Plain Training Area, has been in progress since the mid 1980s, encouraged by Dai Morgan Evans, Roy Canham, and the late Bob Smith (DLA 1993). A detailed survey of the field archaeology of the training area was carried out by the RCHM during the 1990s (McOmish et al. 2002). Building on these baseline studies an Integrated Land Management Plan for the Salisbury Plain Training Area has been approved, and includes within its coverage much of the northern part of the Stonehenge Landscape. It sets out an approach to the management of the archaeological, ecological, and other environmental resources within the context of military training activities.

Central Wessex is an area that has attracted a great deal of archaeological interest in recent decades. The northeast corner of the Stonehenge Landscape, for example, falls within the study area of an extensive survey of linear earthworks, the Wessex Linear Ditches Project, carried out between 1988 and 1991 (Bradley et al. 1994). The southeastern corner of the Stonehenge Landscape overlaps slightly with the study area of the Danebury Environs Programme (Palmer 1984; Cunliffe 2000). Much of the Stonehenge Landscape also lies within the study of the Salisbury Plain Project undertaken between 1992 and 1994 to review the evidence for Romano-British settlement in the area (Entwistle et al. in prep.).

The application of approaches to the assessment and evaluation of sites prior to the determination of planning permissions, as set out in PPG16 (DoE 1990), but widely used before this time, introduced new kinds of archaeological investigation to the roster. Field evaluations associated with private developments are summarized in the annual gazetteers of archaeological investigations published as supplemental volumes to the *British and Irish Archaeological Bibliography*, but two schemes deserve special mention because of the extent of the work involved: the Stonehenge Visitor Centre proposals; and the A303 roadline improvements. In their current form (summer 2004), these two schemes form what is known as the 'Stonehenge Project', details of which were outlined in a document published in April 1999 known as the *Stonehenge master plan* (English Heritage and National Trust 1999). Since July 1999, progress with the project has regularly been reported in a newsletter initially entitled *Stonehenge Master Plan Newsletter* (issues 1–4), renamed *Stonehenge Vision* in March 2002 (issues 5–9), and most recently relaunched as *The Stonehenge Project Update* (Issue 1, Autumn 2004). However, both elements of the Stonehenge Project originated long before the emergence of the Stonehenge Master Plan and represent one of the longest-running sagas in conservation archaeology.

Stonehenge visitor centre

The idea of improving visitor access to, and facilities for, Stonehenge has been discussed for decades, as too the associated closure of the A344 that cuts through the north side of Stonehenge and the Avenue (DoE 1979; Heritage Projects 1984; Chippindale 1985a; 2004, 259–77; LH 1997). Map Q shows the position of the dozen or so possible sites considered for the relocation of the visitor centre and the extents of the various archaeological investigations carried out to inform the selection of sites and the development of proposals. Table 1 lists the main approaches applied to the assessment and evaluation of each.

By 1990 extensive consultations and researches focused on a site adjacent to Durrington Down Farm at Larkhill for a new visitor centre. In addition to the block of land for the visitor centre itself and car-parks, the works required an access road from the west and minor works to Durrington

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Site name		Desk-based Assessment	Geophysics	Fieldwalking	Auger transects	Test-pitting	Linear trenching	Targeted trenching	EIA	Reports
A	Countess Farm	✔								Darvill 1993b, 55–72
B	Countess Road East/ Countess Roundabout	✔	✔	✔	✔	✔	✔	✔	✔	Darvill 1993b, 55–72; Bartlett 1994; WA 1995; WA 2003a; 2004; Chris Blanford Associates 2004, vol. 2, Appendices A5.3, 5.5, 5.6, 5.7, 5.9, and 5.10
	Countess Road to Stonehenge area transportation links	✔	✔						✔	Darvill 1993b, 55–72; Bartlett 1994 ; Reilly et al. 1996; Chris Blanford Associates 2004, vol. 2, Appendices A5.4 and 5.8
C	Fargo North	✔	✔			✔				Bartlett 1993a; WA 1993c; Darvill 1993b, 19–54; Burton 1998; WA 1998b
D	Fargo South	✔								Darvill and Timby 1993c
E	Larkhill	✔	✔	✔		✔	✔	✔	✔	Darvill 1991a; WA 1992
	Western Access routes (Larkhill to A344)	✔	✔	✔		✔	✔	✔	✔	WA 1991; 1993c; Bartlett 1993a; 1993b; Darvill 1993c; 1994
	Durrington Down Farm infrastructure changes	✔	✔			✔	✔			Darvill 1991b; 1992a; 1992b
F	New King Barrows (north of A303)	✔								Darvill 1993b, 73–118
G	Old King Barrows	✔								Darvill 1993b, 119–50
H	Strangeways	✔								Darvill 1993b, 119–50
I	Stonehenge Bottom	✔								Darvill and Timby 1993a
J	Pedigree Stock Farm	✔								Darvill and Timby 1993b
K	New King Barrows (south of A303)	✔	✔	✔	✔	✔	✔	✔		Darvill and Timby 1993d; WA 1993a; Darvill 1995
L	Stonehenge car-park									See Heritage Projects 1984; Addyman 1989

Table 1
Summary of the main archaeological techniques used in the field evaluation of possible sites for a new Stonehenge Visitor Centre.

Down Farm itself. All these areas were subject to desk-based assessments and field evaluations (Illustration 9) before the results were brought together as a full Environmental Statement (Darvill 1991).

Following the withdrawal of this scheme in December 1991 further possible sites were reviewed (Darvill 1993a) and two were subject to field evaluation: the A303 roadline site south of the New King Barrows (WA 1993a) and the Countess Road East site also known as the Countess Roundabout Site (Darvill 1995; WA 1995). It is the last-mentioned of these that is now moving forward for development. A full listing of all the work undertaken in relation to the selection of sites to help guide the planning of visitor circulation and site management between 1990 and 1996 has been circulated (Darvill 1997b). More recently, a study of military archaeology in the area has been prepared (WA 1998a), and further evaluations took place on the Countess Road East site in 2003–4 in order to inform the detailed design and lay-out of the facilities (WA 2003a; 2004).

The Countess Road East site was purchased by English Heritage in December 2000. In April 2001 it was announced that Denton Corker Marshall, an international architectural practice based in Melbourne (Australia) and London, had been appointed to design the new visitor centre. A planning application and accompanying environmental statement (Chris Blandford Associates 2004) for the scheme was

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submitted to the Local Planning Authority in August 2004 and validated by them in September 2004. Much debate still continues about whether Countess Road East is the best site for a visitor centre, how it will be used, and how exactly visitors will circulate within the landscape around Stonehenge (Baxter and Chippindale 2002; Chippindale and Baxter 2003; Pitts and Richards 2003).

Improving the A303

Plans for the up-grading and improving of the A303 from King Barrow Ridge through to Berwick Down have been debated almost as long as the visitor centre proposals. Although English Heritage has commissioned various studies to assist in discussions about alternative routes, the majority of the work has been co-ordinated by the Highways Agency. More than 50 possible routes and associated permutations involving cuttings and tunnels were examined between 1991 and 1999. Desk-based studies were carried out for almost all proposals, and field evaluations have been carried out on some. A summary of activity up to 1996 has been circulated (Darvill 1997b, 30–9). Further field evaluations for an on-line solution involving a combination of above-ground improvements and a tunnel were taking place at the time of preparing the first iteration of this Research Framework. Map R shows the main route-options investigated for the realignment of the A303 between Amesbury and Berwick Down, together with the position and extent of the main archaeological investigations carried out to help inform the selection of a preferred route and the design of the carriageways and related infrastructure.

In June 1999 Transport Minister Lord Whitty announced the Government's preferred route for the improvement of the A303, a mainly on-line solution for the eastern section with a tunnel 2km long south of Stonehenge itself and a northern bypass for Winterbourne Stoke. Autumn 1999 saw the appointment of Mott MacDonald as the lead consultants on the development of the improvement proposals. One of the main areas of contention to be addressed was the nature of the tunnel, with many fearing that a relatively cheap, short, cut-and-cover solution would be adopted. However, in December 2002 the Government announced that a bored tunnel 2.1km long would be included in the scheme. On 5 June 2003 the Department of Transport published draft orders and an environmental statement relating to the proposed A303 improvements around Stonehenge, initiating a period of public consultation.

A Public Inquiry into the proposals opened in Salisbury on 17 February 2004 and sat for 37 days until its close on 11 May 2004. The inspector's report was expected in early September 2004 with the Government's announcement shortly afterwards. However, at the time of writing (December 2004), the report and recommendations resulting from the Public Inquiry had still not been published. Assuming that the proposals are approved in the spring of 2005, construction work could commence early in 2006 and the road would be open for traffic by the autumn of 2009.

The conclusions to be drawn from the various field evaluation projects undertaken to date for both the road scheme and the visitor centre proposals include the fact that very few previously unrecognized major monuments have been discovered, although some small structures and features have been recognized. The general proposition that major areas of colluviation and valley fill are very rare has been confirmed on several occasions. The extensive and destructive nature of ploughing and agricultural improvement schemes in the 1950s, and engineering works in the 1960s, has been revealed in many of the areas that were subject to field evaluation.

An exercise in site sampling rather similar to a field evaluation was carried out at the Netheravon Roman villa site in July and August 1996, the first part in connection with the making of an episode of *Time Team* for Channel 4 (Rawlings 2001).

Excavation and recording works specified in connection with development control have led to some important and extensive archaeological work in the Stonehenge Landscape. Interestingly, much of it relates to remains that fall outside the Neolithic and Bronze Age periods for which the area is most famous. At Butterfield Down, Amesbury, excavations in advance of a housing development revealed a possible late Neolithic pit-ring, a ring-ditch, and an early Bronze Age burial, a pit containing Beaker pottery, a large boundary ditch of the late Bronze Age, and Roman occupation from the first to fifth centuries AD (Rawlings and Fitzpatrick 1996). At Figheldean excavations and watching briefs for pipeline schemes allowed the excavation of later prehistoric and Romano-British enclosures and occupation sites (Graham and Newman 1993; McKinley 1999). Field evaluation followed by targeted excavation of selected areas revealed pits containing Beaker pottery at Crescent Copse, Shrewton (Heaton and Cleal 2000). In the far northwest corner of the Stonehenge Landscape a pipeline scheme revealed, and then permitted the excavation of, an area of Romano-British settlement and part of a small cemetery of the same date (McKinley and Heaton 1996). And most recently, rich Beaker-period burials have been found at Amesbury in advance of constructing a new school (Fitzpatrick 2002; 2003a) and on Boscombe Down as a result of renewing a water-pipe (Fitzpatrick 2004a). Both discoveries have contributed to fundamental changes in thinking about the nature, wealth, and relationships of communities living in the Stonehenge area in the late third millennium BC.

Purely research-orientated investigations have been relatively few in number since 1980. Small-scale excavations were carried out at Vespasian's Camp in 1987 (Hunter-Mann 1999), and various pieces of survey work and excavation were in progress at the time of preparing this iteration of the Research Framework (e.g. Parker Pearson et al. 2003; and see Section 4).

One important new area of research that has developed since the early 1990s is that of exploring the phenomenology of the landscape and the natural and humanly created elements of it in an attempt to understand how it was

Illustration 9
Field evaluation using test-pits for the proposed Stonehenge Visitor Centre at Larkhill. [*Photograph: Timothy Darvill. Copyright reserved.*]

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experienced and how people engaged with it (see Tilley 1994). Following these ideas a team based at Birmingham University has developed an interactive CD-ROM-based visualization of the landscape around Stonehenge allowing journeys through real and imagined worlds (Exon et al. 2001).

FINDING THE ARCHAEOLOGY OF THE STONEHENGE LANDSCAPE

The investigations and studies carried out to date allow a general overview of the achievement and potential of a range of archaeological techniques and major sources which can be expected to help find out about the archaeology of the Stonehenge Landscape in future. These are reviewed in the following sub-sections, starting with non-interventional approaches. Statistics about the number and extent of surveys and interventions are taken from the Stonehenge Landscape GIS (see below).

Ground-based geophysical surveys

Contributed by Andrew David

In recent years, geophysical survey has played a major role in mapping and unravelling the archaeology of the Stonehenge Landscape. The applications of geophysical survey in the WHS were reviewed in 1996 (David and Payne 1997) and a number of specific recommendations and targets for future work were proposed (David and Payne 1997, 107–10). That review, and its proposals, remain substantially unchanged at the present time of writing and should be a starting point for consideration of geophysical applications to archaeological research in the WHS. In the light of experience in the Stonehenge area, the opportunity is taken here to provide a brief critical overview together with a much-abbreviated assessment of the further contributions that these methods can add to a better understanding of this landscape and its monuments.

At current reckoning, the total area surveyed using geophysical prospective methods up until 2001 within the Stonehenge Landscape amounts to 3.1602 square kilometres, about 2 per cent of the total area (Map B). Of this, 0.6891 square kilometres of surveyed ground lie outside the World Heritage Site, 2.4710 square kilometres inside. This is mostly magnetometer survey, a substantial proportion of which has been commissioned as part of the evaluation of the several options for visitor centres and road corridors. Magnetometer survey has been the technique of choice, not only because it is relatively rapid and hence cost-effective, but also because it is particularly responsive, with proven efficacy for the detection of features such as pits and ditches on chalkland geology (Illustration 10). This reputation has been vindicated many times in the Stonehenge area where, for instance, the Greater and Lesser Cursus, Coneybury henge, and the interior of Durrington Walls have all produced distinct magnetic signatures. At Durrington Walls, no fewer than four new enclosures and an abundance of pits have been found within the earthwork enclosure. At Coneybury it was a magnetometer survey that located the remarkable early Neolithic pit, now familiarly known in the literature as 'The Anomaly'.

Earth resistance survey, which is a more time-consuming method and at the mercy of seasonal variation in soil moisture, has been applied very sparingly and only on specific monuments, such as Stonehenge itself, where its ability to locate pits, ditches, and remnant bank material was apparent. The method has an advantage over magnetometry on account of its superior ability to locate buried megaliths and megalith settings, which is best

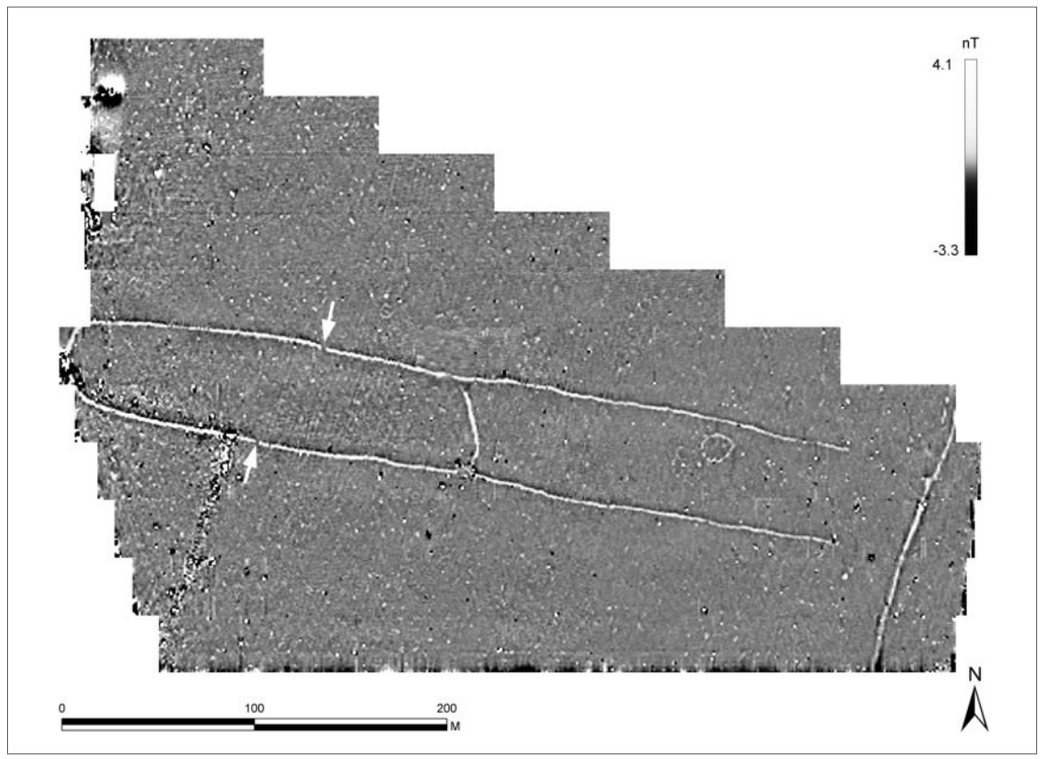


Illustration 10
Plot of the results from a geophysical survey of the Lesser Cursus in 1993. [*Survey by Alastair Bartlett for English Heritage.*]

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demonstrated at Avebury and Beckhampton (Ucko et al. 1990; David 2001). Such survey has nonetheless failed to determine conclusively whether or not part of the Stonehenge Avenue once included stone settings.

Earth resistance and magnetometer survey probably remain the most appropriate geophysical methods for extended reconnaissance survey within the WHS. Magnetometry holds the greater appeal for wide coverage of the landscape and, with the use of multiple arrays of sensors, total coverage of all accessible land can be contemplated. Use of highly sensitive (alkali vapour) magnetometers and of reduced sampling intervals offers greater potential for the identification of weakly magnetized features and those buried below colluvium or alluvium. However, wooded areas will remain impractical to survey, and those areas where ferrous interference is severe (e.g. former military installations) present significant problems. Topsoil magnetic susceptibility survey could be extended widely across the landscape, helping to identify areas of former settlement or industrial activity. Earth resistance survey will also become increasingly mechanized, using wheeled electrodes or mobile electrostatic arrays, each capable of much greater rates of ground coverage than formerly, and with the ability to gather data from varying depths. Use of 'slingram'-type instruments offers the benefits of rapid measurement of both conductivity and magnetic susceptibility.

Such extensive reconnaissance survey can thus be undertaken at a scale formerly only considered feasible for aerial survey and with the advantage that areas of pasture, not so amenable to the latter, may also be productive. Large tracts of landscape can be explored both for previously unrecognized features and to extend knowledge of those only partially known, such as the Palisade Ditch. Advantage will need to be taken of the complementary nature of the available methodologies, and survey strategies will of course integrate as many sources of evidence as possible, both from the ground surface itself, from excavations, coring, and remotely sensed data, and from documentary records. The use of GIS to store, integrate, and analyse such multiple data sets is already established.

Aside from reconnaissance, geophysical techniques can also continue to be focused on particular features, sites, or monuments and have an obvious bearing both on academic research and on site management. Ironically this potential is perhaps least realizable at Stonehenge itself where the level of complexity and later disturbance is counterproductive. However, more highly detailed surveys of the unexcavated portions of the circle might clarify knowledge of sub-surface features; and the use of resistivity and radar tomography might provide crude information on depth and morphology. Ground penetrating radar has been used at pond barrows in the Wilsford Group (Cole 1997), but with applications possible at ever-greater spatial scales, and assisted by sophisticated data visualization, it offers an increasing potential. This is probably greatest on monuments where structural information survives at some depth: barrows, earthworks, monumental ditches, and buried stone structures would be appropriate targets. The further examination of pond barrows to test for the presence of shafts provides an instance where further research could be pursued.

Taking into account the results of the now numerous surveys within the World Heritage Site it is clear that geophysical survey methods, and magnetic techniques in particular, are amongst the most powerful tools available for furthering knowledge of Stonehenge Landscape. Everyone concerned with research and conservation at Stonehenge and its environs should pause to give them thought.

Aerial photography

Contributed by Simon Crutchley

Aerial survey of the Stonehenge landscape can be divided into two separate elements, the actual taking of photographs for both archaeological and non-archaeological purposes and the mapping, recording, and interpretation of the sites visible.

Although it is difficult to assess how many photographs cover the precise area of the World Heritage Site, the National Mapping Programme covering the nine OS quarter-sheets encompassing the WHS viewed some 3500 specialist photographs taken for archaeological purposes and a further 1900 vertical photographs taken mainly by the RAF in the 1940s, 50s, and 60s. The large number of non-specialist photographs for such a small area is due to the presence of several airfields on Salisbury Plain just to the north that provided bases for reconnaissance training flights in the area. The actual site of Stonehenge has always been a magnet for aerial photographers and the kilometre square in which the stones themselves sit has some 400 specialist aerial photographs alone.

As well as the large numbers of photographs (which equate to about 24 photos per kilometre square) there is also a great chronological depth to the material available. The earliest photograph held by the NMR in Swindon is of Stonehenge taken from a war-balloon by Lieut. P H Sharpe in July 1906, arguably the first aerial photograph ever taken of an archaeological site (Capper 1907). There follow photographs of the stones from every decade until the present, and many notable views of related and nearby monuments and features. Among these are the two views of the Stonehenge Avenue included in Crawford and Keiller's *Wessex from the air* (1928, 222). The surrounding area is not covered in as great detail as the immediate vicinity of the stones, but it still has specialist photographs dating to the 1930s as well as the non-specialist cover. Although the benefit of photographs taken for non-archaeological reasons might not be immediately apparent, they are most helpful. Sometimes they happen to have been taken at the right time of year to reveal cropmarks, but their date range is useful also as they show changes in land-use and also some features which have since been destroyed. Amongst the earliest vertical photographs were some taken by the USAAF in December 1943, when low winter sunlight helped to highlight slight earthwork features that have since been destroyed by ploughing.

The second aspect of aerial survey relates to the mapping, recording, and interpretation of features visible on available photographs. Such work also has a long history in the area of Stonehenge. Some of the earliest landscape mapping in the country was carried out for parts of Salisbury Plain by O G S Crawford, at the time intending to produce a series of maps on the *The Celtic fields of Salisbury Plain*. Unfortunately, only one map, *Old Sarum*, was ever published (Crawford 1934), though that for Amesbury reached the proof stage. The rest never progressed beyond his original annotated OS maps as the outbreak of war in 1939 put a stop to his work. More recently aerial photographs were used as the basis for much of the work for the 1979 publication *Stonehenge and its*

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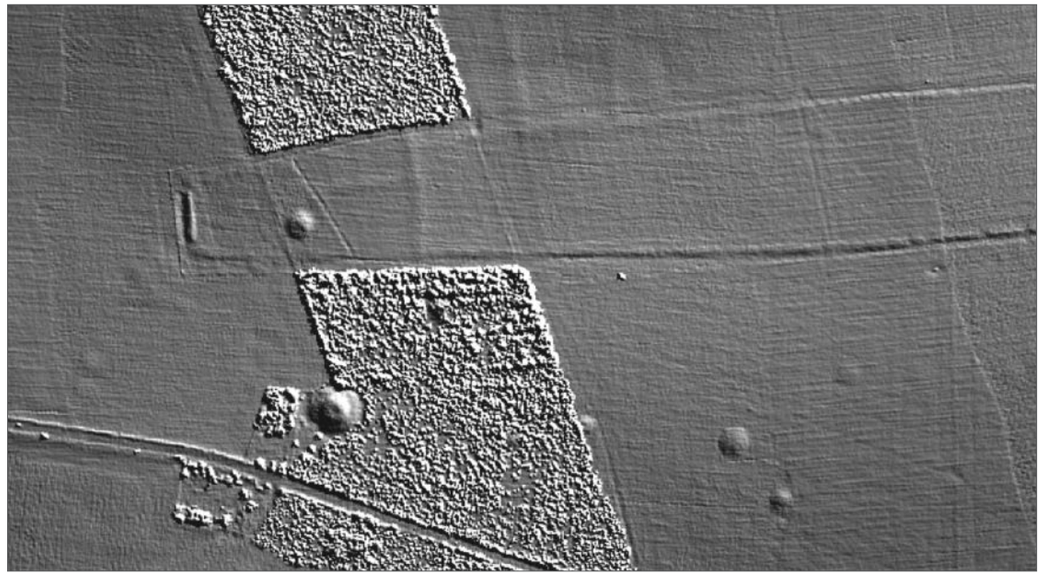


Illustration 11
LiDAR image of a section of the Stonehenge Landscape near Fargo Plantation. [*English Heritage. Copyright reserved.*]

environs and between 1991 and 1993 detailed survey was carried out by the Air Photography Unit of RCHME (now the Aerial Survey section of English Heritage) in advance of plans for the proposed visitor centre and with reference to changes to the route of the A303. In 1994–5 these plots were superseded by the Salisbury Plain Training Area (SPTA) Mapping Project (English Heritage 2000), which was itself superseded by the Stonehenge World Heritage Site Mapping Project, the mapping and recording phase of which was completed in 2002. Each of these new projects has recorded information that had not been found before and Map C shows the position and extent of the features recorded up until the end of 2003 (Barber et al. 2003). Conventional aerial reconnaissance in the area by English Heritage and others will no doubt continue and, in due course, allow further information to be added.

Stonehenge and surrounding sites have also been a testing ground for new approaches to airborne remote sensing. Satellite images are one area that has seen rapid growth since military and civilian sources became more widely and more rapidly available from the late 1980s. Martin Fowler has charted the increased resolution and improved data processing over the years from the SPOT Panchromatic and LANDSAT images of the 1990s with typical ground-equivalent pixel sizes of 10m and 30m respectively (Fowler 1995) to the Russian KVR-1000 data sets with a ground-equivalent pixel size of 1.4m (Fowler and Curtis 1995; Fowler 2002). More recently still, the QuickBird satellite launched in October 2001 now circles the earth at an altitude of 450km and provides a ground resolution of 0.61m for panchromatic images (Fowler 2002). Using such images it is possible not only to locate previous unrecorded sub-surface anomalies but also regularly to monitor land-use change and monument condition.

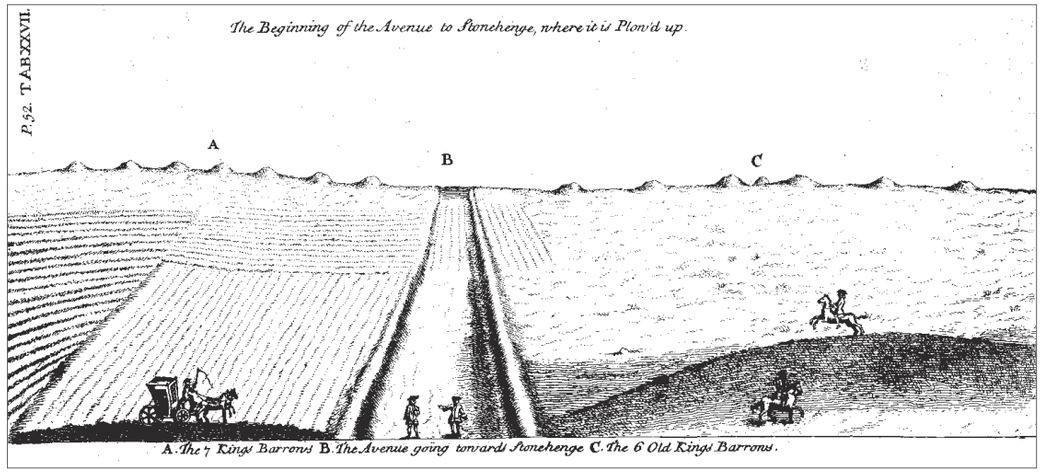
LiDAR images derived from an airborne laser scanner that can pan across the ground and return high-resolution digital data relating to immensely detailed surface topography is amongst the latest battery of potentially useful techniques. Evaluation based on sections of the Stonehenge landscape recorded by the Environment Agency suggests that it will prove invaluable for mapping, recording, and monitoring earthwork and landform features, and has already shown that it can reveal low-relief earthworks that have previously escaped recognition from conventional aerial photography and visual observation (Illustration 11).

Field survey, surface collections, and stray finds

An extremely wide range of field survey techniques and approaches has been deployed in the Stonehenge Landscape. Amongst the earliest is simple straightforward descriptive recording and drawn illustration. These have proved extremely important in documenting the former condition of monuments and in some cases the position of sites now lost to view or destroyed. There is also important information about the land-use patterns obtaining at monuments which helps in the understanding of monument decay processes; a good example is Stukeley's view of the central section of the Stonehenge Avenue with cultivation across the monument and more extensively to the south (Stukeley 1740, Tab XXVII; Illustration 12).

More recent work has used rather different techniques. The open and predominantly arable nature of the landscape south of the Packway has facilitated a great deal of fieldwalking and surface collection. Large collections resulting from such activity are preserved in Devizes and Salisbury museums, and there is no doubt more in private hands. Systematic fieldwalking really began with the Stonehenge Environs Survey (Richards 1990) and is concentrated in the central and northern part of the World Heritage Site (Map B). Additional fieldwalking to the same specification has been done as part of the field evaluation works for the Stonehenge Conservation and Management Programme during the early and mid 1990s (Darvill 1997b). A total of 9.2851 square kilometres has been systematically walked within the World Heritage Site (35 per cent of the land area) and a further 0.5308 square kilometres in the Stonehenge Landscape beyond, giving an overall survey sample of 7 per cent of the Stonehenge Landscape as a whole. Much arable land is rotational and becomes available for fieldwalking at intervals. A programme of fieldwalking prior to their conversion from arable to pasture has been

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established as part of the Countryside Stewardship Scheme for the area. It must be recognized, however, that nearly 35 square kilometres of the Stonehenge Landscape are currently uncultivated, essentially permanent grassland and this is not available for fieldwalking.

Fieldwalking, whether opportunistic or systematic, does have an impact on preserved ploughzone assemblages if material is removed for further study. Over time, assemblages have no doubt been depleted as a result of repeated collection. The argument for restraint where assemblages are under no direct threat has been voiced on a number of occasions (Richards 2002). English Heritage has issued guidance on the management of lithic scatters for planning authorities and developers generally (Schofield 2000), while a draft policy on fieldwalking methodologies for the Stonehenge and Avebury World Heritage Site was circulated for comment in Autumn 2003 (Pomeroy-Kellinger 2003).

Topographic and earthwork surveys by measured drawings have long been an important part of the recording and analysis of monuments in the Stonehenge area. The RCHM survey carried out in the late 1970s provides characteristically detailed plots of many monuments (RCHM 1979). Another type of field survey is the monument condition survey. Examples in the Stonehenge Landscape include the work by Julian Richards in connection with the Stonehenge Environs Survey (1986), a study of monument condition by the National Trust in 1999 (National Trust 2001), and a more extensive condition survey by Wessex Archaeology on behalf of English Heritage in 2002–3 (WA 2003b).

Stray finds from casual collection and as a result of everyday activities provide an important strand of valuable evidence about the nature and extent of past land-use and can occasionally lead to the identification of major sites. As early as 1635, a hoard of pewter was discovered in a field near Normanton to the south of Stonehenge and sold for five pounds (Long 1876, 39), a very considerable sum of money at the time. Subsequently, many worked flints, stone axes, pieces of pottery, coins, and metal tools and ornaments have come to light and been variously lost, sold, or given to local museums. Many stray finds have been noted and published in the annual volumes of the *Wiltshire Archaeological and Natural History Magazine,* between 1971 and 1983 as a formal 'Wiltshire Archaeological Register'. Metal detecting has contributed to the flow of finds coming from the area in recent years, many of which no doubt disappear without trace without coming to the notice of archaeologists. With the extension of the Portable Antiquities Scheme to all parts of England in 2003, however, there are greater opportunities for reporting and logging stray finds from the Stonehenge Landscape.

Field evaluation

This is not so much a single technique but the application of a group of interventional techniques that almost always includes trenching of various kinds and test-pitting, but may also incorporate geophysical survey, fieldwalking, and auguring which are described elsewhere in this sub-section. The main purpose of field evaluation is to sample an area of land in order to locate and define the nature and extent of any archaeological remains and deposits that might be present. In a research context such an approach is sometimes known as 'trial trenching', but since the later 1980s field evaluation has become a well-developed process that provides good results for use in the decision-making processes associated with management initiatives and, within the planning system, development control (Champion et al. 1995).

Most field evaluations undertaken within the Stonehenge Landscape have taken place since 1985 and have been carried out in connection with developing plans for a new visitor centre and the realignment/improvement of the A303 (see Maps Q and R). A summary of the work carried out before 1996, and references to the reports on each investigation, has been circulated (Darvill 1997b). Information about work undertaken between 1996 and 2004 is contained in the environmental impact statements for the A303 Stonehenge Improvement Scheme (BBCHG 2003) and the Stonehenge Visitor Centre (Chris Blandford Associates 2004). Details of the studies undertaken for each of the 12 sites considered as possible locations for the new visitor centre are summarized on Table 1 (and see Map Q).

Test-pitting is a technique that has been increasingly widely used in the Stonehenge Landscape since the mid 1980s, mainly as a robust way of systematically evaluating areas under differential land-use. The aim is to allow the quantification of artefact densities within the topsoil so that concentrations of material and spatial clusters of distinctive finds can be identified (e.g. Richards 1990, 66–72). In this, the technique has proved remarkably successful. Up until

Illustration 12
Ploughing across the eastern section of the Stonehenge Avenue, east of King Barrow Ridge, in the 1720s. The barrows shown on the skyline are the New King Barrows (left) and the Old King Barrows (right). [*From Stukeley 1740, Tab. XXVII.*]

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2001, the area subject to test-pitting within the World Heritage Site totals 0.5205 square kilometres, with 0.4451 square kilometres in the surrounding areas of the Stonehenge Landscape. The total area test-pitted amounts to just less than 1 per cent (0.9658 square kilometres) of the total area available (135 square kilometres. As part of the Stonehenge Environs Survey test-pitting was used to help evaluate extensive surface scatters defined by fieldwalking (Richards 1990). Attention focused on four sites: W83 at Robin Hood's Ball; W59 on King Barrow Ridge; W32 at Fargo Wood I; and W31 on Wilsford Down. Of these, two produced sub-surface features that could plausibly be linked to the presence of the ploughzone assemblages.

Sample-trenching (linear trenches arranged to provide a representative sample of an area) has been extensively applied (see Map B). Typically, 1–2 per cent of the land area has been examined during work around Stonehenge, although the extent to which this can be regarded as representative remains an open and important question.

Targeted sample trenches are aimed at investigating possible and known features and anomalies revealed through some kind of remote sensing (usually aerial photography or geophysical survey). In general they have been successful in locating sub-surface features, although their small size and limited objectives can make the results frustrating, tantalizing, but essentially inconclusive for much research.

Overall, field evaluation has proved extremely useful in identifying and defining archaeologically sensitive areas within the Stonehenge Landscape, and in providing information about the nature of known and unknown sites and monuments.

Excavation

Archaeological excavation is the single most powerful way of exploring buried deposits and, while inherently destructive, is able to provide relatively high-quality and detailed information. Excavations have taken place within the Stonehenge Landscape for more than 400 years but the techniques and approaches used have been continually developing so that each generation tends to look back on the work of earlier excavators with a rather critical eye. How the work of the later twentieth century with its concern for standardized methods of investigation and recording will be regarded in future only time will tell. It is fair to say, however, that all the excavations undertaken to date have contributed something to current knowledge in one way or another.

In general, the preservational quality of the deposits and remains uncovered has been good, at least within the range of materials that can be expected to survive within neutral and alkaline environments. The existence of localized microenvironments under mounds and within rock-cut features occasionally yields complementary materials.

The Stonehenge Landscape GIS contains a total of 603 separate recorded excavations – others may well have been carried out for which no records exist or no records have yet been found. Looked at geographically, this can be broken down into 397 (66%) carried out within the World Heritage Site excluding the Stonehenge Triangle, 46 (8%) excavations inside the Stonehenge Triangle, and 160 (27%) excavations outside the World Heritage Site.

About 7 (1%) excavations were carried out within the study area during the seventeenth century, 18 (2%) during the eighteenth century, 360 (60%) during the nineteenth century, and the remaining 208 (34%) during the twentieth century. The high level of activity in the nineteenth century is mainly attributable to William Cunnington and Sir Richard Colt Hoare who together or individually were responsible for the investigation of 218 sites within the study area, 169 (77%) of which were round barrows. Although numerous, these early excavations were limited in their impact. The reinvestigation of sites previously examined by antiquaries has proved extremely useful where it has been done in recent years, often providing a more secure context for known groups of artefacts. A good example is Amesbury G39 opened by William Cunnington probably in the summer of 1808 and re-excavated by Paul Ashbee in 1960 (Ashbee 1980).

The range of monument classes that have been subject to excavation in the Stonehenge Landscape is not great, and there are many classes that have never been examined or have hardly been considered at all. Prehistoric barrows, especially round barrows, represent the single most common target for excavation, perhaps because they are amongst the most conspicuous features of the landscape. Out of the 603 recorded excavations, about 370 (61%) related to the investigation of round barrows. Looked at another way, there are about 640 round barrows recorded within the Stonehenge Landscape, of which 257 (40%) have been excavated at some time. Of these excavated sites, 184 (72%) lie within the World Heritage Site excluding the Stonehenge Triangle, 9 (4%) lie inside the Stonehenge Triangle, while 64 (25%) lie outside the World Heritage Site. The total number of individual excavations at barrow sites is higher than the amount of excavated barrows as some barrows have been excavated on more than one occasion. Overall, of the 257 excavated barrows within the Stonehenge Landscape approximately 213 (83%) were investigated during the eighteenth and nineteenth centuries, the remainder during the twentieth century.

Excavations undertaken during the twentieth century can be classified according to the purpose for which they were undertaken: management, rescue, or research. Rescue work constitutes the biggest single group, accounting for nearly two-thirds (64%) of the total. Much of this work concentrates around Boscombe, southeast of Amesbury, where targeted trenches together with SSR style excavation (strip, sample, and record) provides information about more than 10ha of former downland east of the River Avon (Fitzpatrick 2004b). Management-prompted projects account for 23 per cent of excavations with only 13 per cent of twentieth-century excavations being connected to research-driven projects. This contrasts with the previous century when all excavations were essentially research-driven.

Environmental archaeology

A wide range of palaeoenvironmental evidence in many different forms is preserved in archaeological deposits and other accumulative sediments in the Stonehenge Landscape; much of it was recovered during twentieth-century excavations. General reviews providing the regional context have been published for plant microfossil and macrofossil evidence (Scaife 1987) and archaeozoological material (Coy and Maltby 1987). A catalogue of prehistoric plant remains from Wiltshire including charcoal identifications, seed impressions on pottery, species identified from preserved pollen, and carbonized plant remains has been published (Grose and Sandell 1964). Allen (1997) provides a critical review of the environmental evidence for the earlier prehistoric phases, but there is little by way of review or

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synthesis for the Iron Age and later evidence. That such material is relatively plentiful is demonstrated by the recovery of human remains, faunal remains, charred plant remains, and sediments containing environmental indicators at, amongst other sites, Figheldean (McKinley 1999, 24–30) and Butterfield Down (Rawlings and Fitzpatrick 1996, 35–6).

Much of what is known of the Holocene environment derives from samples taken from archaeological contexts, details of which are usefully listed with references by Allen (1997, 116, and Allen et al. in Richards 1990, 253). These include major contributions from the car-park postholes at Stonehenge; the ditch of Stonehenge itself; the ditch and 'anomaly' at Coneybury; Durrington Walls; the Amesbury 42 long barrow; the Stonehenge Cursus; the Lesser Cursus; the Wilsford Shaft; Woodhenge; and the fills of 'Wessex Linear' ditches on Earl's Down. From these, land-snails provide information about the overall vegetation structure while charred plant remains (including seeds, fruit remains, charcoal etc.) and faunal assemblages give species-level information about the flora and fauna. The nature of the contexts from which these samples are derived inevitably means that they reflect either socially constructed assemblages or highly localized niches within the broader environment.

Pollen sequences are extremely rare on the chalklands, but two have been found in the Stonehenge Landscape. One spans the Boreal and Sub-boreal and derives from a post-pit uncovered in the Stonehenge car-park (Allen 1995; Scaife 1995). The second comes from the Avon floodplain and produced a long sequence starting around 7950–7030 BC (GU-3229: 8460±200 BP). Ten boreholes were examined along a transect on the northern side of the river. A maximum depth of 1.68m of monocot peat and organic silt was recorded towards the centre of the transect, resting on late Devensian or early Flandrian sands and gravels (Allen 1997, 120; Scaife in Cleal et al. 2004, 228–34). The pollen sequence derived from samples taken from the boreholes suggests four main phases to the vegetational history of the valley, designated Durrington 1–4. Phase 1, the basal zone, shows largely open herbaceous communities of grasses and sedges in the damper valley bottom around 8000 BC, followed by the appearance of birch and pine with an increasing importance to oak, elm, and hazel through the early Flandrian. Phase 2 begins with a period of erosion, perhaps connected with forest clearance, with markedly fewer trees and shrubs represented. Birch and pine are present still, and lime appears for the first time. Some 95 per cent of the total pollen deriving from herbs suggests that the floodplain was again dominated by grasses, sedges, and other fen plants. Alder is also present. Cereal-type pollen is present as well as evidence for segetals and weeds typical of cleared land. This phase probably spans the period from about 4000 BC down to perhaps 1500 BC, after which there seems to be a hiatus in the sequence. During Durrington 3, the Roman and early post-Roman period, tree and shrub pollen becomes dominant in these fen carr peats. Tree species include alder and birch, elm, lime, and a little ash. Durrington 4 shows a return to an open floodplain environment with the demise of the alder carr, perhaps reflecting the intensification of land-use in medieval times.

The poverty of colluvial deposits in the small valleys and dry valleys in the area has long been noted as puzzling within what appears to be a fairly densely occupied landscape (Allen 1997, 120). A sampling programme undertaken within the context of the Stonehenge Environs Project failed to identify significant deposits (Richards 1990, 210–11). However, in 1993 shallow deposits up to 0.75m thick were recognized on Coneybury Hill immediately south of New King Barrows (WA 1993a), perhaps suggesting that persistence in making further searches will be rewarded. A shallow colluvial profile was also identified at Folly Bottom northwest of Amesbury during pipeline observation in 1991 (Cleal et al. 2004).

Buried soils sealed beneath later monuments provide one of the largest yet so far under-exploited sources of environmental evidence. Biases in the data available certainly exist (Allen 1997, 127), but can increasingly be dealt with.

The potential of alluvial deposits and floodplain archaeology along the Avon and the Till is very considerable and amply illustrated by investigations near Lake in the Woodford Valley in 1996 (McKinley 2003). Field evaluations, watching briefs, and excavations here revealed a rich alluvial sequence with prehistoric, Roman, and later artefacts stratified along the valley margins. The waterlogged conditions below the alluvium preserved a mid-first-millennium AD burial complete with its wooden plank cover.

As a result of the study of the various strands of evidence recovered to date a basic picture of the changing physical environment has emerged and has been fully discussed on several occasions by Michael Allen (in Richards 1990, 254–8; in Cleal et al. 1995, 470–91). Most recently, attempts have been made to map land-use and environment in relation to a series of distinct phases (Allen 1997). To set alongside these studies of the evolving natural vegetation, Mark Maltby (in Richards 1990, 247–9) has provided an extremely useful summary of the exploitation of animals in the Stonehenge environs during the Neolithic and Bronze Age based on samples from numerous archaeological contexts.

Preservation of artefacts and ecofacts

In very broad terms, three scales of preservational context can be identified with reference to artefactual and ecofactual materials. Each is briefly reviewed in the following paragraphs.

Mega-scale: This relates to the largest-scale environmental indicators and preservational contexts known to exist, of which the most extensive are the alluvial and colluvial deposits of the Avon and Till valleys. These include sections of buried prehistoric landscape and old river channels. Field evaluations at the new visitor centre site in Countess Road revealed alluvium to a depth of about 2.5m over an old surface adjacent to the Avon (Darvill 1995, figure 3.4). These and other comparable deposits will be critical for understanding the use and role of the River Avon in earlier times. Smaller areas of hill-wash and other superficial deposits exist in dry-valleys and along the smaller streams in the Stonehenge Landscape, but none of these has been fully mapped and only a few have been sampled (but see Richards 1990, 210–11).

Augering provides rapid insights into the buried soil profile and is especially useful to locate and plot areas of deeper soils, colluvium, and alluvium. Augering can also be used to take samples for geochemical studies and environmental analysis. The total area which has been augered amounts to 0.0938 square kilometres, with 0.0016 square kilometres inside the World Heritage Site and 0.9224 square kilometres in the Stonehenge Landscape beyond (Map B).

Perhaps the biggest and most significant large-scale environmental resource in the Stonehenge Landscape is that represented by the buried soils preserved beneath archaeological monuments, especially barrows, banks, and lynchets. The wide distribution across the Stonehenge

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Landscape of buried soils preserved in this way means that, at least for the Neolithic and the Bronze Age, it may be possible to map land-use zones and changing patterns of exploitation in the way initiated by Allen (1997). Depending on the exact circumstances of burial, the nature of the buried soil itself, and the character of the underlying bedrock, such deposits may preserve pollen, charcoal, and molluscan remains, provide opportunities for micromorphological studies and geochemical analysis and, in some cases, incorporate direct evidence of land-use such as cultivation marks, manuring debris, or burnt material. The preservation of pottery, flint, stone, and bone is generally good within these contexts.

Substantial peat deposits or sediment accumulations likely to preserve long-term pollen sequences are extremely rare on or around the chalklands of Wessex. Work in the Avon floodplain has, however, revealed a long pollen sequence, the base of which dates to about 8200–7000 BC (GU-3239: 8460±200 BP) (Allen 1997, 120; Cleal et al. 2004). Waterlogged deposits that include preservation of ancient timber have been recorded in the Avon Valley near Lake (McKinley 2003).

Macro-scale: At a medium scale the environmental record is dominated by the analysis of fill sequences in individual features on archaeological sites. These have proved remarkably revealing. In some, for example the postholes in the Stonehenge car-park, both pollen and molluscan remains survived and therefore provided insights into different sectors of the local environment (Cleal et al. 1995, 41–56). Elsewhere only molluscan remains are represented, as, for example, in the fills of the ditch of the Amesbury 42 long barrow (Richards 1990, 105–9), the ditch of Coneybury henge (Richards 1990, 154–8), the ditch at Woodhenge (Evans and Wainwright 1979), the ditch around Stonehenge (Evans 1984), and the ditch of the Stonehenge Cursus (Allen 1997, 130). Soil particle size studies, soil geochemistry, and soil micromorphology have all been tried on these deposits with varying degrees of success.

Ecofacts represent a major category of material recovered from excavations of all periods, especially bone, which is generally well preserved except where localized soil conditions cause its accelerated decay.

Human bone has been recovered from the inhumations and cremations variously found in most of the barrow excavations undertaken to date. Much of this has been subject to detailed osteoarchaeological and anthropological studies, but to date there has been relatively little forensic examination (but see Brothwell et al. in Ashbee 1978a, 43–55; Ashbee 1984a, 84–7; Pitts et al. 2002). Chemical analysis of tooth enamel has enabled population movements to be tracked (Pitts et al. 2002, 137–9; Fitzpatrick et al. 2004) and there is clearly abundant scope for more work of this kind using extant human remains from burials in long, round, and oval barrows especially. To date no genetic fingerprinting or DNA studies have been reported. Before much further work can be done, however, there is an urgent need to compile a register of the human remains that are extant, their whereabouts, their condition, and the availability of documentation relating to their discovery and subsequent treatment.

Faunal remains are also widely represented, although current evidence suggests that little has survived from pre-1950s excavations. Again, the early prehistoric components of the data have been explored (Maltby in Richards 1990, 247–9), and this now needs to be complemented by a review of evidence for the presence and exploitation of animals in later periods. The value of tight chronological control over the main components of placed faunal deposits is emphasized by the realization that some of the non-human skeletal components in the ditch at Stonehenge had been curated for perhaps 200 years or more before being deposited (Cleal et al. 1995, 529–30). The potential for re-examining extant assemblages from previous excavations is well illustrated by the results of work by Albarella and Serjeantson (2002) on animal bone from the late 1960s excavations at Durrington Walls. Metrical data from this study is available on line through the Archaeology Data Service catalogue at http://ads.ahds.ac.uk/catalogue/projArch/pigsdurham_2004/.

Other macroscopic environmental remains from excavations within the Stonehenge Landscape include the rich assemblage from the Wilsford Shaft, the bottom 2.5m or so of which was waterlogged. As well as a selection of inorganic material, environmental remains included animal bone, pieces of worked and unworked wood, plant fibre cord, pollen, seeds and a range of plant macrofossils, mosses, charcoal, fungi, insect remains, land-snails, skin and hair fibres, and dung (Ashbee et al. 1989). Equally unusual is a calcium–phosphate-replaced coprolite recovered from a pit of later Romano-British date at Figheldean (McKinley 1999, 28). The presence of shells, especially sea-shells, has sometimes been noted (e.g. Ashbee 1984a, 81) but the incidence, context, and origins have not been explored. Pottery, flint, and stone are also well preserved in most excavated features.

Micro-scale: At the very small scale the majority of evidence relates to conditions in a select area within part of a specific feature or deposit. This is perhaps most often seen within graves where the microenvironments caused by the decay of one kind of material allow the preservation of others. At Amesbury barrow G58, a copper dagger in the central grave provided a highly localized context for the preservation of organic material. This included wooden (yew) rivets attaching two horn hilt-pieces to the metal blade, traces of a hide sheath, and evidence that the blade and hilt had been encased in sphagnum moss and wrapped in cloth (Ashbee 1984a, 67–73). A dagger in a burial associated with Beaker pottery at Shrewton had also been encased in moss and wrapped in cloth, perhaps a bag (Moore and Rowlands 1972, 42). Traces of wood have been found on a bronze dagger from the Bush Barrow, while traces of cloth are visible on an axe-blade from the same barrow (Annable and Simpson 1964, items 170 and 178). Other examples from the Stonehenge Landscape could be cited.

Scientific dating

The main scientific dating technique hitherto applied to sites and monuments in the Stonehenge Landscape is radiocarbon dating. Indeed the first radiocarbon determinations made on samples of archaeological material from the British Isles used charcoal from the old land surface under the rubble examined in 1952 on the south side of the bank of Durrington Walls (Stone et al. 1954, figure 4 where the source of the samples is marked 'charcoal'). The two dates of 3650–3000 BC (GRO-901: 4584±80 BP) and 3510–3090 BC (GRO-901a: 4575±50 BP) were famously declared 'archaeologically inacceptable' (*sic*) by Stuart Piggott (1959, 289). Since that time about 100 further determinations have been made, the accumulating body of ages and their calibrated dates being deployed in various ways to shed light on the phases and sequences represented at individual monuments and the place of those

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phases in wider British and European contexts. Richards (1990, 259–62) provides a valuable compendium of determinations and their calibrated dates available up until that time, while Allen and Bayliss (in Cleal et al. 1995, 511–35) list and discuss all the dates available for Stonehenge and its associated structures available up until 1995.

The most comprehensively dated monument is undoubtedly Stonehenge itself, not least because this site has benefited from the development of a bespoke dating programme using available samples as an integral part of the post-excavation programme relating to all the twentieth-century excavations at the site (Bayliss et al. 1997). However, even with 52 acceptable and reliable dates available, there are still many outstanding issues relating to the sequence of events and associations between particular elements of the structure. Phases that include the main stone settings are the least well dated, the phasing of which has prompted fairly vigorous debate (e.g. Case 1997).

A robust series of dates is available from samples taken from the Wilsford Shaft, some of which date actual artefacts (e.g. wooden buckets), while others relate to defined horizons within the fill. The stratigraphic position of the samples accord well with their date (Ashbee et al. 1989). Although 14 dates are available from Durrington Walls they relate to widely scattered contexts and provide only a general chronology for the site as a whole. Few duplicate samples from the same context were dated, and some determinations are known to have derived from bulked samples. The remaining dates are isolated determinations or small groups relating to a site or deposit. These are useful in providing a broad horizon within which to set the recorded evidence, but are of little help in resolving the detail of what happened when and where in the landscape. Some of the determinations are associated with important categories of artefacts and styles of monument construction, notably the few determinations from round barrows which have been discussed by Ashbee (1986, 84–5) in relation to the publication of his excavations at Milton Lilbourne.

Great caution must be exercised when using some of the early determinations, especially in the light of Ashmore's findings that multi-year samples tend to give older than expected dates (1999). The use of combining routines and averaging methods must also be treated with caution. Recent developments in the application of radiocarbon dating to cremated remains (cf. Aerts et al. 2001) has great potential to shed light on the chronology of the putatively later Wessex Culture graves which often contain cremations (see Grinsell 1957, 231–8 for a provisional list of possible samples).

There are no documented cases of thermoluminescence (TL) dating being used on ceramics or refractory materials from sites within the Stonehenge Landscape. Chlorine 36 dating has been applied to igneous rock from Stonehenge and surface outcrops around Carn Menyn in the Preseli Hills (Bowen et al. 1994; Bowen 1994) to reveal that the surface of the rock examined had been exposed for 14,000±1900 years and 5400±400 years respectively. The interpretation of these results as evidence for the human transportation of bluestone to Stonehenge has been challenged (Williams-Thorpe et al. 1995).

Scientific analysis of objects and materials

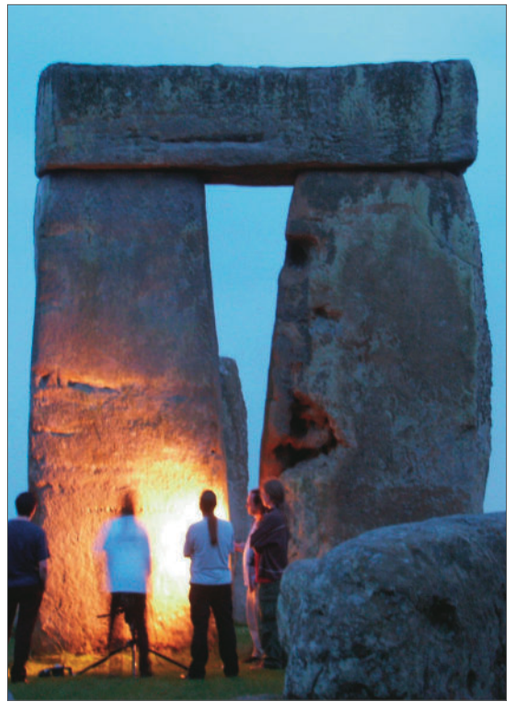
The importance of Stonehenge and its associated materials have attracted attention for use as case-studies for generations. H H Thomas' investigation into the petrology of the stones forming the main monument was not the earliest such study, but it is one of the best known and most widely cited works because it set new standards for the application of petrological techniques in archaeology (Thomas 1923). Subsequent studies of the stones and related stone artefacts have continued the use of petrological examination (Ixer 1997a) and also applied other physical and chemical methods of characterization and compositional analysis including laboratory-based x-ray fluorescence (XRF), portable x-ray fluorescence (PXRF), and magnetic susceptibility (MS) (Thorpe et al. 1991; Williams-Thorpe et al. 2004). It is now recognized that the so-called 'bluestones' at Stonehenge, and the artefacts and bluestone fragments from other nearby sites, comprise a variety of rock types. These include: spotted blue dolerite, unspotted blue dolerite, green dolerite, grey rhyolite, and rhyolitic ignimbrite (Thorpe et al. 1991, 139–42). While it is generally agreed that all these rocks ultimately derive from outcrops in the Preseli Hills of Pembrokeshire, how exactly the expanded range of rock types maps onto the established petrological groups from the area (Group VIII, a silicified tuff; Group XIII, spotted dolerite; Group XXIIIa, graphic pyroxene granodiorite; and Group XXIIIb quartz dolerite) is a matter that requires further investigation.

Isotope analysis has been used to investigate the early residence areas of prehistoric and later burials from the area. The Anglo-Saxon adult male who had been decapitated and buried beside Y-Hole 9 at Stonehenge seems to have spent his childhood in the area northeast of his final resting place according to the analysis of oxygen, lead, and strontium in his tooth enamel (Pitts et al. 2002, 137–9). Similar studies of the Amesbury Archer suggest that he spent a good deal of his life in continental Europe, perhaps in the Alps (Fitzpatrick 2003a), while the Boscombe Bowmen seem to have originated in southwest Wales (Fitzpatrick 2004a; Fitzpatrick et al. 2004). Clearly there is great potential for further studies of suitable preserved burials from around the area as an aid to understanding the nature and extent of population movements at different times. The results of such work will also have implications for thinking about the likely sources of inspiration for some of the monuments and the possible meanings that attached to them.

Grounded in the biological sciences, lichenology has been applied to Stonehenge in 1973, 1994, and, most recently, 2003 when Peter James, Vince Giavarini, and Oliver Gilbert undertook a detailed week-long survey. As a result of this new work 18 previously unrecorded species were added to the list of 66 already documented. These included maritime lichens which may have arrived because westerly gales blow salt and propagules inland (Rose and James 1994; Giavarini and James 2003).

Laser scanning provides an economical means of creating high-resolution digital 3-dimensional images of the surfaces of objects or structures. These images can then be used as models for analysis under different lighting conditions, can be viewed from any angle, and can be used to create scaled replicas. An experimental programme of laser-scanning was undertaken at Stonehenge in 2002, focusing on stones 3, 4, and 53 which were already known to carry engravings of axes and daggers, as well as relatively modern graffiti (Goskar et al. 2003). Two previously unidentified carvings of axes were found on the inner face of Stone 53. Clearly the technique has much potential for the systematic study of stone surfaces at the monument (Illustration 13).

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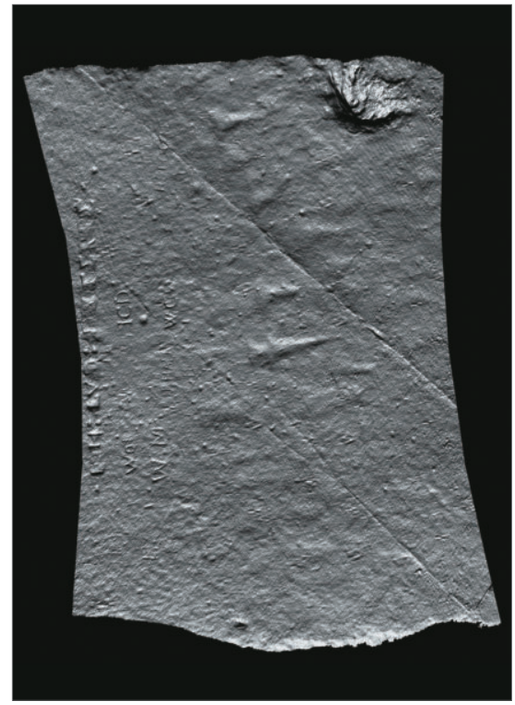


Illustration 13
(left) Laser scanner in action recording rock art on the surface of Stone 53 at Stonehenge. (right) Digital image of part of the surface of Stone 53 showing carvings of axes and a dagger as well as modern graffiti. [*Photograph and image reproduced courtesy of Wessex Archaeology and Archaeoptics. Copyright reserved.*]

Museum collections

The two main museum collections containing artefacts, ecofacts, records, and relevant archival material from fieldwork and excavations in the Stonehenge Landscape are at Devizes and Salisbury. Together these account for more than 80 per cent of holdings relevant to the Stonehenge Landscape.

At Devizes the collections are maintained in the Wiltshire Heritage Museum (formally known as Devizes Museum) run by the Wiltshire Archaeological and Natural History Society. There is a long tradition of producing published catalogues (Cunnington and Goddard 1896; 1911 (revised edition 1934); Annable and Simpson 1964) that provide invaluable information about the context and origins of objects as well as descriptions of the objects themselves.

At the heart of the museum is the Stourhead Collection amassed by Sir Richard Colt Hoare and William Cunnington and formally acquired by the museum through purchase in 1883. Some of the objects from this collection, including the goldwork from the Bush Barrow, were on loan to the British Museum between 1926 and 1988. However, the vigorous cleaning of some pieces while on loan caused considerable controversy (Corfield 1988; Kinnes et al. 1988; Shell and Robinson 1988), and they have since been returned to Devizes. It is current policy that the Stourhead Collection remains in one location (Devizes) for the benefit of researchers.

Devizes Museum holds many items found in the Stonehenge area either during archaeological excavations or deriving from surface collections since the 1880s. Since 1971 annual lists of accessions have been published in the *Wiltshire Archaeological and Natural History Magazine* as part of the Wiltshire Archaeological Register. Amongst the excavated material in the collections are the finds and archives from Woodhenge. The collections include paintings and drawings, prints and photographs relating to Stonehenge. The associated library houses archaeological archives, including the archaeological papers of Sir Richard Colt Hoare and William Cunnington, amongst them those relating to their barrow excavations around Stonehenge.

At Salisbury, the collections are maintained by the Salisbury and South Wiltshire Museum, established in 1860 (Willoughby 1960; see 309–10 on Stonehenge finds). Part of the very extensive collections relevant to the Stonehenge Landscape have been published in catalogue form (Moore and Rowlands 1972). The collections include most of the finds and archives from the twentieth-century excavations at Stonehenge itself (for details see Cleal et al. 1995, 17–20), as well as the finds and archives from the excavations at Boscombe Down West, the Stonehenge Environs Survey, and the 1966–8 excavations at Durrington Walls. The collections also include pictures and other material relevant to Stonehenge, as well as finds and archives from other sites in the Stonehenge Landscape. Since 1971 new accessions to the collection have been reported in the Wiltshire Archaeological Register published annually in the *Wiltshire Archaeological and Natural History Magazine*. A new Stonehenge gallery was opened in 2000.

Numerous other museums also have finds and archives relating to sites in the Stonehenge Landscape, including: Ashmolean Museum (Oxford); British Museum (London); University Museum, Manchester; Lukis Museum (Guernsey, Channel Islands); and Hull Museum. The British Museum collections include 148 accessions from the parishes of Amesbury, Bulford, Durrington, Wilsford cum Lake, and Winterbourne Stoke (see Kinnes and Longworth 1985 for listing of some material). To what extent other museums in southern England and beyond have small amounts of material from the area is not known, neither is the extent of private collections beyond what can be gauged from the annual Wiltshire Archaeological Register. The discovery in

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2000 of human remains from Stonehenge itself, previously believed to be lost (Pitts et al. 2002), shows the potential for surveying collections and trying to track down items that have been recorded but since lost from view.

Archive collections including publications, printed matter, drawings, paintings, maps, plans, and notebooks of various kinds are held by the National Monuments Record in Swindon and the Society of Antiquaries of London. Julian Richards has published a personal selection of old photographs of Stonehenge which vividly illustrates many aspects of the monument's recent history (Richards 2004). The National Monuments Record also has an extensive and fairly complete collection of the 'grey' literature relating to the assessments, evaluations, and management plans prepared over the last 20 years or so. The guide catalogue to an exhibition entitled 'Visions of Stonehenge 1350–1987' mounted in Southampton City Art Gallery in September 1987 to coincide with the first meeting of the World Archaeological Congress provides a useful summary of the main pictures and illustrations of Stonehenge (Chippindale 1987). Others are listed by Hatchwell (1969).

Historical and cartographic sources

Contributed by John Chandler

Local historical sources, including maps, are generally catalogued and retrievable according to the parish(es) to which they relate. The Stonehenge Landscape embraces, in whole or part, no fewer than 18 modern parishes formed from 23 ancient parishes. Although few have surviving Saxon boundary charters, most are named in Domesday Book (1086), and some may be coterminous with Saxon or earlier land units.

The *Victoria History of Wiltshire* has, between 1962 and 1995, published modern scholarly accounts, embracing, inter alia, the topographical, tenurial, and agricultural history of all these ancient parishes apart from four (which all happen to be peripheral). These treatments, including their detailed annotation to primary sources, supply the researcher's first resort.

The Ordnance Survey mapped the area at small scale in 1817 (surveyed 1807–10) and at large scale *c.*1887–9 (surveyed *c.*1877–86), with subsequent revisions published irregularly to the present. Before 1800, the most useful printed map is that of Andrews and Dury published in 1773. Maps by Crocker for Colt Hoare's *The Ancient History of Wiltshire* (1812), and engraved views by Stukeley for his *Stonehenge* (1740, but executed 1721–4) provide important landscape information (Illustration 14).

Manuscript estate maps, usually of the period 1700–1850, depict portions of the study area, notably (for part of Amesbury parish) a fine atlas of 1726. Two series of manuscript maps, accompanying parliamentary enclosure and tithe commutation, are of paramount importance. Twelve enclosure maps (*c.*1790–c.1866) describe approximately half the area, while tithe maps (all *c.*1837–43) cover each ancient parish except one (Netheravon). Using tithe maps and apportionments it is generally possible to discover ownership, occupancy, name, acreage, and use of each land parcel *c.*1840.

Most relevant maps, as well as other archival sources (of which estate, manorial, and taxation records, glebe terriers, farm accounts, and sale particulars provide the most useful landscape and toponymic information), are held in the Wiltshire and Swindon Record Offices. Certain key historical sources have been published in the Wiltshire Record Society series or elsewhere.

Catalogues of historical sources, and in some cases complete texts, are becoming increasingly available on the internet, and this is a trend which will doubtless facilitate historical research in future. Likewise, the technique of linking detailed map regression to evidence from other archival sources has advanced since its pioneering use in

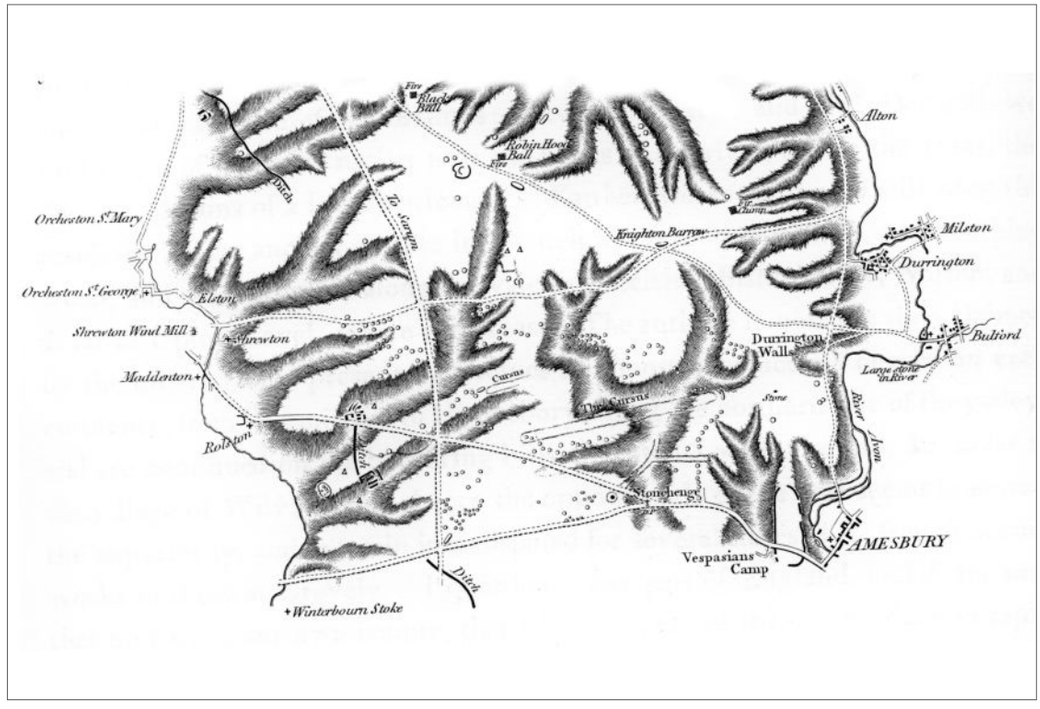


Illustration 14
Early map of the Stonehenge landscape from Sir Richard Colt Hoare's *The ancient history of Wiltshire.* [*From Colt Hoare 1812, opp. 170.*]

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the RCHM study of *Stonehenge and its environs* (1979), and offers further potential for understanding the evolution of the Stonehenge Landscape, especially over recent centuries.

Personal and institutional archives and records

The pre-eminence of Stonehenge in the ranks of archaeological sites means that many individuals and institutions hold collections of material relevant to understanding the site and its surroundings. These range from memorabilia collected from visits to the area, correspondence, objects, and personal photographs and drawings of Stonehenge, nearby sites, and the landscape generally. These can be very informative, especially any that show early investigations or now-lost features. In a few cases such personal collections may derive from investigations carried out prior to strict controls on the deposition of archives and records in public repositories. One such collection is that assembled by Denis Grant King in the course of his excavations at sites in Wiltshire as well as visits to the Avebury and Stonehenge area. Following his death in February 1994 this material, which included photographs and notebooks, was widely dispersed by a house clearance dealer and has since been found in car-boot sales and second-hand shops across central southern England. As mentioned above, human skeleton 4.10.4 from Stonehenge came to light nearly 60 years after it was throught to have been lost when the Royal College of Surgeons in London was bombed in 1941 (Pitts et al. 2002). Yet another example represented by the pieces of antler found at Stonehenge by William Hawley during his excavations in the 1920s came to light amongst the collections of the Society of Antiquaries of London in March 2002 (*The Guardian* 5:3:2002). There is much potential for the recovery and assembly of personal collections of this sort.

Sites and Monuments Record and GIS

Although the Stonehenge Landscape is well served by a series of consolidated records assembled from the early nineteenth century onwards, the first extensive county-based systematic retrievable record was the Wiltshire County Sites and Monuments Record (SMR) established in the early 1970s as part of the field archaeology service provided by the County Council's Library and Museum Service. The early role of this facility has been described by Ford (1973) and sets the context for the creation of the record. Based initially on the Ordnance Survey's archaeological record, the Wiltshire county SMR has since grown considerably in its breadth and depth of coverage so that by early 2002 it contained more than 20,500 individual record entries (about 1700 relating to the Stonehenge Landscape) for all periods down to the twentieth century AD. Although its primary purpose relates to the provision of planning advice, its also has a major role in underpinning management initiatives.

In 1994 English Heritage established a dedicated GIS record for an area of 135 square kilometres centred on the Stonehenge World Heritage Site. The record is complementary to, and compatible with, the Wiltshire SMR. It is maintained at Fort Cumberland in Portsmouth and provides an aid to the management and interpretation of the World Heritage Site and its surroundings (Batchelor 1997). A similar record also exists for the Avebury area (Burton 2001).

The English Heritage Stonehenge GIS record contains about 1700 database items, with graphical representation using points, lines, and areas as appropriate for different classes of monument and types of evidence. In addition, the GIS provides opportunities for analysis and research such as the mapping of archaeological sensitivity and importance, and inter-monument visibility analysis (Batchelor 1997, 66–71).

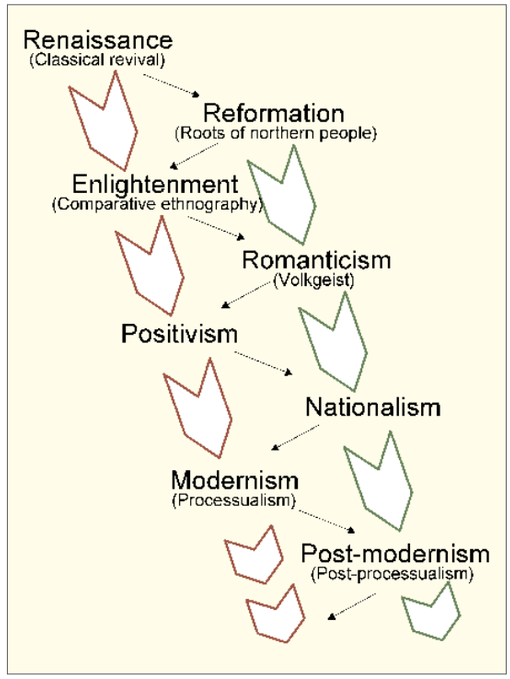
The maps that accompany this Research Framework were produced from the English Heritage GIS record and reflect its content as at May 2002, although some recently recognized sites have been added. As with all such records its origin, development, and content are subject to a series of parameters and limitations, and the maps have to be viewed in that context. One of the most fundamental in this regard is the fact that negative evidence has not been plotted. Thus the distribution of sites is a map of where particular things have been positively identified and recorded; the relationship between the patterns represented and the original distribution of such things is a matter for further research. GIS-based analysis of the Stonehenge Landscape is not confined to the English Heritage system; GIS-based research in archaeology is a rapidly expanding field and one for which the quality of data in the Stonehenge Landscape is highly attractive. Wheatley (1996) has investigated the distribution of lithic scatters using GIS modelling to predict the density of finds in areas not covered by the Stonehenge Environs Project. The same author has used Cumulative Viewshed Analysis to examine the visual relationships of long barrows around Stonehenge and Avebury (Wheatley 1995). More recently, a team based at Birmingham University has used GIS to develop virtual landscapes that can be explored from almost any computer (Exon et al. 2001).

INTERPRETING THE ARCHAEOLOGY OF THE STONEHENGE LANDSCAPE

Finding and investigating the archaeology of the Stonehenge Landscape is one thing, interpreting it, explaining it, and developing an understanding of it at a scale greater than that of the individual site is quite another. Just as the history of research in the Stonehenge Landscape represents in microcosm the history of archaeology generally, so too the interpretation of Stonehenge and its surrounding monuments reflects the changing philosophical traditions and theoretical positions characteristic of the discipline as a whole. Richard Atkinson explored such things in the last chapter of his classic work Stonehenge (Atkinson 1979, 182–202), as did Christopher Chippindale in *Stonehenge complete* (Chippindale 2004; see also Chippindale 1989). In a wider context, Andrew Sherratt has proposed a useful model through which to analyse changing attitudes to the interpretation of historic landscapes, what he called the European Cultural Dialectic (1996a, 142). This identifies two broadly parallel trajectories of thought, each drawing upon wider prevailing perspectives, but not necessarily wholly in kilter with the implementation of these perspectives in other disciplines such as philosophy, art history, and literature. Indeed, with reference to Stonehenge, the development of competing interpretations reveals an idiosyncratic pattern of thought that probably owes much to the maverick characters of those responsible for the various successive contributions (Illustration 15).

The first trajectory in Sherratt's model is predominantly 'enlightenment' in its attitude, providing essentially

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evolutionary narratives in which order, hierarchy, and progression are paramount, models of change are deterministic, and analysis is largely comparative. These attitudes can be traced from the classical revivals of the Renaissance in fourteenth-century Europe through the Age of Enlightenment in the seventeenth and eighteenth centuries to Positivist science from the early nineteenth century, and, most recently, modernist and processualist views from the mid twentieth century onwards.

The second trajectory is predominantly 'romantic' in its attitudes, with genealogical narratives focused on meaning, action, growth, and descent. The whole approach is grounded in contextualist and relativist modes of thinking to produce interpretations and 'understandings' rather than explanations. This line of approach starts with the Reformation in Europe in the 1520s and its concern for the roots of northern peoples. It develops through Romanticism in the eighteenth century, Nationalism in the late nineteenth and early twentieth century, and, currently, post-modernism and its counterpart in post-processual archaeology from the late 1980s onwards.

While each of these trajectories unfolds in parallel, the dialectical element of Sherratt's model emphasizes the periodic shifts in dominance between the two trajectories as phases of stability and contentment with one line of thinking eventually lead to revolt, disenchantment, and a consequent shift across to the other way of seeing the world. Thus although, at any one time, the dominant tradition is to be found on one trajectory, research within the traditions characteristic of the parallel trajectory take place albeit with a reduced significance and impact until the next shift in dominance. For Stonehenge, these changing approaches can be seen not only in the descriptive written discourses available, but also in the way the site and its surroundings are mapped and drawn. These themes are explored in the following sub-sections which are arranged to plot the course of the dominant attitudes to cultural history and intellectual position.

The age of myth and legend

Stonehenge is sometimes tentatively associated with the circular temple to Apollo in the land inhabited by the Hyperboreans that is referred to originally by Hecateus of Abders (*c.*300 BC) in a lost work that was later quoted by the Greek historian Diodorus Siculus in his *Bibliotheca historica* (Book V). However, Atkinson (1979, 183) found insufficient justification for the link, and Burl (2000, 205) plausibly suggests that Hecateus' temple was the great stone circles and avenues of Callanish on Lewis.

The earliest explicit reference to Stonehenge is that by Henry of Huntingdon in his *Historia Anglorum* written about AD 1130. In describing the wonders of Britain, he said (quoting Atkinson 1979, 184):

> *The second is at Stonehenge, where stones of an amazing size are set up in a manner of doorways, so that one door seems to be set upon another. Nor can anyone guess by what means so many stones were raised so high, or why they were built there.*

About six years later, in AD 1136, Geoffrey of Monmouth gave a more rounded account of Stonehenge in which he rehearsed a legend that became the principal account of the monument for centuries. This is the story of Aurelius Ambrosius, king of the Britons, who sought to commemorate his nobles slain in battle by Hengist the Saxon. Aurelius consults the wizard Merlin as to what a fitting memorial might be. Merlin advises acquiring a stone structure, known as the Giant's Dance, from Ireland. Using his supernatural powers he then transports the structure across the water to Salisbury Plain.

The tale of Aurelius and Merlin was widely repeated through the later twelfth and thirteenth centuries: in the Anglo-Norman translation of Geoffrey by Wace of about 1171, in the *Topographia Hibernica* by Giraldus Cambrensis of about 1187, and in a work by Robert of Gloucester dating to about 1278 (see Barclay 1895, 131–2 for a useful list of early sources, and Legg 1986 selected for transcriptions). Indeed, the story may embody a genuine folk-memory of the actual building of Stonehenge and the acquisition of stones from a distant source in the west of Britain (now known from scientific evidence to be west Wales) which survived as oral tradition down to the twelfth century AD (Piggott 1941; Atkinson 1979, 185). The picture is complicated by the fact that interest in the site during medieval times seems to have focused on the great size of the stones and this has led Burl (1985) to suggest that perhaps Geoffrey misunderstood contemporary stories about large standing stones in County Kildare in Ireland.

Two illustrations of Stonehenge are known from fourteenth-century manuscripts. One shows Merlin building the monument much to the amazement of mere mortal onlookers; the other depicts a rather squared-up perspective view of the monument (Chippindale 1983a figures 14 and 15). Here, as with the oral traditions, Stonehenge is the real-world incarnation of something created in a mythical world; a place where worlds collide.

Renaissance revisionism

The move away from the medieval world towards the modern order represented by the revival of learning and fresh interests in classical antiquity that characterized the Renaissance from around AD 1400 led to the first challenge

Illustration 15
Andrew Sherratt's European dialectic model adapted to changing interpretative models of Stonehenge. [*Based on Sherratt 1996, figure 1.*]

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to Geoffrey of Monmouth's account. It is found in the anonymously authored *Chronicle of England* compiled in the mid fifteenth century and published by William Caxton at Westminster in 1480 (Atkinson 1979, 186; Chippindale 2004, 25). Here the retold version of Monmouth's tale is represented as just that, a story. The questioning, inquiring intellect inherent to Renaissance thinking can also be seen in the comments made by John Rastell (1530) to the effect that some of the stones at Stonehenge were of artificial cement.

The Reformation and Stonehenge

Religious revolution and the reconstruction of western Christendom in northern Europe from the early sixteenth century engendered an intellectual detachment from the classical world and a new focus on the origins and autonomy of northern peoples. John Leland was at the heart of the early development of such thinking with reference to the antiquities of England as the King's Antiquary in the service of Henry VIII from 1533 onwards. Although the site of Stonehenge is not included in Leland's Itinerary, elsewhere he repeats Geoffrey of Monmouth's story with a variant in which Merlin obtains the stones not from Ireland, but from a place on Salisbury Plain (Leland 1709)

A young Protestant German scholar, Herman Folkerzheimer, came to England in 1562, and in the company of Bishop Jewel of Salisbury visited Stonehenge. Interpretation was a challenge to both men, but the bishop ventured the opinion that the stones had been set up as trophies by the Romans because the actual positioning of the stones resembled a yoke (Chippindale 2004, 30). This was the first recorded proposal that the Romans might be responsible for the structure.

Other commentaries of the period include that by Luca de Heere, a Flemish Protestant who fled to England in 1567. Between 1573 and 1575 he prepared a guide to Britain that includes a detailed account of Stonehenge and a picture (Chippindale 2004, 33 and figure 21) which is the earliest known to have been drawn on the site itself, and interestingly includes two barrows as well as Stonehenge (see Bakker 1979). Only slightly later in date are a watercolour by William Smith published in 1588 and a rather unreal stylized print by an unknown artist with the initials 'RF' dated 1575. The foreground of this print includes two men digging into a barrow from which they have already removed some giant bones.

Within the same tradition was William Camden's history and topography of Britain first published in Latin in 1586 as the *Britannia*, and subsequently enlarged and reprinted many times. The edition of 1600 included an illustration of Stonehenge (an incompetent re-engraving of the RF print of 1575 already referred to) and a description. Camden refers to Stonehenge as 'a huge and monstrous piece of work' and in a comment redolent of the age he laments 'with much grief, that the Authors of so notable a Monument are thus buried in oblivion' (see Legg 1986, 60–1).

Enlightenment and the English Renaissance

The Enlightenment of the seventeenth and early eighteenth centuries in Britain returned the focus of interpretation to the scientifically based trajectory. Two problems relating to Stonehenge began to command attention: where did the stones come from, and how did they get to Salisbury Plain? William Lambarde (1580) addressed both by emphasizing what can be achieved by dedicated groups of people who in this case brought the stones from north Wiltshire (Chippindale 2004, 36–7 for summary). Developing interest in detailed description may have resulted in the idea that the stones were difficult to count; the removal of stones may also have been contributory to this idea. Speed's map of Wiltshire published in 1625 shows the beginnings of a more geographically aware view of the land, and Chippindale (2004, 46 and figure 30) has speculated that a picture dated 21 June 1716 which shows people exploring the monument may reflect an early interest in Stonehenge astronomy. The spirit of inquiry is reflected in the Duke of Buckingham's diggings in the centre of the site in the 1620s, and King James' decision to commission an expert study of the site by Inigo Jones in the 1630s and 1640s (Jones and Webb 1655). In his interpretation of the site, and in the spirit of the Renaissance, Jones was adamant that the structure was built by Roman architects using Tuscan proportions.

Contrary views circulated alongside those of Jones. In 1661 Dr Walter Charleton, physician to Charles II, proposed that the builders of Stonehenge were the Danes of the ninth century AD, noting analogies with ancient megalithic structures in Denmark. Especially important in view of the prevailing political situation was the proposal that Stonehenge had been the coronation place of the Danish kings (see Chippindale 2004, 61). Further evidence of Renaissance interest in the debate and resolution of intellectual questions in relation to Stonehenge comes from the work of John Aubrey (1626–97). Commanded to investigate the site by Charles II, Aubrey worked at Stonehenge in 1666, using fieldwork, surveys, planning, and observation to create a new plan of the site that challenged Jones' idealized classically inspired reconstructions. Aubrey's *Monumenta Britannica* was incomplete and unpublished at the time of his death, but survived in manuscript form until its eventual publication in 1980 (Aubrey 1693a; 1693b). Aubrey's contribution to an understanding of the stones was to invoke, in a rather confused way, the ancient Druids as mentioned by Caesar, Tacitus, and others, as the architects and users of Stonehenge and all the other stone circles in Britain. This conclusion, reached in old age after decades of discussion and speculation, perhaps reflected the shifting intellectual climate that by about 1700 was favouring a more romantic, interpretative, vision of the past (see Piggott 1937).

Romantic visions

In 1705 Samuel Gale was perpetuating the idea that Stonehenge was a rude and barbarous British monument (Nichols 1790, 24). Bridging the transition from the intellectual traditions of the Restoration to those of Romanticism was one of the great antiquaries of the eighteenth century, William Stukeley (1687–1765). His upbringing meant that for the first half of his life he continued the style of fieldwork, travelling, measuring, and observing on the ground so central to the work of Aubrey. Stuart Piggott (1981, 24) has argued that Stukeley's continuation of these traditions well into the 1730s was because he was provincial, old-fashioned, and out of date. In the second half of his life, from the late 1730s onwards he was drawn into the changed intellectual mood of the metropolis. In his book *Stonehenge: a temple restor'd to the British druids* published in 1740 he used the results of his fieldwork from the 1720s to look outwards from the monument into the surrounding

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landscape, depicting barrows and other earthwork structures in relation to the central structure. It was Stukeley who first recognized the Avenue and the Cursus. Together with Lord Pembroke he dug into a range of barrows in the area (Atkinson 1984), and suggested that the occupants of the barrows were the people who built and used Stonehenge. But in the text his newly found Romantic leanings reveal themselves. He dismissed the idea of Roman, Danish, Saxon, Phoenician, or any other overseas involvement, instead arguing with almost religious zeal for the primary contribution of native Britons and in particular the crucial role of the Druids. The sub-title of his study shows his desire to overturn existing, and by then intellectually inferior, explanations of the site and 'restore' it to its place in history. In discussing his discovery of the Avenue, Stukeley also noted its alignment on the rising sun on midsummer day; here was a connection between the human world and the natural world that so interested the Romantic thinkers of the mid eighteenth century. As Piggott (1985, 153) observed, 'Stukeley's delight in the English countryside is an endearing feature … an almost sensuous pleasure in the mild English landscape of the Wiltshire Downs.'

Belief in Druidical origin for Stonehenge and connections with astronomy can be traced through the later eighteenth century, and indeed beyond. John Smith suggested that the site could be astronomically explained and that it was a temple for observing the motions of the heavenly bodies (1771). The internationally renowned English astronomer Edmund Halley visited the site in 1720, probably in the company of Stukeley (Lockyer 1909, 54).

The Romantic visions of Stonehenge created by the mid eighteenth century come through most clearly in the depictions of it made in the later eighteenth and early nineteenth centuries (Chippindale 1987, 18–21). The Sublime tradition is represented by an astonishing number of fine paintings of Stonehenge. The works of Thomas Hearne, Thomas Rowlandson, Thomas Girtin, William Turner of Oxford, James Bridges, and many others provide marvellously theatrical pieces that stand up well alongside the watercolour masterpieces by J M W Turner (*c.*1825–8) and John Constable (*c.*1835). Thomas Cole's narration of landscape history published in 1836 shows Stonehenge in Arcadia replete with nymphs and shepherds (Chippindale 2004, figure 68). Druidical images also come through with great force. In 1815 a view by Samuel Rush Meyrick and Charles Hamilton Smith entitled *The Costume of the original inhabitants of the British Isles* shows a grand conventional festival with banners carrying snake designs draped over the trilithons, the ark of the covenant from Old Testament traditions, and the costumes themselves from medieval Europe (Chippindale 2004, figure 61). Other illustrations in similar vein abound, some focusing on what might be considered religious or ceremonial themes while others can be interpreted as more nationalistic in the messages they convey.

Even as these images were being prepared, however, the pendulum of radical thinking was swinging back towards the more explanatory traditions that built on the discipline of Renaissance observation and by the later nineteenth century revealed itself in positivist science.

Positivism and the emergent sciences

The art of excavation was revived in the Stonehenge Landscape by William Cunnington (1754–1810) who in 1798 dug under the stones of the trilithon that fell in 1797 (stones 57, 58, and 158) and found Roman pottery (Cunnington 1975, 10–11). This was reported by the young topographer John Britton in his *Beauties of Wiltshire* as proof of a Roman date for the monument, but others were more cautious. Cunnington himself started working for H P Wyndham, MP for Wiltshire, on the excavation of barrows; by 1801 he had opened 24 examples around Stonehenge. In 1802 Cunnington excavated at Stonehenge, and soon after came to be employed by Sir Richard Colt Hoare (1758–1838), a well-connected wealthy landowner living at Stourhead (Sandell 1961). Colt Hoare's travels in Europe and extensive network of contacts brought him to want to write a new history of Wiltshire, which he did between 1808 and his death in 1838. The spirit of the age is reflected in the motto he cited at the head of the introduction to the first volume: 'we speak from facts, not theory' (Colt Hoare 1812, 7), the facts in question for the prehistoric period at least being the results of Cunnington's excavations. Colt Hoare's volume is well illustrated with plans and maps, including the first detailed map of the archaeological monuments of 'Stonehenge and its environs' (Colt Hoare 1812, op. 170).

Colt Hoare's achievements were considerable, but it was not until the second half of the nineteenth century that their value could really be appreciated as the results of intellectual and theoretical scientific thinking in spheres such as stratigraphy, evolution, and artefact sequences came to the fore. John Lubbock's book *Prehistoric times* was first published in 1865 and applied to Britain the so-called Three-Age sub-division of the prehistoric past that had been developed 50 years earlier in Denmark. Lubbock placed Stonehenge and most of the barrows around about into a period back beyond the Bronze Age, a more ancient period than even the most adventurous antiquaries had previously ventured to suggest (Lubbock 1865). Ironically, as prehistorians were attempting to fit Stonehenge into an essentially evolutionary model of the ancient past, Charles Darwin himself was at Stonehenge in June 1887 studying the way that fallen stones became buried and suggesting that earthworms played a major role (Darwin 1888, 154).

Scientific approaches were not confined to chronology, sequence, construction, and decay of monuments. In the mid nineteenth century, John Thurnam's excavations were a search not for grave goods but for human remains (Marsden 1974, 57–64; Piggott 1993). Thurnam and others suggested that the skulls from barrows divided into two types: dolicocephalic from long barrows and bracycephalic from round barrows. These he associated with different and successive racial or ethnic groups. Meanwhile, in 1868, Sir A C Ramsey was the first geologist to point out the similarity of some of the bluestones of Stonehenge to the igneous rocks of Pembrokeshire (Ramsey et al. 1868; see also Maskelyne 1878). Subsequent work by J W Judd (1902) suggested a glacial origin for the bluestones, while 20 years later H H Thomas (1923) confirmed the earlier identifications using optical petrology and attributed their movement to human agency.

Astronomical lines of inquiry prompted earlier by Stukeley also submitted to science, with observational work by Lockyer in 1901 following nearly two decades of studies elsewhere in the world. His findings led him to make various connections between Stonehenge and the temples of ancient Egypt, and to endorse, in a scientific sort of way, earlier suggestions that Stonehenge had been a solar temple serviced by astronomer-priests (Lockyer 1909, chapter 44). By contrast, E H Stone used astronomical data and the orientation of the axis of Stonehenge to propose

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that the stone structures were built about 1840 BC (Stone 1923, 131), a good estimate at the time but a few centuries later than current thinking suggests.

Surveys were also a feature of the prevailing currents of thought in the later nineteenth century, one of the most significant and accurate being that carried out by Flinders Petrie in June and September 1877 (Petrie 1880). Petrie suggested the need for detailed excavations at Stonehenge to find evidence that would date accurately the construction of the stone circles. He suggested excavating a stonehole while supporting the stone in a wooden cradle, an idea implemented in 1901 by Professor William Gowland (Gowland 1902). Gowland's work at Stone 56 was the first recorded scientific excavation at Stonehenge itself and allowed the suggestion that Stonehenge was constructed in the later part of the Neolithic or the period of transition from stone to bronze (Gowland 1902, 86). He also proposed that the 'purpose for which Stonehenge was erected ... [was] a place of sanctity dedicated to the observation or adoration of the sun' (1902, 87). In support of this Hawley includes an illustration of a Japanese print showing sun-worship in Japan (1902, plate vi), an early example of using comparative ethnology to aid archaeological interpretation.

Nationalism and cultural histories

Romantic interpretations of Stonehenge and its surroundings did not die out during the nineteenth century, although they were fairly well eclipsed by the brash authoritative scientific inquiries of the age. In the early twentieth century there was renewed interest in interpretative studies partly in reaction to the scientific focus of the previous century and partly because of the political climate in Europe and beyond with its inherent concern for nationalism and identity. Attention shifted away from questions such as when Stonehenge was built, and for what purpose, towards an interest in who built it and what influenced them. Culture histories were favoured, recognizing the distinctiveness of communities in time and space and seeking interpretations based on migration, colonization, and invasion.

Gordon Childe was the most notable exponent of the cultural historical approach to European prehistory. He suggested (1940, 106) that

> *like the fabric of an English cathedral, the stones of Stonehenge mirror the fortunes of a community. Neither the construction of the Aubrey Circle nor even the erection of Lintel Circle and Horseshoe ... would be beyond the power of a prosperous pastoral tribe profiting from the grazing of Salisbury Plain and the products of its flint-mines.*

Who those communities were can be found in the work of another great scholar of the period, Stuart Piggott, who, in 1938, defined the Wessex Culture in classic Childean terms (Piggott 1938; Illustration 16). Childe himself (1940, 135) described them as a 'small ruling class expending their accumulated surplus wealth on luxury trade with far-flung connections', but disagreed with Piggott's proposal that they were invaders from Brittany (Childe 1940, 141–3).

Investigations of the cultural associations of all the various elements of Stonehenge and its neighbouring monuments, the sequences of events represented there, and the local and long-distance associations demonstrated by finds and replicated ideas formed the main fields of inquiry between 1910 and the mid 1960s. These approaches influenced the campaigns of early professional archaeologists in the area and underpinned the need to rescue as much material as possible from endangered sites in the 1950s (see above). Atkinson (1979, 201) reflected on the achievement of these approaches, noting in the words of Sir Mortimer Wheeler that in the early twentieth century Stonehenge was dug up 'like potatoes' with rather little result, but that later work (with which he was himself associated) was planned to answer a limited number of quite definite questions.

Until 1995 (Cleal et al. 1995), the results from the campaign of excavations at Stonehenge in the 1920s were only available in published form as interim accounts in the *Antiquaries Journal* (Hawley 1921; 1922; 1923; 1924; 1925; 1926; 1928). R S Newall, who worked at the site with Hawley, published an interpretative account of the work in 1929, describing the stones and associated features, and suggesting parallels between the form of the stone structures and the arrangement of portals and chambers in a range of Neolithic tombs (Newall 1929a). It may be noted that it was during this period that seemingly authentic rock art was noted on a number of stones (Crawford 1954; see Thurnam 1866 for a discussion of the possibility that such art may be present).

The 1950s and early 1960s in particular were a period characterized by works of synthesis and review, triggered by the new excavations of Atkinson, Piggott, and Stone which began in 1950 and continued fairly continuously for about a decade. Atkinson's volume *Stonehenge*, first published in 1956, appeared before the excavation was finished, although it was later updated (Atkinson 1979). One of the most important, but generally rather ignored, studies was that by Stuart Piggott published in 1951 and thus pre-dating Atkinson's well-known volume by five years. Taking Newall's account and the interim reports from Hawley, Piggott examined the 'two-date theory' and broadly accepted it, developing a three-stage sequence for the construction of the monument as Stonehenge I, II, and III (Piggott 1951). It was this sequence which Atkinson used in modified form in 1956 (Atkinson 1956, 58–77) and which was widely adopted until being superseded by the full publication of the twentieth-century excavations in 1995. Following the publication of Atkinson's *Stonehenge*, R S Newall provided a detailed and highly useful critical review (Newall 1956).

By the mid 1960s the cultural-historical approaches to Stonehenge and its surrounding sites, fuelled by decades of

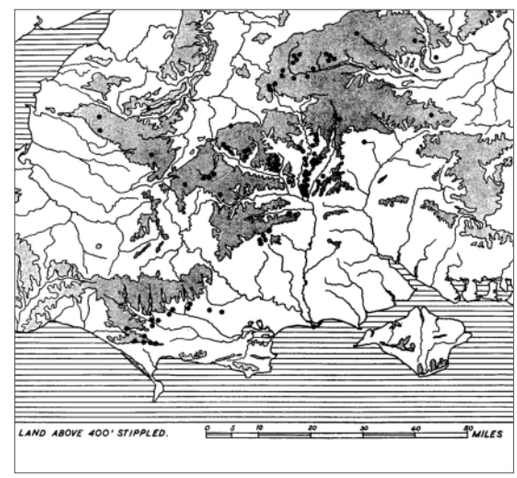


Illustration 16
Stuart Piggott's map of Wessex Culture graves in central southern England. [*From Piggott 1938, figure 24, reproduced courtesy of the Prehistoric Society.*]

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excavation and fieldwork, began to run out of steam. A resurgent interest in more scientific, explanatory approaches again surfaced and served to redirect attention.

Modernism and processualism

Two lines of inquiry about Stonehenge that had lain dormant for a period came back to life in the mid 1960s. In 1966 Gerald Hawkins published a book entitled *Stonehenge decoded* in which he speculatively expanded the astronomical aspects of Stonehenge, suggesting that it was in effect a giant computer used for the prediction of eclipses and other astronomical events. Although it was a line of argument that built on similar statements 60 years previously, it hit the mood of the times and generated a lot of interest that continued for many years (Hawkins 1966a; 1966b; Newham 1966; 1972; Colton and Martin 1967; 1969; Thom 1974; 1975; Thatcher 1976). It caused much debate at the time, both in relation to the astronomy itself and its use for interpreting archaeological features (e.g. Atkinson 1966; 1982; Hoyle 1966; 1973; Hawkins et al. 1967; Hawkins 1973; Moir 1979), and in terms of the challenges it posed to the more traditional, essentially Romanticist, views of the past (e.g. Hawkes 1967). A recent review by Ruggles (1997; and see below) picks up the fall-out from these various debates.

A second area of debate was rekindled by G A Kellaway who argued that the bluestones from southwest Wales arrived at Stonehenge by glacial action rather than human agency (Kellaway 1971). Again, this was a controversy that continued through the later 1970s and beyond (e.g. Atkinson 1974; 1979, 105–16; Kellaway 1991; 2002; Thorpe et al. 1991; Darrah 1993; Ixer 1997a; 1997b; Burl 2000b; Castleden 2001).

Although the dating of Stonehenge itself and the surrounding monuments, and the chronological relationships between them, had been at the focus of research efforts for centuries, it was not until the application of radiocarbon dating that absolute dates became available. By the late 1960s enough had been obtained to show that traditional models based on cross-dating and diffusion were fundamentally flawed. Renfrew's paper entitled 'Wessex without Mycenae' published in 1968 started the demolition of many long-cherished ideas, a process continued with increasingly devastating effect when the calibration of radiocarbon ages to calendar years allowed greater ease of comparison between radiometric determinations and historically documented events (Renfrew 1968; 1973b). By the mid 1970s it was not only the chronologies that were being called into question but the whole purpose and nature of archaeological interpretation. Renfrew suggested that the future lay in the study of cultural process through the analysis of different fields of activity, different sub-systems of the cultural system to use a cybernetic analogy, which if properly understood should give the information needed to understand the workings of the culture as a whole (Renfrew 1974, 36). Stonehenge and its associated monuments have been widely used in exploring such a processual approach to prehistory, amongst them Renfrew's own study of social change in the area (Renfrew 1973a). This was also the approach used by Ellison as a framework within which to structure research activity in Wessex in the later 1970s and 1980s (WAC 1981).

As an essentially scientific school of thought, processualism promoted the scientific study of sites and materials and it is in such an environment that technical studies of ancient materials from around Stonehenge flourished: for example amber (Shennan 1982; Beck and Shennan 1991), shale (Brussell et al. 1981; Pollard et al. 1981), metal (Britton 1961; Ottaway 1974), faience (McKerrell 1972), and stone (Howard in Pitts 1982). Studies of the environment were also a key element of this scientific view of landscape and land-use (Richards 1990; Allen 1997).

Another facet of modernism was the bringing into the present of things from the past. The use of Stonehenge as the setting for a story or as a powerful image has a long history, but from the 1960s its appearance in popular and historical fiction (Grinsell 1986), advertising, and 'pop' culture becomes more common (see Chippindale 2004; Darvill 2004a). By the end of the 1990s the range of Stonehenge-inspired literature was very considerable, and included 'best-sellers' by Edward Rutherford (1987) and Bernard Cornwall (1999) among others. The emergence of parallel narratives, multivocality, and the study of agency are features of post-modernist or post-processualist views of the past, a return towards essentially interpretative approaches which represents the most recent swing in thinking about Stonehenge and its surroundings.

Post-modernist approaches

Contributed by Barbara Bender

Although Chris Chippindale might be surprised to hear himself called a post-modernist, his book *Stonehenge Complete*, first published in 1983 (Chippindale 1983a; 2004), and his edited volume *Who owns Stonehenge?* (Chippindale et al. 1990) were among the first attempts to consider the changing and often contested meaning of the stones, though not the landscape. Somewhat later, Bender focused on questions of multivocality and contestation (Bender 1992; 1993); Timothy Darvill pushed towards a symbolic landscape (Darvill 1997a); and Mike Parker Pearson and Ramilisonina (1998) used ethnographic analogies to great advantage. Whilst most English Heritage publications have remained resolutely descriptive, their *Teacher's handbook to Stonehenge* (Anderson et al. 1996) moved towards a contested present-past. *Stonehenge: making space* covers much post-modernist ground (Bender 1998).

Post-modernist approaches begin with the problemization of the well-established demarcations within research agendas. Thus, for example they question the separation of prehistoric Stonehenge from contemporary Stonehenge since 'we', in the present, create, naturalize, and valorize all the categories and divisions employed. The questions we ask, and the answers we give, are always created in the present out of our particular embodied historical and social placement. There is, therefore, only a present-past, and we cannot make definitive propositions – only ones that answer well (enough) to our (multiplex) condition. Second, though there are questions specific to particular historic conjunctures, there are many more that are appropriate to any time or place. Interpretations of the past are enriched by asking the same questions about the present – and *vice versa*.

These two general considerations lead to a number of other perspectives on what we do. We construct a very particular type of past based on the assumed neutrality of linear (clock) time. The past, therefore, appears to lie 'behind us' and to be separate from the present. It might be more realistic to think of the past as in front of us, because we rework it as part of the present/future. Moreover, linear narratives are interjected with other sorts of time – emotive, conditional, seasonal, ceremonial, and memory time.

We construct a very particular type of past – and present – based on assumed divisions between people and things

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Illustration 17
De-romancing Stonehenge: confronting the socio-political functions of the site in a post-modernist age. [*Illustration by David Bromley from* The Guardian, *15 June 1992. Reproduced courtesy of Guardian Newspaper Group.*]

and people and places. We need to understand that things and places are not just created by people, but creative of people, and that time, space, things, people work off each other, and are always in process.

We construct a very particular type of past – and present – based on other taken-for-granted divisions: nature :: culture, mind :: body, life :: death, male :: female. These need to be questioned.

Space, like time, is polysemic and polyvalent. Depending on who you are, and when and where, your sense of place will vary. Some people's sense of place will be valorized, others' marginalized.

Places, like sites, are never autonomous. They work within larger landscapes. These landscapes – familiar, unfamiliar, landscapes of voyaging, of exile, of hearsay and myth – are interconnected and unstable. A familiar landscape may become unfamiliar.

People's engagement with the world around them is sensory as well as cerebral. People's engagement with the material world is created through action, and creative of action. Using all their senses, people are socialized into and negotiate their place within the landscape, learning and questioning what is possible, where to go, what and how to see. Landscapes of movement, entrance, exit, procession, escape.

Because people's engagement with the world around them is variable and in process, and because knowledge of 'how to go on' is differentially experienced and valued, the use of past or of place is always open to contestation. Past and place are political (Illustration 17).

THREATS, PRESERVATION, AND SURVIVAL

The decay of standing monuments in the Stonehenge Landscape has been a matter of comment and concern for several centuries. William Stukeley lamented the ploughing-up of the downs and the decay of monuments in the 1720s when he was working in the area, and he shows ploughing on the Stonehenge Avenue in one of his illustrations (Stukeley 1720, 1 and 52). But even in Stukeley's day the prehistoric monuments of the Stonehenge Landscape were far from pristine. Each successive generation has contributed to the diminution of what already existed. Indeed, it seems likely that some if not all of the later prehistoric and Romano-British fieldsystems in the area had a major impact on earlier funerary monuments. The most severe damage in more recent times came through the construction of military camps in the first half of the twentieth century and the dismantling of the camps, levelling of earthworks, and conversion of the land to arable in the mid twentieth century.

Surveys of the preservation and survival of monuments mainly date to the later twentieth century. Land-use and ownership are major contributory factors for the long-term conservation and management of archaeological remains and they conspire to create two broad zones of preservation within the Stonehenge Landscape. North of the Packway the land is mainly in military ownership. Here earthwork survival is generally good, with much land in pasture (McOmish et al. 2002). South of the Packway earthwork survival is generally poor except where woodland or some other feature has limited the impact of destructive activities; land-use here has been predominantly arable cultivation (Richards 1990), although this is changing as the National Trust negotiates new leases and agreements. The RCHM survey of the Stonehenge Environs in the mid 1970s documented the decay of archaeological sites within their study area parish by parish and by reference to the main types of upstanding monuments (RCHM 1979, xiv–xix). It all makes dismal reading and emphasizes the dramatic losses over the last 300 years.

During the final fieldwork season of the Stonehenge Environs Project (1983–4) a systematic check was carried out on all recorded monuments within the study area, but the results do not appear to have been analysed beyond their primary use in the development of site management

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recommendations (Richards 1984; 1986). At the same time, a study of the archaeology of the Salisbury Plain Training Area was undertaken (Canham 1983) which drew also on earlier work (Smith 1981). Here a sample of 27 round barrows in grid square SU15SE, for example, showed that about 15 per cent were undamaged, nearly a quarter could not be located because they had probably been destroyed, about one third showed evidence of old damage, while the rest (about 35%) showed evidence of recent damage (Canham 1983, 42). This is slightly better than the national average for Bronze Age monuments; the Monuments at Risk Survey (MARS) revealed that in 1995 about 15 per cent of Bronze Age monuments were complete or almost complete, but that only about 12 per cent of known monuments of the period had been destroyed (Darvill and Fulton 1998, table 6.1).

A comparative study of the survival of Bronze Age round barrows in the Stonehenge area and in the upper Thames Valley of Oxfordshire showed that in both areas medieval and earlier farming had destroyed more barrows than nineteenth-century and later agriculture (Peters 1999). In October 1999 a study of recorded monuments within the National Trust's Stonehenge Estate revealed that half of recorded earthworks had been levelled, and an estimated 15 per cent of monuments were at that time regarded as highly vulnerable. It was found that 35 per cent of visible damage was caused by badgers and rabbits (Illustration 18), 30 per cent by ploughing, footpaths, and building works (National Trust 2001, 14–16). A more broadly based condition survey of 661 recorded monuments within the World Heritage Site was carried out in 2002, commissioned from Wessex Archaeology by English Heritage (WA 2003b). This desk-based study and fieldsurvey revealed that about 60 per cent of monuments had no surface expression. Of the monuments that were visible (40% overall) some 28 per cent were in 'good' condition, 34 per cent in 'moderate' condition, and 39 per cent in either 'poor' or 'very poor' condition. Overall, about two-thirds of monuments were found to be in a relatively stable condition, 12 per cent were subject to moderate deterioration, and just 1.5 per cent were subject to rapid deterioration. The main ongoing influences on the condition of monuments were, in order of magnitude: cultivation, burrowing animals, and tree and scrub cover. Lesser impacts from stock damage and wear-and-tear from visitors were found to be limited in scope and effect. About 6 per cent of monuments were assessed as being highly vulnerable to the loss of their archaeological resource from ongoing impacts, while a further 57 per cent were assessed as having medium vulnerability.



Illustration 18
Rabbit damage to a round barrow in the Winterbourne Stoke barrow cemetery. [*Photograph: Timothy Darvill. Copyright reserved.*]

These statistics are comparable with the national picture in 1995 revealed by the Monuments at Risk Survey. Amongst earthwork monuments, for example, about 60 per cent were flat (Darvill and Fulton 1998, figure 5.23), while approximately 2 per cent of monuments were classified as being at high risk (Darvill and Fulton 1998, 221).

Taking a long-term view, the main causes of damage noted for the Stonehenge Landscape have been:

- Construction of military camps
- Pasture or arable conversion
- Road schemes
- Property development
- Ploughing
- Rabbit infestation
- Storms and natural hazards

Many of these are ongoing as either continuous actions, sporadic but controllable events, or unpredictable natural happenings. It is the aim of the Management Plan to reduce, control, and where necessary mitigate these various hazards and threats as much as possible (English Heritage 2000). It may be noted, however, that while some offer opportunities for research work when they are approved (e.g. road schemes and property development), others only serve to diminish the potential of deposits both now and on into the future (e.g. ploughing and rabbit infestation).

DESIGNATIONS, MANAGEMENT CONTEXT, AND LAND-USE

The Stonehenge Landscape and the sites and monuments within it are subject to a wide range of gradually changing designations and include a large number of protected areas and land over which specific policies or controls apply. These range in physical scale from a few square metres over individual barrows to the 2000ha of the World Heritage Site (Map D). The implications for carrying out research are considerable, although also highly variable. A detailed consideration of these issues is set out in the Stonehenge Management Plan (English Heritage 2000), the relevant designations for archaeology and the historic environment being summarized as follows:

International designations

World Heritage Site. 2000ha of land forming part of the *Stonehenge, Avebury and Associated Sites World Heritage Site* (Maps A and D) inscribed on the World Heritage List in 1986 (C373). The outstanding universal value of the World Heritage Site is described in the Nomination Documentation as follows:

> *Stonehenge and Avebury are the two most important and characteristic prehistoric monuments in Britain. They represent the Henge monument par excellence, as the largest, most evolved and best preserved prehistoric temples of a type unique to Britain. Together with the associated sites and monuments they provide a landscape without parallel in Britain or elsewhere and provide unrivalled demonstration of human achievement in prehistoric times.*

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National designations

Scheduled Monuments: Some 299 separate blocks of land within the Stonehenge Landscape, 179 within the World Heritage Site (Map D), are included on the Schedule of Monuments as defined by the *Ancient Monuments and Archaeological Areas Act 1979*. Controls on works affecting such monuments are in place through the Scheduled Monument Consent procedures.

Guardianship Monuments: Two monuments, Stonehenge and Woodhenge, together with adjacent land are in State Guardianship under the terms of the *Ancient Monuments and Archaeological Areas Act 1979*. All responsibilities for the management of Guardianship sites rest with the State.

Listed Buildings: These are buildings and structures of special architectural or historic interest that are 'listed' by the Secretary of State and therefore afforded various forms of protection according to their grade (I, II*, II). There are currently 293 Listed Buildings within the Stonehenge Landscape, 52 of them within the World Heritage Site (Map D).

Registered Parks and Gardens: A list of parks and gardens of special historic interest is compiled and maintained by English Heritage, although inclusion on the list does not carry any statutory protection. Two registered parks lie within the Stonehenge Landscape (Map D): Amesbury Abbey (Grade II) and Lake House at Wilsford cum Lake (Grade II).

Stonehenge Regulations: The *Stonehenge Regulations 1997* (Statutory Instrument 1997 No.2038) came into force on 8 September 1997, revoking earlier regulation dating back to 1983. The effect of the 1997 Regulation is to control public access to the ancient monument of Stonehenge. A series of prohibited acts are defined, including: injuring, disfiguring, removing or otherwise interfering with in any manner the monument or any notice or any other property situated on the site of the monument; climbing on the monument; digging up any soil or grass or plants; unauthorized parking or leaving vehicles at the site; bringing animals onto the site without permission; lighting fires or fireworks at the site; and throwing a stone or discharging a weapon.

Regional and local designations

Stonehenge Article 4 Direction: A Direction made by the local planning authority in 1962 under Article 3 of the *Town and Country Planning (General Permitted Development) Order* (Article 4 in more recent amendments) which withdraws permitted development rights relating to agriculture and forestry operations within an area of about 20 square kilometres around Stonehenge.

Closely related to the Article 4 Direction is a concordat between the Ministry of Defence, the local planning authorities, and advisory bodies which concerns procedures for approving planned development within the garrison at Larkhill.

Conservation Areas: Areas of special local or regional architectural or historic interest and character designated by the local planning authority under national legislation. There are four conservations wholly or partly within the World Heritage Site (Amesbury, West Amesbury, Wilsford, and Lake), and a further eight (Bulford, Berwick St James, Durrington, Figheldean, Boscombe, Great Durnford, Orcheston, and Winterbourne Stoke) wholly or partly within the Stonehenge Landscape (Map D).

Areas of Special Archaeological Significance: Areas defined and recognized in the Local Plan to help preserve the local archaeological interest of the landscape using existing legislation and the voluntary co-operation of landowners and farmers. A single large ASAS currently covers the Stonehenge Landscape and adjacent areas.

Over and above these designations that apply to the historic environment, there are also a number of protected areas relating to nature conservation, ecology, and landscape character. Details of these are set out elsewhere (English Heritage 2000, 2.5.29–34); Map D shows the extent of land designed as Sites of Special Scientific Interest (SSSIs) within the Stonehenge Landscape.

The Stonehenge Landscape is owned by a large number of private individuals and corporate bodies, the agricultural elements of which generally comprise large and fairly compact holdings. The single largest landowner, holding most of the northern part of the Stonehenge Landscape, is the Ministry of Defence who have developed and implemented an integrated land management plan for the area, including archaeological provisions (Defence Estates 2003). The National Trust is also a major landowner with substantial holdings in the Stonehenge World Heritage Site (see English Heritage 2000, figure 5 for details).

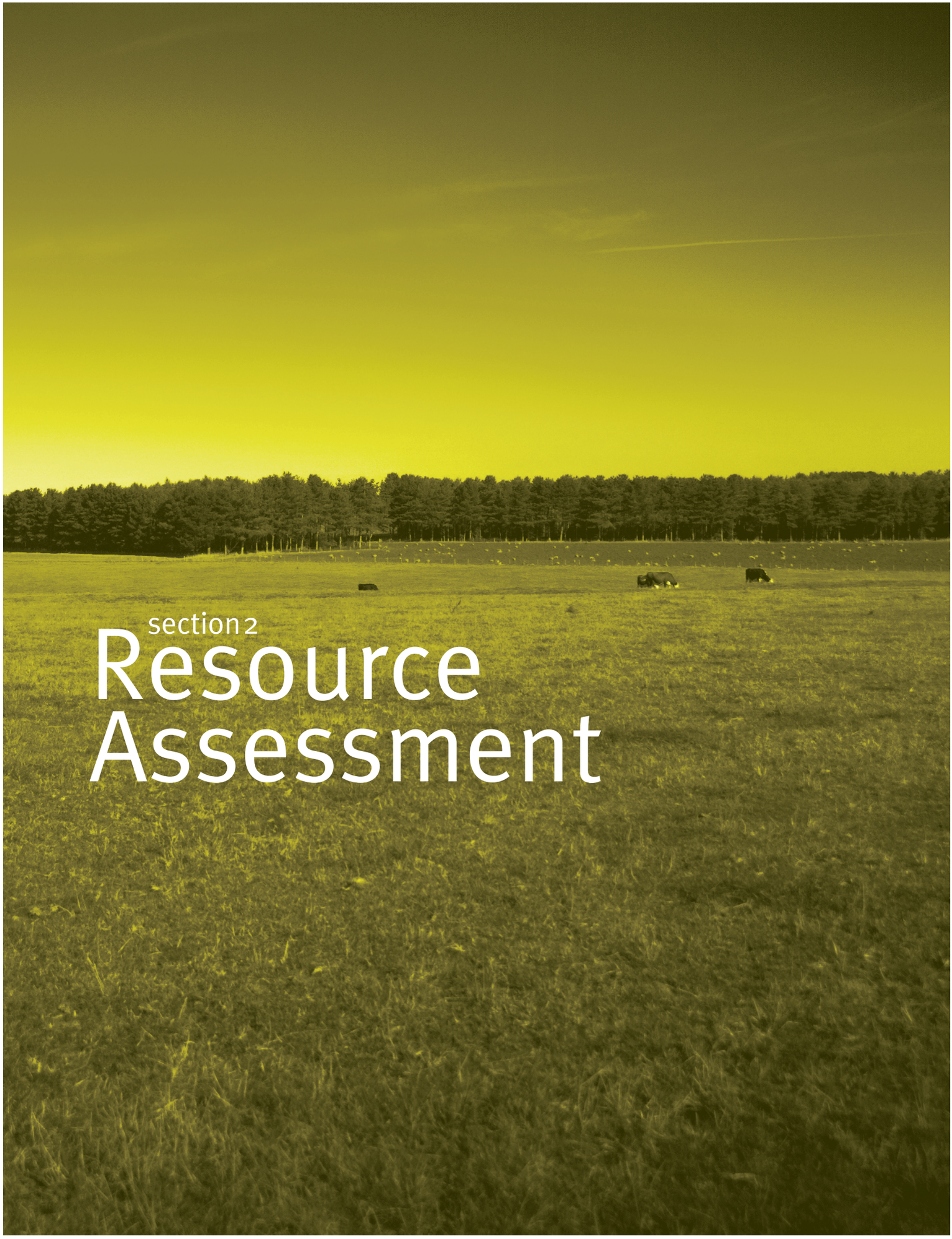
Land-use is also mixed and, in the present climate of uncertainty within the agriculture industry, is inherently unstable and subject to change according to government and European agricultural policy. The most stable land is that held by the Ministry of Defence and that put down to permanent pasture by the National Trust. The National Trust has developed a detailed land-use plan for the Stonehenge Estate which includes a wide-ranging consideration of proposed changes to land-use and access (National Trust 2001, 9).

At the time of writing, no work had been done on Historic Landscape Characterization within the Stonehenge Landscape, although clearly there is considerable potential for this within the developing nation-wide coverage (Clark et al. 2004).

REFLEXIVITY AND REVISION

Like research itself, a Research Framework should be a dynamic and ever-changing structure that reflects the implications of the results of ongoing projects and new discoveries. This is the process of reflexivity – referring back to a position in order to move the arguments and ideas forward through what might be seen graphically as a never-ending spiral of change. The means and the mechanism for reviewing, developing, and revising the Stonehenge Research Framework are encapsulated in the objectives set out below: the creation of SARSEN – the Stonehenge Archaeological Research, Study, and Education Network (Section 4). The timetable for revision will depend on the speed of progress with the objectives set out below and the rate of change in archaeological method and theory over the next few years.

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section 2

Resource Assessment

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SECTION 2 – RESOURCE ASSESSMENT

'We speak from facts, not theory'
(Richard Colt Hoare 1812, 7)

SCOPING THE RESOURCE

Good preservation, intriguing antiquities, and the prevalence in the region of scholars and antiquaries meant that the archaeology of Salisbury Plain attained a prominent place in documenting the ancient history of Britain at an early date. Reference has already been made to the use of Stonehenge by Geoffrey of Monmouth in his *History of the Kings of Britain*, written in AD 1139, and the precocious excavations carried out for the Duke of Buckingham in AD 1620. Overviews, general summaries, and listings of the archaeological resource have been a feature of antiquarian and archaeological studies for nearly two centuries, and prior to the development of county sites and monuments records it was these works that made essential data about the resource widely accessible to scholars and the public alike. One of the first was Richard Colt Hoare's *Ancient history of Wiltshire* issued in five parts for binding in two volumes between 1812 and 1821, the Stonehenge area being covered under the Amesbury Station in the first volume (Colt Hoare 1812, 112–222). Colt Hoare's synthesis came at the end of a long antiquarian tradition of writing county histories, but stands on the watershed of such endeavours as one of the first to draw on extensive archaeological investigations in a sophisticated way, exemplified by his motto cited at the head of the section.

More than a century later the Victoria History of the Counties of England published the archaeological sections of the History of Wiltshire, this time in two parts issued in 1957 and 1973. The first part provides a detailed summary of the physical geography and geology of Wiltshire and, building on earlier work by E H Goddard (1913), an extensive gazetteer of the recorded archaeological resource prepared by Leslie Grinsell using published sources and original fieldwork between 1949 and 1952 (Pugh and Crittall 1957; Grinsell 1989, 22–5). The second part is a very valuable series of essays by Stuart Piggott, Barry Cunliffe, and Desmond Bonney summarizing the state of knowledge from the beginnings of human settlement through to the later first millennium AD (Crittall 1973). Wiltshire was not extensively covered by the county inventories prepared by the Royal Commission on the Historical Monuments of England, although a review of the field monuments in a select area of about 13 square miles around Stonehenge was carried out in the mid 1970s and published as an occasional paper (RCHM 1979). This usefully updates the earlier inventories of Colt Hoare, Goddard, and Grinsell. Two still more recent synthetic overviews of Wessex archaeology (Cunliffe 1993; Bettey 1986) bring the interpretation of the Wiltshire evidence up to date and usefully set it within its wider regional context.

Together, these overviews define and scope what, in broad terms, may be considered the archaeological resource of the Stonehenge region. At the centre of this are the *in situ* monuments and deposits relating to the period from the earliest human occupation of the region down to modern times. The upper end of this chronological spectrum is, however, problematic. Colt Hoare was not much interested in archaeological remains later than Romano-British times, Grinsell ended with the Pagan Saxon period, while the Royal Commission dealt mainly with prehistoric monuments although they included some consideration of medieval and later structures under the heading of land-use. Wiltshire County Council's Sites and Monuments Record initially used a cut-off date of AD 1500 for the items it recorded, but during the later 1990s this was extended to cover all periods up to the twentieth century. The scope of what is considered archaeological has also changed markedly over the last two decades. Historic buildings are now often considered within the scope of archaeological remains even though they may be still inhabited, as are military remains of the twentieth century and before. Ancient boundary features have long been part of the record, some still in use in the landscape such as hedgerows, banks, and fences. Tracks, paths, roads, street furniture (milestones, signposts etc.), boundaries and associated structures (stiles, gateposts etc.), ponds, agricultural installations, and woodland features are now equally well established as part of the overall archaeological resource. The Valletta Convention on the protection of the archaeological heritage (CoE 1992, Article 1.2–3) usefully defines the archaeological heritage as:

> *All remains and objects and any other traces of mankind from past epochs:*
> - *the preservation and study of which help to retrace the history of mankind and its relation with the natural environment;*
> - *for which excavations or discoveries and other methods of research into mankind and the related environment are the main sources of information.*
>
> The archaeological heritage shall include structures, constructions, groups of buildings, developed sites, movable objects, monuments of other kinds as well as their context, whether situated on land or under water.

Thus the archaeological resource should not be seen as limited to *in situ* physical remains. Also of importance are the *ex situ* remains now curated in museums and stores; archives and records of earlier events (descriptions, plans, maps, photographs, drawings, digital data sets etc.); the cumulative body of knowledge and understanding that has built up over the centuries and which is mainly now recorded in books and papers; and the human resource represented in the skills, knowledge, experience, insights, and memories of those visiting, living, and working in the Stonehenge Landscape.

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The following sections are not intended to summarize all that is known about the archaeology of the Stonehenge Landscape, rather the aim is to provide a signposted and critical guide to the resource as currently perceived. Its preparation draws heavily on the earlier surveys already referred to, published site reports and survey reports, and the Wiltshire Sites and Monuments Record. It also makes extensive use of material prepared for an Environmental Assessment carried out for English Heritage and the National Trust in 1990 and 1991 (Darvill 1991a), an archaeological resource assessment prepared for English Heritage by Wessex Archaeology in the summer of 2000 (Walker 2000), and the Stonehenge Landscape GIS maintained by English Heritage (Batchelor 1997). This last-mentioned source contains the dataset that has been used to compile the series of maps that accompany and illustrate this Section, and which has been used in the assembly of quantifications cited below.

After a summary of the essential physical features of the Stonehenge Landscape and their relevance to archaeology the main body of this Section is arranged chronologically as a series of time-slices using a back-projected modern calendrical system and conventionally defined culture-historical phases. This is followed by a brief consideration of a number of diachronic themes, and finally some views outwards from the Stonehenge Landscape into the region and the wider worlds beyond. Both these approaches, a synchronic view and a diachronic view, involve a selective reading of the resource (see Section 1). They were adopted, however, as they represent the dominant interpretative schemes applying at the time that the data on which they are based were collected. As new interpretative schemes inform the way material is collected and studied so new approaches to synthesis and review will take precedent.

A series of time-slice maps of the Stonehenge Landscape have been prepared to accompany and illustrate this resource assessment: Maps E–P at the back of the volume. Based on the English Heritage GIS for the Stonehenge World Heritage Site, the data have been classified and expanded to suit the analysis presented here. Not all sites mentioned in the following sections are included because some are not sufficiently well recorded to allow accurate mapping at the chosen scale. Equally, there are sites on some maps that are not commented upon in detail in the accompanying text. There is a lot of evidence from the Stonehenge Landscape that is essentially undated but this does not appear on the maps unless a reasonably certain attribution can be given on the basis of morphology or similarities to better-dated examples. One of the biggest problems, however, relates to round barrows and ring-ditches which are inherently difficult to date without reliable associated finds or radiocarbon determinations. In cases where round barrows and ring-ditches are known to belong to a particular period they are included on the relevant map; undated and uncertain examples are included on Map I as present evidence suggests that the majority of examples date to the early second millennium BC. The problem with ring-ditches, however, is still more acute as most are known only through aerial photography and have never been truth-tested in the field. In one recent case, detailed field evaluations at Rollestone Grain Store, Shrewton, in 1996 failed to reveal a fairly certain ring-ditch previously identified on aerial photographs (Anon 1998, 163–4).

A DOWNLAND LANDSCAPE

Physically, the Stonehenge Landscape comprises a substantial block of rolling chalk downland on the southern edge of Salisbury Plain (Illustration 19). Two rivers, the Avon to the east and the Till to the west, run broadly north to south through the landscape, subdividing it into three principal geo-topographical units (Illustration 20). Both rivers drain southwards, the Avon being the main river, emptying into the English Channel at Christchurch in Hampshire. The River Till is a north-bank tributary of the Wylye which itself flows into the Avon via the Nadder at a confluence near modern-day Salisbury.

Geologically, the area is dominated by the Middle and Upper Chalk which is an essentially calcareous bedrock giving rise to neutral or alkaline free-draining soils. This provides suitable geochemical conditions for the fair to good survival of many kinds of archaeological materials, including bone and calcium-rich materials such as molluscan remains. The area was subject to major geomorphological changes during the late Pliocene and Pleistocene (Kellaway 1991; 2002). Glacial and periglacial action in particular led to the formation of superficial deposits such as clay with flints, chalky drift, and loess that are less calcareous, and provide important parent material for the formation of soils (mainly rendzinas, brown calcareous earths, and argillic brown earths). Together with buried soils these create microenvironments whose chemistry ranges from neutral to slightly acidic where calcareous material is less well preserved or absent, but pollen does occasionally survive. Bands of nodular flint occur within the chalk and where near the surface give rise to stony soils. Descriptions of soil cover and the effects on the archaeology of the area have been provided by Richards (1990, 6–7); Findley et al. (1984) provide the broader regional context (see also Darvill 1991a, 37–45).

The downland east of the Avon rises steadily from around 100m OD along the river valley to about 140m OD at Silk Hill just 2.5km east of the river. A relatively elevated plateau represented by (from south to north, see Map A) Boscombe Down, Earl's Farm Down, Bulford Field, Milston Down, Ablington Down, and Figheldean Down is characterized by thin soils and extensive views westwards.

The central block of downland between the Avon and the Till is more undulating and relatively low-lying with most of the land between 70m and 100m OD comprising large open fields and isolated tree clumps. The highest points are at about 140m OD in the south near Druid's Lodge and at Larkhill in the north. Several named areas of downland can be recognized (from south to north, Map A): Lake Down, Horse



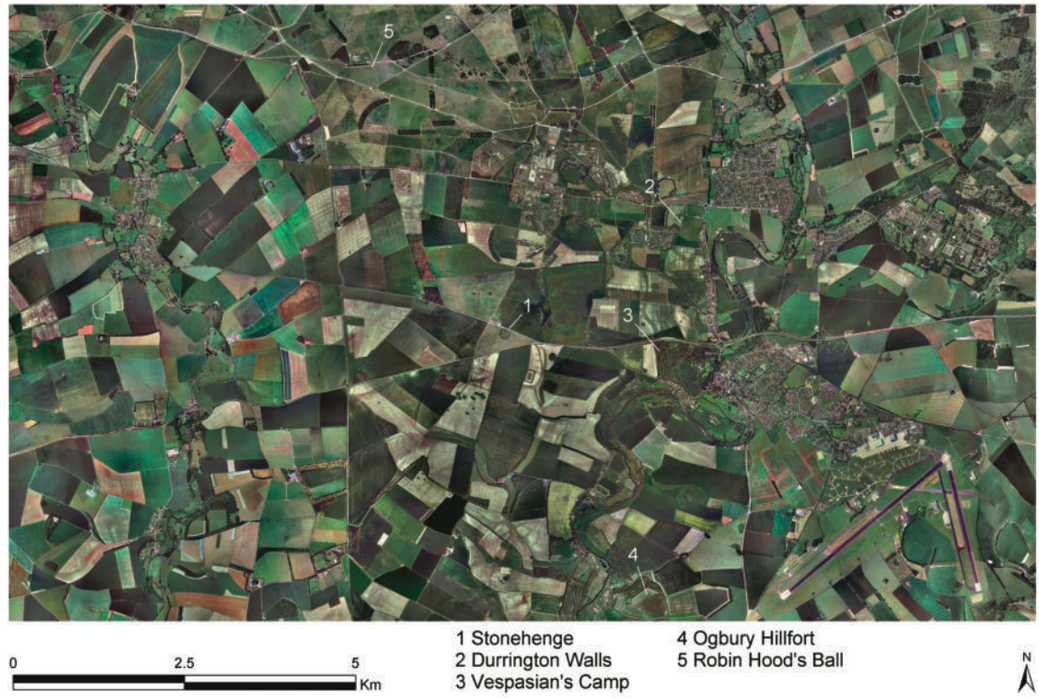
Illustration 19
Salisbury Plain, a chalk downland landscape. [*Photograph: Timothy Darvill. Copyright reserved.*]

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Down, Wilsford Down, Normanton Down, Stonehenge Down, Winterbourne Stoke Down, Durrington Down, Knighton Down, and Alton Down. Throughout this region there are numerous small dry or seasonally running river systems, for example Stonehenge Bottom, and low eminences and ridges such as King Barrow Ridge. Stonehenge itself lies on such an eminence at about 100m OD. Some of the smaller valleys are fairly steep-sided. This land is mainly of agricultural grades 3 and 4 (Darvill 1991a, 41–2).

The land east of the Till is very similar in character to the central block, again with numerous small valley systems running westwards from the main river. Parsonage Down and High Down are the two main named areas of downland (Map A).

Both the Avon and the Till run through relatively narrow but pronounced valleys typically 1km wide. The rivers meander through these valleys and have built up fairly well-developed alluvial floodplains. A low terrace consisting of loamy flinty drift flanks the Avon Valley, while the alluvium of the floodplain floor is clayey and calcareous. Some of the seasonal valleys and dry valleys that carried rivers in earlier times also contain alluvial



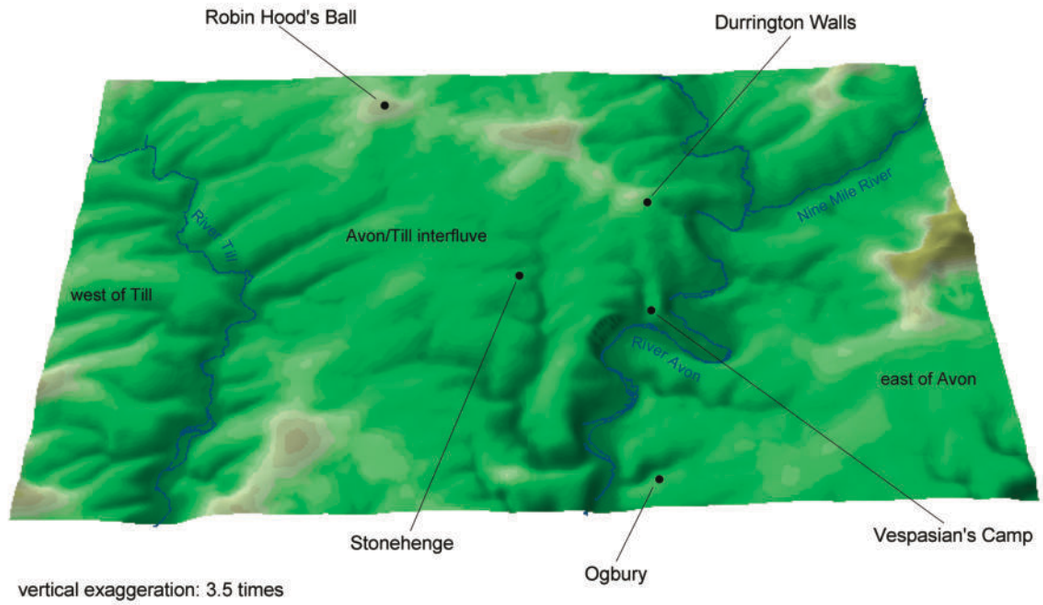


Illustration 20
The Stonehenge Landscape. (top) Mosaic of landsat images with some of the main sites and monuments indicated. (bottom) Digital terrain model. [*Top image extracted from Millennium Map, by permission of Getmapping plc. Bottom image based on EDX Engineering Inc. data at 50m intervals.*]

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deposits which are believed to mask underlying archaeological evidence and which have recently been shown to preserve useful environmental sequences (Allen 1997, 120; Cleal et al. 2004).

Colluvium deposits do not appear to be well represented in the Stonehenge Landscape, or at least in the areas examined to date. Accumulations up to 1.5m thick were reported within the southern part of the interior of Durrington Walls (Wainwright and Longworth 1971, 23). Rather less substantial deposits were revealed in a slight hilltop saddle occupied by Coneybury henge (Richards 1990, 124), and may be inferred from the presence of lynchets associated with early fieldsystems. However, a sampling programme involving the investigation of eight locations undertaken within the context of the Stonehenge Environs Project in 1981–2 failed to identify significant deposits (Richards 1990, 210–11). More recently, deposits of colluvium have been recognized on Coneybury Hill (WA 1993a), on the west side of the River Avon below Durrington Walls (Richards 1990, 263), and within and around the foot-slopes of Vespasian's Camp where its accumulation may be dated to the later prehistoric, Roman, and medieval periods (Hunter-Mann 1999).

Visibility and intervisibility within and across the Stonehenge Landscape has been explored using GIS technology to examine viewsheds under a range of predefined conditions. This analysis demonstrates not only the very strong visual relationship between Stonehenge and numerous contemporary monuments but also the intervisibility of the sites with each other (Batchelor 1997, 71; Cleal et al. 1995, 34–40; Exon et al. 2000).

PLEISTOCENE ENVIRONMENTS AND THEIR OCCUPANTS (TO 12,000 BC)

Preserved *in situ* deposits of Pleistocene origin are extremely rare in Britain and in this regard the Stonehenge landscape is no exception. Secondary *ex situ* deposits are more widespread, especially in the river valleys of central, southern, and eastern England, and provide important evidence of these early times (Piggott 1973a; Wymer 1999; Wenban-Smith and Hosfield 2001). Such evidence as is available comes mainly from the study of buried soil profiles, artefact assemblages, stray finds, and collections of associated or contemporary faunal remains from river gravels and alluvial spreads. In this the Stonehenge Landscape has considerable potential. Map E shows the distribution of recorded evidence of the Palaeolithic period.

At Durrington Walls, examination of a layer of coombe rock at the base of the two profiles suggested that the shallow valley, in which the site was carved out during a period of extreme cold, was nonetheless moist enough for solifluxion and the formation of the coombe rock. This possibly happened during the last Weichselian Glaciation *c.*30,000 to 50,000 BC. Later frost-weathering created a series of involutions in which there was a snail fauna, suggestive of an open tundra environment, although the dating of this horizon is extremely uncertain (Evans in Wainwright and Longworth 1971, 334). Wider issues connected with the formation and subsequent loss of periglacial deposits on the Wiltshire chalklands have been discussed by John Evans (1968).

At least two finds of Pleistocene faunal remains have been made in the Avon Valley. Grinsell (1957, 27) reports teeth of mammoth and woolly rhinoceros from a poorly recorded findspot in Amesbury parish, while a mammoth tooth was found in gravel in Durrington parish (Grinsell 1957, 65; Stevens 1921). Both finds confirm the potential of the Avon Valley floodplain deposits and gravel terraces as important potential sources of information about the area at this early date.

Palaeolithic artefacts have been found at five sites within the Stonehenge Landscape (Map E; Illustration 21). At Lake in the Avon Valley, discoveries made in the later nineteenth century include ovate handaxes (?Acheulean) and flakes from the terrace gravels (Evans 1897, 627–8; Roe and Radley 1969, 13). A handaxe from south of Amesbury Abbey may also derive from the river gravels, while two handaxes from Alington, Boscombe, come from deposits in the valley of the River Bourne (WA 1993b, Av3–1).

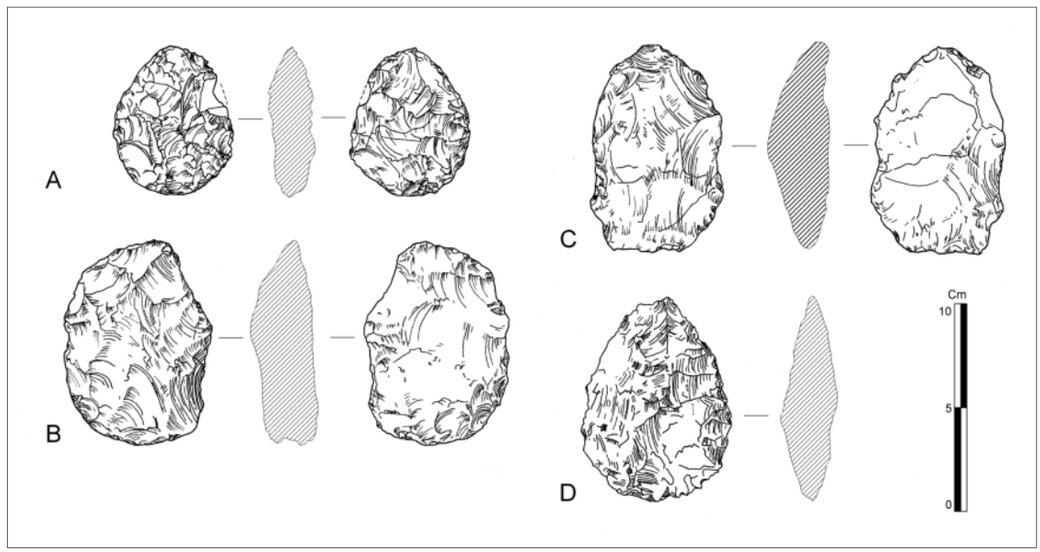


Illustration 21
Palaeolithic implements from the Stonehenge Landscape. A–C from Stapleford. D from Lake. [*After Harding 1995, 121, and Evans 1897, figure 468.*]

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There are also hints of finds on the interfluves between the main rivers in the area: a flint core of 'tortoise' type found southwest of Greenland Farm, Winterbourne Stoke (Anon 1973; DM 39.1972), and a handaxe from 'near Stonehenge' (WA 1993b, Av3–3). In 1992 a group of three handaxes and associated worked flint was found on an upland field situated on a spur on the north side of the Wylye Valley just outside the Stonehenge Landscape at Stapleford (Harding 1995).

All of these form part of a much larger body of material from the Avon Valley and its tributary valleys, itself connected to the Solent River in antiquity (Wenban-Smith and Hosfield 2001), and serve to emphasize the great potential of these deposits in the Stonehenge Landscape (cf. Roe and Radley 1969, figure 1; Harding and Bridgland 1998; Wymer 1999). Most important is that the valley fill deposits in the Stonehenge Landscape (Map E) do not appear to have been extensively quarried, unlike those lower down the Avon, and they thus represent an important reserve.

POST-GLACIAL HUNTER-GATHERERS (12,000–4000 BC)

The late glacial, post-glacial, and early Holocene saw the transition from tundra environments to an open hazel and pine Boreal woodland: the Wildwood. Archaeological evidence for human activity mainly takes the form of scattered lithic debris and occasional evidence of constructed features. No sites in the Stonehenge Landscape have been excavated with the primary aim of investigating aspects of this period, although relevant material has been uncovered during salvage operations and the investigation of later monuments and features. Map F shows the distribution of findspots and sites relevant to the period *c.*12,000 to *c.*4000 BC.

The extensive surveys of the Stonehenge Environs Project revealed very little evidence of late Upper Palaeolithic and Mesolithic activity beyond a light scatter of microliths. Richards (1990,16) suggests that this may be a result of inappropriate sampling strategies being applied. Another possible bias in the picture is caused by cover-deposits sealing land surfaces of this period. Richards (1990, 263) cites the results of a sample excavation through a colluviual bench on the western side of the River Avon below Durrington Walls which revealed an *in situ* blade-based flint industry with microliths. More recently, in 2004, field evaluations west of Countess Farm carried out in connection with planning the A303 improvements revealed a hollow in the bed-rock with associated Mesolithic flintwork sealed beneath a layer of alluvium/colluvium (J Keyte pers. comm.). Other similar deposits no doubt await discovery along the main river valleys.

Early Mesolithic

Nothing that can be ascribed to the late Upper Palaeolithic either on chronological (*c.*12,000–*c.*9000 BC) or on cultural grounds (Creswellian or Cheddarian flintworking traditions) has been recognized from the Stonehenge Landscape to date. The earliest evidence currently recognized belongs to what is conventionally referred to as the early Mesolithic, broadly the ninth to seventh millennia BC, which is often characterized culturally as the period of the Maglemosian hunters.

No extensive early Mesolithic flint scatters are known within the Stonehenge Landscape, but, unusually, there is evidence for constructions of the period. The most securely dated comprise three substantial postholes and a tree-hole found during the construction of the Stonehenge car-park north of the modern A344 in 1966 (Vatcher and Vatcher 1973), and a pit (known as Pit 9580) found about 100m to the east during alterations to the visitor centre in 1988–9 (Cleal et al. 1995, 43–7). Charcoal dates posthole A to 8560–8200 BC (HAR-455: 9130±180 BP), posthole B to 7550–6550 BC (HAR-456: 8090±180 BP), and the base of the recut secondary fill of pit 9580 to 8300–7750 BC (GU-5109: 8880±80 BP). The date of the tree-hole is not known although it is sometimes assumed to be contemporary and may in fact have been the focus of this small cluster of features. Their wider context in terms of potential relationships with areas outside the investigated trenches is unknown. No artefacts are associated with any of the features, but they are distinctive in having an abundance of pine charcoal which Allen (in Cleal et al. 1995, 52) associates with the Boreal biostratigraphic subdivision of the Flandrian. The pollen sequence and mollusca profile from Pit 9580 provide the first evidence for the character of the Boreal woodland actually within the chalklands: a birch, pine, hazel mix.

The posts that once filled the postholes in the Stonehenge car-park are widely interpreted as 'totem-pole'-like structures (e.g. Allen in Cleal et al. 1995, 55–6; Allen 1997, 125–6) and as such would represent the first appearance of monumental features in the landscape. The possible connection between a tree as a 'natural' thing and an upright post as a 'cultural' thing may be relevant, and perhaps shows that some kind of special significance attached to the area even at this early date. More than anything, however, these postholes illustrate the importance of dating of even the most simple of features.

Potentially contemporary features have been found at two other sites; more may await recognition through the review of published excavation reports. Below the Winterbourne Stoke barrow G30, situated in the western end of the Stonehenge Cursus, there was an oval hollow about 1.8m by 2.8m in extent. It stratigraphically pre-dates the barrow and contained only pine charcoal as an indicator of its age (Christie 1963, 377 and 381). Similarly, a subsoil hollow beneath the bank at Woodhenge contained abundant flecks of charcoal and a slightly calcined core-trimming flake of Mesolithic type associated with a woodland fauna (Evans and Wainwright 1979, 73, 162, and 192–4).

Stray finds of early Mesolithic types may well exist within existing assemblages from the area, but have yet to be recognized. That the Avon Valley was occupied during this period is, however, well attested by the substantial settlement known at Castle Meadow, Downton, just outside the Stonehenge Landscape south of Salisbury. Here structural evidence in the form of scoops, 'cooking holes', and stakeholes was found, as well as a large flint assemblage (Higgs 1959). Interestingly, like Stonehenge, Downton also lay within an area that was later used in the later third and early second millennia BC (Rahtz and ApSimon 1962).

Late Mesolithic

The late Mesolithic as expressed by conventional cultural-historical terminology, broadly the sixth and fifth millennia BC,

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is widely regarded as a period of supreme interest and importance because it embraces the transition from essentially hunter-gathering lifestyles to agricultural subsistence systems. The early part of the period is characterized by small and obliquely blunted microliths and core tools, although insufficient assemblages from central southern England are known to allow accurate characterization. On present evidence the Stonehenge Landscape lies in a border region between two of Jacobi's putative technologically based social territories: the South Western technology to the west and the Wealden technologies to the east (Jacobi 1979, 68). By the very end of the period, around the start of the fourth millennium BC, there is the first appearance of novel implements such as leaf-shaped arrowheads and polished axes, ceramics, the construction of earth and stone monuments, and the deliberate opening up of the environment (Phase A in Whittle's (1993, 35) scheme for the Avebury area). Most authorities believe that in southern England at least the change between these conditions was fairly gradual rather than abrupt, that elements of the patterns that appear in the fourth millennium BC can be traced back in the fifth and sixth millennia BC.

Of the 30 or so findspots of Mesolithic material in the Stonehenge Landscape listed by Wymer (1977) most can tentatively be assigned to the later Mesolithic, although a full examination of the material in its wider context is long overdue (cf. Roe and Radley 1969, 20; Coady 2004). The distribution of finds (Map F) shows an interesting concentration on the Avon–Till interfluve.

At least five tranchet axes/adzes have been found (Illustration 22), mainly on the downland, including a possible example from the Stonehenge car-park (Cleal et al. 1995, figure 203) and one from 'a field near Stonehenge' which also yielded a flake of Portland chert imported to the region from

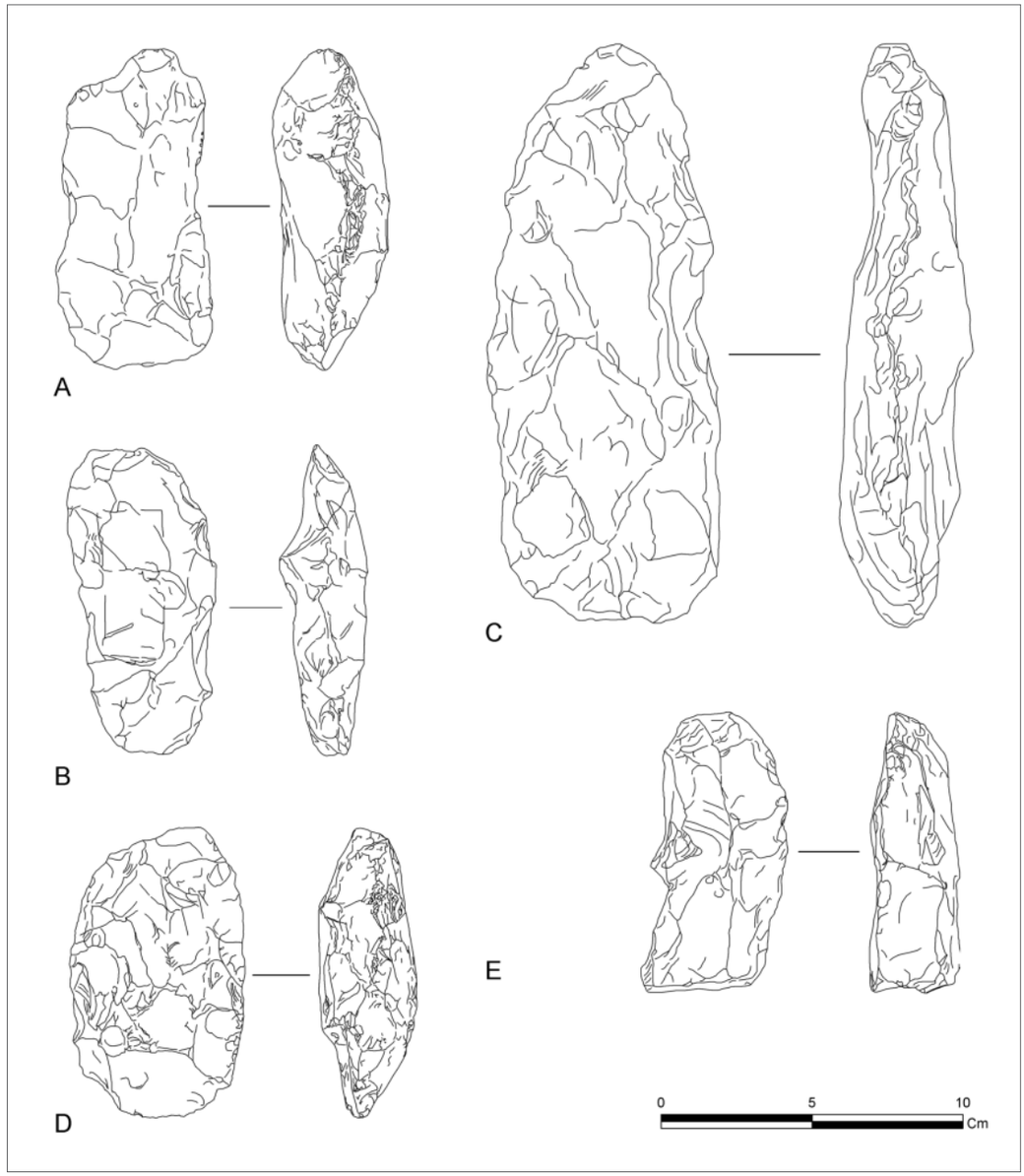


Illustration 22
Tranchet axes from the Stonehenge Landscape. A: Starveall Plantation. B: Tumulus 22. C: Holders Road, Amesbury. D: King Barrow Ridge. E: near Stonehenge. [*Drawings by Vanessa Constant of implements in Devizes Museum (A, B, D, and E) and Salisbury and South Wiltshire Museum (C).*]

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outcrops on the south coast (Wymer 1977, 333; and cf. Palmer 1970). Another possible import is the perforated dolerite pebble hammer, probably from the Welsh marches, found inside Durrington Walls (Crawford 1929, 49–50; but cf. Roe 1979, 36). Rankine (1956, 159–60) lists two additional hour-glass perforated pebbles from within the Stonehenge Landscape – from Bulford and Winterbourne Stoke – but little is known about the findspots.

Structures and deposits securely dated to the sixth and fifth millennia BC are scarce within the Stonehenge Landscape, as across southern England generally. At Stonehenge itself an animal bone from the packing of Stonehole 27 in the sarsen circle has been dated to 4340–3980 BC (OxA-4902: 5350±80 BP) and may be regarded as residual and indicative of pre-henge activity that is otherwise invisible (Cleal et al. 1995, 188–90 and 529). Excavations at Boscombe Down Sports Field revealed possible Mesolithic pits, but further details must await publication of the work.

EARLY AND MIDDLE NEOLITHIC (4000–3000 BC)

From about 4000 BC the quantity and range of archaeological evidence in the Stonehenge Landscape increases considerably. The fourth millennium BC, conventionally the early and middle Neolithic (Phases B–D in Whittle's (1993, 35) sequence for the Avebury area), sees the construction of numerous earth, stone, and timber monuments. It was probably at this time that substantial clearings were opened in the Wildwood, with pasture and secondary woodland developing (Allen 1997, 126–7).

Archaeologically, this period is well represented in the Stonehenge Landscape, with many of the main classes of evidence present. Investigations of these have, in one case, been used to define a nationally recognized class of monument, the oval barrow, while the Stonehenge Cursus is widely accepted as the first example of its kind to be

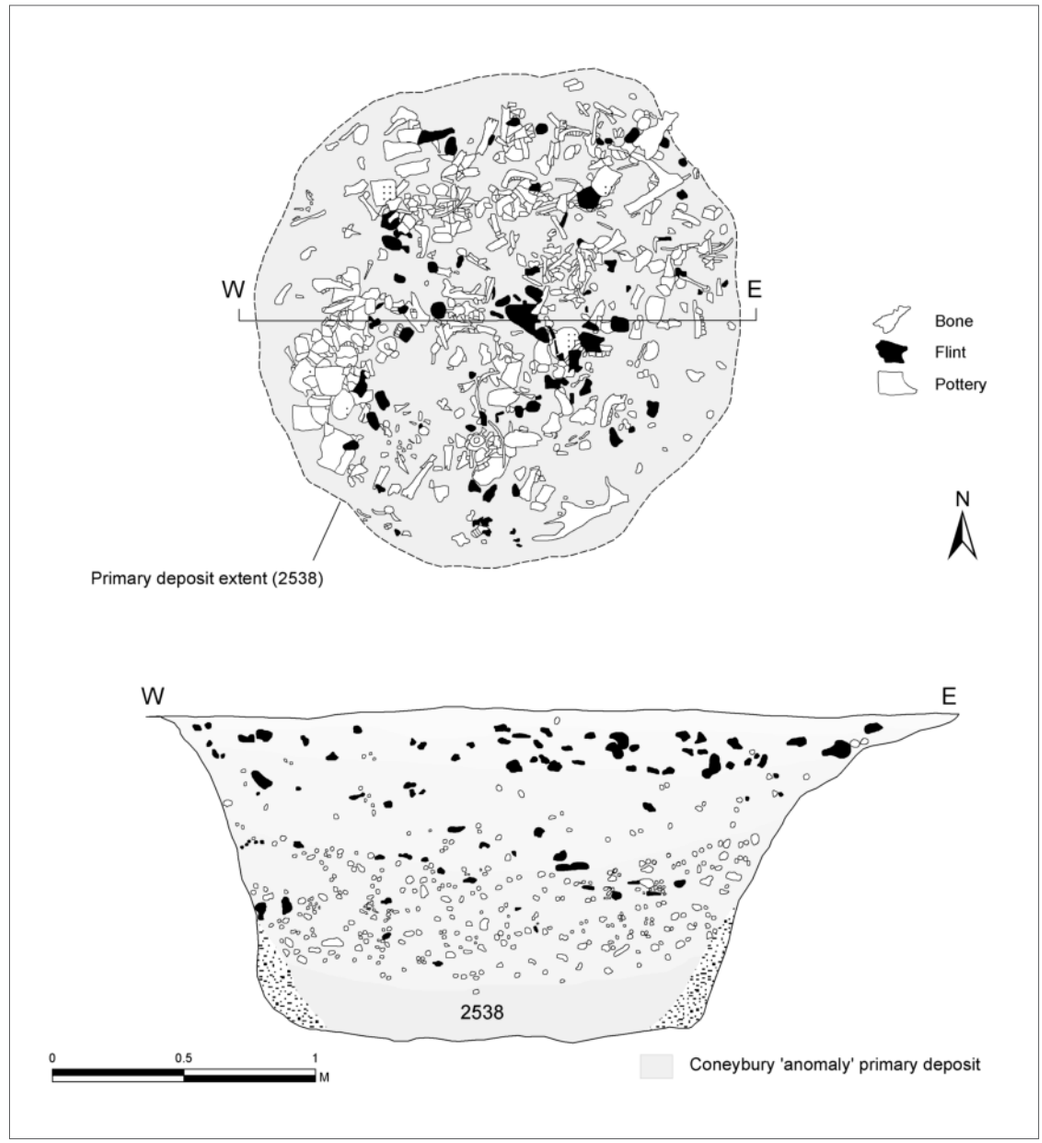


Illustration 23
The Coneybury 'Anomaly'. [*After Richards 1990, figure 24.*]

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identified in modern times and the name applied at that time has since been used to refer to the class as a whole. Piggott (1973b) and Whittle (1977) provide useful general background accounts of the period relevant to the Stonehenge Landscape. Map G shows the distribution of recorded sites and finds relating to the early and middle Neolithic.

Not all monuments of the period were substantial and upstanding. A large pit 1.9m across and more than 1.25m deep on Coneybury Hill (known as the Coneybury Anomaly: Illustration 23) has been dated to 4050–3640 BC (OxA-1402: 5050±100 BP). It is interpreted as a ceremonial feature associated with feasting on the basis of the rich faunal assemblage that includes abundant remains of cattle and roe deer together with lesser amounts of pig, red deer, beaver, and brown trout. Parts of at least 37 ceramic vessels were represented as well as 47 flint scrapers, two leaf-shaped arrowheads, and a broken ground flint axe (Richards 1990, 43).

Mention should also be made of the Wilsford Shaft excavated in 1960–2 by Edwina Proudfoot and Paul Ashbee as a result of investigating the presumed pond barrow, Wilsford 33a, to the southwest of Stonehenge (Ashbee et al. 1989). The chalk-cut shaft was 30m deep and 1.8m wide. The bottom section was waterlogged and preserved organic remains including wooden objects such as broken buckets and pieces of cord. Although conventionally dated to the mid second millennium BC, the series of radiocarbon dates begins at 3650–3100 BC (OxA-1089: 4640±70 BP). The earliest date relates to a section of wooden bucket and is both chronologically and stratigraphically the earliest date obtained. All the other dates from the site fall in good chronological order in relation to their depth within the shaft. The early date was rerun with a similar result and tests were carried out to check for contamination resulting from conservation with negative results (Housley and Hedges in Ashbee et al. 1989, 68–9). Bearing in mind the use of antler picks for the digging of the shaft a Neolithic date for its construction and initial use followed by refurbishment and cleaning-out (perhaps including dressing the walls with metal axes?) should not be ruled out. At the very least the site has yielded the best evidence in Britain for a wooden bucket dating to the mid third millennium BC. Further work and additional dating on the assemblage of organic objects has much potential. Consideration might also be given to a role for the shaft in relation to a solar cosmological scheme given its position southwest of Stonehenge on the axis of the midwinter sunset as viewed from Stonehenge.

Other, rather smaller, pits and clusters of pits also of the fourth millennium BC were found on King Barrow Ridge and Vespasian's Ridge during the upgrading of the A303, although details are scant (Richards 1990, 65–6). Bone from the pit on King Barrow Ridge was dated to 3800–3100 BC (OxA-1400: 4740±100 BP). Another small early Neolithic pit was found in 1968 during the laying of an electricity cable west of King Barrow Ridge. Sherds of a single vessel representing a small cup or bowl were found (Cleal and Allen 1994, 60). The exploration of a dense flint scatter northeast of the enclosure boundary at Robin Hood's Ball revealed a cluster of shallow pits containing pottery, flintwork, and animal bones. Two have been dated to 3800–3100 BC (OxA-1400: 4740±100 BP) and 3650–2900 BC (OxA-1401: 4550±120 BP). Their purpose is unknown, but similar arrangements have been noted at other enclosure sites in southern England including Windmill Hill (Whittle et al. 2000, 141–4).

Although early accounts of Neolithic enclosures in southern Britain cite Yarnbury as a possible example (Curwen 1930, 37), this was disproved by the results of Cunnington's excavations in 1932–4 (see Oswald et al. 2001, 157). The only certain early–middle Neolithic enclosure in the Stonehenge Landscape is Robin Hood's Ball, although other likely looking sites which have yielded Neolithic finds, such as Ogbury, deserve further attention.

The enclosure of Robin Hood's Ball exists as a well-preserved earthwork towards the northwest corner of the



Illustration 24
Robin Hood's Ball from the air, looking northwest. [*Photograph: English Heritage NMR18220/31 ©Crown copyright (NMR)*]

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Stonehenge Landscape (Illustration 24). Small-scale excavations in 1956 confirmed the identification of the earthworks as a causewayed enclosure of fourth-millennium BC date (Thomas 1964; Oswald et al. 2001, 157; McOmish et al. 2002, 31–5), but no more precise information about the chronology of the site is available. Morphologically, the site has two roughly concentric ditch circuits. The inner circuit is sub-circular, the outer circuit pentagonal in plan with the flat base to the southeast (Oswald et al. 2001, 5). The entrance in the inner circuit opens to the southeast. Surface evidence suggests complex patterns of ditch recutting and changes to the alignment of individual ditch segments.

Despite the generally high level of aerial reconnaissance in the region, Robin Hood's Ball seems to be a fairly isolated enclosure spatially associated with a relatively discrete cluster of long barrows and oval barrows fitting well with a dispersed pattern of middle Neolithic enclosures across central southern Britain (Ashbee 1984b, figure 6; Oswald et al. 2001, 80). This pattern was interpreted by Colin Renfrew (1973a, 549) in terms of emergent chiefdoms, with the long barrows representative of scattered local communities whose collective territorial focus was a causewayed enclosure (and cf. Ashbee 1978b, figure 22).

Barrows in and around the Stonehenge Landscape have been the subject of surveys and investigations since the eighteenth century, and in some cases represent major contributions to the classification of such monuments. Several types can be recognized, of which the largest, typically over 50m in length, are the classic long barrows.

At least eight long barrows can be recognized in the Stonehenge Landscape, although none have been fully excavated (Illustration 25). Amesbury 42 at the east end of

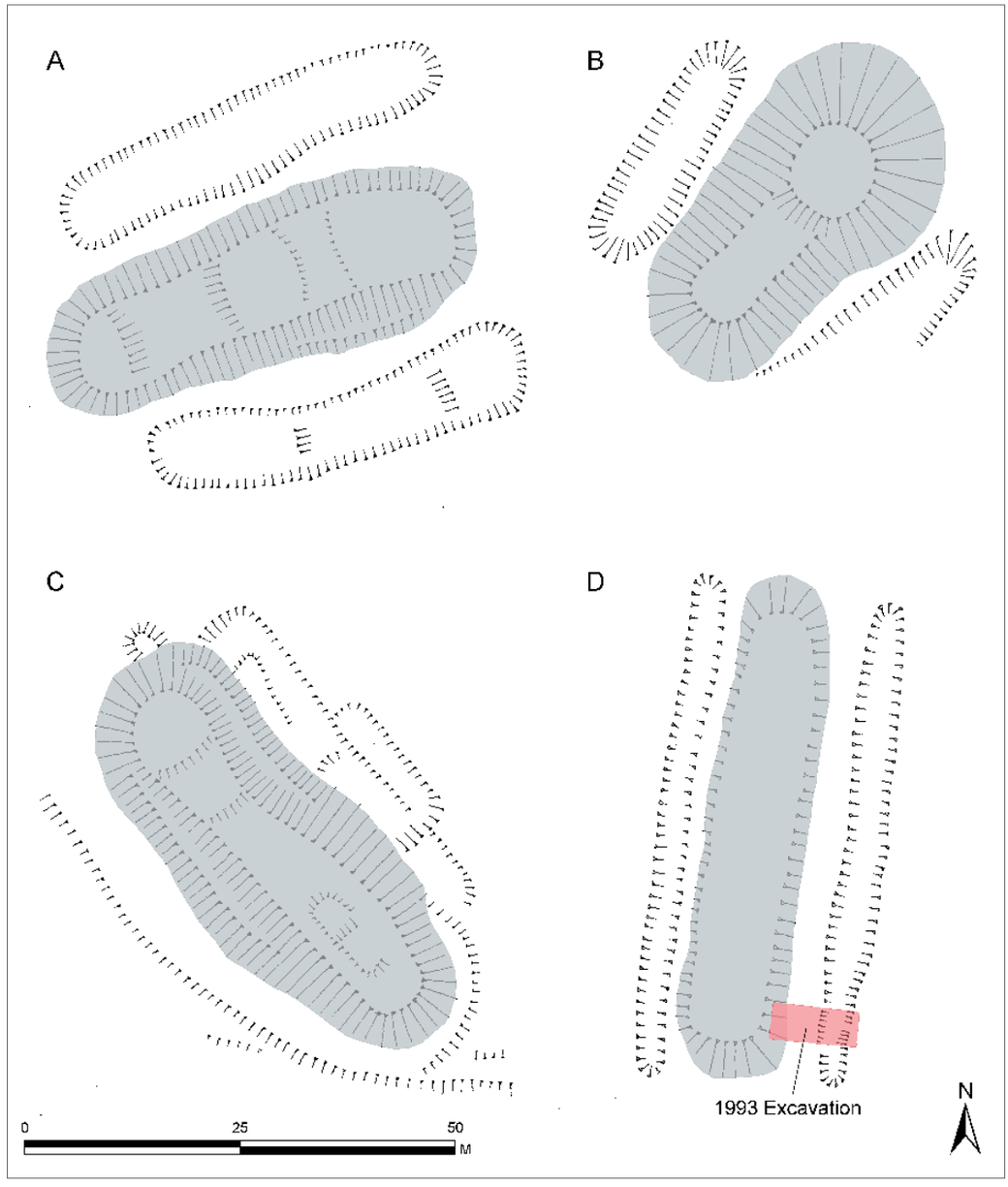


Illustration 25
Long barrows in the Stonehenge Landscape. A: Netheravon 6. B: Milston 1. C: Durrington 24. D: Amesbury 42. [*A after McOmish* et al. *2002, figure 2.4; B after Canham 1983, figure 2.25; C after McOmish* et al. *2002, figure 2.8C; D after Richards 1990, figure 64.*]

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the Stonehenge Cursus is recorded by Grinsell as being 80m long, 21m wide, and originally over 1.1m high (1957, 137). Excavations by John Thurnam revealed at least three burials, but details are scant (Thurnam 1868). The excavation of a single section across the eastern ditch, berm, and mound edge in 1983 revealed evidence for at least two phases of construction but no evidence for absolute dating was recovered (Richards 1990, 96–109). A second well-known long barrow is at Long Barrow Crossroads (Winterbourne Stoke 1; Illustration 26). Grinsell records this example as being 73m long by 21m wide and originally over 3m high (Grinsell 1957, 146). There have been no modern excavations here, and the work carried out by John Thurnam in 1863 is inadequate for anything more than a very superficial understanding of the site. What appears to have been a primary burial was represented by the remains of an adult male in flexed position and accompanied by a flint implement. Six probably secondary burials were discovered. Other long barrows include Winterbourne Stoke 71, Milston 1, Figheldean 31, and the destroyed Figheldean 36. Lukis (1864, 155; Grinsell 1957, 137) records what may be a chambered long barrow at West Amesbury (Corcoran 1969,

Illustration 26
(top) Winterbourne Stoke 1 long barrow at Long Barrow Crossroads. (bottom) Bowls Barrow. [*Photographs: Timothy Darvill. Copyright reserved.*]

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294: WIL 13) that was destroyed prior to the mid nineteenth century (but see also Bonney 1981).

Whether all of these long barrows belong to the earthen long barrow tradition (Ashbee 1984b) is far from certain given the nature and extent of recorded excavation. Russell (2002, 25–70) proposes the reclassification of some long barrows as structured mounds. In view of the apparent poverty of remains from early excavations it is possible that some of the long barrows around Stonehenge fit within a group of chamberless mounds in central southern England typified by South Street, Wiltshire, and others (Ashbee et al. 1979; Darvill 2004b, 113–14).

In 1865 John Thurnam proposed the identification of oval barrows as a distinct class of Neolithic monument on the basis of his excavations at Winterbourne Stoke 53 (Thurnam 1869). Although this is sometimes regarded as simply the short end of the overall spectrum of long barrow sizes, recent work in Sussex (Drewett 1986) and Oxfordshire (Bradley 1992) has endorsed Thurnam's original proposition and shown the class to be long-lived through the fourth and third millennia BC. Such barrows (also known as 'short' long barrows – see also McOmish et al. 2002, 21–31 on Salisbury Plain examples) are generally less than 45m long and rather squat in outline with curved side ditches. There are more than a dozen scattered across the Stonehenge Landscape (Map G), mainly between the Till and the Avon. From what little information about internal structure and date can be obtained from antiquarian excavations it seems that not all belong to the fourth millennium BC and some may well have been built in the third millennium BC (Illustration 27). Excavations at the Netheravon Bake oval barrow yielded a date of 3710–3350 BC (OxA-1407: 4760±90 BP) from antler from the base of the phase I ditch (Richards 1990, 259), but further details of this site remain to be published. Immediately south of the Stonehenge Landscape the oval barrow Woodford G2 was fully excavated by Major and Mrs Vatcher in 1963 (Harding and Gingell 1986, 15–22) and perhaps shows what might be expected at some of the examples noted above.

Rather surprisingly, none of the investigated round barrows in the Stonehenge Landscape shows conclusive evidence of an early or middle Neolithic construction date, despite the occurrence of a few such monuments elsewhere in southeastern England (Kinnes 1979). A crouched inhumation in a circular grave that was loosely associated with early Neolithic pottery in the fill was found in 1932 at Woodhenge, Totterdown. It may have been the focus of a round barrow (RCHM 1979, 7), but equally it may be a pit grave, a type also distinctive of the period although little studied (Kinnes 1979, 126–7).

The long enclosure tradition found widely across Britain in the fourth millennium BC is well represented in the Stonehenge Landscape. At the small end of the size-spectrum is the long mortuary enclosure on Normanton Down excavated by Mrs Vatcher in 1959 (Vatcher 1961). Approximately 36m long by 21m wide the enclosure is defined by a discontinuous ditch and an internal bank. The remains of a structure, possibly a portal of some kind, lay inside what appears to be an entrance through the earthwork at the southeast end. A radiocarbon determination from antler in the ditch fill suggests a date of 3550–2900 BC (BM-505: 4510±103 BP).

Rather larger is the so-called Lesser Cursus. Levelled by ploughing between 1934 and 1954, this monument was originally bounded by a ditch with an internal bank. Sample excavations in 1983 showed that there were at least two main phases to its construction. Phase I comprised a slightly trapezoidal enclosure 200m by 60m whose ditch may have been recut more than once. In Phase 2 this early enclosure was remodelled by elongating it eastwards

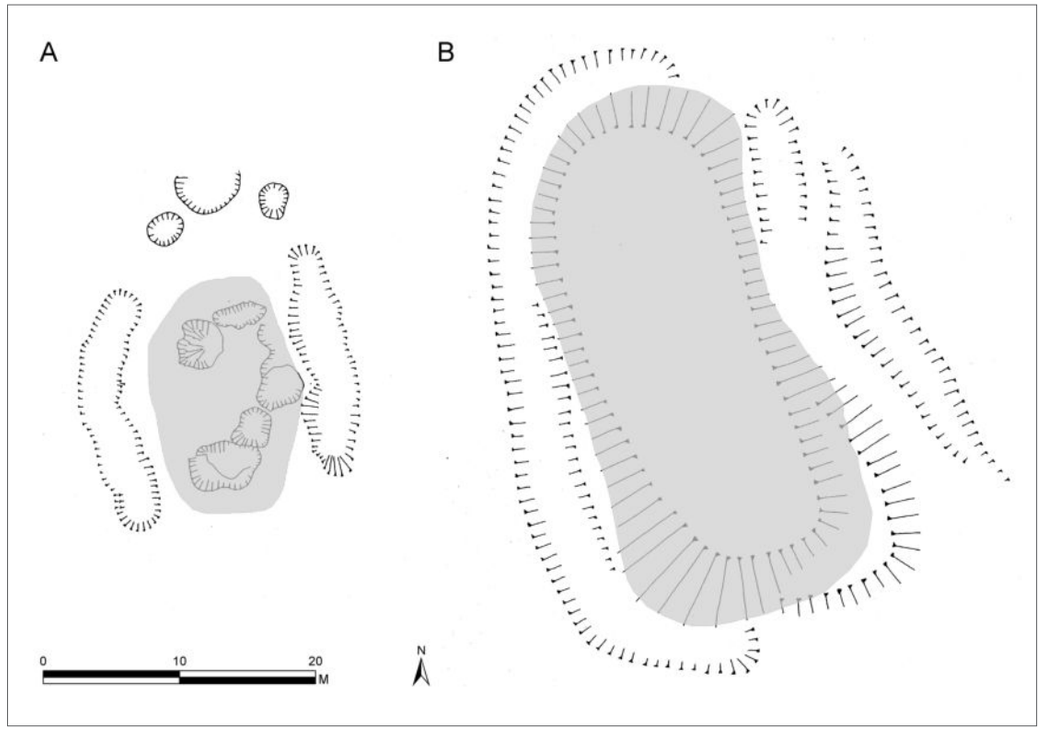


Illustration 27
Oval barrows in the Stonehenge Landscape.
A: Woodford G2.
B: Netheravon Bake.
[*A after Harding and Gingell 1986, figure 7; B after McOmish* et al. *2002, figure 2.8.*]

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by 200m. This extension comprised only two parallel side ditches; the western end was open (Richards 1990, 72–93). A sample of antler from the Phase I ditch has been dated to 3650–2900 BC (OxA-1404: 4550±120 BP) and, rather inconsistently, antler from the Phase II ditch to 3650–3050 BC (OxA-1405: 4640±100 BP). A detailed survey of the site in 1983 using magnetometry revealed the presence of an irregular oval enclosure *c.*15m across off-centre near the eastern end. There are also numerous anomalies suggestive of pits within and around the main enclosure (David and Payne 1997, 87–9).

Longer still is the Stonehenge Cursus which also probably belongs to the fourth millennium BC, although this has never been firmly established. First recognized by William Stukeley in 1723, the Stonehenge Cursus is nearly 3km long, and between 100m and 150m wide, and is defined by a chalk rubble bank and an external ditch. It is one of very few cursus monuments in the British Isles that remain standing as a visible earthwork, although part of what can be seen at the western end is a reconstruction based on its appearance prior to being bulldozed in the late 1950s. Four episodes of excavation have taken place at various points around the cursus, the results serving to emphasize its varied form and scale (RCHM 1979, 13–15 and Richards 1990, 93 for summaries). The most recent excavations, in 1983, made two cuttings through the southern ditch but recovered no significant dating evidence (Richards 1990, 95–6). An antler recovered from the floor of the ditch of the southern boundary in 1947 (Stone 1948, 13) has been dated to 2890–2460 BC (OxA-1403: 4100±90 BP) but Richards has plausibly argued that it derives from an intrusive cut into the ditch fills and is thus not primary (1990, 96). Finds from the ditch fill include a sherd of undistinctive pottery, a fragment of bluestone, a piece of sarsen rubber, and a stone maul (Stone 1948, 15). The total excavation of the Winterbourne Stoke 30 bowl barrow in the western terminal of the Cursus (now restored as a mound) provides the only substantial view of an area within the interior of the Cursus. A few pre-barrow features were noted, but none could be securely dated or certainly associated with the Cursus (Christie 1963). Neither was the barrow itself securely dated as the primary burials were unaccompanied cremations. A substantial assemblage of struck flint recovered from the 1959 excavation of the Cursus ditch includes the remains of *in situ* working at a time when the ditch was freshly dug (including rejoinable flakes); this has provisionally been dated on technological grounds to the late Neolithic (Saville 1978, 17).

Occupation sites of the early and middle Neolithic are few and interpretation of what is available is difficult. No houses have been recorded although they may be assumed to be rectangular structures, constructed on a timber frame and therefore represented archaeologically as postholes and bedding trenches (Darvill 1996). Round-bottomed pottery, a polished flint axe and leaf-arrowheads from below the bank of Durrington Walls suggest that activity in this part of the Avon Valley was extensive, although exactly what kind of activity the finds represent is uncertain (Wainwright and Longworth 1971, 192–3). Three radiocarbon dates on charcoal from this pre-enclosure phase at the site are 3650–3000 BC (GRO-901: 4584±80 BP), 3510–3090 BC (GRO-901a: 4575±50 BP), and 3550–2600 BC (NPL-191: 4400±150 BP).

The incidence of early and middle Neolithic finds sealed below or within later monuments is widespread within the Stonehenge Landscape, although, as with the Durrington Walls material, it is very hard to interpret. At Amesbury G39 pottery, flintwork, and animal bone include eleven sherds that can be characterized as Windmill Hill Ware (Ashbee 1980, 18). The sample of ten round barrows in the Stonehenge Landscape west of the Avon excavated by Major and Mrs Vatcher between 1959 and 1961 includes a pit containing large fragments of three Windmill Hill style bowls beneath Amesbury G132 (Illustration 28), and a selection of Windmill Hill ware and part of a carinated bowl from the ditch fills of Winterbourne Stoke G46 (Gingell 1988). Earlier Neolithic pottery was recovered from below all four of the Wilsford cum Lake G51–G54 barrows excavated by Ernest Greenfield in 1958, in the case of G52 amounting to more than 200 sherds (Smith 1991, 34–5). Elsewhere there is equally strong negative evidence. A selection of six round barrows in the Lake Group excavated in 1959 produced no residual early and middle Neolithic material (Grimes 1964); likewise none of the 18 round barrows excavated by Charles Green near Shrewton between 1958 and 1960 (Green and Rollo-Smith 1984); and the same applies to the four round barrows east of the Avon excavated in September 1956 (Ashbee 1984a). This apparent localization of early material mainly east and southeast of Stonehenge needs to be validated, but taken at face value contrasts with the situation around Avebury where early and middle Neolithic finds sealed below later monuments seem to be rather more widespread.

It has sometimes been suggested that cultural material underneath later monuments has a special significance because of the imposition of the later monument. This deserves further investigation, but in the Stonehenge Landscape it is most likely that the Bronze Age round barrows are simply preserving a sample of earlier land surfaces, some of which happen to contain traces of earlier activity; there are plenty of excavated round barrows that reveal no evidence of previous intensive land-use.

Results from the Stonehenge Environs Survey fieldwalking add a little to the general picture of activity patterns for this period. Ground flint axes are well represented along King Barrow Ridge, especially on the east side of the Ridge (Richards 1990, figure 157). This, together with earlier finds by Laidler and Young (1938), the incidence of early and middle Neolithic pits in the same area, and the protected or residual finds in the matrix of later monuments, serves to emphasize the importance of King Barrow Ridge in this period. Other concentrations of flintwork of the period were also found in the area southeast of Long Barrow Crossroads, the fields west of Stonehenge, and the area north of the Stonehenge Cursus to the east of Fargo Plantation. In all cases these scatters were characterized by a range of tool types but polished axes were not especially common (Richards 1990, 265).

Stray finds from the Stonehenge Landscape are fairly numerous, but not always typologically date-sensitive to the extent that they can be assigned to this period. Stone and flint polished axes are amongst the most significant and in some cases may indicate the presence of settlements, or be related to important features of the period. A jadite axe probably found during the mid nineteenth century in 'a barrow near Stonehenge' (Campbell Smith 1963, 164, no. 41) is one such find.

A single sherd of bowl-style early/middle Neolithic pottery from Stonehenge may also be regarded as a part of the overall background noise of activity across the landscape (Cleal et al. 1995, 350). That at least some if not all these activities of the fourth millennium BC carried through in

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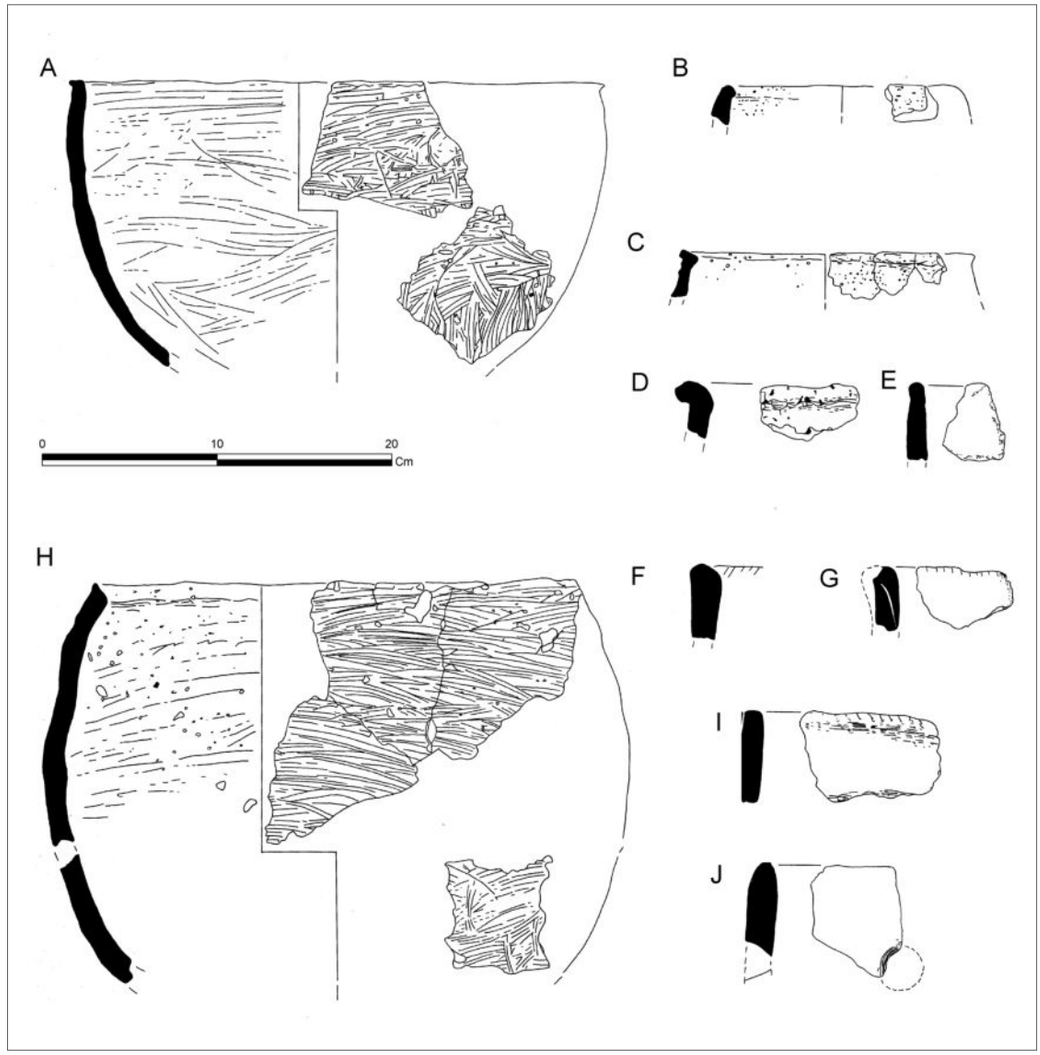


Illustration 28
Neolithic pottery from the Stonehenge Landscape. A, D, and H: Amesbury 132. B and C: Winterbourne Stoke 46. E and G: Wilsford cum Lake G51. F: Wilsford cum Lake G54. I and J: Wilsford cum Lake G52. [*A, B, C, D, and H after Gingell 1988, figures 18 and 34; E, F, G, I, J after Smith 1991, figure 13.*]

some way to the succeeding millennium is amply demonstrated by the inclusion of ancient curated bone items placed in selected locations beside the entranceways to the circular enclosure at Stonehenge, a monument seemingly constructed in the opening century of the third millennium BC, perhaps around 2950 BC (Cleal et al. 1995, 529–30).

LATE NEOLITHIC AND METAL-USING NEOLITHIC (3000–2000 BC)

The late Neolithic of the British Isles, broadly the third millennium BC, is characterized archaeologically by the appearance of new forms of monuments (notably henges, stone circles, round houses, and various types of burial site); Peterborough Ware, Grooved Ware, and Beaker pottery (mainly Case's Group D (Case 1995)); and distinct types of stonework and flintwork. About 2400 BC copper, gold, and bronze objects begin circulating in the area, most of them imports to the region. The last four centuries of the third millennium BC have been termed the 'Metal Using Neolithic' by Needham (1996). It has been suggested that in some parts of Britain there is a hiatus in activity, a shift in settlement patterns, and some evidence of soil exhaustion, scrub growth, and woodland regeneration at the beginning of the third millennium BC (Whittle 1978; Smith 1984, 116–17; and see also Davies and Wolski 2001) but at present there is no evidence for this in the Stonehenge Landscape (Allen 1995, 129–33). The later Neolithic of the Stonehenge area spans phases E and F of the Avebury area sequence proposed by Whittle (1993, 35). A general background to the period is provided by Piggott (1973c), Burgess (1980), and Needham (1996). Map H shows the recorded distribution of sites and finds relating to the third millennium BC.

Overall, the third millennium BC is probably the best-represented phase in the history of the Stonehenge Landscape, at least in terms of the scale and character of the structures and monuments represented. This really is the 'Age of Stonehenge'. Some existing structures whose origins lay in the fourth millennium BC continued to be visible and

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played a part in ongoing activity, as for example the Stonehenge Cursus with its evidence for later Neolithic flintworking well down in the ditch fill (Saville 1978, 17). Others, for example the Lesser Cursus and perhaps Robin Hood's Ball, seem to have fallen out of use, their gradually eroding earthworks trapping archaeological material thereby providing a record of the process of abandonment.

The creation of new monuments in the later Neolithic is amply demonstrated at Stonehenge itself; both the overall sequence and the problems surrounding its robustness have been extensively published (Cleal et al. 1995). The main elements that can be assigned to the third millennium BC are as follows (Illustration 29):

Phase 1, a circular earthwork monument, constructed around 2950–2900 BC, comprised a ditch with an internal bank defining an area about 90m across. Immediately inside the bank was a ring of 56 equally spaced holes (the so-called Aubrey Holes) some of which probably contained upright posts. Outside the ditch was a small counterscarp bank. There were at least three entrances. Deposits of animal bones were placed on the bottom of the ditch in some areas, with particular emphasis on the entrances. An organic dark layer formed over the primary silting of the ditch (Cleal et al. 1995, 63). It may be noted that the construction of the Phase 1 enclosure at Stonehenge is broadly contemporary with the construction of the bank and ditch at Avebury (Pitts and Whittle 1992, 205).

Phase 2, 2900–2400 BC, the basic structure remained the same, but there is evidence for the deliberate back-filling of parts of the ditch, natural infilling, and some features cut into the fills. The Aubrey Holes survived as partly filled features lacking posts by this stage, but timber settings were constructed in the centre of the monument, at the northeastern entrance, near the southern entrance, and outside the earthwork boundary to the northeast. Towards the end of the phase, cremation burials were deposited in the Aubrey Holes, in the upper ditch, and around the circumference of the monument on and just within the bank (Cleal et al. 1995, 115).

Phase 3i, broadly 2550–2200 BC, the first stone phase of the monument is built with the erection of a setting of paired bluestones, the plan of which is far from certain,

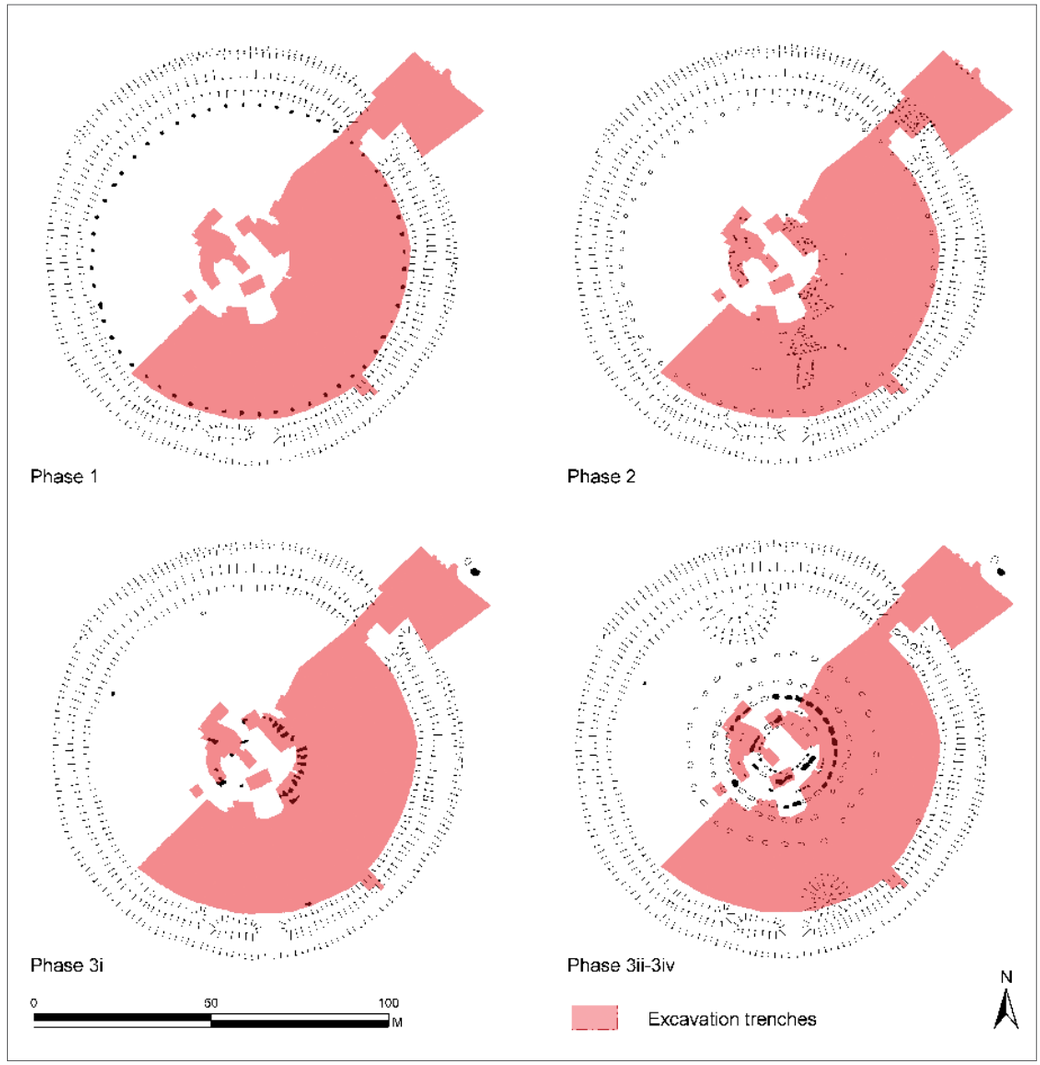


Illustration 29
Schematic phase-plans of Stonehenge 3000–1200 BC. [*After Cleal* et al. *1995, figures 256–7.*]

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in the Q and R holes roughly in the centre of the space defined by the earlier earthwork. The main entrance to this structure was to the northeast and was marked by additional bluestones set inside the double circuit. It is possible that a large slab of greenish sandstone, the Altar Stone, was the focus of this structure; other stones may have stood within and around it. External to the earthwork enclosure, it is likely that at least the first straight length of the Avenue belongs to this phase, as too stone settings around the entrance.

Phase 3ii–v, broadly 2400–2000 BC, sees the demolition of the Phase 3i structures and their replacement (perhaps gradual) by an arrangement of four concentric stone settings which from the inside working outwards comprise: the bluestone horseshoe, five sarsen trilithons arranged in a horseshoe, the bluestone circle, and the sarsen circle. This is the stone structure that can be seen in a ruined state today. Modifications were also made to the peripheral arrangement of stones and the Avenue was extended to the River Avon. The burial of an adult male with evidence of traumatic pathology suggesting death caused by arrow-shot found in a grave dug into the ditch of the northwest sector dates to about 2400–2140 BC (Evans 1984; Cleal et al. 1995, 533).

The apparent integrity of the phasing of Stonehenge and its associated structures hides a great deal of uncertainty (see for example Case 1997). Only a few features have been dated, and some key events have very few secure associated dates. The distribution of elements over a large area limits the use of horizontal and vertical stratigraphy. The longevity of the sequence at the site inevitably introduces problems of residuality in the disposition of finds and datable material. Especially difficult issues include the relationship between the Phase 1 and Phase 2 features; the form and plan of the Phase 3i structure; the sequence of construction for individual elements of the Phase 3ii–3v settings; the sequence and arrangement of features in the centre of the monument (cf. Burl 1997; 2001); the sequence and arrangement of stone settings within and around the northeast entrance (cf. Pitts 1982; Burl 1991; 1994); and both the internal phasing of the Avenue construction and the links between these and the development of the stone settings (cf. Cleal et al. 1995, 533–4).

There is now very little doubt that a major factor in the design of all phases of Stonehenge was the embodiment of key moments in the movement of the sun, especially the solstitial risings and settings. An analysis of patterning in the deposition of finds relating to Phases 1 and 2 at the site by Pollard and Ruggles (2001) suggests that the early structure of the monument, and the attendant depositional practices, embodied a scheme of radial division, including a symbolic quartering primarily demarcated by solstitial rising and setting points. Through sustained ritual practice, however, the motions of the moon came increasingly to be referenced through deposition, particularly cremations (Pollard and Ruggles 2001, 69; cf. Burl 1994, 91). Juxtaposing the movements of the sun and moon is a feature of many early cosmological and calendrical schemes (Hodson 1974), often reflecting concerns about day and night, the transition between the two, and the movements of one celestial body while the other is visually dominant. Alexander Thom and colleagues speculated that the markings on the gold lozenge from Bush Barrow may have allowed it to be used as an alidade-type instrument to fix the dates of 16 of the epochs in a 16-month calendar (Thom et al. 1988), while the discovery in the late 1990s of the Nebra sun-disc at a site in central Germany adds weight to the contention that the sun and moon were combined in the cosmologies of second-millennium BC Europe (Anon 2004).

That the form and shape of the various elements of Stonehenge had specific functions and/or symbolic meaning is inherent to many interpretations of the structure. Hawkins, for example, suggested that the Aubrey Holes had been used as marker-positions for calculations that were made by moving stones between the positions to predict solar and lunar events (Hawkins 1966a). Darvill has suggested that the earthwork of Phase 1 represents a microcosm of the local 'bowl-like' landscape (1997a, 181), while Parker Pearson and Ramilisonina (1998), drawing on cross-cultural ethnographic parallels, see the stone structures in metaphorical terms as a domain of the ancestors, durable and permanent, symbols of eternity occupied by the spirits of the dead. Barrett (1997) has emphasized the architectural order inherent to the structure and the way this might be perceived and understood by those entering the circle after walking up the Avenue from Stonehenge Bottom. In a similar vein, Whittle (1997a) emphasized the three-dimensional nature of the structure, suggesting that in its architecture we may glimpse notions of inclusion and exclusion, unity and division. Taking a sideways view of the site from the field of medicine, Perks (2003) notes the resemblance of the structure to the human vulva with the birth canal at its centre.

Stonehenge is often regarded as entirely unique, and in terms of its overall sequence and survival this is probably true. Many of the individual elements represented can, however, be paralleled elsewhere and it remains an open question as to whether there were other structures of similar complexity elsewhere in Britain. The uniqueness of Stonehenge may lie in its survival rather than its construction.

The earthwork elements of Stonehenge inspired Christopher Hawkes to coin the term 'henge' in relation to a group of prehistoric sacred places (Kendrick and Hawkes 1932, 83) subsequently defined more closely by Atkinson (1951) and Wainwright (1968). As the range of sites that may be considered henge monuments has expanded so the utility of the term adequately to embrace the visible variation has been called into question, and in many respects Stonehenge Phase 1 may now be considered atypical and, in formal typological terms, more closely allied to Kinnes' (1979, 63 and 65–9) enclosed cemeteries. Locally, Stonehenge Phase 1 shares many traits with the Flagstones enclosure near Dorchester, Dorset (Woodward 1988).

Looking beyond Stonehenge, a survey of henge monuments and related sites by Harding and Lee in the mid 1980s proposed three sub-divisions of the broad family that had by that time become known as henges: henge-enclosures; classic-henges; and mini-henges (Harding and Lee 1987). These divisions have been widely adopted and there are examples of each within the Stonehenge Landscape (Illustration 30 and Map H). However, as more henges are discovered across the British Isles it seems increasingly relevant to see mini-henges and classic-henges as part of an essentially continuous spectrum of architecturally diverse structures forming arenas for a range of activities at different scales (Harding 2003).

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Henge-enclosures are large sub-circular enclosures, usually beside rivers and in valley-bottom or valley-side locations. Durrington Walls is one of the four known prime examples, all of which lie within the catchment of the Hampshire Avon (the others are at Mount Pleasant, Knowlton, and Marden). Durrington Walls was extensively excavated in 1966–8 when the main A345 road through the site was realigned. This work revealed the presence of two multi-phase circular timber structures, a midden, and internal boundaries of various sorts (Wainwright and Longworth 1971). Parts of the site were well preserved below colluvial deposits. Geophysical surveys suggest that other similar structures exist within the site (David and Payne 1997, 91–4). A great deal of Grooved Ware pottery was found during the 1966–8 excavations while the radiocarbon dates suggest that the main earthwork was constructed around 2600 BC, with the remodelling of the timber structures continuing down to around 2100 BC. Much debate has surrounded the interpretation of the timber structures, with some authorities seeing them as roofed or part-roofed buildings and others as formal arrangements of freestanding posts (Piggott 1940; Musson in Wainwright and Longworth 1971, 362–77; Parker Pearson 1993, figure 58; Gibson 1998a, 97–121). Likewise, the use and role of the site has been hotly contested, with the excavator favouring an essentially residential/habitational interpretation (Wainwright 1975; 1977) while others interpret the distribution of finds as indicating essentially ritual activities and feasting (Richards and Thomas 1984, 214–15; Albarella and Serjeantson 2002). However, such binary distinctions between domestic and ritual activity are not especially helpful in the prehistoric context; at such a large site, which has evidence of diversity in the scale and nature of the structures represented, more integrative interpretations deserve further exploration.

In addition to Stonehenge itself, three other classic-henges have been identified in the Stonehenge Landscape: Coneybury, Woodhenge, and Winterbourne Stoke (Map H). All have a single entrance so belong to Class I henges in the typology expanded by Atkinson (1951, 82, following Piggott and Piggott 1939).

Coneybury lies on high ground west of the Avon and was for many years regarded as a ploughed-out round barrow. Aerial photography in the 1950s called this view into question and its status was confirmed through surveys and a carefully designed sample-excavation in 1980 as part of the Stonehenge Environs Survey (Richards 1990, 123–58). Grooved Ware pottery was found in the primary ditch fill and internal features while Beaker pottery was common in secondary contexts. The central area of the monument was probably occupied by a timber building (Pollard 1995b, 124). Radiocarbon dates focus on the early third millennium BC and thus suggest contemporaneity with Stonehenge Phases 1 and 2.

Woodhenge also occupies high ground on the west side of the Avon, immediately south of, and partly intervisible with, Durrington Walls. It was identified through aerial photography in December 1925. The interior and cuttings through the boundary earthwork were excavated by Captain and Mrs Cunnington in 1926–8 (Cunnington 1929). A new section through the bank and ditch was cut in 1970 (Evans and Wainwright 1979). The site has a broad ditch and narrow external bank with its single entrance opening to the northeast. The interior is occupied by six oval concentric rings of postholes generally believed to be the foundations of a large timber structure although as at Durrington Walls there is considerable debate about how it should be reconstructed (Pollard 1995a). A grave containing the burial of a child was found near the centre of the site and two sockets for stones were located on the southeast side. Grooved Ware was found in many of the internal features and in the ditch fill. Radiocarbon dates suggest the construction and use of the site in the later third millennium BC, contemporary with Stonehenge Phase 3i–v and the use of Durrington Walls. Analysis of the distribution of finds within the site suggests spatial patterning to the social use of space and considerable similarity to the patterns found in other comparable structures (Pollard 1995a).

Another possible Class I classic-henge has been defined by geophysical survey at Winterbourne Stoke (David and Payne 1997, figure 13A). Like Coneybury this site has for many years been listed as a round barrow (Winterbourne Stoke 74). The single entrance opens to east-northeast; no internal features have been detected.

Mini-henges (also known as hengi-form monuments) are small versions of the classic-henges, typically less than 10m across. They are often found in close association with other later Neolithic monuments such as classic-henges and cursus monuments. The best example in the Stonehenge Landscape is at Fargo Plantation some 100m south of the Stonehenge Cursus. Excavated in 1938 (Stone 1939) the structure comprises a slightly oval ditch broken by a pair of opposing entrances. The internal space measures about 4m by 6m; in the centre was a pit containing an inhumation and two cremations. Beaker pottery was associated with the inhumation. Other examples probably await discovery and there are a few tantalizing hints of possible examples on geophysical surveys and plots of the cropmarks represented on aerial photographs.

A pit-circle comprising at least four rectangular pits arranged in a ring about 10m across was found at Butterfield Down in the early 1990s (Rawlings and Fitzpatrick 1996, 37), the smallest of a group of similar structures known singly or as components of multi-phase monuments. A pit-circle about 50m in diameter that comprised a single ring of more than 30 pits, some containing postholes, was found at Boscombe Down in 2004 (Fitzpatrick 2004b). Rather similar is the ring of 56 so-called Aubrey Holes arranged in a circle some 87m in diameter just inside, and concentric with, the Phase 1 earthwork at Stonehenge (Cleal et al. 1995, 94–107). Some of these may also have contained postholes; some were certainly used for the deposition of cremations. A third pit-circle having a single ring of pits has been identified from aerial photographs of the area immediately north of the egg-shaped enclosure at Woodhenge (McOmish 2001, figure 4.3). A double ring of pits or unused stone sockets is represented by the Y and Z holes assigned to Phase 3vi of the construction sequence at Stonehenge (Cleal et al. 1995, 256–65). Each ring comprised 30 pits, the inner circle (Z holes) being *c.*40m in diameter, the outer circle (Y holes) being *c.*53m across. Both rings are tentatively dated to the early second millennium BC. More complicated still is the set of four concentric rings of pits dug into the top of the postholes forming phases 2A and 2B of the Southern Circle at Durrington Walls (Wainwright and Longworth 1971, 23–41 and Appendix VIII; and M Parker Pearson pers. comm.). The outermost of these rings, broadly following Circle 2B of the earlier post-built structure, is about 18m in diameter; the inner ring following Circle 2E is 7.6m in diameter.

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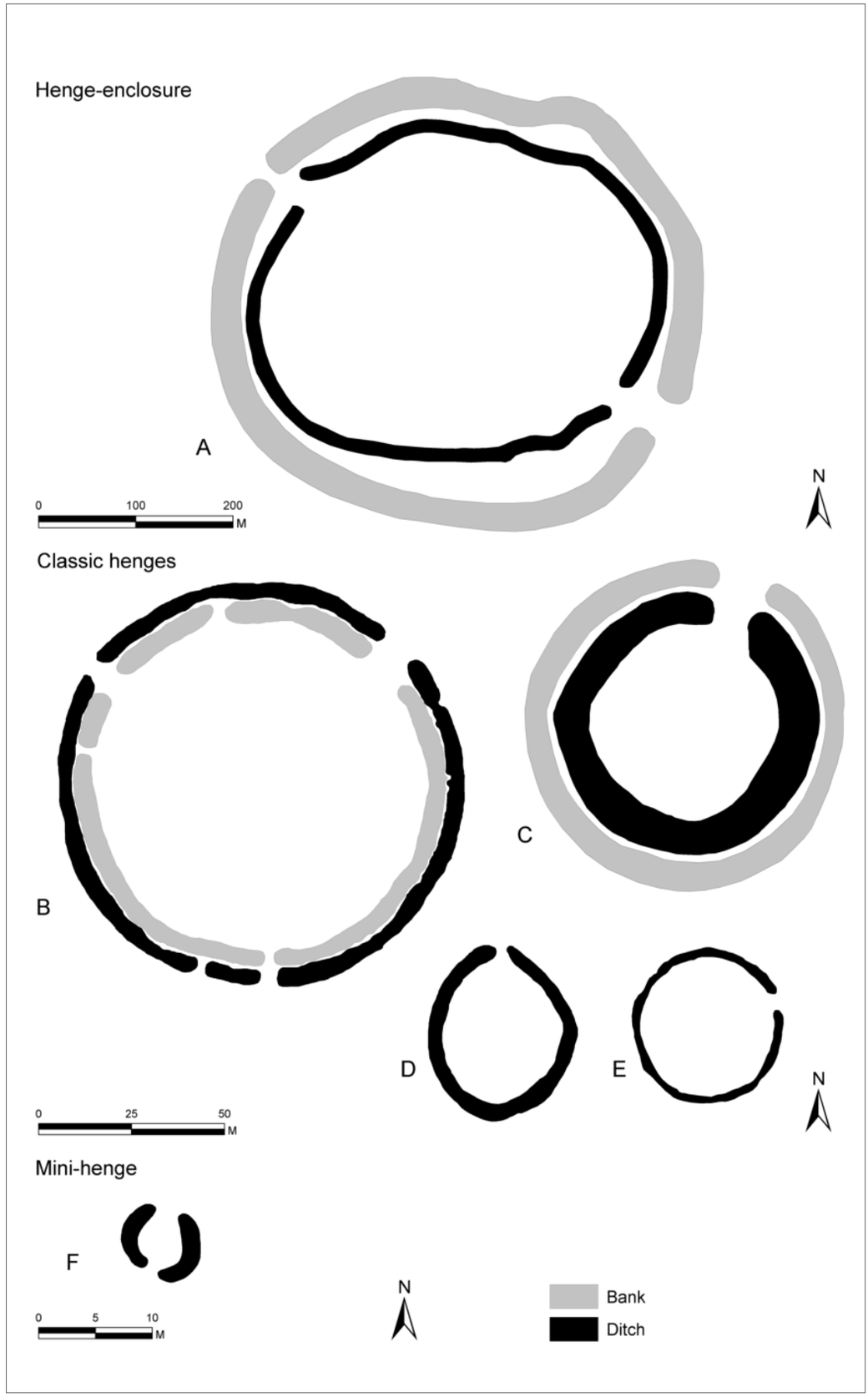


Illustration 30
Henge monuments in the Stonehenge Landscape: outline plans of the enclosure earthworks.
A: Durrington Walls.
B: Stonehenge.
C: Woodhenge.
D: Coneybury.
E: Winterbourne Stoke.
F: Fargo Plantation. [*A after Wainwright and Longworth 1971, figure 2; B after Cleal* et al. *1995, figure 36; C after Cunnington 1929, plate 3; D after Richards 1990, figure 97; E after David and Payne 1997, figure 13; F after Stone 1939, plate II.*]

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A number of round barrows surrounded by a causewayed (or segmented) ring-ditch are known through excavation in the Stonehenge Landscape (Illustration 31). Wilsford cum Lake barrow G51, excavated in 1958, shows several phases of construction on a site extensively used in middle Neolithic and later times to judge from the amount of residual material. The first phase comprised a causewayed ring-ditch dug to provide material for a small mound to cover an oblong grave containing the skeleton of a young adult associated with Beaker pottery (Smith 1991, 13–18). Amesbury G51 immediately south of the Stonehenge Cursus in the Cursus Group was also a barrow surrounded by a causewayed ring-ditch (Ashbee 1978a). The central primary burial and a series of secondary burials in the ditch and mound were all accompanied by Beaker pottery. The head of one of the burials in the central grave had been trephined. Wood from a mortuary house containing the primary burial yielded a radiocarbon date of 2310–1950 BC (BM-287: 3738±55 BP). Beaker pottery was also associated with the primary grave in the two-phase bowl barrow Shrewton 24 (Green and Rollo-Smith 1984, 285–6). The first phase of the mound was surrounded by a causewayed ditch, the whole later being covered by a much larger mound with a continuous surrounding ditch. Levelled barrows of similar form can be identified from the segmented ring-ditch recorded by aerial photography and geophysical survey near the Winterbourne Stoke Crossroads, coincident with barrow Winterbourne Stoke 72

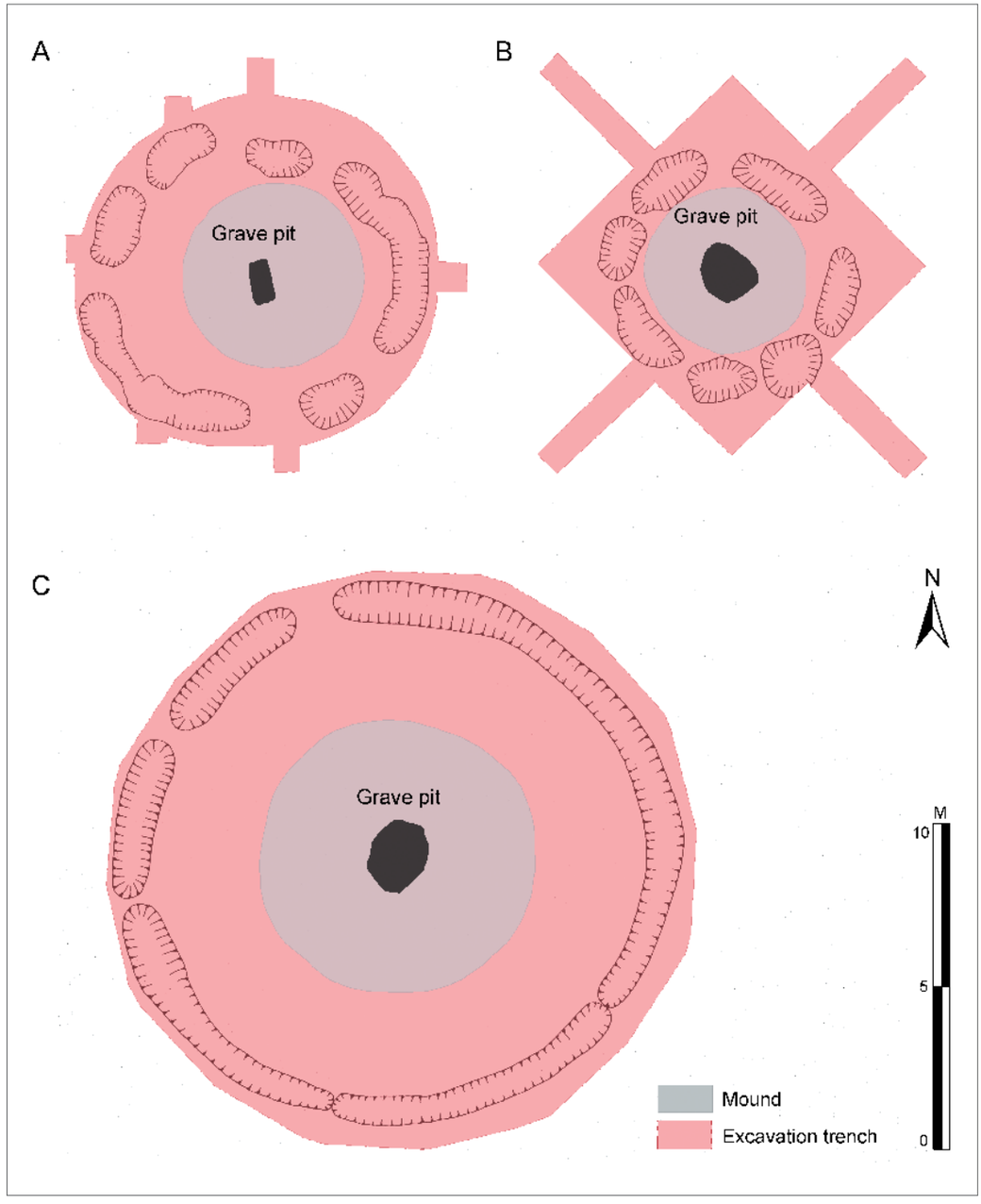


Illustration 31
Late Neolithic causewayed barrows. A: Wilsford cum Lake G51. B: Amesbury G51. C: Shrewton 24. [*A after Smith 1991, figure 2; B after Ashbee 1978a, figure 2; C after Green and Rollo-Smith 1984, figure 16.*]

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(RCHM 1979, 3; David 1997, figure 13B) and at Amesbury (RCHM 1979, 2 (no. 146); Harding and Lee 1987, 284).

Round barrows were a common kind of burial monument during the third millennium BC, developing earlier traditions (Kinnes 1979), but not all can be distinguished by the presence of a causewayed or segmented perimeter quarry ditch. Without associated datable material, or absolute dates from appropriate deposits or construction material, it is impossible to separate them from the ubiquitous second-millennium BC examples. Within the Stonehenge Landscape as a whole there are about 639 round barrows and 308 ring-ditches, an unknown proportion of which, perhaps 10–15 per cent, date to the third millennium BC.

In addition to the excavated barrows with causewayed quarry ditches already noted, all of which seem to be of third-millennium BC date, several other excavated round barrows appear to be of the same period but require further research to confirm their date. At Amesbury G71 the first phase of a multi-phase barrow comprised a continuous ring-ditch about 7m in diameter, within which was a sub-circular ring of stakes surrounding a central grave pit that was covered by a low barrow. This putatively late Neolithic barrow was later covered by a larger mound (Phase II) containing stake circles and enclosed within a ring-ditch about 23m in diameter. The central grave pit of the Phase II monument cut into the Phase I grave pit, disturbing the earlier burial. A radiocarbon date of 2900–2100 BC (NPL-77: 3960±110) was obtained from charcoal in the grave of the Phase II monument (Christie 1967, 339–43). Amesbury 22 covered the primary burial of an adult male in the bottom of a shaft some 1.2m deep into the underlying chalk, above which was a secondary grave that included a Beaker (Grinsell 1957, 150). At Durrington Down W57 excavations in 1983 as part of the Stonehenge Environs Project revealed a ditchless bowl barrow with a flint cairn over an oval grave pit containing the crouched inhumation of a juvenile accompanied by a large cattle lumbar vertebra and a fragment of antler, and the cremated remains of a second juvenile (Richards 1990, 171–84). A radiocarbon determination on a sample of bone from the inhumation returned a date of 2500–1750 BC (OxA-1398: 3700±100). Rather similar is Wilsford 87f where a primary inhumation, seemingly without any accompanying grave goods, was succeeded by a cremation accompanied by deer antlers (Grinsell 1957, 199). At round barrow Winterbourne Stoke 56, Colt Hoare revealed a primary adult male burial accompanied by a deer antler, above which was a cremation accompanied by a Beaker (Grinsell 1957, 202). Bulford 27 may be yet another example. The primary burial here was an adult male laid to rest in a rock-cut pit and accompanied by a Stage I battle axe of quartz dolerite from the Whin Sill in Northumberland (Group XVIII; Roe 1979, 42). This grave was also covered in a cairn of flints. Around about, on the original ground surface, were the inhumations of three men of fine physique. They had been buried with their heads towards the centre of the barrow, their bodies tightly doubled up but their forearms missing in each case. Over these were the skeletons of seven children, perhaps added when the large bowl barrow some 42m in diameter and 3m high was built (Hawley 1910, 616–17). Shrewton G27, excavated by William Cunnington, also had a primary burial accompanied by a Stage V battle axe of Hissington picrite (Group XII) from the Welsh Marches (Roe 1979, 41).

Round barrows containing burials accompanied by Beaker pottery and associated artefacts span the period when metal objects begin to circulate. At least 17 excavated examples are known in the Stonehenge Landscape, some only from antiquarian records (see Case 1995, figure 1 for a recent map of sites). Three of the 18 barrows examined by Charles Smith near Shrewton in 1958 included burials accompanied by Beaker pottery: Shrewton G5a, 5e, and 5k (Green and Rollo-Smith 1984). Of these, Shrewton 5K is especially important because the grave contained an N2 style Beaker associated with a small copper dagger with remains of an organic hilt adhering to the tang and a bone pommel. Typologically, the dagger is of the Roundway style and may be assigned to Burgess' metallurgical Stage II within his Mount Pleasant Phase (1980, 71–8). A radiocarbon determination on bone from the primary burial provides a date of 2480–2200 BC (BM-3017: 3900±40 BP) and makes this the earliest securely dated copper dagger in Britain. Southwest of Stonehenge, three of the four barrows excavated in 1958 by Ernest Greenfield at Wilsford cum Lake G51, G52, and G54 contained burials accompanied by Beaker pottery (Smith 1991). G51 has already been discussed because it has a causewayed ditch. G54 was a ditchless bowl barrow and is important because the primary grave (which was found to be heavily disturbed and may contain more than one phase of burial: Illustration 32) contained at least three Beaker pots, six barbed and tanged arrowheads, a bronze dagger of Gerloff's Type Butterwick (1975, 42), and a stone battle axe of Roe's Calais Wold group of spotted dolerite (Group XIII rock) from the Preseli Hills of Pembrokeshire (Smith 1991, 27–9).

Some round barrows containing graves with Beaker pottery seem to have had a long life as a series of burials accumulated. At Wilsford G1, for example, excavations by E V Field in 1960 revealed a large bowl barrow over 15m in diameter with at least 11 burials in all. The central grave contained at least two inhumations and a cremation associated with at least one Bell Beaker and some deer antlers. The remaining eight burials were all on the north side of the barrow, six of them infants with associated Beaker pottery, one an infant with some kind of urn, and finally the crouched burial of a young adult with Beaker sherds and a slate replica of an Irish style bronze flat axe (Anon 1961, 30). Multi-phase development may also be suspected at Durrington 67, excavated by Maud Cunnington in 1926–7, where two concentric ditches surround a barrow covering the primary burial of an adult male accompanied by a Beaker pot and a colourful tourmaline granite axe hammer perhaps imported to the area from Cornwall (Cunnington 1928, 42–5).

Excavations in advance of construction work for a school on the southeast edge of Amesbury in spring 2002 revealed two previously unknown burials of the late third millennium BC (WA 2002; Fitzpatrick 2002; 2003a; and see also Shanks 2004 for critical comment). Preliminary reports suggest that the first probably lay beneath a small ditchless round barrow. Within a large rectangular grave pit were the remains of an adult male perhaps 35–45 years of age together with nearly 100 grave goods including two stone wrist-guards, three copper knives, a pair of gold earrings or tress-rings, five Beaker pots, and many other stone, bone, and flint objects. Dubbed the 'King of Stonehenge' or the 'Stonehenge Archer' by the popular press (Illustration 33), this is the richest Beaker grave yet found in the British Isles in terms of the number and quality of items represented. Provisionally dated to about 2400–2200 BC, this burial is more or less the same age as the Shrewton 5K burial which also contains an early copper dagger. Oxygen

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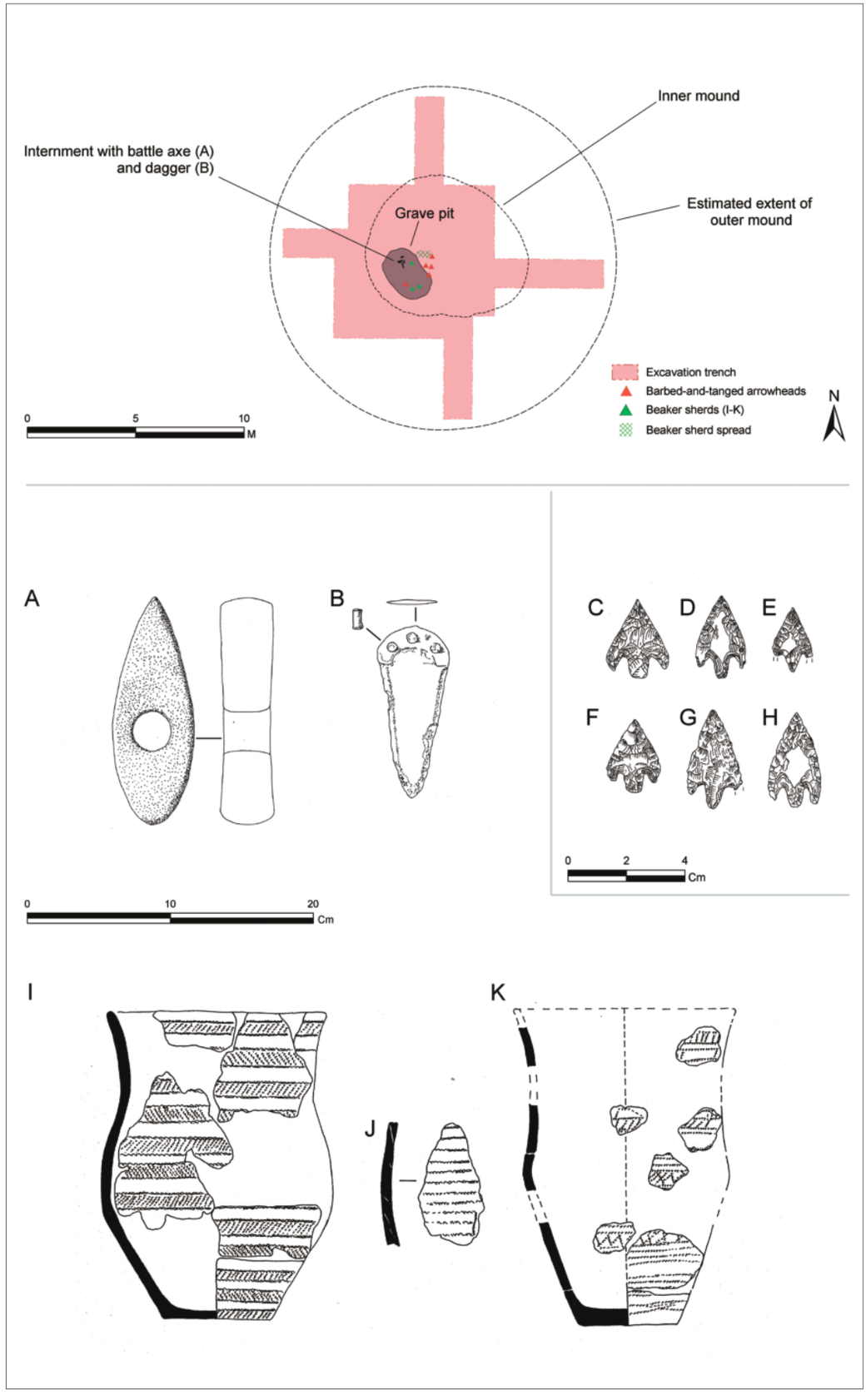


Illustration 32
Wilsford cum Lake barrow G54. (top) Plan of excavated features. (bottom) Grave goods. [*After Smith 1991, figures 10 and 11.*]

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isotope studies of the Stonehenge Archer's teeth suggest that he spent at least some of his life in or around the Alps, reopening the possibility of long-distance contacts between communities living in the Stonehenge Landscape and groups elsewhere in central and southern Europe. Jackie McKinley's study of the skeletal remains suggest that for much of his life he had been disabled as a result of a traumatic injury to his left knee which would have caused him to limp. Many of the artefacts were probably locally made, but the metal used in one of the copper knives/daggers is Spanish, the gold could well be continental, and many of the stone objects come from sources at least 50km distant.

About 5m away from this burial was another, a companion perhaps, also contained in a rock-cut pit and perhaps sealed below a ditchless barrow (Fitzpatrick 2003a, 150). This was also a male, younger at about 20–25 years of age, and perhaps related to the first because they share minor abnormalities in their foot-bones. Radiocarbon determinations suggest that this burial is very slightly later than the first so they could be siblings or father and son. The younger man's contained rather fewer grave goods: a single boar's tusk and a pair of gold earrings or hair tresses. Together, these burials raise many questions about the extended trade networks and long-distance social ties of the period, as well as emphasizing the need for vigilance in monitoring development activity throughout the Stonehenge Landscape.

Further investigations about 700m away in May 2003, during the course of monitoring the laying of a pipeline at Boscombe Down, revealed a rather different kind of burial of the late third millennium BC (Fitzpatrick 2003b; 2004; Fitzpatrick et al. 2004). Here a large rectangular pit contained the partly disarticulated remains of three adult males, a teenage male, and three children, together with eight Beakers, flint tools, five barbed and tanged flint arrowheads, a boar's tusk, and a bone toggle used as a clothes fastener. The burials had been inserted on several occasions over a period of time. A man aged between 30 and 45 had been buried on his left side with his legs tucked up and with his head to the north. Close to his head were the remains of three children (one cremated). The teenager, aged about 15–18, and the other two men, both aged 25–30 at death, were placed around the body of the older man. Scientific studies of these burials, dubbed 'The Boscombe Bowmen', suggest that the teenager and adults at least were all from the same family and isotope analysis of samples of tooth enamel suggests that they may have spent some time in southwest Wales, the area known to have been the source of stones used in the construction of Stonehenge Phases 3i to 3v (Fitzpatrick 2004a).



Illustration 33
The Amesbury Archer. Reconstruction drawing by Jane Brayne. [*Reproduced courtesy of Jayne Brayne and Wessex Archaeology.*]

Other burials accompanied by Beaker pottery under round barrows include: Amesbury G51 and G54 (Annable and Simpson 1964, 39); Durrington G36 and G67 (Annable and Simpson 1964, 39–40); Wilsford G1, G2b, and G62 (Annable and Simpson 1964, 40 and 43); Winterbourne Stoke G10, G43, and G54 (Annable and Simpson 1964, 38 and 40; Ozanne 1972).

Oval barrows were considered in the discussion of fourth-millennium BC monuments but given that some are undated and several unexcavated it is probable that some at least of the examples noted above belong to the third millennium BC. Wilsford 34, excavated by Thurnam in 1865–6, is interesting in this connection as he found five contracted burials, one accompanied by a Beaker pot (Cunnington 1914, 405–6). Excavated examples elsewhere in southern England suggest that single inhumations and multi-phase construction should be expected (Drewett 1986; Bradley 1992).

Flat graves containing inhumation burials associated with later Neolithic or Beaker pottery are well represented in the Stonehenge Landscape. These include examples within monuments such as Stonehenge (Evans 1984), Woodhenge (Cunnington 1929, 52), and Durrington Walls (Wainwright and Longworth 1971, 4). Seemingly isolated inhumation burials in flat graves or pit graves of the same period include those near Durrington Walls (RCHM 1979, 7), at Larkhill Camp (Short 1946), and at Totterdown Clump (Wainwright and Longworth 1971, 5). It may be noted, however, that many of these last-mentioned sites were chance discoveries and were mainly recorded with little attention to establishing context or associations. The reinvestigation of some sites might yield valuable information. Some other undated flat graves may also be related to this period.

Cremation burials of the third millennium BC are also well represented, and include the group of about 52 deposits/burials from Stonehenge Phases 1 and 2 (Cleal et al. 1995, 451), the Durrington Down W57 barrow (Richards 1990, 176), and a pit grave with a cremation and three sherds of Grooved Ware in Circle 2 south of Woodhenge (Wainwright and Longworth 1971, 3).

Enclosures of many forms are known to date to the third millennium BC. In addition to the henges already mentioned in this section, and the possibility that the Stonehenge Cursus also dates to the later Neolithic as discussed in the previous section, there are two other sites in the Stonehenge Landscape that deserve attention. First is the so-called 'Palisade Ditch' or 'Gate Ditch' immediately west and north of Stonehenge, known through relatively small-scale excavations in 1953, 1967, and 1978 (Cleal et al. 1995, 155–61) and traced through aerial photography and geophysical survey for a distance of over 1km (David and Payne 1997, 87). Each of the excavated sections differs in detail, but most show a V-profile

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ditch cut to support upright timber posts which can be interpreted as a palisade or stockade. Dating is uncertain, but there is late Bronze Age pottery from the upper fills and in the 1967 cutting it can be shown that the palisade pre-dates a crouched inhumation burial dated to the mid first millennium BC (Cleal et al. 1995, 157). When this feature was excavated there was little by way of comparable sites known that could provide a wider context. However, since the later 1970s a number of very large later Neolithic palisaded enclosures have been discovered and sampled (Gibson 1998b), including a notable group of such monuments in the valley of the River Kennet south of Avebury (Whittle 1997b, 53–138). A third-millennium BC date is consistent with the evidence from the Stonehenge Palisade Ditch although whether it should be seen as a full enclosure or simply a linear boundary remains to be determined. Whichever, its impact on the appearance of Stonehenge during Phases 3i–3v of its existence must have been considerable. It is possible that Stonehenge was simply a small monument immediately outside a much larger enclosure in rather the same way that Woodhenge lies just outside the henge-enclosure of Durrington Walls.

A second possible enclosure, just as poorly understood as the Stonehenge Palisade Ditch, is the so-called North Kite. This lies south of Stonehenge on the eastern side of the Till/Avon interfluve. The site was recognized by Colt Hoare (1812, map op. 170) and recorded from the air by Crawford and Keiller (1928, 254) as a large three-sided earthwork enclosure of about 123ha, roughly trapezoidal in plan, which they regarded as being Romano-British in date. Since the 1920s the North Kite has been badly damaged by ploughing and it lies amid a series of later prehistoric boundaries and fieldsystems that rather confuse attempts to understand the earlier features. Two early Bronze Age barrows in the Lake Group stratigraphically overlie the southwestern boundary earthworks of the North Kite (RCHM 1979, 26), while small-scale excavations undertaken in 1958 suggested a date in the later third or early second millennium BC and confirmed the absence of a fourth side (Annable 1959, 229). Further excavations in 1983 as part of the Stonehenge Environs Project yielded Peterborough and Beaker pottery from the buried soil below the bank broadly confirming the previously suggested date (Richards 1990, 184–92). The scale of the enclosure is impressive: the axial length is at least 400m (north–south) by 150m at the narrow northern end, expanding to 300m wide at the southern end. An unexcavated ring-ditch (Wilsford cum Lake 93) lies roughly in the centre of the open southern end. The only comparable excavated monument is the early fourth-millennium BC three-sided trapezoidal ceremonial structure at Godmanchester, Cambridgeshire, with an axial length of 336m and a maximum width of 228m (McAvoy 2000).

Flint mines were recorded east of the Stonehenge Inn in 1952 (Illustration 34). Three were shallow open-cast scoops about 0.6m deep while three others were rather deeper

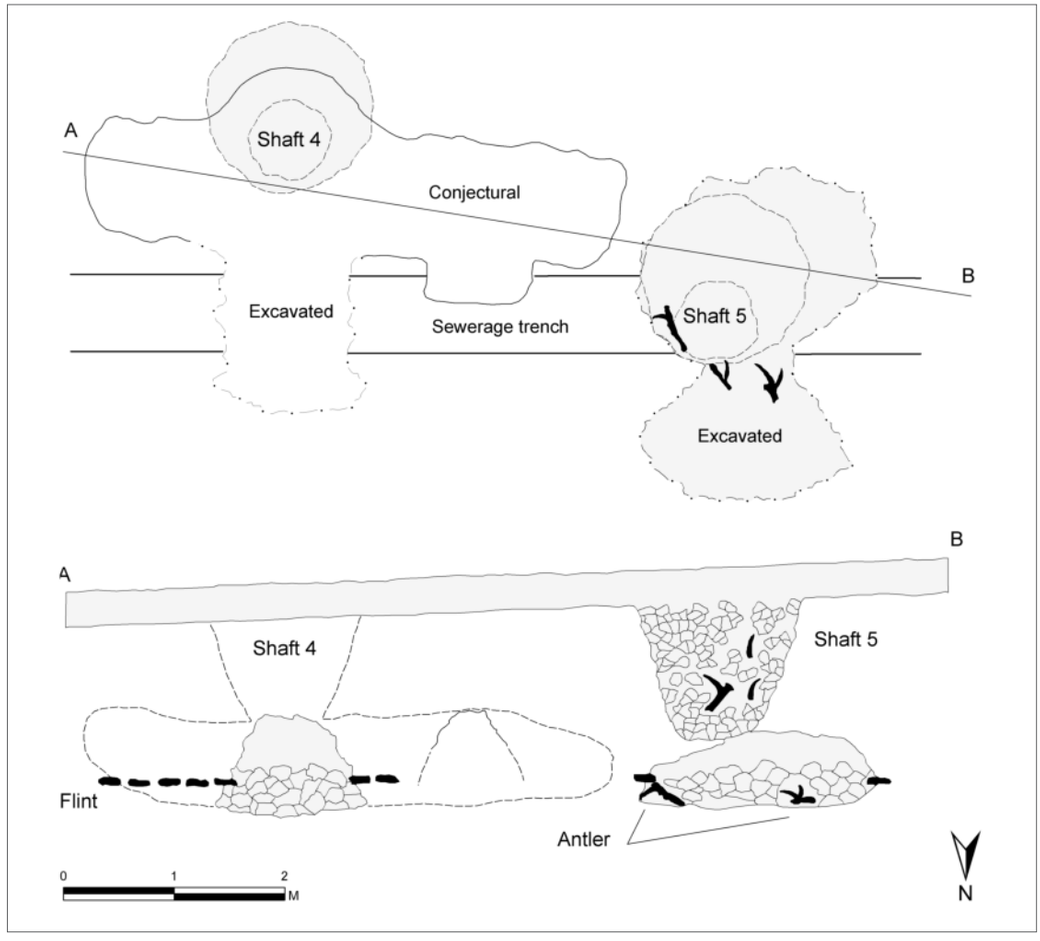


Illustration 34
Flint mines at Durrington: plan and section of shafts 4 and 5. [*After Booth and Stone 1952, figures 1 and 2.*]

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shafts that included low galleries and undercutting to optimize the amount of flint extracted (Booth and Stone 1952; Wainwright and Longworth 1971, 6). These finds have not been followed up but are amongst just three confirmed mining sites in Wiltshire (Barber et al. 1999). It may be notable, however, that a substantial collection of flintworking debris was found during field evaluations of the proposed Stonehenge Visitor Centre at Countess Road East only about 1km south of the Durrington flint mines. The bulk of the assemblage of more than 1500 pieces derives from the production of core tools, either functional items such as axes or knives or perhaps prestige items such as flint replicas of bronze daggers (WA 2004, 11). Chipped flint axes with the appearance of being roughouts for polished implements have been found in the Stonehenge Landscape, for example at Bulford and Winterbourne Stoke.

Pits and shafts, perhaps of ceremonial or ritual significance, continue earlier traditions through into the third millennium BC. On King Barrow Ridge there is the 'Plaque Pit', so-called because it included in its fill two square chalk plaques bearing incised decoration (Illustration 35). The pit was discovered and excavated in 1969 during the widening of the A303 (Vatcher 1969; Harding 1988; Cleal and Allen 1994). Sherds of Grooved Ware, an antler pick, and animal bones were also found in the pit. Two radiocarbon dates place the material in the early third millennium BC. These are amongst the earliest dates for Grooved Ware in southern Britain and illustrate the potential of the evidence from the Stonehenge Landscape to help illuminate the appearance of this highly distinctive ceramic tradition (cf. Cleal et al. 1995, 481). Two seemingly isolated postholes about 30m apart were also found on King Barrow Ridge north of the Plaque Pit during the monitoring of a cable-trench in 1968 (RCHM 1979, 33). One of these, Feature A, contained Grooved Ware pottery while the other was of early–middle Neolithic date (Cleal and Allen 1994, 60–2).

Excavations at Butterfield Down, Amesbury, revealed a number of pits that can be assigned to the late Neolithic on the basis of pottery and worked flint. Pit 2 contained an extremely large Beaker pot, one of the largest known in southern England, and because of its completeness considered to be in a non-domestic context (Rawlings and Fitzpatrick 1996, 37). A decorated chalk plaque of the same date was found residual in a later context (Rawlings and Fitzpatrick 1996, 22–3).

One of the two chalk plaques from the Plaque Pit carries an incised image in the form of an opposing Greek key pattern set within a tram-line frame; the other has a cross-hatched design within a tram-line frame (Harding 1988). The example from Butterfield Down also has a tram-line frame, the interior being filled with parallel lines (Rawlings and Fitzpatrick 1996, 23). All three plaques from the area carry images that compare with the decoration found on Grooved Ware and Beaker pottery and that also feature as component motifs within the British rock art traditions. Such rock art is typically found on natural rock surfaces, earthfast boulders, and components of stone-built monuments such as cairns, cists, standing stones, and stone circles.

This tradition is also represented in the Stonehenge Landscape by the rock art on the structural components of Stonehenge itself (Illustration 36). This has been fully described by Walker and Lawson (in Cleal et al. 1995, 30–3). Eleven stones are currently believed to carry prehistoric motifs: stones 3, 4, 5, 9b, 23, 29, 30, and 120 in the sarsen circle and 53, 55a, and 57 in the sarsen trilithon horseshoe. Unhafted axe blades represented blade-up are the most common motif, although the dagger, knife, torso, and quadrilateral motifs have prompted the most discussion (cf. Burl 1997; Scarre 1997; and see Loveday 1999). Overall, this is the largest group of rock art panels currently known in southern England, but it is by no means certain that all the motifs and panels have yet been found at the site. Recent experiments with laser-scanning have certainly shown the possibilities for further discoveries (Goskar et al. 2003). At least one piece of carved chalk from Stonehenge is decorated (Cleal et al. 1995, figure 222), while the chalk lump with a round, hollow depression in one face from a Phase 2 context may be a mobiliary cup-marked stone or decorated cobble of a type not uncommon in third- and second-millennium BC contexts in the British Isles (Cleal et al. 1995, figure 221.11; and cf. Beckensall 1999, 145). Thomas (1952) lists a further four similar 'cups' or cup-marked chalk blocks from sites within the Stonehenge Landscape: Wilsford; Woodhenge (two examples); and Stonehenge (from Hawley's excavations of the ditch, but now seemingly lost). Another was found at Southmill Hill, Amesbury, in 1974 (Anon 1976, 134). Rock art is also represented on the east wall of the central shaft-grave below the Shrewton G5k barrow. This small panel comprises groups of intercutting straight lines incised into the chalk (Green and Rollo-Smith 1984, figure 12).

A standing stone, known as the Cuckoo Stone, is recorded on early maps and in antiquarian accounts although it now lies recumbent (Colt Hoare 1812, plan opposite page 170; Cunnington 1929, 11). The stone is a block of sarsen 2.1m long by 1.5m by 0.6m. Its position in line with the axis of the Cursus makes the definition and investigation of this site highly desirable. It is one of very few recorded single standing stones in central southern England.

Spreads of features and occupation material resulting from chance finds, recorded observations of construction works, and small-scale excavations play a major part in understanding the archaeology of the third millennium BC and serve to illustrate the importance of continuing such work. A water-pipe trench cutting through Durrington Walls in 1950–1 revealed the existence of features outside the henge-enclosure which were followed up by excavations in 1951–2 (Stone et al. 1954). These revealed a double line of postholes over a distance of nearly 21m with other postholes at right angles suggestive of the remains of a building or structure pre-dating the construction of the bank of Durrington Walls. Occupation debris accumulated around the posts and sealed the primary weathering of the adjacent bank. Half a dozen more pits were found in 1991 to the north and northeast of Durrington Walls during the construction of a pipeline parallel to the Packway (Cleal et al. 2004, 220–3). Further south, investigations connected with the realignment of the A345 through Durrington Walls revealed the plan of one late Neolithic post-built structure and associated pits (Structure A) and a ditch (Structure B) also dated to the later Neolithic (Wainwright and Longworth 1971, 44–7). To the southwest, excavations in advance of tree-planting in 1970 revealed evidence for Neolithic settlement comprising four pits and a shallow ditch all associated with Grooved Ware pottery (Wainwright 1971, 78–82). Further south still, the Woodlands pit group was found in the garden of a house called Woodlands in Countess Road in 1941 and explored further in 1947 (Stone

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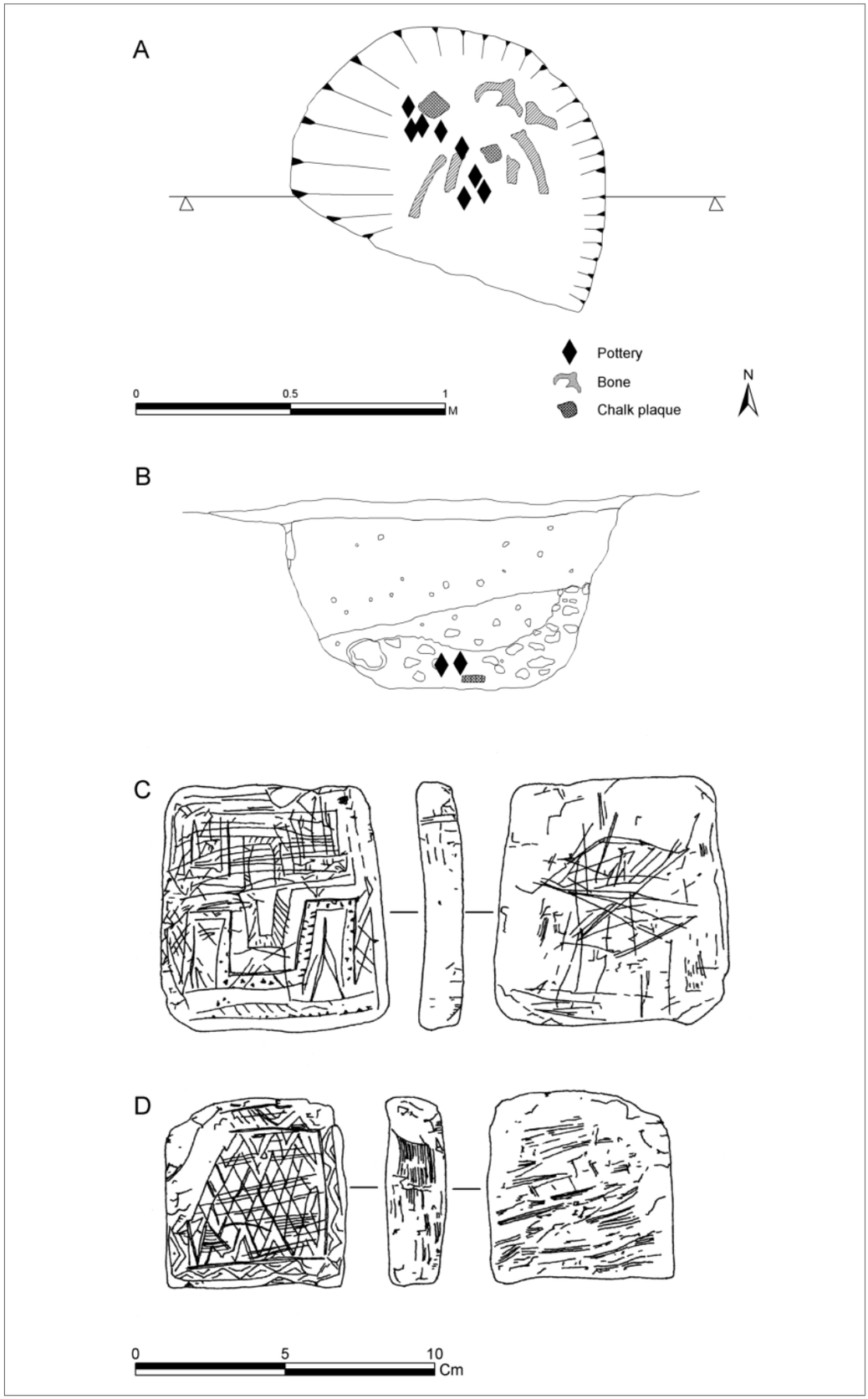


Illustration 35
King Barrow Ridge 'Plaque Pit' and its contents. [*A and B after Cleal and Allen 1994, figure 5; C and D after Harding 1988, figure 2.*]

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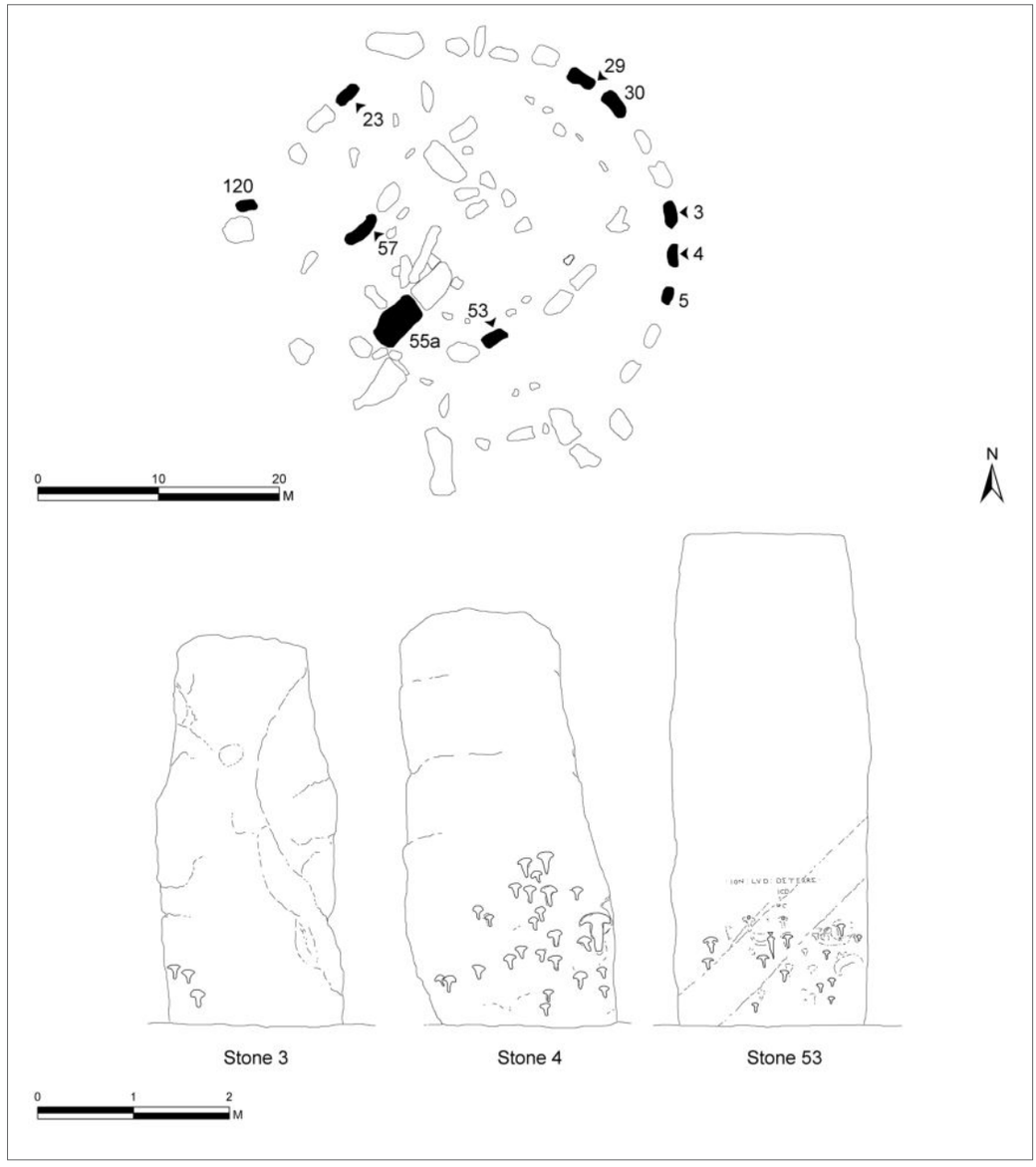


Illustration 36
Rock art at Stonehenge. (top) Distribution of stones with prehistoric engravings. (bottom) Axes and other motifs on Stones 3, 4, and 53. [*After Cleal* et al. *1995, figures 17, 18, and 20 with additions.*]

and Young 1948; Stone 1949). There were four pits in all, each oval in plan and rather shallow. They contained Grooved Ware pottery, part of a Group VII stone axe from North Wales and a wide range of worked flint, worked stone, animal remains, fish remains, marine shells, and carbonized hazel-nut shells. The pottery provides the site-type name for one of the four recognized sub-styles of Grooved Ware (see Longworth in Wainwright and Longworth 1971, 238). Most recently, field evaluations on the site of the proposed Stonehenge Visitor Centre at Countess Road East have revealed a possible pit, a section of ditch, and a substantial collection of flintworking debris that can provisionally be dated to the third millennium BC (WA 1995; 2003a; 2004). All these features form part of what must be considered as a very extensive spread of third-millennium BC activity extending from King Barrow Ridge eastwards to the Avon, especially focusing on the higher ground south of Durrington Walls along the east side of the Avon Valley (Illustration 37). This area has been labelled the Durrington Zone by Richards (1990, 269–70).

East of the Avon, similar material was found at Ratfyn in 1920 (Stone 1935; Wainwright and Longworth 1971, 5–6). A ditch (undated) and pits were the main features represented. Finds included human skeletons, Grooved Ware pottery, an axe hammer, worked flints, animal bones, and a large scallop shell suggesting links with the coast. Further south is the site of Butterfield Down which also provides abundant evidence for activity in the later third and early second millennia BC (Lawson 1993; Rawlings and Fitzpatrick 1996, 10 and 37–8).

Scatters of pottery and flint artefacts dating to the third millennium BC are fairly numerous through the central part of the Stonehenge Landscape. The area around Durrington Walls is especially rich in findspots of Grooved Ware and Beaker pottery, mainly as residual finds in later contexts around the north, west, and south sides (cf. Wainwright and

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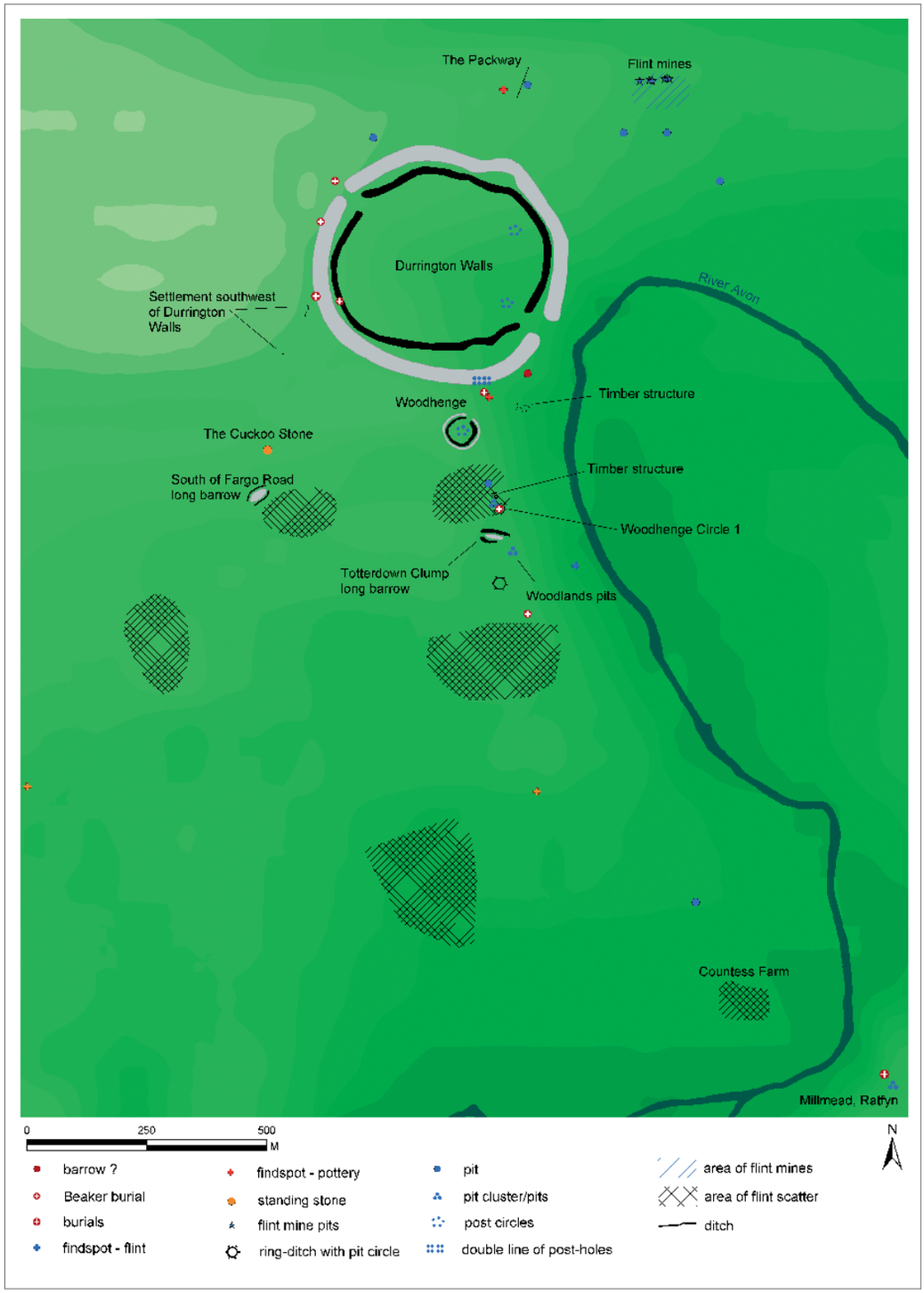


Illustration 37
Recorded archaeological sites and monuments in the 'Durrington Zone'. [*Sources: various.*]

Longworth 1971, 3–6; RCHM 1979, 22–3). These finds serve to confirm the significance of the area and the high intensity of activity here throughout the third millennium BC.

Six pits containing Beaker pottery were excavated at Crescent Copse near Shrewton in 1997 (Heaton and Cleal 2000) but nothing is known of their wider context. The same applies to a group of three pits found in 1940 during military digging on Knighton Down, Durrington, and a group of pits found at the Rollestone Grain Store in 1996 (Anon 1998, 164).

The Stonehenge Environs Survey revealed several more or less discrete scatters of datable material. Pottery scatters are the most distinctive. Peterborough Ware first appears during the middle Neolithic (around 3500 BC) but is predominantly an early third–millennium BC tradition

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(Gibson and Kinnes 1997). Within the Stonehenge Landscape no Peterborough Ware has been recovered from pits, only occurring as surface finds, in buried soils (see below), or within amorphous subsoil hollows. Surface scatters have been recorded on King Barrow Ridge, Wilsford Down, Fargo Wood/Packway, and Stonehenge Down (Richards 1990, 267). Similar scatters with Grooved Ware are far less common, and almost exclusively in the eastern part of the Stonehenge Landscape. The only exceptions are around Stonehenge and on Wilsford Down (Richards 1990, 270). Beaker pottery was found thinly scattered throughout the surface collections with a slight concentration on Wilsford Down (Richards 1990, 271; Cleal et al. 1995, figures 78 and 225). What these scatters represent is not known, and they may in some cases simply be background noise representing the extensive off-site dimensions of activity that is otherwise locally intensive. Some of the scatters coincide, for example around Wilsford Down, and this has led them to be interpreted as significant places of some kind repeatedly visited over a long period of time (Cleal et al. 1995, 488).

Collections of worked flint from field survey are less diagnostic than pottery, but again provide evidence for the differential concentration of activity across the landscape. Two late Neolithic flint scatters were investigated during the Stonehenge Environs Survey. One, at King Barrow Ridge, revealed pits and stakeholes in four of the twelve 5m by 5m excavated trenches. Pottery and worked flint were mainly of Peterborough and Grooved Ware affinity. Interpretation is difficult, but is seen in terms of occupation and domestic activity (Richards 1990, 109–23). The second area was on Wilsford Down. Here only one feature was recognized in the sixteen 5m by 5m trenches excavated. Activity here was mainly seen in terms of flintworking with minimal domestic occupation (Richards 1990, 158–71). Together, these two investigations illustrate the diversity of activity represented by surface scatters and at the same time illustrate the potential for further investigation and the systematic characterization or 'fingerprinting' of assemblages collected from the ploughzone.

Perhaps the most important collections are those preserved beneath the earthworks and mounds of later monuments, especially round barrows. These illustrate great potential for future work, although locating suitable places to target investigation is always going to be difficult. Woodhenge Circle 2 (Durrington 68: Illustration 38) preserved a setting of postholes that has been reconstructed as the remains of a late Neolithic structure, possibly a house (Cunnington 1929, 45 and plate 39; Pollard 1995b), fairly typical of others around the country (Darvill 1996, 107 and figure 6.8).

Amesbury G39 and other barrows on King Barrow Ridge incorporated much Peterborough Ware, Grooved Ware, and Beaker pottery in the matrix of the mound (Cleal and Allen 1994, 62–5 and 70); Amesbury 133 (a twin bell barrow) sealed a large hollow containing Peterborough pottery and the remains of an antler, and Grooved Ware was recovered from the buried soil (RCHM 1979, 4); excavations in the Lake Wood Group revealed Peterborough Ware and Beaker pottery within and under the mounds G36f , G37, G38, and G39 (Grimes 1964); Amesbury G133 yielded a small but diverse assemblage of pre-barrow ceramics including Grooved Ware and Beaker pottery (Gingell 1988, 39); Beaker pottery was found at Winterbourne Stoke G39 and G47 (Gingell 1988, 54); but the largest group is from G51–54 excavated by Greenfield in 1958 where 144 sherds of Peterborough Ware, 49 sherds of Grooved Ware, and 5 sherds of Beaker pottery were found in pre-barrow contexts (Smith 1991, 34–8); Amesbury G61 also yielded a range of Beaker pottery (Ashbee 1984a, 76–9).

The potential for finding late Neolithic activity on the lower ground in the main river valleys is hard to assess because opportunites for looking have been few. Mention may, however, be made of the assemblage of late Neolithic flintwork recovered during watching briefs on pipeline developments near Netheravon on the Avon Valley (McKinley 1999, 30), and the extensive evidence for late Neolithic occupation, including a possible house structure, at Downton just outside the Stonehenge Landscape south of Salisbury (Rahtz and ApSimon 1962).

Overall, evidence of sectoring within the landscape can be glimpsed even if it is not fully understood (Richards 1984, 181; 1990, 270). Thorpe and Richards note the almost mutually exclusive distribution of associations between Beaker pottery and Peterborough Ware as against Beaker pottery and Grooved Ware (Thorpe and Richards 1984, figure 6.3). This they attribute to the way that the users of Beaker pottery consciously sought to acknowledge and reuse earlier centres of power in the landscape. As a result of the Stonehenge Environs Survey it is possible to add further detail. The Durrington Zone along the east side of the Avon is perhaps to be associated with residential and domestic areas, Wilsford Down and the northeastern part of Durrington Down may be flintworking areas, while the central sector focused on Stonehenge and the Cursus may be considered sacred or ceremonial. Darvill (1997a, 182–9) has suggested that such divisions may be fitted with a quartering of the landscape based on a simple cosmological scheme grounded in a fourfold subdivision of space structured around the movements of the sun (and cf. Pollard and Ruggles 2001 for a similar pattern within Stonehenge itself). Parker Pearson and Ramilisonina (1998) prefer a slightly different scheme in which the space is structured and conceived in terms of a domain of the ancestors centred on Stonehenge and a domain of the living centred on Durrington Walls. During the later third millennium BC the

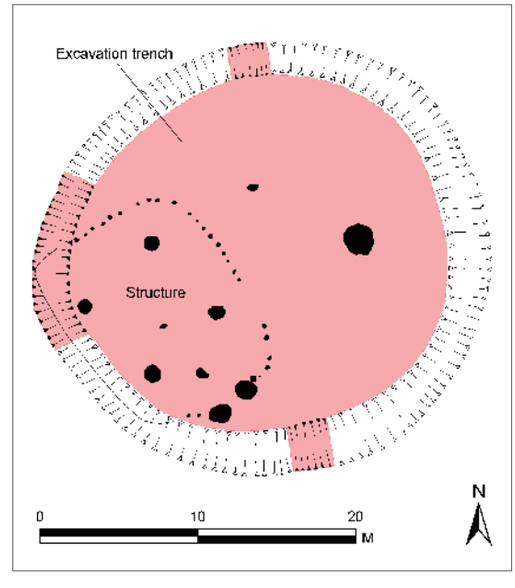


Illustration 38
Late Neolithic house revealed below Durrington 68. [*After Pollard 1995b, figure 2.*]

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River Avon acts as conduit for the transformation from life to death, with the Stonehenge Avenue providing a route for ancestral initiates to move from the River Avon to the circle of the ancestors (Stonehenge). Oppositions between life and death are expressed in the deposition of ceramics, the range of material culture represented, and the metaphorical use of timber structures in the domain of the living but stone in the domain of the ancestors.

The physical subdivision of the landscape during the third millennium BC is fairly well represented by several finds. Evidence of a fenceline in the form of a line of postholes was sealed below Shrewton G23 (Green and Rollo-Smith 1984, 281–5). A group of five postholes on a NNW–SSE alignment were found below the Woodhenge Circle 1 (Durrington 67) and may be interpreted as a possible fence (Cunnington 1929, plate 39; RCHM 1979, 23). A similar line of six postholes was found on the northern edge of the northern bank at Durrington Walls within the stripped road corridor, although their exact date, their relationship to the henge bank, and continuation to the northwest and southeast is a matter requiring further research (Wainwright and Longworth 1971, 15–16). All of these glimpses of what appear to be fragments of rather larger features suggest that by about 2000 BC parts at least of the Stonehenge Landscape were being formally divided up through the creation of physical boundaries.

Some of these land divisions may be connected with an expansion of arable cultivation represented in the fill sequences of a number of ditches. At the Amesbury 42 long barrow changes in the mollusca populations and soil matrix suggest the onset of cultivation in levels associated with the presence of Beaker pottery (Entwistle in Richards 1990, 108). Below the neighbouring Amesbury G70 and G71 barrows there is evidence for pre-barrow cultivation in the form of rip-ard marks cutting into the chalk bedrock surface (Christie 1967, 347). The importance of these old ground surfaces preserved below round barrows of the second millennium BC can hardly be overestimated. Collectively, the Bronze Age round barrows in the Stonehenge Landscape preserve underneath their mounds the largest sample of late Neolithic ground surface within such a small region anywhere in England.

Stray finds broadly datable to the third millennium BC have been found widely across the Stonehenge Landscape. These include 15 flint and stone axes, of which at least two of the stone examples are of Cornish origin and three of the flint examples are listed on the GIS database as 'roughouts'. Rather surprising in view of the presence of early metalwork in graves is the apparent absence of early styles of copper or bronze axe as stray finds from the surrounding landscape.

EARLY BRONZE AGE (2000–1500 BC)

Early in the second millennium BC the styles of pottery, flintwork, and metalwork change fairly markedly in southern England, as too the form and use of funerary monuments and settlement sites. The circulation of Beaker pottery is over by about 1800 BC (Kinnes et al. 1991; Case 1995), its place in funerary contexts initially being overtaken by collared urns, food vessels, and cordoned urns, with various Wessex biconical urns and early forms of Deverel-Rimbury style urns following a few centuries later. Metalwork characteristically belongs to Burgess' industrial Stages V–VII within his Overton and Bedd Branwen periods (1980, 80–131), Needham's Period 3 and 4 (1996, 130–3). Map I shows the distribution of recorded sites and finds of the early second millennium BC.

The early second millennium BC is synonymous with currency of the widely accepted Wessex Culture proposed originally by Stuart Piggott (1938; and cf. Piggott 1973d) to embrace the material culture of a series of richly furnished graves found widely across the chalklands of southern England and extending northwards into the upper Thames basin and the Cotswolds. Of the 100 Wessex Culture graves listed by Piggott (1938, 102–6), 35 lie within the Stonehenge Landscape, emphasizing something of the significance of the area.

Originally seen as the result of an incursion by a dominant aristocracy from Brittany, the sequence, relationships, and distribution of the rich Wessex graves have been elaborated and reviewed by ApSimon (1954), Coles and Taylor (1971), Gerloff (1975), and Burgess (1980, 98–111) amongst others. Since the 1970s, increasing emphasis has been placed on the essentially indigenous character of the main body of archaeological material for the period with the proposal that the rather exceptional well-furnished burials 'were the graves of the rich and powerful in each chiefdom' (Burgess 1980, 99). Humphrey Case has argued for a high degree of continuity between Beaker-using communities and those responsible for the Wessex graves on the basis of finds from Wilsford 7 (Case 2003). Here, part of a Group B Beaker vessel appears to have been found alongside a primary series collared urn, the two vessels sharing some decorative motifs, especially criss-cross patterns and zonal lozenge and zonal herringbone motifs. Also accompanying the extended inhumation in the primary grave was an unspecified number of other objects including an accessory vessel (grape cup) and a group of beads and pendants made of gold sheet, amber, jet or shale, fossil encrinite, and perhaps other stone.

The single most richly furnished and best-known Wessex Culture burial is that from Bush Barrow on Normanton Down to the southwest of Stonehenge (Illustration 39). This barrow was investigated by William Cunnington and Richard Colt Hoare in September 1808 to reveal the burial of an adult male set north–south on the floor of the barrow (Colt Hoare 1812, 202–4). Grave goods with this burial include: a bronze axe, two very large bronze daggers (one with gold nails in the haft), two quadrangular gold plates, one gold scabbard-mounting or belt-hook, the head and bone inlay of a sceptre, and other fragments of bronze and wood (Piggott 1938, 105; Ashbee 1960, 76–8; Annable and Simpson 1964, 45–6; Burgess 1980,101). The human remains appear to have been reburied at the site, and it is still far from certain that the burial examined was in fact the primary burial. The grave goods are widely regarded as representative of the early phase of the Wessex Culture (Wessex I), but absolute dates for any graves within the tradition are extremely sparse and it has long been held as a priority to improve this situation.

Within the Stonehenge Landscape the only dated Wessex Culture grave is the cremation burial accompanied by a jet button and jet and amber beads from Amesbury G39 on the western slope of King Barrow Ridge. On typological grounds this would be assigned to the later

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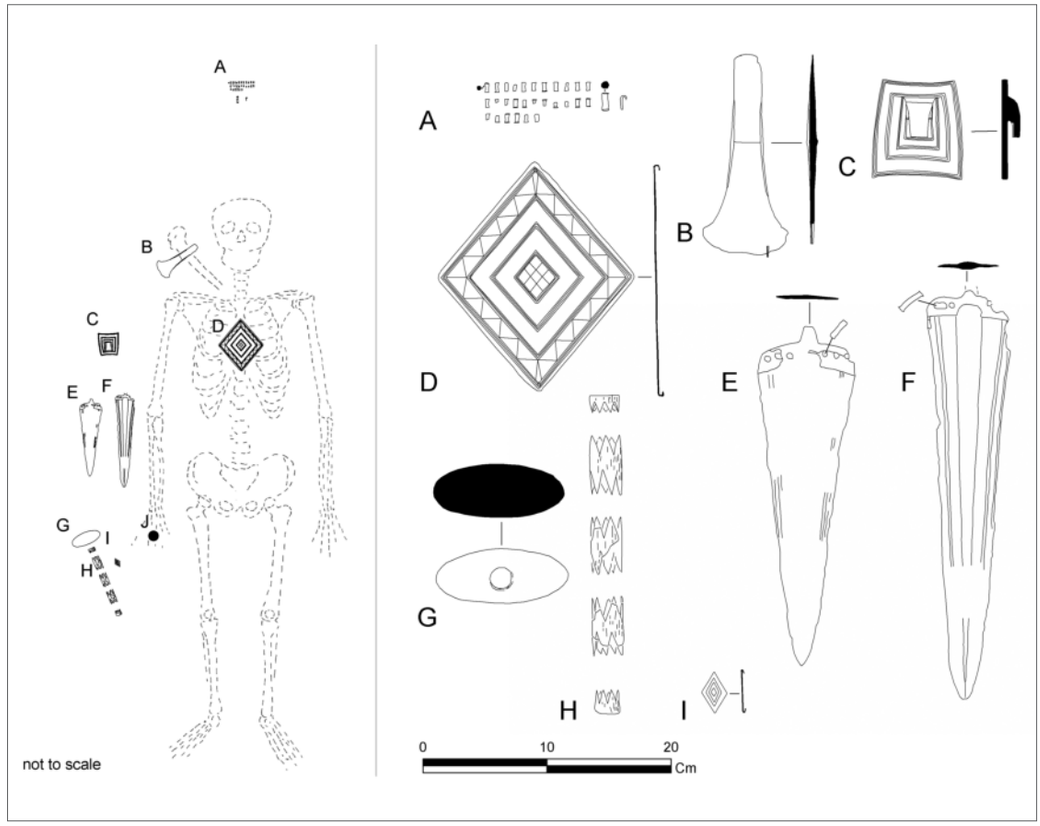


Illustration 39
Bush Barrow.
(top) The barrow in August 1993.
(bottom left) Reconstruction of the main recorded burial.
(bottom right) Grave goods from the main burial.
[*Photograph: Timothy Darvill; bottom left after Ashbee 1960, figure 24; bottom right after Annable and Simpson 1964, items 168–78.*]

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stage of the Wessex Culture (Wessex II), but it has a superficially rather early date of 2300–1650 BC (HAR-1237: 3620±90 BP) from oak charcoal from the area of burning in the centre of the barrow (Ashbee 1980, 32; and see Ashbee 1986, 84–5 for general comment on this and other available dates and Coles and Taylor 1971 for a minimal view on the duration of the Wessex Culture).

The dating of the rich graves might most usefully be considered in the context of establishing the sequence and date of all the round barrows in the Stonehenge Landscape. Although around 40 richly furnished graves are now known, they represent just 6 per cent of the 670 or so known round barrows within the Stonehenge Landscape; only 4 per cent of such monuments if the 309 ring-ditches are considered as the remains of round barrows and also taken into account. Accepting that some round barrows pre-date the second millennium BC, the sheer number of remaining barrows that can be attributed to the five centuries between 2000 BC and 1500 BC is impressive and may be estimated at a minimum of about 800 monuments. Since the work of William Stukeley in the eighteenth century round barrows have been classified on morphological grounds as bowl barrows (the most long-lived form and including the Neolithic examples) together with a series of so-called fancy barrows comprising: bell barrows, disc barrows, saucer barrows, and pond barrows (cf. Thurnam 1868, plate xi (based on Stukeley); Grinsell 1936, 14–25; Ashbee 1960, 24–6). In general, barrows that survive well, or which were recorded by fieldworkers who were able to observe them prior to their more recent damage, can be classified according to this system; however, many others remain unclassifiable with the result that it is now impossible to provide more than an impressionistic analysis of the main types and classes represented. Table 2 provides a breakdown of all recorded round barrows by type based on the information recorded on the English Heritage GIS for the Stonehenge Landscape (see McOmish et al. 2002, 33–50 for a discussion of the distribution and typology of round barrows within the SPTA).

Various doubts have also been cast on the value of such typological analysis and since the mid 1990s considerable attention has been given to the study of landscape situation, visibility, position, and relationships (e.g. Field 1998). Independently, Woodward and Woodward (1996) and Darvill (1997a, 194) recognized a concentric patterning to the distribution of round barrows around Stonehenge and suggested that this might somehow reflect belief systems and the physical representation of cosmological order (and see Clarke and Kirby (2003) who propose a third, outer, ring of cemeteries). A rather different view was taken by Fleming (1971). He saw broad groupings of barrows as cemetery areas visited by pastoralist communities living within seasonally defined territories.

Prominent amongst the distribution of round barrows in the central part of the Stonehenge Landscape is a series of barrow cemeteries or 'barrow groups' (Ashbee 1960, figure 6; Illustration 40). The barrow groups immediately around Stonehenge have been reviewed by Grinsell who described eight of them in some detail (Grinsell nd). Further groups can be tentatively identified within the wider Stonehenge Landscape to give about 26 in all (Map I):

A Cursus Group (Linear)
B Lesser Cursus Group (Dispersed)
C Winterbourne Stoke Group (Linear)
D New King Barrows (Linear)
E Old King Barrows (Dispersed)
F Normanton Down Group (Linear)
G Lake Group (Nucleated)
H Wilsford Group (Nucleated)
I Lake Down Group (Dispersed)
J Rollestone Barrows (Dispersed)
K Durrington Down Group (Nucleated)
L Countess Road/Woodhenge Group (Linear)
M Countess Farm (Linear)
N Silk Hill Group (Dispersed)
O Milston Down West Group (Dispersed)
P New Barn Down (Linear)
Q Earl's Farm Down Group (Dispersed)
R Boscombe Down West (Nucleated)
S Parsonage Down Group (Nucleated)
T Addestone Group (Nucleated)
U Maddington Group (Nucleated)
V Elston Hill Group (Linear)
W Ablington Group (Nucleated)
X Brigmerston Group (Nucleated)
Y Bulford Field Group (Nucleated)
Z Stonehenge Down Group (Nucleated)

Several different styles of round barrow cemetery are represented including linear, nucleated, and dispersed examples, but the integrity of identified groups needs further checking before being accepted. On present evidence the dispersed cemeteries are the largest and may contain several foci; the nucleated groups are usually relatively small. Linear cemeteries often incorporate a penumbral scatter of loosely associated barrows. Most cemeteries are focused around an early barrow, usually a long barrow, oval barrow, or Beaker-phase round barrow that might be considered a 'founder's barrow'. Richards (1990, 273) notes that many of the cemeteries around Stonehenge are positioned on the crests of low ridges, positions in which the mounds of the more substantial barrows are silhouetted against the skyline. Interest in the visibility of barrows within the landscape is considered in general terms by Field (1998, 315–16), and in detail for the Stonehenge area by Peters (2000). Peters defines two main kinds of barrow mound – conspicuous and inconspicuous – the former being mainly built in the early Bronze Age on ridges and high ground (2000, 355). Within the Stonehenge Landscape, the largest and most conspicuous round barrow is Milston 12 on Silk Hill, 45m in diameter and 6m high,

Round barrow type	Number	%
Bowl barrows†	425	42
Bell barrows	47	5
Disk barrows	51	5
Saucer barrows	15	2
Pond barrows	18	2
Unclassified	115	12
Ring ditches	309	32
Totals	980	100

† Including examples dated to the third and fourth millennia BC

Table 2
Summary of the main types of round barrow represented in the Stonehenge Landscape.

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which is surrounded by a bank and external ditch (Grinsell 1957, 226). Other large mounds include Amesbury 55, the 'Monarch of the Plain' as Colt Hoare called it, a bell barrow nearly 30m in diameter and 2.2m high at the western end of the Cursus Group.

None of the barrow cemeteries has been completely excavated, nor have any of the large ones been subject to detailed geophysical survey. A nucleated group of barrows within the Stonehenge triangle (the Stonehenge Down Group) has, however, been surveyed using magnetometry with good results that emphasize the great diversity of barrow forms even within the seven barrows represented (David and Payne 1997, 83–7; Illustration 41).

Available records suggest that about 40 per cent of known round barrows have been excavated to some degree, although the vast majority of these took place during the nineteenth century AD with the result that rather little is known about what was found. In many cases re-excavation has proved successful. Most of those studied have been upstanding mounds. Very little work has been done with the ring-ditches in the area; none has been fully excavated although transects were cut through previously unrecorded examples in the Avon Valley near Netheravon during the construction of pipe-trenches in 1991 and 1995 (Graham and Newman 1993; McKinley 1999). This group of four or five ring-ditches also serves to illustrate the potential for more such sites on lower ground in the river valleys. At Butterfield Down, Amesbury, the planning and sample excavation of a ring-ditch showed no evidence of a central burial, but a pit grave immediately outside the ring-ditch on the northeast side contained the burial of a child that included one sherd believed to be from an accessory vessel (Rawlings and Fitzpatrick 1996, 10–11).

The range of finds recovered from the excavation of round barrows is impressive and very considerable. It includes not only the usual selection of pottery, ornaments, and weaponry (well described by Piggott 1973d), but also some extremely unusual pieces such as the bone whistle made from the long bone of a swan from Wilsford G23 (Megaw 1960, 9; Annable and Simpson 1964, 44–5) and the bronze two-pronged object from Wilsford G58 which has sometimes been seen as a 'standard' of some kind or part of a double handle and chain from a cauldron or similar vessel (Grinsell 1957, 212; Annable and Simpson 1964, 47–8). The two unusual shale cups believed to be from the Amesbury

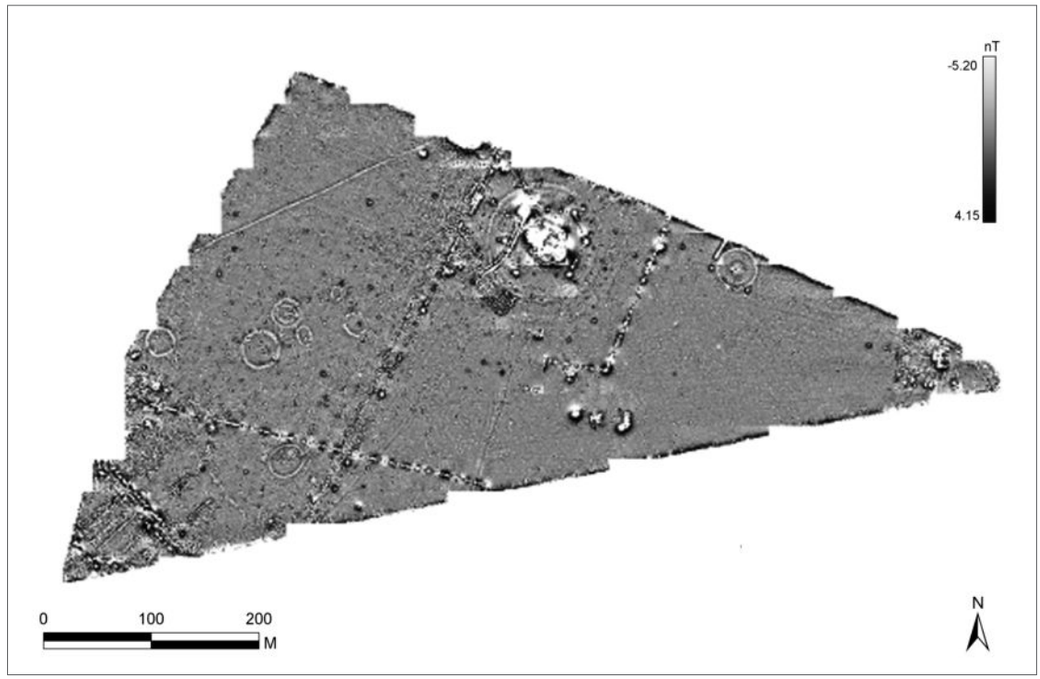


Illustration 40
Winterbourne Stoke linear barrow cemetery northeast of Long Barrow Crossroads. View looking southwest. [*Photograph: English Heritage. NMR 15077/13 ©Crown copyright (NMR).*]

Illustration 41
Plot of the results of a geophysical survey over Stonehenge and the Stonehenge Down Group barrow cemetery. [*Survey: English Heritage.*]

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area also probably came from barrows although the circumstances under which they were found are not known (Newall 1929b; Piggott 1973d, 369). Evidence of cloth, wood, and leather has been found in the corrosion on the surface of several metal objects, as for example the dagger from Amesbury G58 (Ashbee 1984a, 69–70 and 81). Taylor (1980, 87–8) records the presence of gold objects in six barrows within the Stonehenge Landscape. Imported objects are also represented including the very rare glass bead from barrow Wilsford G42 (Guido et al. 1984; Henderson 1988, 448), and an Armorican vase *à anses* from Winterbourne Stoke G5 (Tomalin 1988, 209–10).

Structurally, the early second-millennium BC round barrows typically comprise a turf or loam core covered by an envelope of chalk rubble derived from the perimeter ditch (Illustration 42). The examination of sections revealed by storm damage to barrows on King Barrow Ridge suggests that here there were two main kinds of construction: the conventional turf mound and chalk envelope, and a less common form involving only a turf and soil mound without a chalk capping (Cleal and Allen 1994). Some structural elaboration is however represented. Amesbury 61 had a stake circle around the central burial and perhaps a rectangular stake-built structure in the centre (Ashbee 1984a, 55); Amesbury 71 also had a stake circle (Christie 1967). Stakeholes were noted below Winterbourne Stoke G32, G33, and G38 but formed little by way of a coherent pattern. In contrast, G39, G47, and G50 each had a central setting enclosed by a ring of stakeholes and further groups of stakeholes both inside and outside the perimeter ditch (Gingell 1988). All these features fall comfortably within the range of stake circle structures within British and continental round barrows (Ashbee 1960, 60–5). Amesbury G70 had a single posthole marking the centre of the mound (Christie 1964, 32).

Most barrows of this period have a central burial pit for the primary burial. At Winterbourne Stoke 9, Colt Hoare recorded the presence of a boat-shaped wooden coffin; grave goods here included a necklace of shale and amber beads, a bronze dagger, a bronze awl, and a small ceramic vessel with impressed dot-motif decoration (Grinsell 1957, 201). At Amesbury G85, excavations in 1930 showed that the central burial, an adult male aged about 50, had been laid on a carpet of moss and yew branches, the remains of which were preserved by the corrosion products of a bronze dagger placed in the grave with the burial (Gilmour in Newall 1931, 440).

It is assumed that the reason why so many barrows concentrate in the area around Stonehenge is the 'draw' of Stonehenge itself as a special, presumably sacred, powerful place. Little appears to be happening at Stonehenge itself during the early second millennium BC, at least in terms of construction or modification. The last phased event is the digging and infilling of the rings of X and Y holes outside of and concentric with the sarsen circle (Sub-phase 3vi) probably around 1640–1520 BC (Cleal et al. 1995, 533). The purpose of these holes is not clear, but they do not seem to have held posts or stones and may be seen either as an abandoned attempt to expand the circles or as rings of ritual pits. The absence of dated events relating to the early second millennium BC does not mean that the existing structure was not used, but it is odd that after a millennium of fairly constant change things all go rather quiet, with very little pottery or other datable material from this period either. It is possible, then, that the 'power' of Stonehenge in the early second millennium BC was not its use but rather an ancestral memory of what it had been and a desire to associate with its former glory in selecting a final resting place. In this context it may also be noted that dates of 2350–1650 BC (BM-286: 3630±110 BP) and 2300–1500 BC (BM-285: 3560±120 BP) relate to hearths in the secondary fills of the ditches at Durrington Walls (Wainwright and Longworth 1971, 20–1) and that none of the other henges and related monuments in the area seems to have evidence of primary usage after about 1900 BC.

Settlements datable to the early second millennium BC are unknown in the Stonehenge Landscape, although the Stonehenge Environs Survey did reveal four concentrations of early Bronze Age pottery which might represent occupation areas: around Long Barrow Crossroads, east of Fargo Plantation between the Cursus and the Packway, on Durrington Down, and west of Stonehenge (Richards 1990, 272). Worked flint was found more widely, with slight concentrations not connected with pottery spreads on Wilsford Down and King Barrow Ridge. The interpretation of these requires further work.

Early second-millennium BC flint assemblages have also been recovered from a number of excavations, notably those from work by Patricia Christie between 1959 and 1964 later analysed by Alan Saville (1978). Although these are tentatively considered as essentially domestic assemblages that happen to be preserved at or recovered from barrow excavations (Saville 1978, 22), another possibility is that barrow sites provided a context for flint knapping either because of their ancestral connections or because they were by this time 'out of the way' places (cf. Fasham 1978). Excavation of a ring-ditch at Butterfield Down, Amesbury, also revealed a substantial quantity of primary knapping debris in the ditch fills (Rawlings and Fitzpatrick 1996, 10)

Illustration 42
Round barrows under excavation. (left) Amesbury 58 under excavation in September 1956, showing the loam core of the mound and the old ground surface beneath. (right) Winterbourne Stoke barrow 43 under excavation in December 1960 after the removal of the mound. [*Courtesy of the Wiltshire Archaeological and Natural History Society.*]

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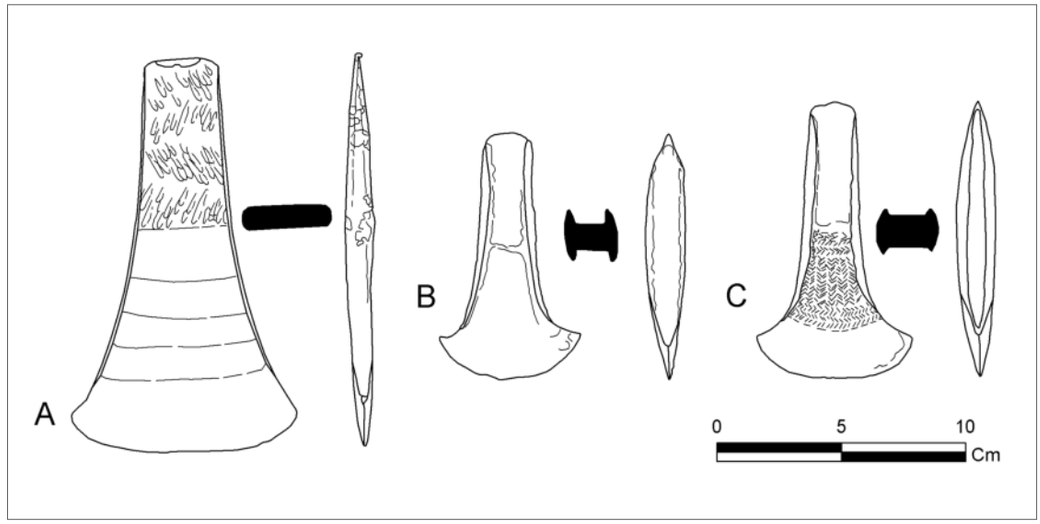


Illustration 43
Early bronze tools from the Stonehenge Landscape. A: Figheldean. B: Durnford. C: Stonehenge Down. [*A after Moore and Rowlands 1972, Plate VI.4; B after Saunders 1972, figure 1; C after Stone 1953, 31.*]

suggesting that perhaps such structures had similar roles to round barrows in respect of flintworking.

Especially important are the finds of early metal objects that serve to complement the material deposited as grave goods associated with Beaker pottery (Illustration 43). Such finds include a flanged axe from near Stonehenge which is in the Lukis collection (Grinsell 1957, 29); a decorated flanged bronze axe of Irish type found on Stonehenge Down in 1952 (Stone 1953); a flanged axe with slight stop-ridge from Durnford (Saunders 1972); a short flanged axe from Beacon Hill, Bulford (Grinsell 1957, 52); a bronze axe of Irish origin with hammered chevron decoration on its butt found north of the recreation ground at Figheldean (SM 1958, 10); a flat axe with a slight stop-ridge from between Figheldean and Netheravon (Saunders 1976); and a flanged bronze axe from Wilsford (Grinsell 1957, 123).

MIDDLE AND LATER BRONZE AGE (1500–700 BC)

The middle and later Bronze Age was a period of far-reaching and widespread change across the British Isles, represented archaeologically in fundamental changes to the very nature of the evidence recovered. This is best seen in the switch from a predominance of ceremonial and burial monuments to an archaeology dominated by what appear to be settlements, fieldsystems, and agricultural structures. Piggott (1973e) provides a general overview of the period in Wiltshire. The metalworking traditions belong to Burgess' Bedd Branwen, Knighton Heath, Penard, and Wilburton traditions (1980), Needham's Periods 5 and 6 (1996, 133–6). Environmental evidence suggests an opening up of the landscape and the development of extensive agricultural systems after 1600 BC (Allen 1997, 136). Map J shows the recorded distribution of middle and later Bronze Age sites and finds.

This shift in focus is well typified at Stonehenge itself where the only activity is represented by a small amount of Deverel-Rimbury style pottery, occasional finds such as the bone point from the upper fill of stonehole 8, and silt accumulating in the gradually infilling Y holes (Cleal et al. 1995, 334 and 491). The only remaining question mark hangs over the phasing of the eastern part of the Cursus from Stonehenge Bottom to the River Avon. Radiocarbon dates from cuttings through it are inconclusive and suggest a long period of construction (Cleal et al. 1995, 291–330), although not necessarily as long as Atkinson (1979, 216) proposed with the eastern section being added in the late second millennium BC. Recutting and reuse of an earlier structure at this time are possible and Darvill (1997a, 195) has linked this to an increasing interest in wet places and rivers through the late second and early first millennia BC.

The main filling of the Wilsford Shaft dates to the period from about 1500 BC through to about 700 BC (Illustration 44) although its initial construction may be much earlier (see above). Deverel-Rimbury pottery is well represented (Ashbee et al. 1989). Broken wooden vessels and important environmental evidence suggestive of an agricultural landscape were recovered. Interpretation remains difficult, with the two main alternatives being a well serving the needs of local populations or a ritual shaft of the kind known in many parts of Europe from the mid third millennium BC onwards (Ashbee et al. 1989, 128–38). Other environmental evidence confirms the picture of a mainly open landscape (Cleal et al. 1995, 491).

Four settlement sites of the period have been recorded and variously investigated, while others are suspected. At Winterbourne Stoke Crossroads watching briefs and recording work during the construction of a new roundabout at the A303/A360 junction revealed the presence of at least three circular structures with substantial porches (Richards 1990, 208–10). A palisaded ditch to the west of the structures may be part of a surrounding enclosure, but it just might be connected with the putatively late Neolithic Stonehenge Palisade Ditch noted above.

A second Bronze Age settlement is represented by a scatter of pottery and burnt flint towards the northern end of Fargo Plantation. Detailed test-pitting and the excavation of five 5m by 5m sample squares yielded substantial amounts of finds but little structural evidence (Richards 1990, 194–208). Subsequent work in the area in connection with the evaluation of a possible access route to the proposed Larkhill visitor centre site sampled a substantial ditch and yielded a bronze side-looped spearhead (WA 1991, 13). This site may originally have been enclosed.

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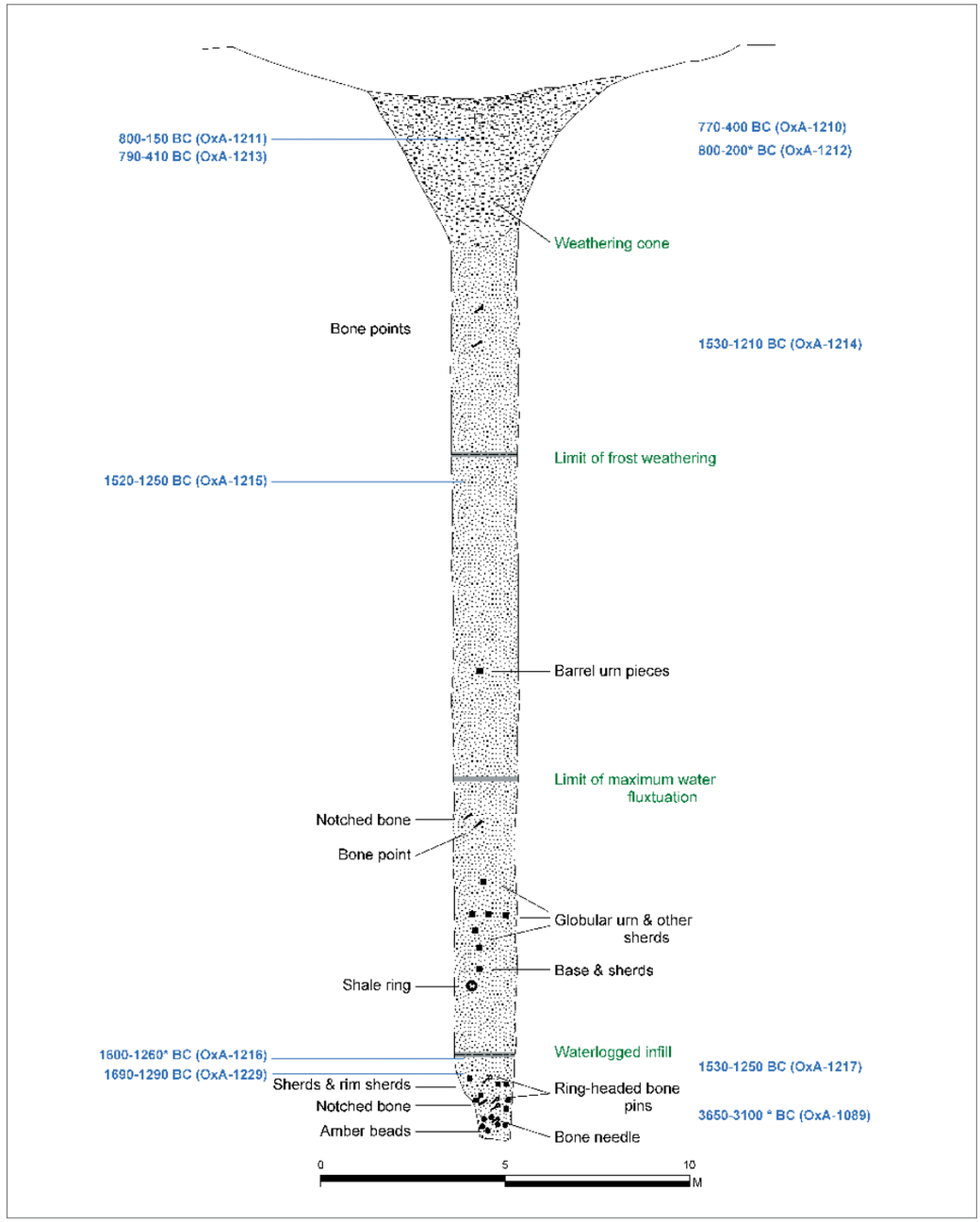


Illustration 44
The Wilsford Shaft.
[*After Ashbee* et al. *1989, figure 7.*]

A third middle or later Bronze Age settlement is represented at an enclosure known as the Egg, situated a little to the south of Woodhenge on the western slopes of the Avon Valley (Illustration 45). Discovered through aerial photography at the same time as Woodhenge, this enclosure was sampled through excavation by the Cunningtons (Cunnington 1929, 49–51; Wainwright and Longworth 1971, 6; RCHM 1979, 23). The enclosure boundary comprised a palisade trench, one terminal of which is extended in a straight line southwards where it meets a linear ditch. In the interior were 25 pits, one containing carbonized barley. Subsequent analysis of aerial photographs and finds recovered from monitoring a pipe trench suggest that the Egg is part of a more extensive spread of middle Bronze Age occupation that would repay detailed investigation (RCHM 1979, 24). A ditch excavated beside the Packway Enclosure north of Durrington Walls may also be part of the same system of boundaries (Wainwright and Longworth 1971, 324).

The fourth site is at Rollestone Grain Store, Shrewton. Here, field evaluations and excavations in advance of an expansion to the Wiltshire Grain Facility in 1996 revealed an enclosure some 60m by 50m in extent, bounded by a ditch 2m wide and over 1m deep. A single entrance lay in the middle of the western side. Inside the enclosure was a dew-pond (Anon 1998, 163–4).

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Illustration 45
The Egg, Countess Road. An aerial view looking north across the cropmarks defining the enclosure. [*Photograph: Peter Goodhugh, Copyright reserved.*]

Other settlement sites may be indicated by spreads of ceramics, burnt flint, and quern fragments recovered during the Stonehenge Environs Survey and subsequent field evaluations, for example: around the Packway north of Fargo Plantation; on Durrington Down; to the west of Stonehenge (Richards 1990, 276); and an enclosure east of Robin Hood's Ball (Anon 2003, 236).

One of the most extensive features of this period is the arrangement of fieldsystems – the so-called Celtic fields. These have been discussed and described by the RCHM (1979, xiii and 29–31), Richards (1990, 277–9), and McOmish et al. (2002, 51–6). The following blocks can be tentatively recognized but need further testing through excavation (from west to east; Map J):

West of the Till
A Parsonage Down/Shrewton system

Between the Till and the Avon
B Rox Hill and Wilsford Down
C Long Barrow Crossroads
D Stonehenge Down
E Fargo Wood
F Durrington Down

East of the Avon
G Amesbury Down
H Earl's Farm Down

Not all these systems are necessarily contemporary, nor are all the features visible within them as earthworks or cropmarks recorded from aerial photographs. The present 'blocking' of recognizable chunks of fieldsystem is almost certainly to do as much with survival patterns as with the original extent of coherent units. All of those systems recognized around the edge of the Stonehenge Landscape as defined here continue into adjacent areas (see McOmish et al. 2002, figure 3.1 for example) and cannot easily be considered in isolation. Moreover, although it is widely believed that these systems have their origins in the mid or late second millennium BC, they are generally poorly dated, in many cases probably multi-phase, and even a superficial examination of the their plans and structural arrangement suggests that several quite different patterns are represented. A great deal of unpicking is needed to establish the nature of particular systems at given points in their development as well as the overall sequence. Apparently associated enclosures, possibly of Bronze Age or later date, can be recognized on Rox Hill (RCHM 1979, 24), north of Normanton (RCHM 1979, 24), and southwest of Fargo Plantation (RCHM 1979, 24–5).

A network of linear earthworks runs through the landscape variously pre-dating, joining, delimiting, and post-dating the fieldsystems (Map J). They are especially notable on the southern part of the Avon/Till interfluve and have been fully described (RCHM 1979, xii and 25–9). As with the fieldsystems, dating is difficult. The best preserved are those on Lake Down southwest of Stonehenge (Illustration 46). Two sections through linear earthworks on Wilsford Down were cut as part of the Stonehenge Environs Project (Richards 1990, 192–3). Both confirmed the presence of substantial, although different, bedrock-cut ditches, but neither yielded dating evidence for their construction. A pit-alignment perhaps also of the early first millennium BC has been noted south of Normanton Down.

Not all the linear boundaries are confined to the areas west of the Avon. On the east side they can be seen in a major arrangement on Earl's Farm Down which lies within the

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Illustration 46
Linear earthwork and barrow cemetery on Lake Down. [*Photograph: English Heritage. NMR 1576/09 ©Crown copyright (NMR).*]

study area of the Wessex Linear Ditches Project (Bradley et al. 1994, figure 22). A section through one part of this system at Butterfield Down, Amesbury, failed to yield firm dating evidence (Rawlings and Fitzpatrick 1996, 38). A section through two of the 'Wessex Linears' on Earl's Farm Down in 1991 showed that both were sizeable features about 3m wide and 1.5m deep, but neither contained diagnostic dating evidence from primary contexts (Cleal et al. 2004, 234–41). Molluscan sequences from both ditches revealed that they lay within an essentially open downland environment. Overall, the linear boundaries within the Stonehenge Landscape form part of a much more extensive series of boundaries on Salisbury Plain (Bradley et al. 1994).

Burials of the middle and late second millennium BC are usually represented by flat cemeteries typically involving the deposition of cremated remains in small pits or in ceramic containers usually known as 'urns'. Several different styles of urn have been defined, including Wessex biconical urns (also known as Wessex handled urns or horseshoe handled urns) and Deverel-Rimbury urns (including what are called bucket urns, globular urns, and barrel urns in older literature). All were mainly deposited inverted so as to both cover and contain the associated burial deposits. These burials are often adjacent to existing round barrows, and in many cases were cut into the mounds or ditches as 'secondary' deposits. In central southern England generally, cemeteries of the middle and late second millennium BC especially generally lie within a short distance (100m–500m) of contemporary settlement sites, and are often intervisible with them (Bradley 1981). Within the Stonehenge Landscape evidence of small numbers of secondary burials is commonplace in excavated barrows, but fairly extensive cemeteries have been found at several sites including Woodford G12 (15 burials: Gingell 1988, 26–7), Shrewton G5a (19 burials (Illustration 47): Green and Rollo-Smith 1984, 262–3); Amesbury 71 (7 burials: Christie 1967); Winterbourne Stoke 10 (7 burials: Grinsell 1957, 201); and Bulford 49 (4 burials: Hawley 1910, 618–20). A fine Wessex biconical urn was found as a secondary burial at Bulford 27 (Hawley 1910, 617 and figure 1), while at the nearby Bulford 45 bowl barrow a Deverel-Rimbury urn had been used (Grinsell 1957, 163). A barrel urn with applied cordons decorated with fingertip impressions from Amesbury G3 is one of the largest ceramic vessels from the area, at nearly 0.6m high (Annable and Simpson 1964, 68). It is colloquially known as the 'Stonehenge Urn'. Broken pottery from superficial contexts at and around other barrow sites may suggest the former existence of a flat cremation cemetery broken up and scattered by later ploughing as at Durrington 7 barrow on Durrington Down (Richards 1990, 171–84).

Stray finds of the later second and early first millennia BC are surprisingly rare within the Stonehenge Landscape. The scatters of Deverel-Rimbury pottery generally match the areas of known settlement evidence and probable early fieldsystems (Richards 1990, figure 160). Best represented are the finds of metalwork to complement that found with burials. An unlooped palstave was found west of Fargo Plantation (Anon 1978, 204) perhaps associated with the settlement in the area referred to above; a socketed bronze knife was residual in a later context at a settlement on Fargo Road southwest of Durrington Walls (Wainwright 1971, 82); two socketed axes were also found in the same general area in the late nineteenth century (Grinsell 1957, 66); a bronze spearhead and a small socketed axe were found on Wilsford Down (Grinsell 1957, 122); a bronze spearhead was found during building work at Bulford Camp in 1914 (Goddard 1919, 360); a socketed spearhead came from the Amesbury area

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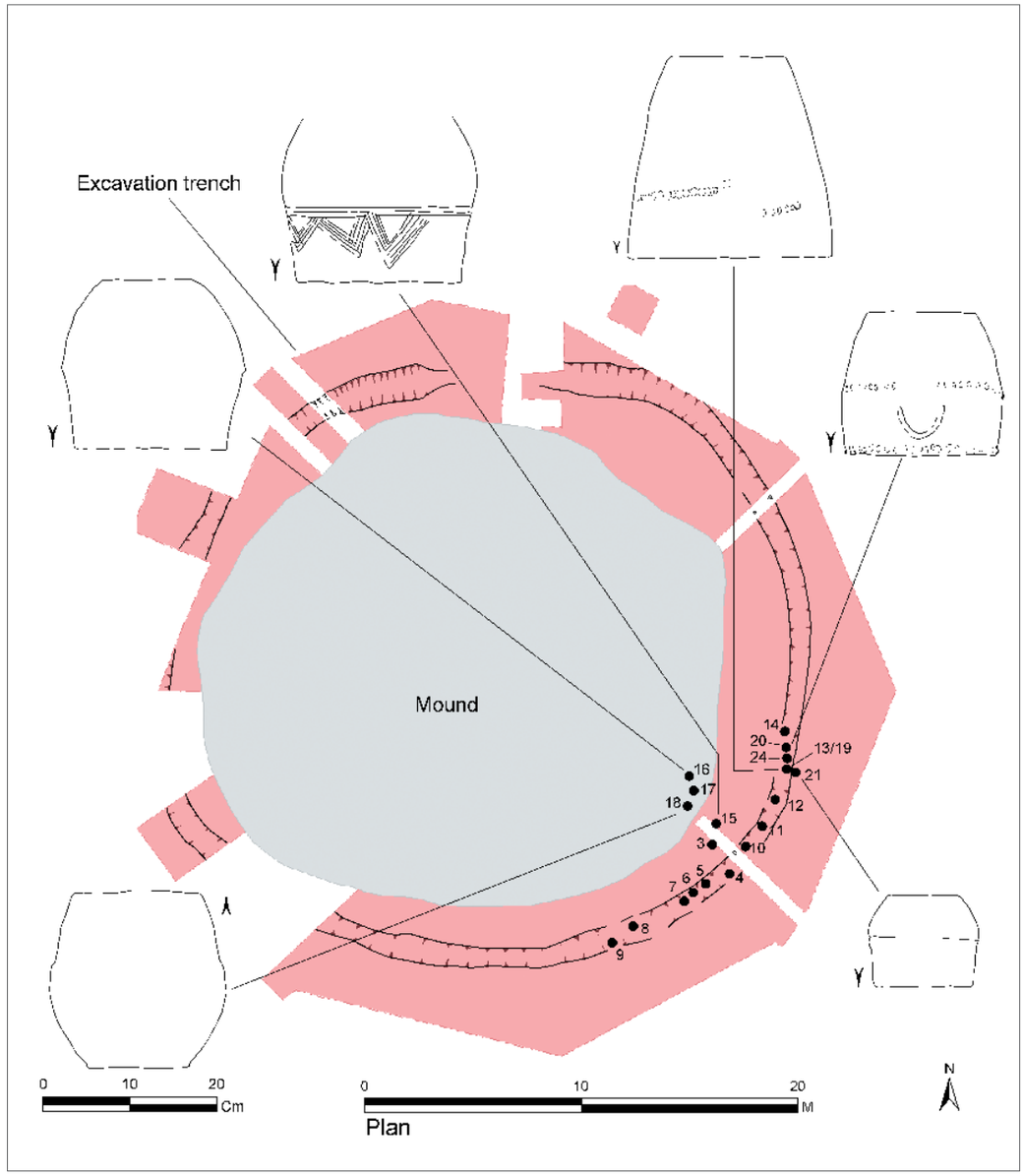


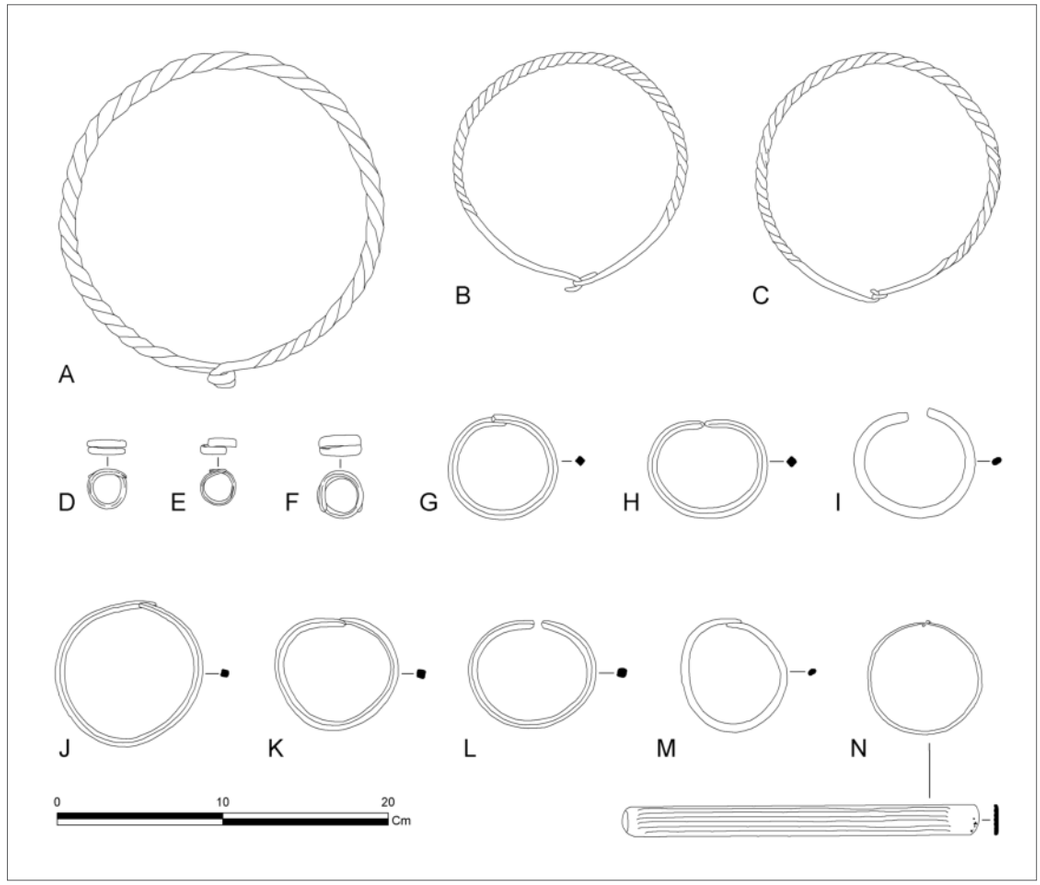
Illustration 47
Shrewton barrow G5a and later Deverel-Rimbury cremation cemetery. The cremation cemetery comprised 19 burials, of which 6 were within ceramic vessels. [*After Green and Rollo-Smith 1984, figure 4.*]

(Grinsell 1957, 29); a side-looped spearhead came from the top of a barrow west-southwest of Stonehenge (Grinsell 1957, 29); and a rapier was found on Wilsford Down (Grinsell 1957, 122). At Oldfield near Stonehenge a socketed axe, a class II razor, and a tanged tracer are said to have been found together, perhaps in or near a barrow (Piggott 1946, 138, no.54). A miniature Bronze Age axe was found by a metal detectorist at Upavon (Robinson 1995, 62, no.9), and an unlooped palstave of Werrar type and a socketed axe of Hädemarschen type were found in Steeple Langford parish just outside the Stonehenge Landscape (Moore and Rowlands 1972, 55). Mention may also be made of the Figheldean hoard of 25 bronze socketed axes found in 1971 on Figheldean Down some 2km north of the Stonehenge Landscape (Coombs 1979). All the axes were of the Sompting type, large, heavy, and with a rectangular section and decoration in the form of ribs, pellets, and roundels in various combinations on the outer faces. This large hoard dates to the Ewart Park phase of the later Bronze Age, *c.*1000–850 BC.

The most significant find of metalwork is a hoard of bronze ornaments found in 1834 near Durnford (Illustration 48), perhaps in or near a barrow (Moore and Rowlands 1972, 61–3). The hoard comprises 14 items, including twisted bar torcs, bracelets, and rings, and is typical of the Ornament Horizon of the Taunton industrial phase of the Bronze Age, Burgess' Knighton Heath Period of the twelfth and eleventh centuries BC (1980, 131–58).

Evidence of metalworking has been recorded along the Nine Mile Water in Bulford in the form of part of a stone mould for casting socketed axes (Grinsell 1957, 52 with earlier references). The stone is recorded as syenite, a type of igneous rock that is very rare in the British Isles but whose identification is often confused with that of granite. One side of the mould has a matrix for casting South Welsh

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axes of the type found widely across southern Wales, southwest England, Wessex, the Channel Islands, and northern France (especially Brittany, Normandy, and the Loire basin). An axe that is very similar, if not identical, to those produced in the Bulford mould was found at Sandleheath on the Wiltshire/Hampshire Border (Moore and Rowlands 1972, 28; and see Needham 1981). The other side of the Bulford mould has a matrix for casting a very rare kind of socketed axe which has two loops on different levels. Overall, the mould belongs within Burgess' Ewart Park industrial phase of the later Bronze Age (Burgess 1968, 17–26), a period of diversification and change. Moore and Rowlands (1972, 33) suggest that peripatetic axe-smiths working in this tradition often set up their workshops close to river-crossings, a very suitable context for the Bulford mould. It is also notable that this evidence of bronzeworking is contemporary with the large hoard of Sompting axes from Figheldean Down discussed above.

IRON AGE (700 BC–AD 50)

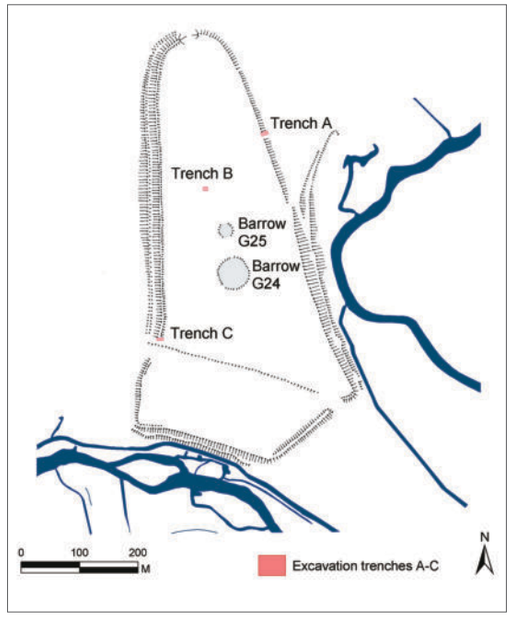
Although the Wessex region has a pre-eminent position in British Iron Age studies (Champion 2001), the period from 700 BC through to the Roman Conquest is traditionally regarded as a time of relatively little activity in and around the southern part of Salisbury Plain (see Cunliffe 1973a–c for regional context). In fact, however, many of the main features of the southern British Iron Age are well represented: open settlements, enclosures, and hillforts. The full chronology and sequence of these is poorly understood, but taken with the additional evidence of well-preserved fieldsystems and boundaries this period has considerable potential for future research. Map K shows the distribution of sites and monuments of the Iron Age.

Most of the earlier ceremonial monuments so characteristic of the second and third millennia BC show very little sign of activity after about 700 BC. Nothing firmly attributable to the period has been found at Stonehenge itself, and even the numerous barrows and cemeteries of the middle and later second millennium BC seem to have been left alone. The Wilsford Shaft was almost completely infilled by about 400 BC to judge from a small group of dated material in the very upper fill (Ashbee et al. 1989, figure 64). The Stonehenge Environs Survey failed to yield a single piece of Iron Age pottery from its fieldwalking programme (Richards 1990).

The best-known class of monument of the Iron Age is the hillfort, of which numerous variants have been recognized (Cunliffe 1991, 312–70). Within the Stonehenge Landscape there are two major hillforts. The largest is Ogbury overlooking the River Avon at Great Durnford. This poorly known site is a univallate enclosure of 26ha but it has never been adequately surveyed and is an obvious candidate for study. Crawford and Keiller (1928, 150–2) provide the best description and illustrate their account with a fine near-vertical aerial photograph; accounts of the site extend back to Stukeley's visit in the early eighteenth century. Internal

Illustration 48
The Durnford Hoard of middle Bronze Age metalwork. [*Drawings by Vanessa Constant of items in Devizes Museum (B,C,G–N) and Salisbury Museum (A, D–F).*]

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boundary features have been noted and Grinsell (1957, 65) recorded finding Iron Age pottery at the site in 1951. Flints are also reported from the site and it has tentatively been suggested that what can be seen today represents a multi-phase site with elements extending back into earlier prehistory (Darvill 1997a, 182: note 6).

The second hillfort, Vespasian's Camp on the north bank of the Avon west of Amesbury, is better known as a result of recent investigations (RCHM 1979, 20–2; Hunter-Mann 1999; Illustration 49). It is a univallate enclosure of 16ha with two phases of glacis-type rampart constructed around the hill in the early Iron Age around 500 BC.

Outside the Stonehenge Landscape 1.5km to the southwest is the multivallate hillfort of Yarnbury Castle and a series of associated settlements and enclosures at Steeple Langford and Hanging Langford (Crawford and Keiller 1928, 68–71 and 162–4: Cunnington 1933b, 198–217). Slightly further away, 5km to the south, is Old Sarum (RCHM 1981, 1–24) and 4km to the southeast is Figsbury Ring (Cunnington 1925; Guido and Smith 1981). About 4km to the northeast is Sidbury (Applebaum 1954; McOmish et al. 2002, figures 3.6 and 3.25), and 6.5km to the north Casterley Camp (Cunnington and Cunnington 1913; McOmish et al. 2002, figures 3.7 and 3.28). These sites, and others in the vicinity too, illustrate the point that much of the high-order settlement pattern of the area has to be seen in a regional rather than a local context. In the early Iron Age the Wessex chalklands supported a scatter of hillforts of various kinds each serving a relatively small local territory in some way (Cunliffe 1991, 348–52). In this pattern, Ogbury and Vespasian's Camp have important positions relative to the 'East Avon' routeway between England's south coast and the Irish Sea proposed by Andrew Sherratt (1996b, figure 2), but the Stonehenge Landscape itself is only one small part of the wider picture. By the middle Iron Age there are rather fewer, but larger, hillforts (so-called developed hillforts) with much more extensive territories around them. By this time the Stonehenge Landscape lay on the junction of the putative territories of four developed hillforts outwith the Landscape itself: Yarnbury, Old Sarum, Casterley Camp, and Sidbury (Cunliffe 1971, figure 14).

More common are the enclosed and open settlements which for much of the later first millennium BC represent the basic settlement pattern of compounds, hamlets, and farmsteads. Within the Stonehenge Landscape the most extensively known settlement area is around Durrington Walls and along the western flanks of the Avon Valley (see McOmish 2001), perhaps perpetuating the focus of late Neolithic settlement in the area although generally slightly separated from the earlier evidence in a way that suggests settlement drift within a limited compass; this would no doubt repay further investigation.

To the southwest of Durrington Walls a series of excavations was carried out in 1970, in advance of tree-planting, and revealed a few pits associated with Iron Age pottery (Wainwright 1971, 82–3). Within Durrington Walls a small cluster of Iron Age pits containing Little Woodbury style pottery was recorded in 1951 (Stone et al. 1954, 164). The 1966–8 excavations also recorded Iron Age features inside the henge-enclosure including a palisade trench perhaps forming part of an enclosure and a group of pits, postholes, and a linear ditch north of the northern circle (Wainwright and Longworth 1971, 312–28). Immediately north of Durrington Walls is the Packway Enclosure, partially excavated in 1968 during the construction of a roundabout on the A345 west of the Stonehenge Inn (Illustration 50). This kite-shaped four-sided enclosure had an entrance on the south side. Little was recovered from the inside of the enclosure because of the circumstances of discovery which had truncated the natural chalk surface and it remains poorly dated within the Iron Age (Wainwright and Longworth 1971, 307–11; and see Graham and Newman 1993, 52–5).

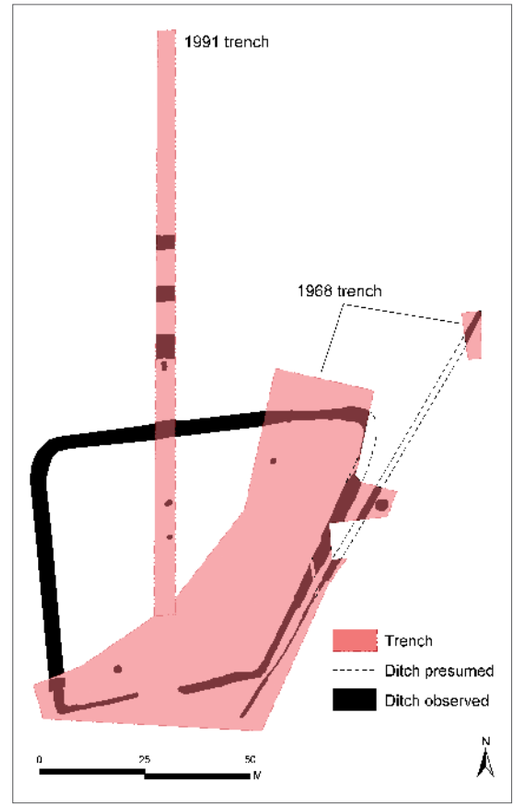


Illustration 49
Vespasian's Camp, Amesbury. [*After Hunter-Mann 1999, figure 1.*]

Illustration 50
The Packway Enclosure, Durrington. [*After Graham and Newman 1993, figure 18.*]

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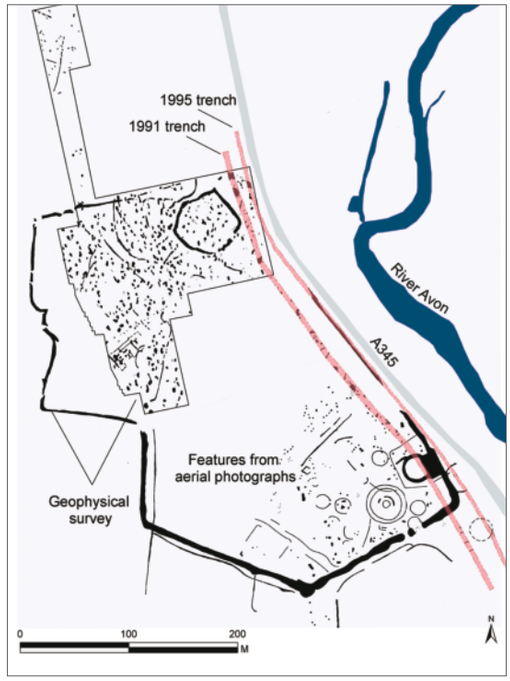


Illustration 51
Later prehistoric and Roman settlement at Netheravon compiled from excavations, aerial photography, and geophysical survey. [*After McKinley 1999, figures 2–4.*]

Northwards of Durrington Walls at Figheldean/Netheravon in the Avon Valley excavations in connection with pipeline construction in 1991 and 1995 revealed a large multi-sided ditched enclosure on the west side of the river (Illustration 51). Within the main boundary are numerous smaller enclosures and suggestions from geophysical surveys of round houses and pits (McKinley 1999 with earlier references; McOmish et al. 2002, figure 3.31). This site continued in use through into the Roman period (see below).

Another major group of Iron Age sites was investigated at Boscombe Down West by Kitty Richardson and others in 1948–9 in advance of the construction of the Boscombe Down RAF station (Richardson 1951). Early Iron Age settlement comprised an extensive spread of pits and working hollows on the northern part of the site (Area Q) and another about 650m to the south (Area R) which again included pits perhaps set within a small ditched enclosure. The pits were generally large and contained a rich material culture. Of later Iron Age date was a double-ditched enclosure, roughly circular in plan with an internal space some 200m across. Many pits were seen in the interior here. The limited excavation undertaken included what was probably one of the earliest instances in the country of the use of a drag-line excavator in an archaeological situation to remove ditch fills (Richardson 1951, plate 5). Further evidence of pits and a posthole were recorded at Boscombe Down in 1998 by Wessex Archaeology.

Within the World Heritage Site, excavations on Wilsford Down in 1910–13 revealed traces of a settlement that again included two storage pits. One pit yielded a bronze chape and binding for the scabbard of a sword or dagger; chalk loom weights, spindle whorls, hammerstones, animal bone, and pottery were also found. Various stray finds from the area, including a bronze penannular brooch and a variant style ring-headed pin, suggest a fairly extensive settlement (Grinsell 1957, 122).

Several separate finds of Iron Age material at Southmill Hill, Amesbury, suggest the presence of a settlement site. Numerous pits and a V-sectioned ditch have been reported over a period of more than 50 years (Grinsell 1957, 29; Anon 1976, 134). Evidence of other sites represented by accidental finds of storage pits or collections of Iron Age pottery include an area of settlement east of Ogbury Camp investigated by Colt Hoare (1812, 220; Crawford and Keiller 1928, 151), and two pits revealed during excavations of the Stonehenge Avenue near West Amesbury (Smith 1973, 50–2).

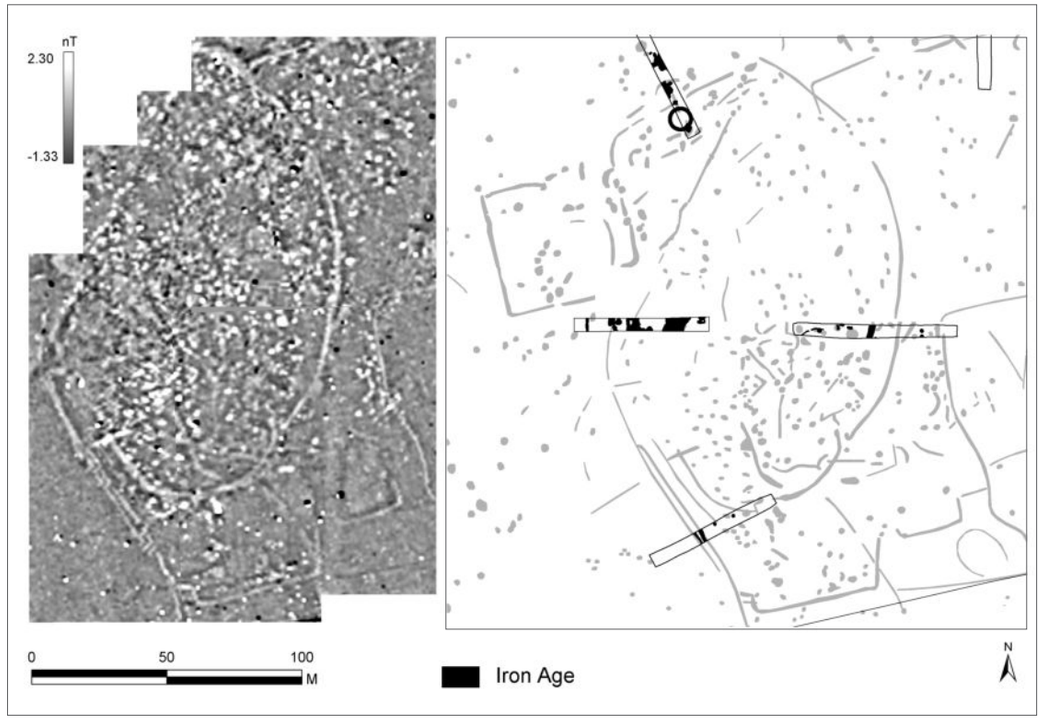
Possible and probable Iron Age enclosures known through accidental discoveries, sample excavations, or surveys include a large circular earthwork at Ratfyn discovered during the construction of a railway line in about 1908 (Hawley 1928, 166–7); a pair of conjoining curvilinear enclosures north of Druid's Lodge, Berwick St James (RCHM 1979, 22); a square-shaped example north of Normanton (RCHM 1979, 24); and a circular example southeast of Druid's Lodge in Woodford parish (RCHM 1979, 25). Geophysical surveys at Scotland Farm, Winterbourne Stoke (Illustration 52), added much detail to an oval enclosure previously known from aerial photography (David and Payne 1997, 96–7), while a square enclosure, possibly of prehistoric date, was discovered on King Barrow Ridge (David and Payne 1997, 98). This work demonstrates very clearly the potential for geophysical surveys as an aid to understanding later prehistoric settlement patterns.

Iron Age burials are generally rather rare in southern Britain but several have been found in the Stonehenge Landscape. In 1967, a crouched adult inhumation was found in a grave cut into the top of the Stonehenge Palisade Ditch. It has since been dated to 770–410 BC (UB-3820: 2468±27 BP) (Cleal et al. 1995, 161). Others include a flexed inhumation in a pit on Parsonage Down, Winterbourne Stoke (Newall 1926); Boscombe Down West where an oval pit in Area R contained an inhumation burial of a kind now well recognized as an Iron Age burial rite (Richardson 1951, 131); disarticulated human remains mixed with animal bones and early Iron Age pottery dated to the period 760–400 BC in the upper fill of the Wilsford Shaft (Ashbee et al. 1989, 69); and two pits containing burials at Southmill Hill, Amesbury (Anon 1976, 134).

Many of the fieldsystems discussed above continued in use and were presumably modified during the later first millennium BC; some may originate in these centuries. The physical connection between the Parsonage Down system and the hillfort at Yarnbury is especially strong and worthy of note. Connecting fieldsystems and settlements was a series of trackways. Most are now lost although glimpses can be seen in the arrangements of boundaries visible on aerial photographs. Hunter-Mann (1999, 39) suggests that an ancient track known as the Harrow Way may connect the Stonehenge area with southeastern England; it runs past the northern side of Vespasian's Camp (and see the Ordnance Survey's *Map of Roman Britain*).

Stray finds of Iron Age date from the area include pottery from superficial contexts at half a dozen or so barrows; a large saddle quern from Druid's Head Wood, Stapleford; a late bronze stater found near Amesbury before 1891 (Grinsell 1957, 29); a bronze drachma of the Hellenistic King Menander from 'near Stonehenge' before 1880 (Grinsell 1957, 29); a Durotrigian silver stater from Middle Farm, Shrewton; a silver Durotrigian silver stater from Stonehenge or near-by (Robinson 1991); another Durotrigian coin said to have been found at Amesbury (Robinson 1991, 119); a gold stater of the

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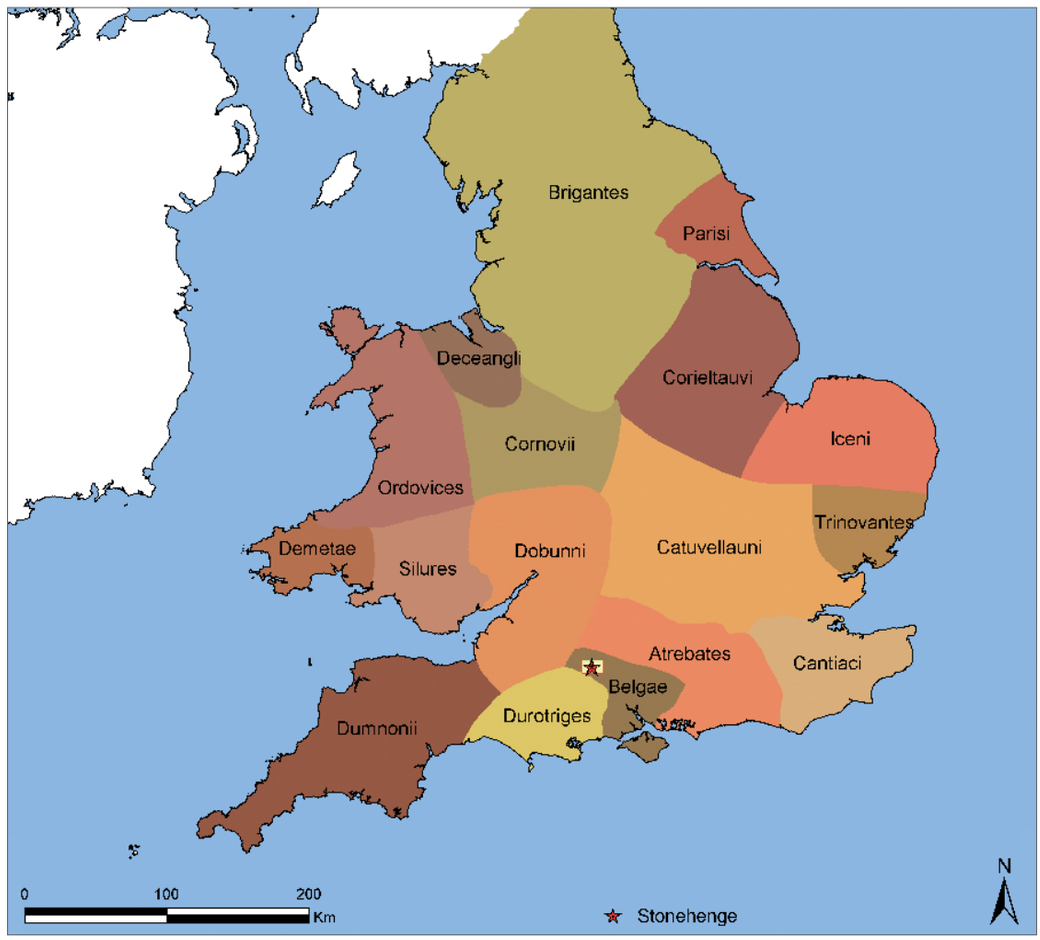


Illustration 52
Scotland Farm, Winterbourne Stoke. (left) Geophysical survey. (right) Interpretative plan of features in relation to four field-evaluation trenches. [*Survey: English Heritage. Interpretative plan reproduced courtesy of Gifford and Partners.*]

Illustration 53
Late Iron Age tribal territories in southern Britain. [*Based on Cunliffe 1993, figure 8.1.*]

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Armorican tribe the Aulerci Cenomani from Lake, Wilsford (Robinson 1991, 119); and a Carthaginian bronze coin found in March 1956 north of the Boscombe to Amesbury Road.

By the first century AD the Stonehenge area lay on the periphery of several major territorial units, perhaps tribal lands or small kingdoms: the Durotriges to the southwest, the Dobunni to the northwest, the Atrebates to the northeast, and the Belgae to the southeast (Illustration 53). It also lay on the boundary between the southeastern tribes which are sometimes seen as occupying a core area having close contact with the Roman world and the peripheral tribes who had much less contact and were perhaps more traditional in their social organization and lifestyles (Cunliffe 1991, figure 14.38).

ROMANO-BRITISH (AD 50–450)

The Roman invasion of AD 43 and the subsequent annexation of southern Britain to the Roman Empire over the ensuing decade or so have been extensively discussed with reference to central southern counties and the west country (Branigan 1973; Cunliffe 1973d; Manning 1976). The Stonehenge area lies within the lands taken during the first few years of the conquest, being well to the southeast of the Fosse Way frontier believed to have been established by AD 47. Manning (1976, 19) noted, however, that in the area north of Old Sarum, across what is now Salisbury Plain, there are no known Roman forts and very little evidence for the presence of the Roman army. The reason for this is probably the peripheral position of the region relative to the centres of the surrounding tribal territories which were the focus of Roman attention (Illustration 54). Nonetheless, a substantial Romano-British settlement developed around a junction of four or five roads at Old Sarum just 5km south of the Stonehenge Landscape (see RCHM 1981, 1; James 2002) and this must naturally have influenced developments around about. Map L shows the distribution of recorded Romano-British sites and finds in the Stonehenge Landscape.

Within the Stonehenge Landscape it is clear that some existing Iron Age settlements continued and perhaps expanded. This is certainly the case at Boscombe Down West where settlement drift is evident; Area P contained late Iron Age and first- to second-century AD pits while Area S saw occupation of the third and fourth centuries AD and Area R contained contemporary burials (Richardson 1951, 136). Rather significant are the imported butt beakers and St Remy ware found in Area P which perhaps arrived from Gaul via Poole Harbour, and the imitation *Terra Nigra* platters perhaps from eastern England (Richardson 1951, 149–53). Equally, at Figheldean/Netheravon, occupation of the large multi-sided enclosure beside the River Avon continued through into the second century AD with unenclosed occupation, a Roman villa, and a cemetery of the later Roman period (Graham and Newman 1993;

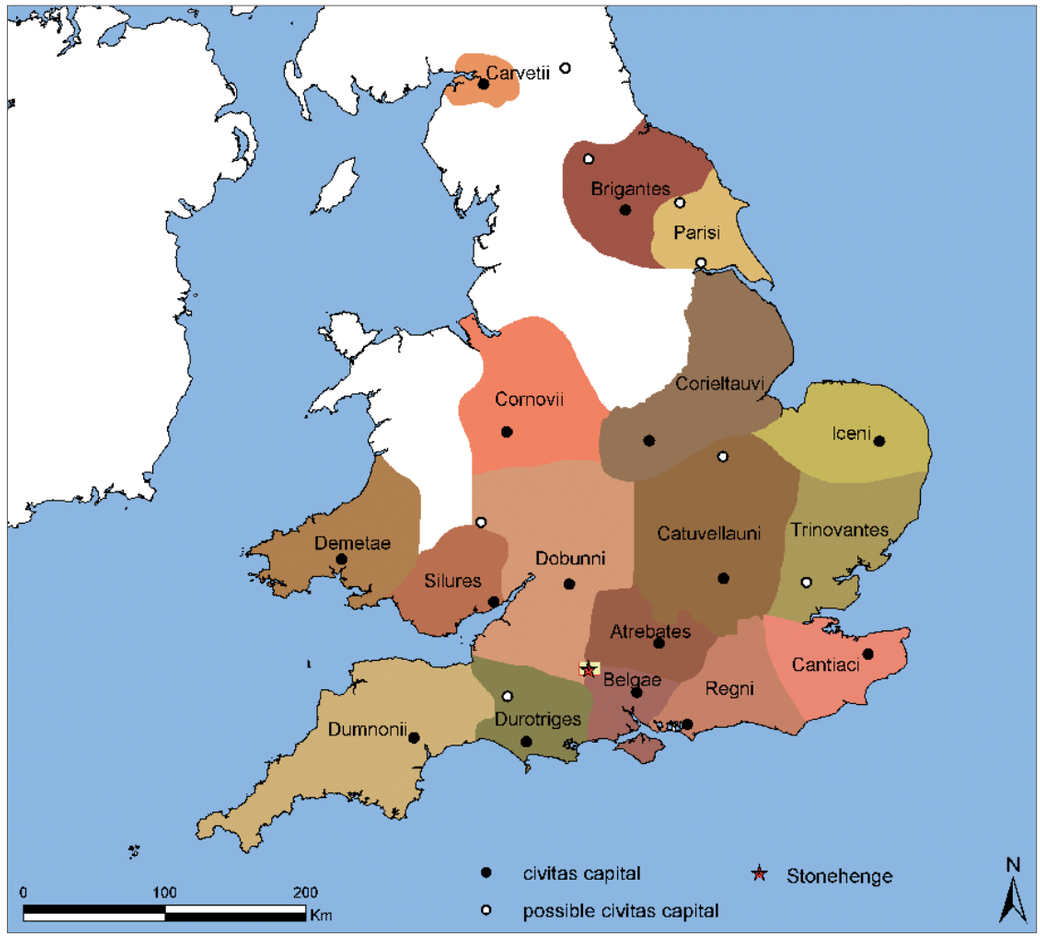


Illustration 54
Roman *civitates* in southern Britain.
[*Based on Frere 1967, 1.*]

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McKinley 1999; McOmish et al. 2002, figure 3.31).

A similar picture can be seen in other parts of Salisbury Plain (Bowen and Fowler 1966), with the strongest evidence coming from the Great Ridge – the Nadder/Wylye interfluve – just to the southwest of the Stonehenge Landscape, with its characteristic single and multi-ditched enclosures and villages such as Ebbsbury, Hamshill Ditches, Hanging Langford, and Stockton (Cunnington 1930, 194–5; Corney 1989).

The traditional view of Salisbury Plain in the second to fourth centuries AD period is that it was an imperial estate, or *saltus*, and for this reason contained rather few large Roman settlements and villas of the kind found elsewhere across southern Britain (Collingwood and Myers 1937, 224; Branigan 1976, 123) but this view is being gradually eroded by the accumulating evidence (Cunliffe 1973e; 1973f; Graham and Newman 1993, 51–2). Within the Stonehenge Landscape the Avon Valley is the focus of Roman occupation of the second century and beyond, some of it fairly substantial and involving a number of what appear to be villa-based settlements (Map L).

Starting at the northern end, at Netheravon House just outside the Stonehenge Landscape, a villa site with a mosaic pavement and bath-house was uncovered in 1907 (Grinsell 1957, 90–1 for summary). Sample excavations were carried out at the site in 1996 confirming most of the earlier observations (Rawlings 2001). To the south, within the Stonehenge Landscape at Figheldean, excavations along pipeline routes in 1991 and 1995 revealed extensive occupation and a cemetery of at least four graves within the long narrow trenches. A T-shaped oven or corn-drying kiln was also found, together with ceramic building materials and stone slates suggesting the presence of a fairly substantial structure in the vicinity (Graham and Newman 1993, 34–6). Good samples of animal bones and carbonized plant remains were also found and this is clearly a site that would repay further investigation (McKinley 1999 for overview and the results of geophysical surveys).

About 4km south of Figheldean is another area of Romano-British settlement of later third- and fourth-century date sampled by excavation prior to tree-planting west of Durrington Walls (Wainwright 1971; and see RCHM 1979, 24). Postholes, pits, gullies, and hollows were recorded in Site II, while in Site I on the north side of Fargo Road two small ditched enclosures, one containing a corn-drying kiln and two infant burials, were examined. These features were regarded as peripheral agricultural facilities with the main focus of the settlement, perhaps a villa of some kind, lying on the higher ground to the west. Pieces of roofing tile in stone and ceramic from the excavations hint at a substantial structure in the vicinity. The scale of the site is considerable to judge from quantities of Samian ware and other pottery recovered over many years from both sides of Fargo Road on Durrington Down (Cunnington 1930, 186; and see Richards 1990, figure 17). An inhumation burial set within a ditched enclosure was found at the Durrington Reservoir in 1991 (Cleal et al. 2004) and may be associated with this settlement. About 1km south again, around Countess Farm and to the northwest of the Countess Road roundabout a scatter of Roman material found by metal-detector users suggested another site (Darvill 1993b, 63–8) which has since been confirmed by field evaluation for the proposed Stonehenge Visitor Centre site on the east side of Countess Road (WA 2003a; 2004).

On the east side of the River Avon on Butterfield Down, Amesbury, an unenclosed settlement of about 6ha included timber-framed buildings and a corn-drying oven very similar to the example already noted from Durrington Walls. Cattle and sheep were the most common farm animals represented. An infant burial within the settlement and the possibility that a ring-gully represents the remains of a shrine indicate aspects of the religious side of life at the site (Rawlings and Fitzpatrick 1996, 38–40). Nearby, excavations in advance of development for a new school on the eastern outskirts of Amesbury revealed an inhumation cemetery of the third and fourth centuries AD. Set within what has been interpreted as a garden of remembrance, there is some suggestion that these may be early Christian burials (Fitzpatrick 2003a, 147).

South of Amesbury evidence of Roman settlement appears less abundant but this is probably a result of fewer opportunities. Finds made over a long period of time at Boscombe Road/New Covert in Amesbury suggest another extensive site here. A pot containing a hoard of bronze and silver coins and three silver finger-rings was found in *c.*1842 (Cunnington 1930, 172; Grinsell 1957, 30); more recently a midden and pits were seen by Mr St John Booth.

Just outside the Stonehenge Landscape the small town of *Sorviodunum* developed beside the Avon around Old Sarum and modern-day Stratford-sub-Castle (James 2002).

Roman settlement was not confined to the Avon Valley. East of the Avon occupation on Boscombe Down West continued into the third and fourth centuries in Area S and its associated cemetery in Area R (Richardson 1951). On Earl's Farm Down, Amesbury, pottery and foundations suggest a substantial site (Cunnington 1930, 173; Grinsell 1957, 30). On the high ground between the Avon and the Till there is evidence for occupation at Wilsford Down which has yielded a number of brooches, ornaments, and ironwork (Cunnington 1930, 208; Grinsell 1957, 122) and is revealed as a pottery scatter in the fieldwalking undertaken for the Stonehenge Environs Project (Richards 1990, figure 17). At Normanton Ditch, Wilsford, a possible pewter hoard is recorded as having been ploughed up about 1635 (Cunnington 1930, 208; Grinsell 1957, 123). A second area of Roman settlement is represented by two groups of finds, connected by a linear ditch, one either side of the Amesbury to Shrewton road on Winterbourne Stoke Down (Colt Hoare 1812, plan op. 170; Cunnington 1930, 209; Illustration 55). Strangely, this pair of sites is not represented in finds made during the Stonehenge Environs Project fieldwalking, although the fieldwork would have only touched the eastern edge.

A third area of settlement may lie on Rox Hill to judge from a scatter of Roman pottery recorded during the Stonehenge Environs Survey (Richards 1990, figure 17), possibly the Romano-British village referred to by Colt Hoare (1812, 227; Cunnington 1930, 208). West of the Till, there are again substantial traces of occupation at Maddington Farm, Shrewton, on the very far western side of the Stonehenge Landscape. Here, two burials found during the construction of a pipeline led to the excavation of a wider area and the identification of a small farmstead of third–fourth-century date together with an associated inhumation cemetery (McKinley and Heaton 1996). Cunnington (1930, 209) recorded another settlement on High Down, Winterbourne Stoke, northwest of the Coniger, confirmed as such by Colt Hoare (1812, 95). On Berwick Down in the southwest corner of the Stonehenge Landscape there is extensive evidence of Roman occupation tested 'by the spade' by Colt Hoare in the nineteenth century (Cunnington 1930, 174).

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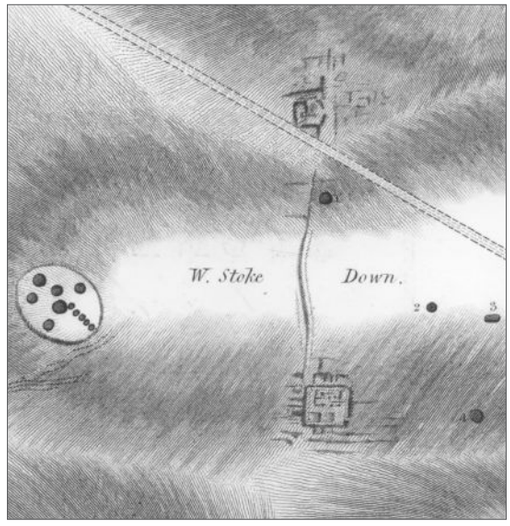


Illustration 55
Romano-British settlement on Winterbourne Stoke Down depicted by Colt Hoare. [*From Colt Hoare 1812, plan opp. 170.*]

It is important to note that in all these areas there are hints of settlement sites provided by antiquarian finds and early rescue excavations but it is really only since the mid 1980s that firm indications of the nature of these sites have really come to light as a result of evaluation and recording work at development sites. In all cases it seems that the areas available for investigation were peripheral to the main occupation zones; there is thus considerable potential at all these sites for further exploration and research. It is also worth noting that northwards, within the SPTA, what appear to be rather different kinds of settlement involving compact villages, linear villages, and extensive evidence of cultivation have been revealed by detailed ground survey and the study of aerial photographs (McOmish et al. 2002, 88–106). Whether similar arrangements were also present on the downlands Stonehenge Landscape east and west of the villa-based settlements along the Avon Valley remains to be seen.

Romano-British pottery and coins have been recovered at a number of barrow and other prehistoric sites within the Stonehenge Landscape (see for example Cunnington 1929; Newall 1931, 432; Ashbee 1980; Hunter-Mann 1999). Even though the finds are unstratified, the evidence supports fairly extensive Romano-British occupation/activity within the Stonehenge Landscape. Stonehenge itself was clearly visited during the Roman period as a fairly substantial collection of finds suggests: 20 coins ranging in date from AD 41–50 through to AD 330–395; pottery (1857 sherds found in twentieth-century excavations); and personal ornaments, brooches, pins, toilet equipment, and possibly some graffiti (Cleal et al. 1995, 431–5 and 491). Whether these visits were made out of curiosity or because of some residual significance attaching to the site is not known. Ritual and ceremonial activity of Roman date seems to be poorly represented in the Stonehenge Landscape, although perhaps it is just difficult to see. No conventional temples or major shrines have yet been found, which is rather odd given the prehistoric significance of the area. At Woodhenge, however, the Cunningtons' excavations of 1926–8 revealed the remains of infant burials in the upper ditch fills associated with Romano-British pottery and there is a possibility that the infant buried in the centrally placed grave at the site is also of this date (Cunnington 1929, 60).

In addition to the burials noted in association with settlement sites, Roman graves have also been recorded at four other sites, including a cemetery at Boscombe Down, Idmiston, excavated in 1995 but not yet published; an inhumation at Ratfyn (Grinsell 1957, 29); and a cremation southeast of Milston Farmhouse, Figheldean.

Some of the fieldsystems in the Stonehenge Landscape undoubtedly originated in the early first millennium AD while many earlier ones continued in use or were reused. The Fargo Road settlement noted above is located on the periphery of a major fieldsystem and lynchets were recognized in the excavation areas (Wainwright 1971). A detailed landscape characterization focusing on the morphology of linear features and field patterns could perhaps further elucidate the connections between settlements and associated agricultural features.

The only substantial Roman road identified within the Stonehenge Landscape is the Old Sarum to Mildenhall road which is likely to be a Romanized trackway. The trackway passes just east of Amesbury running in a north-northeasterly direction, through Boscombe Down Camp and Bulford Camp, although its precise route on the ground has never been checked (Margary 1973, 99–100). Other routeways include the Harrow Way (Ordnance Survey *Map of Roman Britain*) and the Old Sarum to Mendip Hills road which passes just south of the Stonehenge Landscape (Margary 1973, 101–3).

Overall, the density of known Romano-British sites, their fairly regular spacing, and the range of available stray finds and snippets from antiquarian reports suggest that much if not all the Stonehenge Landscape was significantly more intensively used in the early first millennium AD than many recent commentaries would suggest, and with abundant scope for further research.

SAXON AND EARLY MEDIEVAL (AD 450–1100)

Archaeological evidence relating to the period from about AD 450 through to the Norman Conquest and even a little beyond is widely regarded as being notoriously difficult to find, and hazardous to interpret. This problem is exacerbated by the general desire to integrate purely archaeological evidence with tradition, myth, and written historical sources. There is a general perception that within the Stonehenge Landscape there is very little evidence relating to the later first millennium AD; this is not, however, entirely so. For while there is certainly rather less than for some phases of prehistory, there are clear indications that the six centuries following AD 450 are strongly represented and provide much potential for research (and see Cunnington 1933a; Bonney 1973; Cunliffe 1973f; Hinton 1977; and Eagles 1994 and 2001 for regional background studies). Map M shows the distribution of recorded Saxon and early medieval sites and finds within the Stonehenge Landscape.

Eagles (2001) has argued that Germanic migrations into Wiltshire took place within the framework of the former Romano-British *civitates*, with the Avon Valley seeing an Anglo-Saxon presence relatively early, accompanied by the development of new cultural identities and social order among local communities. The River Avon itself was undoubtedly a significant route into Wessex from the south coast, and recent finds around Breamore south of Salisbury have led to suggestions that the river below Charford was

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within Jutish territory while its northern part was firmly within Anglo-Saxon lands, perhaps the territory of the *Wilsaete* (Eagles and Ager 2004, 93).

Within the Stonehenge Landscape, activity in the fifth century AD is well represented at Butterfield Down on the east side of Amesbury. Here a hoard of eight gold and one silver coins was found by a metal-detector user outside the area of the excavations. The group is believed to have been deposited sometime after AD 405, making it one of the latest Roman coin hoards in Britain (Rawlings and Fitzpatrick 1996, 19). Within the excavations was a sunken-floor building containing much third- and fourth-century AD pottery (Rawlings and Fitzpatrick 1996, 13–14; Illustration 56), perhaps an example of the increasingly widely recognized class of native British sunken-floor or terraced structures seen also at Figheldean Site A (Graham and Newman 1983, 19–22) and further afield at Poundbury, Dorset, and Godshill, Wiltshire (Eagles 2001, 210).

Other evidence of mid first-millennium AD activity around Amesbury includes a group of inhumation burials from London Road to the north of the town. Found in 1834, they are considered sub-Roman or early Saxon in date (Bonney 1982; Chandler and Goodhugh 1989, 6). Kurt Hunter Mann (1999, 51) has suggested limited use of Vespasian's Camp during the later Roman and sub-Roman period, but there is no substantial archaeological evidence represented in the areas examined. Saxon pottery attributable to the fifth to eighth centuries AD was found during field evaluations on the site of the proposed Stonehenge Visitor Centre northeast of Countess Roundabout in 1995 (WA 1995, 19); at least two brooches datable to the fifth to seventh centuries have been found in the area (Darvill 1993b, 63–8) and other finds of mid first-millennium AD date have been reported in the Avon Valley north of Amesbury (McOmish et al. 2002, 109 and figure 5.1). Further field evaluations on the visitor centre site in 2003 and 2004 provide a secure context for these finds: five sunken-



Illustration 56
Sunken-floor hut and related features at Butterfield Down, Amesbury. A: General plan of excavation trenches and features. B: Detail of the sunken-floored building. [*After Rawlings and Fitzpatrick 1996, figures 8 and 10.*]

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floor buildings (WA 2003a; 2004), seemingly of the classic Germanic *grubenhaus* form with a large posthole at either end of the sunken area, conventionally dated to the fifth to eighth centuries AD. Pottery of the early/middle Saxon period, including organic tempered ware, was recovered, together with charred cereal grain and animal bone representing sheep, cow, and chicken. These are the first such buildings to have been found in the Stonehenge Landscape and they suggest a fairly substantial settlement in the area.

Burials and finds suggestive of burials of the pagan Saxon period are probably the most widespread form of evidence available. Grinsell (1957) gives examples from all but three of the 16 modern parishes that include territory within the Stonehenge Landscape:

- *Amesbury*: Barrow G44 intrusive interment; Barrow G85 socketed iron spearhead and other objects perhaps associated with an intrusive interment; Stonehenge burial (see below).
- *Bulford*: Socketed iron spearhead found on Bulford Down in 1861 and a similar piece found at Bulford Camp in 1906.
- *Durnford*: Barrow G1 or 2 intrusive interment.
- *Durrington*: Barrow G? (pond barrow) yielded a skull possibly from an intrusive interment; possible cemetery site of 30+ graves (see below).
- *Figheldean*: Barrow G25 inferred intrusive interment from the socketed iron spearhead found; Netheravon Aerodrome find of an interment believed to have been deposited in a wooden coffin.
- *Idminster*: Barrow G23 intrusive interment with iron shield-boss that is unlikely to be later than the mid sixth century AD, socketed spearhead, and wooden bucket with bronze mounts.
- *Milston*: Barrow G3 intrusive interment; barrow G7 intrusive interment; small pot and fragment from a comb above a chalkpit.
- *Netheravon*: Two burials found during the construction of the Aviation School in 1913, one accompanied by weapons, a bronze pin, and perhaps a bucket.
- *Orcheston*: Inhumations (one adult and one youth) with an iron knife found at Elston before 1856 (Robinson 1987).
- *Shrewton*: Inhumation found at Shrewton Windmill, accompanied by a bronze armlet, ?girdle-hanger, iron knife, and pot. A second burial was found in the same area in 1968 (SMR 12320). A split iron spearhead suggests a third unlocated burial in the parish.
- *Wilsford cum Lake*: Barrow Wilsford G3, intrusive interment; Barrow G50b intrusive interment; long barrow G30 intrusive interment.
- *Winterbourne Stoke*: Barrow 4, five intrusive interments; Barrow 61 intrusive interment; Barrow 23a glass bead of Saxon type suggestive of an intrusive burial.
- *Woodford*: Socketed iron spearhead found in 1863.

To these can be added the large Saxon inhumation cemetery northwest of the allotment gardens in Maddington, Shrewton (Wilson and Hurst 1968, 241).

The possible cemetery on Durrington Down found in 1864 is intriguing. Grinsell (1957, 66) suggested that it is near Fargo and that the graves were orientated north to south. Ruddle (1901, 331) indicated that they were in an arable field near the Durrington/Winterbourne Stoke boundary and that while 30 were found only two were laid north to south. He also mentioned that these two burials had flints set like a low wall around and over the skeletons (and see RCHM 1979, 7). Unfortunately, the exact position of this find is not known. It may be significant, however, that during the examination of Barrow G7 on Durrington Down as part of the Stonehenge Environs Project, a scatter of 22 sherds of grass-tempered Saxon pottery was found (Richards 1990, 182). In addition, M Cunnington found a group of eleven inhumations in shallow graves intrusive to barrow Durrington 67 (Cunnington 1929, 43–4; RCHM 1979, 7). Taken together these finds suggest the strong possibility of one or more Saxon occupation sites and cemeteries along the high ground between Fargo Road and Fargo Plantation. A bronze late Saxon mount was found at Knighton Farm, Figheldean (Robinson 1992, 66, no. 5).

Two recently identified burials of the later first millennium AD illuminate a quite different aspect of how the dead were treated. The first is an extraordinary 'bog burial' at Lake in the Woodford Valley (McKinley 2003). Radiocarbon dated to AD 400–620 (GU-4921: 1560±50 BP), this was the burial of a young adult female aged about 20–25 years at death. She had been buried fully prone and extended with the left arm flexed with the hand resting on the abdomen and the right arm fully extended. The body had been covered with at least 18 oak planks. The position of the grave adjacent to the River Avon in a wetland context raises the question of whether this was a ritual burial or a sacrifice of some kind.

The second unusual burial comes from Stonehenge itself, an inhumation burial found by Hawley in November 1923 adjacent to Y-Hole 9, just outside the circle to the southeast, which at the time of excavation was discounted as Roman or later and of no great interest (Hawley 1925, 30–1). The roughly cut rather shallow grave contained the slightly contracted remains of an adult male aged about 28–32 years at death. The grave was flanked by two postholes (Illustration 57). Originally considered to be of Roman date, radiocarbon determinations have now shown it to be of the seventh century AD (610–780 AD (OxA-9361: 1359±38 BP) and 430–660 AD (OxA-9921: 1490±60 BP)) and forensic analysis suggests a traumatic death through decapitation by a single blow with a sharp blade from the rear-right side of the back of the neck. Scientific studies of the individual's tooth enamel suggest that during his childhood he lived fairly locally, to the northeast of Stonehenge (Pitts 2001b, 319–20; Pitts et al. 2002). In the light of this evidence the two postholes near the burial can be interpreted as the remains of a gallows and the possibility raised that Stonehenge was an execution site in the later Anglo-Saxon period. At least two other inhumations were found by Hawley at Stonehenge, one in the outer ditch and another within the central bluestone horseshoe, while a human tarsal was found near the Heel Stone in a context containing medieval pottery during excavations in 1979 (Pitts 1982, 90). In addition, a small amount of organic tempered Saxon pottery and a penny of Aethelred II (Cleal et al. 1995, 432–5) serve to strengthen the evidence for considerable activity at the site in the later first millennium AD. Cunnington (1933a, 171) also refers to an Anglo-Saxon silver belt ornament from the site in Salisbury Museum. The liminal position of Stonehenge and its powerful associations with an ancient order make the site ideal for executions, a point that links with David Hinton's comments on the derivation of the very name of the site – the stone hanging place (Hinton 1998; and see Reynolds and Semple in Pitts et al. 2002, 139–43).

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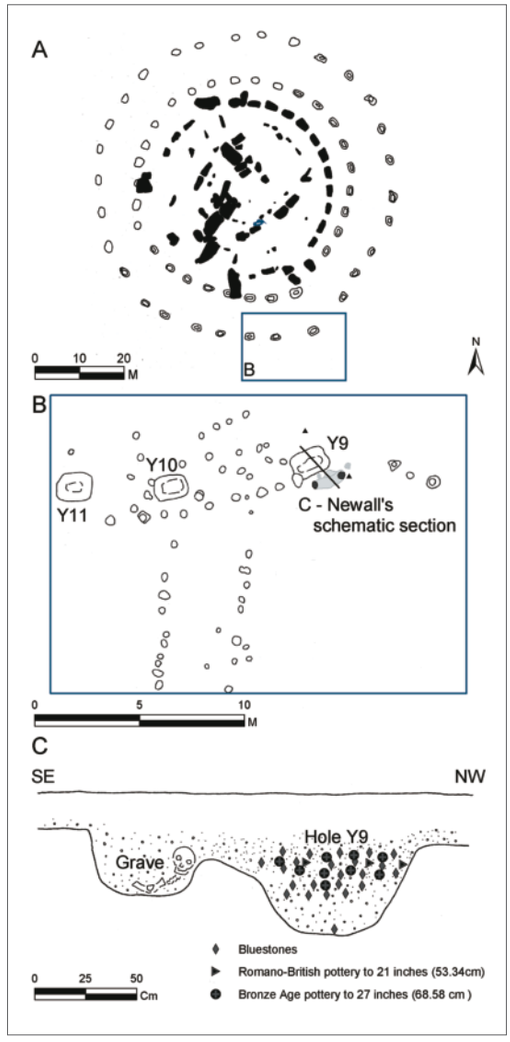


Illustration 57
Postholes possibly forming a gallows at Stonehenge. A: Stonehenge with the area of the detailed plan (B) indicated. C: Section through the grave and stonehole Y9. [*After Pitts* et al. *2002, figure 2.*]

Evidence of execution may also be provided by the cleft skull of one of the intrusive burials in the Wilsford G3 long barrow near the Wilsford–Charlton parish boundary (Cunnington 1914, 403). Bonney (1966) has noted the prevalence of pagan Saxon burials near parish boundaries which he takes as evidence for both the pre-parish system origins of the boundaries themselves and the peripheral location of burials relative to the main settlement areas. This arrangement does, however, deserve further exploration as the location of settlements remains largely unknown.

At a larger scale, the administrative units that would later become known as hundreds (see below) are believed to have been established in the seventh century (Yorke 1995, 89–90), perhaps reflecting a post-Roman tribal landscape of so-called 'micro-kingdoms' (Reynolds and Semple in Pitts et al. 2002, 143). By the ninth century, the Stonehenge Landscape is comfortably within the still-larger early medieval Kingdom of Wessex (Illustration 58). Documentary evidence for this period is rather better than it is in surrounding areas, mainly because of the ecclesiastical and royal associations with Amesbury.

The town of Amesbury has been subject to several historical investigations which together provide a fairly detailed understanding, although tentative, of its early development (Hinton 1975; Haslam 1984; Chandler and Goodhugh 1989; Illustration 59). There are references relating to Amesbury in Saxon charters, the Will of King Alfred (d.899) bequeathing *(aet) Ambresbyrig* to his younger son Aethelweard, and lands left in King Eadred's (d.955) will to his mother Eadgifu (Finberg 1964). It has been suggested that the place-name *aet Ambresbyrig* probably indicates its early existence as a *burh* or fortification belonging to *Ambre* (Gover et al. 1939, 358). Indeed, the place-name *Ambre* may have pre-Saxon origins and perhaps represents the name of the semi-mythical Ambrosius about whom legends were well established by the eighth century (Gover et al. 1939, 358; Morris 1973, 100). If so, it may support the notion that Ambrosius Aurelianus established a garrison in response to the resistance against the Saxon invaders during the third quarter of the fifth century (Bond 1991, 385). Alternatively, the personal element could represent *Ambri*, who is mentioned in Geoffrey of Monmouth's legend of Stonehenge and 'of the hill of *Ambrius*' although Geoffrey does not specify where this was (Chandler and Goodhugh 1989, 5).

If the origins of Amesbury are obscure, so too is much of its early development. If it was the centre of a royal estate, as has been suggested (Haslam 1976, 5), then it is likely to have been a settlement for the estate staff. Such a settlement might have consisted of a minster, a headquarters for the priests working throughout the estate, a mother church for all Christian worship, and various staff premises: the beginnings of a small town (Hinton 1975, 27–8). The king held assemblies at Amesbury in AD 932 and AD 995 (Bond 1991, 386) and in AD 979 a new abbey was founded by Queen Aelfthryth, one of only two churches dedicated to St Melor in the country (Haslam 1984, 130–1). In AD 1177 the church was refounded in its present location as a priory under the Order of Fontevrault, suggesting that an earlier church of the order had existed prior to the tenth century. Some evidence for the earlier church has come to light in the form of pieces from two Saxon crosses that came to light during restoration works in 1907 (Ball 1979). One of the crosses takes the form of a simple plain equal-armed cross with chamfered edges and a central recessed disc containing a concentric ring of small bosses. It probably dates to the late eleventh or early twelfth century. The second cross is more ornate and is represented by two joining fragments from a wheelhead cross of the tenth or eleventh century, made of sandstone. The design includes two concentric wheels with a continuous interlacing design on the faces and edges. The location of this putative early settlement is, however, wholly conjectural, the best estimate being that it lies somewhere near the 'ancient' river crossing at Queensberry Bridge near Vespasian's Camp and perhaps extending along the present High Street (Chandler and Goodhugh 1987, 7). Given the ecclesiastical importance of Amesbury a royal palace might also be expected, but none has yet been found.

The Domesday survey records that Amesbury was held by the King in 1066 and had never paid geld nor had they been assessed in hides, the usual form of taxation. Instead, tax had been paid in kind, probably the earliest form of formalized taxation known in England and generally dating at least as far back as the seventh century (Chandler and Goodhugh 1989, 6). By the eleventh century, Amesbury was the focal point for a hundred, which was accredited with substantial areas of woodland. It has been proposed that the original estate could have incorporated the whole of the Hundred of Amesbury

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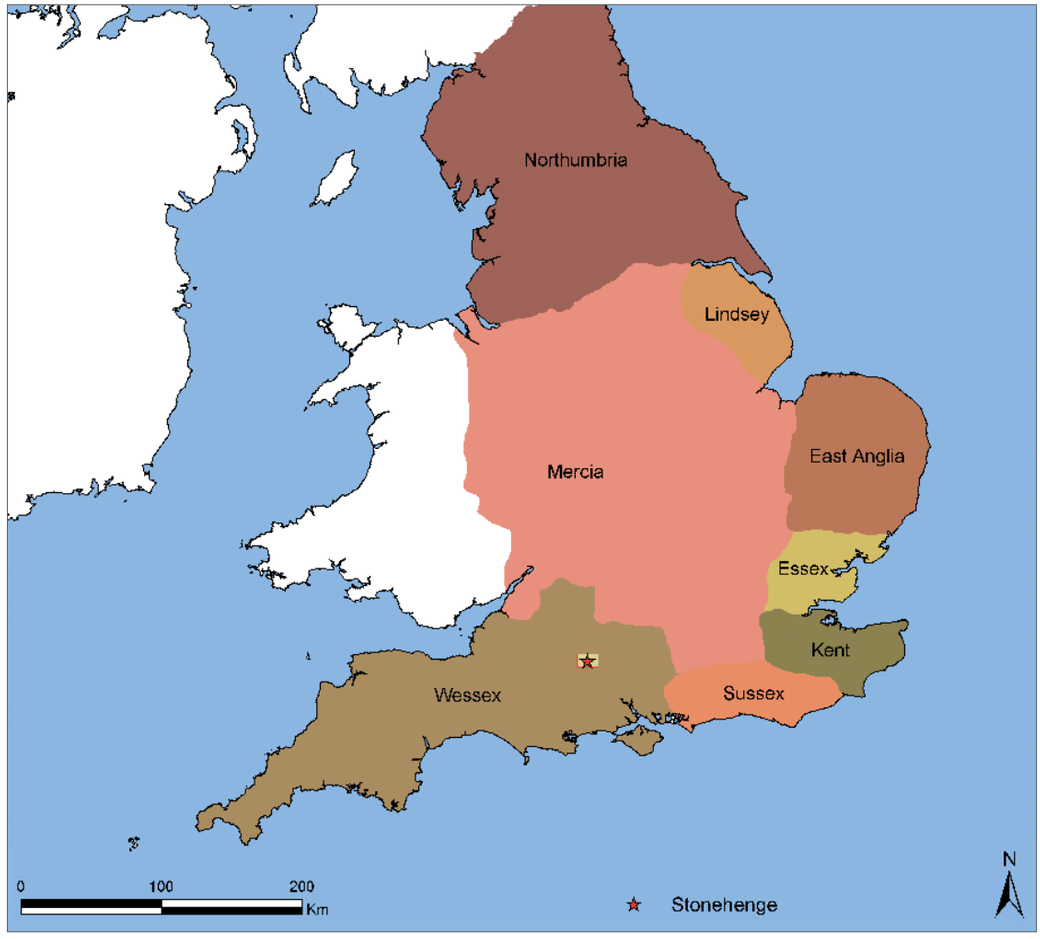


Illustration 58
Anglo-Saxon and contemporary kingdoms in southern Britain. [*Based on Hill 1981, figure 42.*]

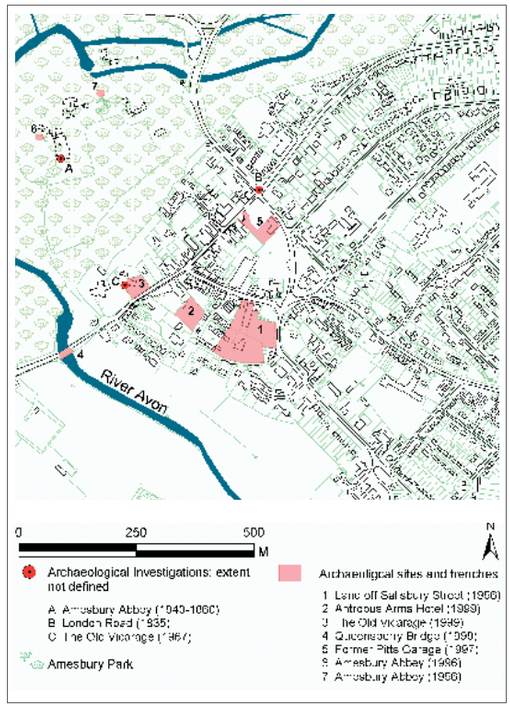


Illustration 59
Amesbury. Plan of the modern town showing the position and extent of early features and principal excavations. [*Sources: various.*]

(Bond 1991). The hundred extended from Biddesden in Chute Forest to below Durnford in the Avon Valley, and eastwards to the Hampshire border (Thorn and Thorn 1979).

It is assumed that smaller settlements must have been developing in the countryside surrounding Amesbury, probably along the Avon and Till valleys in situations that later became the villages still familiar in today's landscape (see McOmish et al. 2002, figure 5.2 for the Avon Valley). Certainly, the majority of the present settlements are mentioned in the Domesday Survey of 1086. Parish units must also have been established in this period, in many cases utilizing prehistoric barrow cemeteries and indeed individual barrows as boundary markers and alignments (Bonney 1976). To what extent the existing later prehistoric and Romano-British fieldsystems continued in use, or were abandoned, is not known.

LATER MEDIEVAL (AD 1100–1500)

The later medieval period sees the continuing importance of the crown and the church as formative agents in the development of the towns and the countryside alike. Castles, palaces, churches, monasteries, towns, villages, hamlets, and farmsteads form elements in a complicated

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and structured system. Bettey (1986) and the papers in the volume edited by Aston and Lewis (1994) provide a background to this period and the archaeology of it. Indeed, Aston and Lewis (1994, 1) suggest that Wessex as a whole has great potential for the study of the medieval rural landscape owing to its abundance of documentary evidence and variety of landscape types. Map N shows the distribution of recorded sites and finds relevant to the medieval period.

The Conquest period is represented by a small horsehoe-shaped ringwork castle at Stapleford in the Till Valley in the southwest corner of the Stonehenge Landscape. The ringwork was later expanded to operate in a manorial capacity with the addition of a fishpond and suite of paddocks (Creighton 2000, 111). The much larger castle with its associated royal and ecclesiastical centre at Old Sarum lies about 6km south of the Stonehenge Landscape on the east bank of the Avon (RCHM 1981).

All of the settlements recorded in the Domesday Survey of 1086 grew to become established villages in the succeeding period, together suggesting fairly densely populated river valleys with more open land between. Table 3 shows the names of the main settlements and the hundreds within which they lay. Illustration 60 shows the extent of the identified hundreds around Stonehenge.

Modern parish/ settlement	Domesday reference?	Domesday hundred
Allington†	✔	Amesbury
Boscombe	✔	Amesbury
Amesbury†	✔	Amesbury
Ratfyn	✔	Amesbury
Berwick St James†	–	–
Bulford†	✔	Amesbury
Durrington†	✔	Amesbury
Knighton	✔	Amesbury
Figheldean†	✔	Amesbury
Idmiston†	✔	Amesbury
Porton	✔	Alderbury
Milston†	✔	Amesbury
Brigmerston	✔	Amesbury
Netheravon†	✔	Elstub
Orcheston†	✔	Dole
Shrewton†	✔	Dole
Addestone	✔	Dole
Maddington	✔	Dole
Stapleford†	✔	Branch
Wilsford†	✔	Underditch
Winterbourne Stoke†	✔	Dole
Woodford†	–	–

† indicates modern parish centres.
Place-names in italic are non-parish centres.

Table 3
Later medieval settlements and hundreds within the Stonehenge Landscape.

Several of the modern parishes have been created out of the amalgamation of medieval tithings or townships but some original medieval land units still remain (Illustration 61). As observed on modern Ordnance Survey maps, Wilsford cum Lake, for example, was created out of the medieval townships of Normanton, Lake, and Wilsford. Also, Shrewton incorporated the medieval townships of Rollestone, Netton, Shrewton, Maddington, Bourton, Addestone, Normanton, and part of Elston (Aston 1985, 40–1 and 79–80). Some township units seem to have incorporated prehistoric features at certain points on their boundaries, perhaps reflecting earlier land-divisions. West Amesbury, Winterbourne Stoke, and Normanton townships, for instance, converge at Barrow 10 of the Winterbourne Crossroads barrow group. Amongst others, potential prehistoric boundaries can be found at the bell barrow Amesbury 55, where Amesbury Countess, West Amesbury, and Winterbourne Stoke converge, and the north bank of the Cursus forms part of the Durrington/Amesbury/Countess boundary (Bond 1991, 394).

Amesbury remained the largest settlement throughout the medieval period, and the two manors in the town are the only ones in the area to have been researched in any great detail (Pugh 1948). During the later eleventh century, the royal estate of Amesbury was divided into two smaller manors: one consumed into the Earl of Salisbury's estate and the other owned by the Sheriff of Wiltshire and later by his grandson, Patrick, Earl of Salisbury in 1155–6 (Bond 1991, 392). For some four centuries the Amesbury manors and associated lands passed through many hands and were divided, detached under multiple ownership, and finally reunited with almost all of their lands intact in 1541. Edward, Duke of Somerset and Earl of Hertford, acquired the manor of Amesbury Earls in 1536 and Amesbury Priors in 1541.

Until the Reformation, the Benedictine Abbey of Amesbury continued to flourish as a nunnery, gradually increasing in size and wealth. In 1256, there were 76 nuns and by 1318 the nunnery housed 117 nuns with 14 chaplains (Bettey 1986, 74). By the fifteenth century, the abbey had become the second wealthiest and fifth largest in England until its dissolution in AD 1540 (Haslam 1984). The buildings were given to Edward Seymour who dismantled the abbey (Jackson 1867).

It is likely that the settlement of Amesbury grew up alongside the abbey during its prosperous years, but little is known of the town from an archaeological perspective. The only known surviving domestic medieval building seems to be West Amesbury House. With a fifteenth-century core, medieval screens passage with an *in situ* wooden screen, arched doorways and a medieval arch-braced and wind-braced roof in the west wing, the medieval building is proposed to be located within the remains of a grange of Amesbury Priory (Chandler and Goodhugh 1989).

Throughout the medieval period, Amesbury Hundred constituted part of the Royal Forest of Chute, the earliest known documentary evidence for which dates from the twelfth century (Bond 1994, 123).

Villages, as we recognize them today, appear to have developed during this period, although some presumably have Saxon or earlier origins. Settlement has a propensity to centre along the river valleys, particularly the Till and Avon. The eighteenth-century map by Andrews and Drury provides a detailed overview of pre-enclosure settlement within the Stonehenge Landscape, covering the whole of Wiltshire. Villages tended to be either compact nucleated

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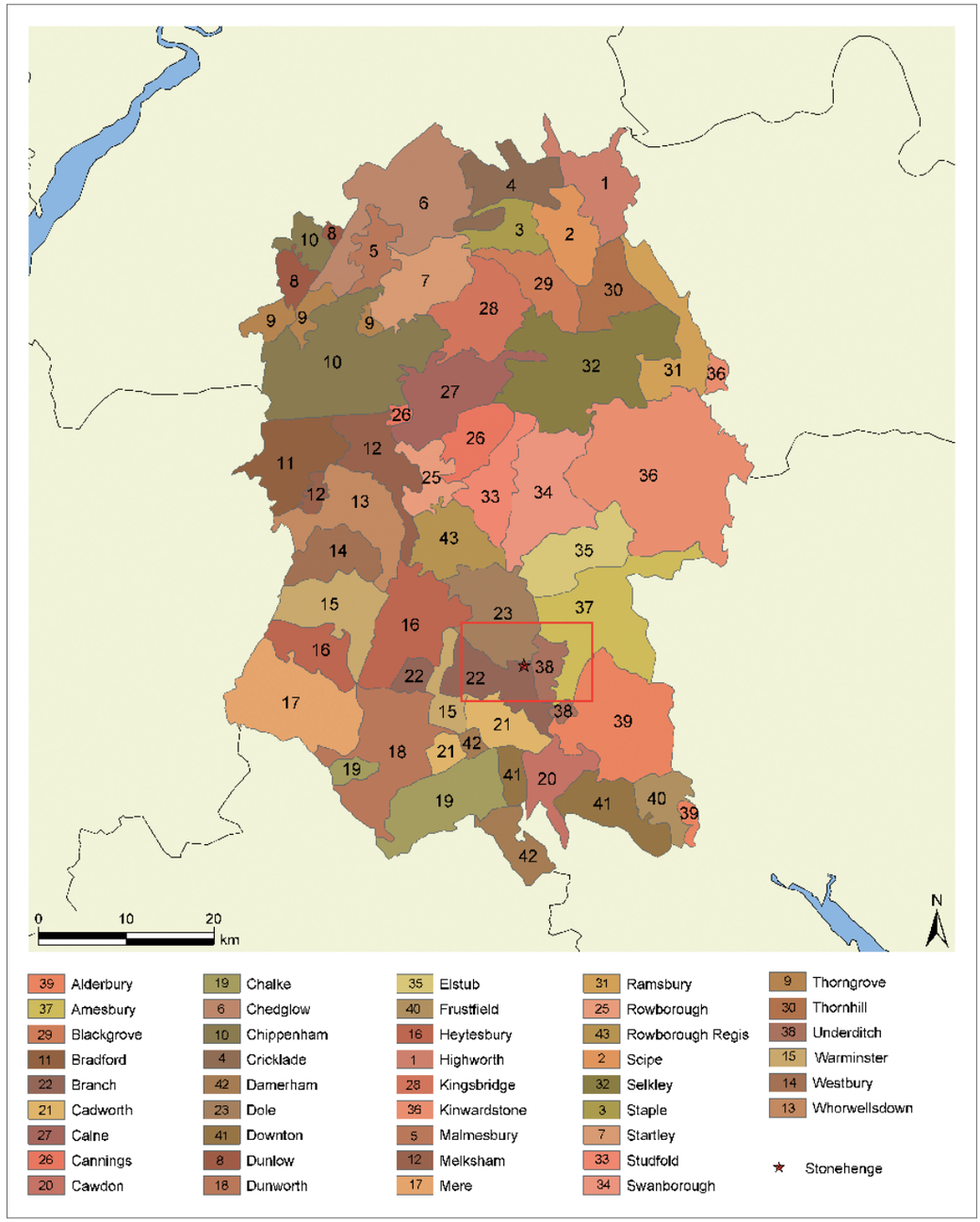


Illustration 60
The medieval hundreds of Wiltshire. [*Based on Gover et al. 1939.*]

agglomerations or regular rows with contiguous tofts running parallel with the valley (Lewis 1994, 173–4). Medieval settlement evidence has been found at: Orcheston; Nettleton (*c.*AD 1330); Shrewton; Stapleford; Berwick St James; Rollestone; Winterbourne Stoke (earthworks); Bulford; Brigmerston; Milston; Ratfyn; Durnford; West Amesbury; Durrington; Pickney Farm, Durrington; and Wilsford. There are also crofts and house platforms in the gardens of Lake House, and in Figheldean at Syrencote House (*Sexhamcote* 1227), Knighton Farm, and Ablington Farm.

During the later medieval period, landscape and documentary evidence exists for settlement desertion and shrinkage along the valleys of the Till and the Avon (Aston 1982, 11; 1983, 11). Durrington has been the subject of detailed study and shows a decline from 30 customary tenant families in the mid-fourteenth century down to 19 at the end of the fifteenth century. By AD 1506 just 12 virgates were held by five tenants in contrast to the situation in the thirteenth century when there was individual virgate ownership (Hare 1981, 167). In common with many chalkland settlements in Wessex, Durrington shows a varied pattern of shrinkage and desertion while still maintaining its traditional agricultural and settlement character (Hare 1980).

Now a polyfocal village, Shrewton once existed as eight separate hamlets each with its own church or dependent

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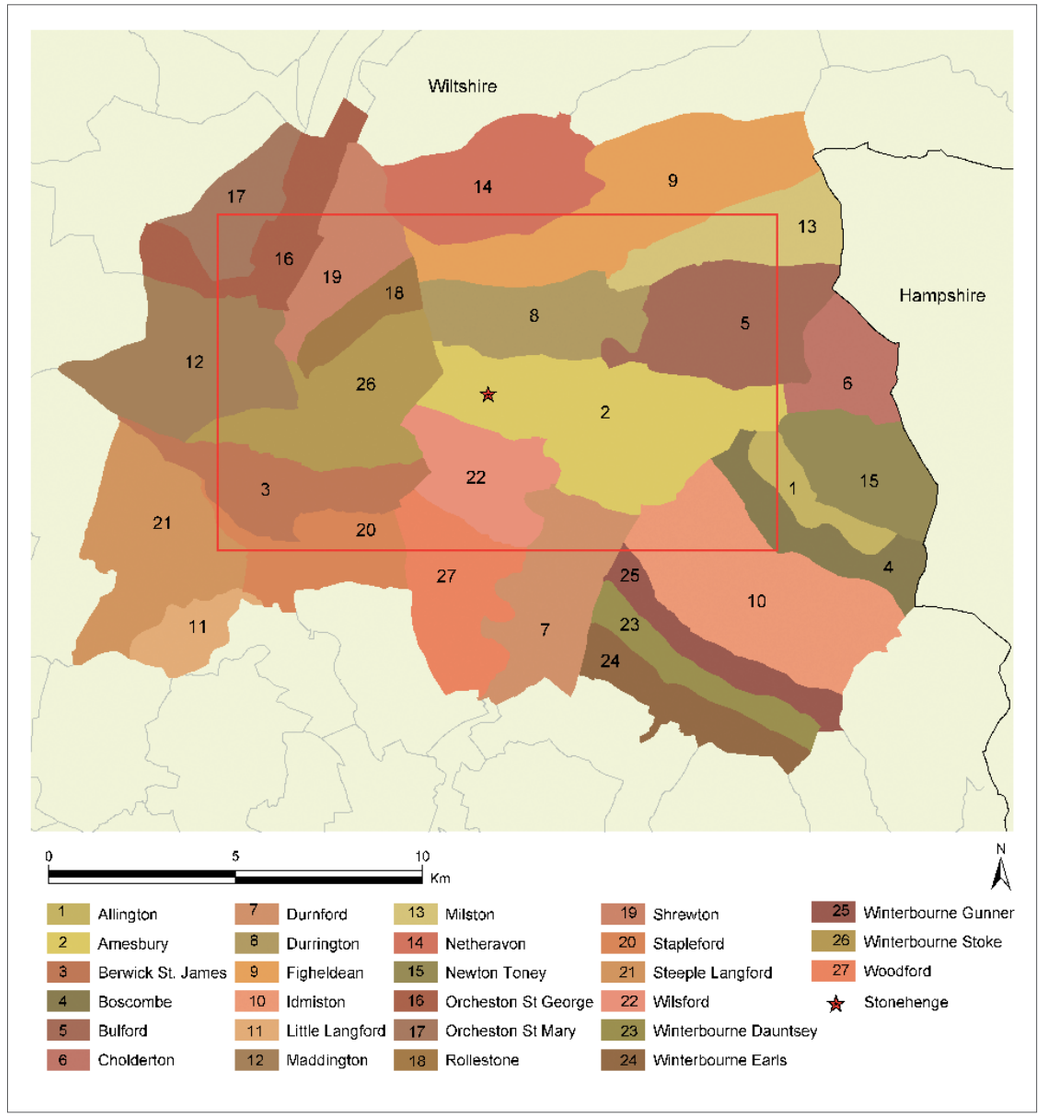


Illustration 61
Modern parishes wholly or partly within the Stonehenge Landscape. [*Based on Gover* et al. *1939.*]

chapel: Shrewton, Maddington, Netton, Rollestone, Elston, Homanton, Addestone, and Bourton (Illustration 62). The latter three are now deserted, whereas Elston, Netton, Maddington, and Rollestone are largely shrunken.

Shrinkage can also be observed elsewhere within the Stonehenge Landscape. Empty crofts and paddocks, for example, have been found at the small compact hamlet of West Amesbury, and Ratfyn, which now only exists as a single farm. The documentary record also provides evidence in support of deserted settlement. Hyndurrington, a 'lost' hamlet in Durrington parish, is recorded in the Lay Subsidy and Poll Tax returns of the fourteenth century, but not in the field (Aston 1985, 41).

Each township unit comprised a mix of three land-types: meadow on the valley bottoms which was a valuable source for hay production; arable open fields on the lower slopes; and downland common pasture on the higher, more remote areas. Although there is some evidence to support enclosure, most of the arable land remained in open fields until the eighteenth century. Indeed, the basic pattern of three-field land-types can still be seen in many of the modern parishes (cf. Aston 1985, figure 15).

The local economy was largely based upon the production of corn, particularly wheat and barley, up until the later nineteenth century. In order to produce and maintain good yield, the thin soil required folding of sheep to fertilize the land; they were set out to pasture on the chalk downland during the day and close-folded on the arable land of the lower slopes at night (Bond 1991, 407). It has been proposed that the 'extensive pasture resources and more balanced economy' of the Wiltshire chalklands enabled communities here to resist the late medieval general agricultural depression experienced elsewhere in the country even though evidence in support of settlement shrinkage exists during this period (Bond 1991, 397). An undated rectangular enclosure on Winterbourne Stoke Down has been identified through early aerial photography and comprises a narrow bank and external ditch with no apparent entrance. It has been suggested that this earthwork may have been used for sheep penning during

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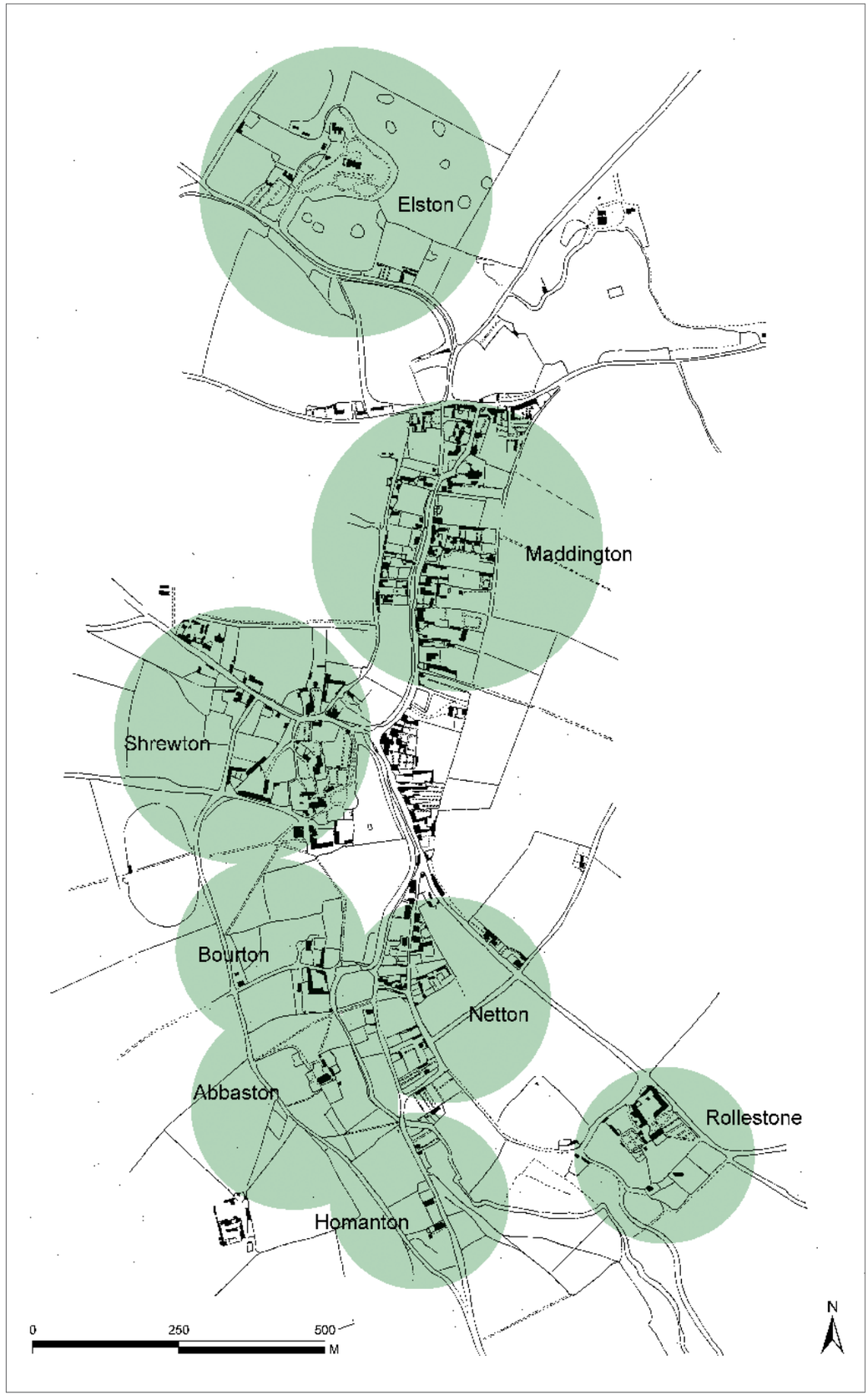


Illustration 62
Shrewton: a polyfocal village. [*Based on Aston 1985, figure 41.*]

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medieval or later times (RCHM 1979, 25). There are a number of other undated enclosures on the SMR, which may also be pennings (see also McOmish et al. 2002, 117).

The place-name Coneybury Hill in West Amesbury refers to a rabbit-warren in the area during medieval times. The earliest records date to an Inquisition of 1382 in which the lord of Totness and Harringworth granted the manor of Amesbury called 'le Conynger' (Bond 1991, 398). Another medieval warren site is at the Coniger, an earthwork enclosure at Winterbourne Stoke, first mentioned in 1574, and recorded as encompassing a number of Bronze Age barrows (RCHM 1979, xxi). The utilization of barrows as rabbit warrens was probably fairly widespread, but is hard to document because rabbits naturally seek accommodation in such features. Documentary evidence is the most reliable source of information (RCHM 1979, xxii), although excavations around the North Kite by W F Grimes in the late 1950s included the examination of a pillow mound southwest of Druid's Lodge.

The creation of parks was a feature of the Wiltshire landscape during medieval times, but the Stonehenge Landscape is remarkably devoid of known examples (Watts 1996, figure 2).

Stonehenge itself is first mentioned in available written sources around AD 1130, presumably as a place of interest, intrigue, and the source of patriotic and mythical schemes for early British history (Chippindale 2004, 6). To what extent Stonehenge was robbed of some of its stones during later medieval and post-medieval times has been a matter of some discussion. Newall (1921, 435) records a fragment of bluestone, perhaps originally from Stonehenge, in a cottage garden at Lake, and two sarsens that are thought to have come from Stonehenge have been recorded at Berwick St James some 6.5km to the southwest of Stonehenge, although their status is far from certain (Wiltshire SMR PRN 2606). Following earlier writers, Atkinson (1979, 85–6; cf. Long 1876, 75–7) favoured the deliberate destruction of parts of the site, perhaps in the Roman or early medieval period, but Ashbee (1998) suggests that noncompletion may have as much to do with its present condition as slighting and dilapidation. The discovery of pottery dating to about AD 1400 inside the main cist of the primary burial at Amesbury G85 suggests that here at least there was robbing or investigation of the mound (Newall 1931, 433). A bronze skillet handle of medieval date found within Durrington Walls (Short 1956, 393) may indicate activity at this much earlier monument too.

POST-MEDIEVAL (AD 1500–1800)

From about AD 1500 the Stonehenge Landscape and the communities living within it come into sharper focus as additional written and cartographic sources become available. These have been extensively discussed by Bond (1991) as part of a landscape regression analysis for the Stonehenge Conservation and Management programme. The wider background is provided by Bettey (1986) and Lewis (1994). Map O shows the distribution of recorded sites and features relevant to the archaeology of the post-medieval period within the Stonehenge Landscape.

Through the sixteenth century the traditional medieval settlement pattern prevailed, dominated by the town of Amesbury and the villages along the Avon and the Till valleys, as too the agricultural regime based on sheep rearing and corn husbandry. Compared to the claylands of northern Wiltshire, the Stonehenge Landscape was a relatively unpopulated area through the post-medieval period (cf. Lewis 1994, figure 8.5). The land needed to support the population included valley-bottom meadow-land, valley-side land, and upland pasture. Access to these three resources by the inhabitants of each settlement is reflected in the organization and lay-out of manors



Illustration 63
Aerial view of abandoned watermeadows in the Avon Valley. [*Photograph: English Heritage. CCC8603/1688 (NMR).*]

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and parishes. Beresford and Hurst (1971, 206–7) record eight deserted/shrunken villages and farmsteads within the Stonehenge Landscape, but none has been examined in sufficient detail to shed light on the date or cause of desertion. Close scrutiny of other settlements may well reveal more cases.

Changes to the physical character of the medieval landscape during the post-medieval period can however be observed in the documentary record and from archaeological evidence. One of the most significant changes during the seventeenth century was the introduction of floated meadows along the valley bottoms (Kerridge 1953; 1954; Atwood 1963; Illustration 63). Floated meadows were created at Wylye and Chalke in around 1635; many other villages followed their lead later in the 1640s (Aubrey 1969). The Amesbury water meadows were also constructed during the seventeenth century, some time before 1680, as written records mention repairs and replacements to the water meadow machinery (Bettey 1979; Cowan 1982). The water meadows along the west bank of the Avon at Woodford, Lake, were also constructed in the seventeenth century, an act that drew a lawsuit claiming that construction of bay and weir dammed the excellent fishing on this section of the river (McKinley 2003, 8–9).

The expansion of arable farming from the seventeenth century, with the subsequent diminution of the downland, also contributed to the changing character of the physical and cultural landscape. Widespread evidence from place-names shows the extent of these changes (Kerridge 1959, 49–52). The fieldname 'Burnbake' on later maps is indicative of a method of turf removal, known as 'burnbeating', 'burnbaking', or 'devonshiring'. Examples can be found on the south side of Durrington Down where new fields were created, and in the fields of Amesbury Countess where existing arable fields were extended beyond the Seven Barrows (Bond 1991, 409).

Studies of fieldnames have also contributed to an understanding of the development of agriculture and farming, and subsequently the changing character of the Stonehenge Landscape. For instance, a tithe award for Durnford gives the fieldname 'Sainfoin Piece' to land on the northern boundary of Normanton tithing; it suggests that the leguminous crop sainfoin was cultivated here presumably to reduce the fallow period. Much more work remains to be done with the place-name evidence and it has relevance to the post-medieval period and perhaps earlier times.

Concerns over the impact on archaeological remains of expanding arable agriculture and ploughing up the downland were expressed by antiquarians. William Stukeley, for example, records that (1740, 1):

> *The Wiltshire downs, or Salisbury plain, (as commonly call'd) for extent and beauty, is, without controversy, one of the most delightful parts of Britain. But of late years great encroachments have been made upon it by the plough, which threatens the ruin of this fine champain, and of all the monuments of antiquity thereabouts.*

A parish by parish account of the extent and impact of eighteenth-century and later agricultural change and its impact on the archaeological remains is provided by the RCHM (1979, xvi–xix). Ridge and furrow cultivation, some of it perhaps quite late in origin, is represented on lower ground and hill-slopes, especially along the main river valleys. Very little survives as earthworks, most being recorded through aerial photography as soilmarks or cropmarks (Illustration 64).

Enclosure certainly began late in the Stonehenge Landscape, probably during the second half of the eighteenth century. However, no Acts or Awards have been found for Amesbury, Bulford, or Wilsford and it must therefore be assumed that enclosure was by 'agreement'. Written sources

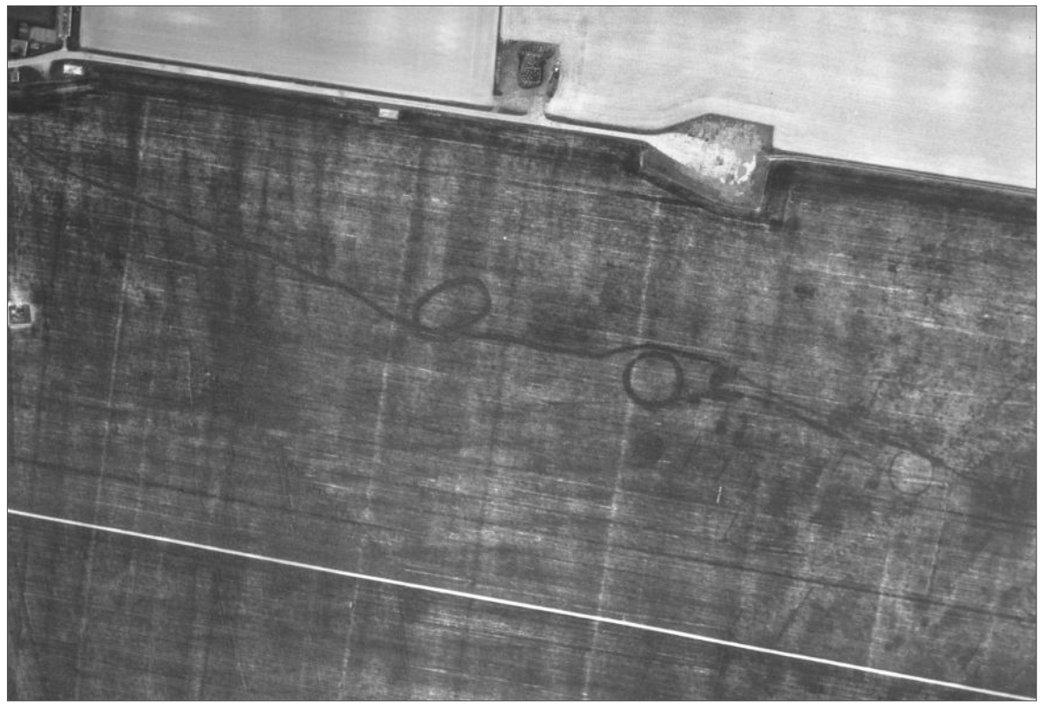


Illustration 64
Aerial view of medieval ridge and furrow cultivation visible as cropmarks near Hill Farm, southeast of Winterbourne Stoke. Modern cultivation marks as well as prehistoric ring-ditches and linear boundaries can be seen against the regular slightly curved stripes left by the ridge and furrow cultivation. [*Photograph: English Heritage. NMR 930/083 ©Crown copyright (NMR).*]

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suggest that, at least for Amesbury, open fields were still used up until the mid eighteenth century, after which they were piecemeal and limited. Towards the end of the eighteenth century all the land owned by the third Duke of Queensberry (largely around Amesbury) was enclosed and divided between six farms: West Amesbury; Countess Court; Red House; Earl's Court; Kent House; and South Ham (Bond 1991, 419). Durrington, Shrewton, and Winterbourne Stoke were not enclosed until the nineteenth century. Elsewhere, essentially medieval patterns of land ownership were reorganized with a propensity towards the merging of smaller holdings and development of existing larger farms (Bond 1991).

Work on the manorial history for the Stonehenge Landscape is fairly limited but includes Chandler and Goodhugh's (1989) accounts of Amesbury. Edward Seymour procured the manor of Amesbury Priors in 1541 after the dissolution of Amesbury Priory (Chandler and Goodhugh 1989, 25–6). Five years earlier, Seymour had been bequeathed Amesbury Earls manor which combined both estates and thus largely comprised the whole of Amesbury. The Amesbury estate changed hands a number of times during the post-medieval period. In 1676 the Bruce family acquired the manor, but in 1720 sold it to Lord Carleton who, before his death in 1725, devised it to his nephew, Charles Douglas, the third Duke of Queensberry. Upon the Duke's death in 1778, the estate was passed to his cousin, William Douglas, the fourth Duke of Queensberry who died in 1810 (Pugh 1948, 70–110).

These changes in land ownership affected the character of the cultural landscape and the extent of innovation and development within it, especially the development of Amesbury Park which sees a period of improvement and expansion under Charles Douglas who lived at Amesbury for most of the time between 1725 and 1778 followed by a period of neglect and decline between 1778 and 1810 when the fourth Duke was mainly absent (English Heritage 1987; Chandler 2002; Illustration 65). In 1735, for example, the third Duke purchased West Amesbury manor which included land to the west of Vespasian's Camp and Stonehenge Down, allowing him to create an area of parkland which he progressively enlarged. Landscaping features west of the river included tree-planting within Vespasian's Camp (previously arable land); the creation of a grotto known as Gay's Cave; establishing a number of serpentine and straight walks, glades, and radiating vistas such as the prospect towards Stonehenge; building a Chinese temple over the Avon; and the construction of a balustraded bridge (Bond 1991, 419). By 1773, the Duke extended the park further to the north, as far as the Amesbury–Durrington road, and to the west incorporating the Seven Barrows, which engulfed existing open fields at West Amesbury and Amesbury Countess. By the time of his death in 1778 the park covered about 120ha. Until about 1800 most of the park was under pasture and there is no evidence that any of it had been ploughed. Over the ensuing two decades, however, most of the former park was ploughed up and remained in arable usage at least until the tithe commutation of 1846 (Chandler 2002, 15).



Illustration 65
Amesbury Park. A plan of the park in 1738. [*Reproduced courtesy of The Bodleian Library, University of Oxford. Copyright reserved.*]

During the third Duke's occupation, the wider estate experienced a period of investment in building construction. The Countess Court Farmhouse, originally constructed in the early to mid seventeenth century, received a new three-bay façade in the Georgian style. To the south of the house, a five-bayed timber-framed stavel barn and granary were constructed during this improvement period (Slocombe 1989, 26–7; Illustration 66). Estate cottages were also built on Countess Road, but have since been demolished for the construction of Amesbury bypass (Chandler and Goodhugh 1989, 71).

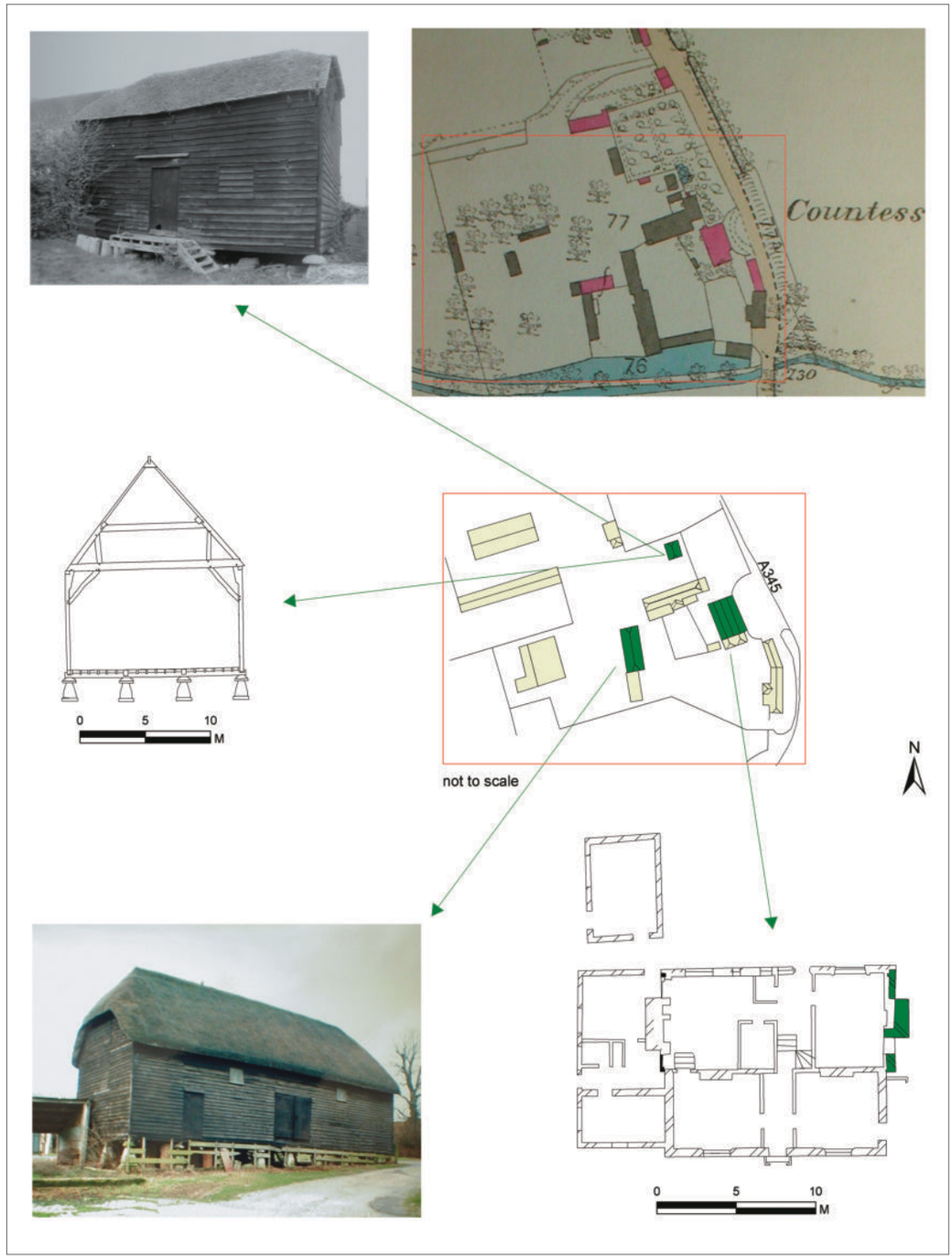
Several earlier extant buildings dating from the sixteenth and seventeenth centuries can be found within the Stonehenge Landscape; these include West Amesbury House and Diana House in Amesbury. Medieval in origin, the shell of West Amesbury House was extensively altered during the late seventeenth century. The alterations consisted of an entirely new stone and flint exterior, a new gabled and symmetrically fenestrated frontage and mullioned windows. Diana House in Amesbury, south of the Avon beyond Grey Bridge, was probably built by the Earl of Hertford as a lodge around 1600. Also noteworthy is the domed lock-up at Shrewton (Illustration 67).

Rabbit warrens continued to be an important part of the rural economy of the area (RCHM 1979, xxi; Betty 2004). In the early seventeenth century the planned introduction of rabbits to the barrows at Amesbury Abbey is well recorded. An account of AD 1609–10 shows that in 1605 'Two round connye berryes were made to his Lordship's appointment and at the same time 14 couple of conies put into the ground. Which 14 couple of cunnies with theire encrease did breade and feed there' (RCHM 1979, xxi; WRO 283/6). Stonehenge had become a well-established rabbit warren by the early 1720s, although by the later eighteenth century rabbits were regarded locally as a nuisance (Bond 1991, 420).

The construction of sheep-folds was widespread during the eighteenth century, and sometimes occasioned damage to ancient sites. One fold was cut into the southwestern side of Bush Barrow with a small spinney of thorn bushes planted for shelter on top (Bond 1991, 417; RCHM 1979, title page and xxi).

Evidence for roads and trackways within the Stonehenge Landscape during the sixteenth and seventeenth centuries

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is rather limited. However, Ogilby's road book of about 1675 shows the line of the London–Barnstaple road just north of the present A344. This may relate to the apparently unfinished road still visible as an earthwork (RCHM 1979, 31–2). The eighteenth- and early nineteenth-century documentary record is slightly more comprehensive, and includes Andrews and Drury's county map of 1773, the map of the Amesbury Hundred published by Colt Hoare in 1826, the first edition OS map (1817), and various eighteenth-century manorial court records. Many of the tracks and roads which appear on the Andrews and Drury map have ceased to exist or exist in a relocated and realigned form in the present Stonehenge Landscape. These include parts of the old Amesbury–Market Lavington road, a track from the Avenue in Stonehenge Bottom to head northeastwards towards Durrington, and part of the Old Marlborough Road (Bond 1991, 421). Queensberry Bridge, Amesbury, built in *c.*1775, may mark the route used for many years previously as a trackway running north and northeast of Stonehenge (RCHM 1979).

Illustration 66
Countess Farm, Amesbury. Plan of the farm in 1887 and 2003 with plans and photographs of the main surviving buildings. [*Reproduced courtesy of the National Trust and Wiltshire County Council Library and Heritage Service Wiltshire Buildings Record.*]

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Illustration 67
Shrewton lock-up. [*Photograph: Neville Stokes. Copyright reserved.*]

Illustration 68
Milestone beside the modern A344 northeast of Stonehenge. [*Photograph: Timothy Darvill. Copyright reserved.*]

Illustration 69
Eighteenth-century view showing trippers at Stonehenge. [*From Stukeley 1740, TAB XXII.*]

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The present Salisbury to Devizes road (A360) was turnpiked in 1760. Soon after, in 1762, the Amesbury Turnpike Trust was established by Act of Parliament. This body constructed a road followed by the modern A344. Roads were turnpiked soon after 1762, subsequently realigning and improving the existing network. A number of listed milestones and toll-houses exist within the Stonehenge Landscape (DoE 1988; Illustration 68).

Although the economy of the Stonehenge Landscape was largely based upon sheep-crop husbandry, there is considerable evidence for various industrial activities around Amesbury. For example, in 1662 Thomas Fuller wrote that 'the best [pipes] for shape and colour ... are made at Amesbury' (Brown 1959). This accolade seems to relate to a clay-pipe factory owned by the Gauntlet family from *c*.1600 to 1698. It was situated at Wrestler's Gate outside the Priory Manor between Normanton and West Amesbury. Remnants of clay-pits were found at the site in *c*.1840 (Ruddle 1895). Small-scale gunflint-making sites have been identified on Rox Hill and at Rox Hill Clump, part of a little researched but seemingly fairly extensive industry around the Salisbury area (Fowler and Needham 1995).

Mills were also present along the main rivers, some perhaps on earlier sites; a millstone and a number of timbers have been recorded at Durrington.

Intellectual interest in Stonehenge and its surroundings increased with visits by notable antiquarians of the day, Inigo Jones between 1633 and 1652, John Aubrey in the 1660s, William Stukeley in the 1720s, and John Wood in 1747 amongst them. The wider interest they promoted no doubt led to others making visits and it is interesting that several views of the site from the 1750s onward show casual visitors arriving by carriage and on horseback. One picture of 1790 shows a shepherd-guide wearing a smock showing two gentlemen and a lady one of the great trilithons (Illustration 69). Graffiti carved into the stones from the seventeenth century onwards is further evidence of its attraction to visitors, in some cases perhaps because of the midsummer games that in 1781 at least included a sack-race, cricket, wrestling, and bowling (Goulstone 1985, 52). Other ancient monuments in the area also found novel community uses, as with the Prophet Barrow (Wilsford 43 in the Lake Group) which according to local tradition was used as a preaching place by French prophets in about 1710 (Grinsell 1978, 38).

NINETEENTH CENTURY AD

Bond's (1991) analysis of a major part of the Stonehenge Landscape provides an excellent overview of nineteenth-century changes. Map P shows the distribution of the principal recorded sites and features relevant to the nineteenth-century archaeology of the Stonehenge Landscape.

Enclosure through Act of Parliament played a major role in altering the physical organization of the countryside in some areas during the nineteenth century. Amongst the earliest parishes to enclose open fields and downland under the Parliamentary Act were Shrewton, Winterbourne Stoke in 1812, and Durrington in 1823 (Bond 1991, 424). Later piecemeal mergers and subdivisions have also contributed to the present form of the field boundaries. Prompted by the desertion of communal farming techniques and the introduction of enclosure, isolated farmsteads and field barns appear in the nineteenth-century landscape: Durrington Down Barn by 1811; Fargo Cottages west of Stonehenge in 1847; Grant's Barn in Winterbourne Stoke by 1841; and Greenland Farm by 1887.

Not all areas were enclosed however. Extensive tracts of the higher ground remained under permanent pasture, retaining their existing characteristics; these included Tenantry Down; Durrington Down; Normanton Down; Countess Court Down; West Amesbury Down; Winterbourne Stoke Middle Down; and Wilsford Down.

New turnpike roads were created during the early nineteenth century. The Swindon, Marlborough and Everleigh Trust turnpiked the modern A345 Amesbury–Old Sarum road in 1836, and in 1840 the Amesbury–Rushall–East Kennet road was turnpiked by the Kennet and Amesbury Trust. A number of public and private roads in Durrington and Winterbourne Stoke were constructed to replace unfenced tracks and open-field baulk and head-land ways.

Water meadows created in the eighteenth century continued in use and benefited from the introduction of better mechanical systems for sluices and drainage. Most were in the Avon Valley below Ham Hatches, at Durrington, and at Winterbourne Stoke in the Till Valley.

Plantations of trees, both conifer and deciduous, were a new feature of the landscape from the early nineteenth century. Early plantings were mainly for shelterbelts, game coverts, and ornamental clumps. These include the Long Barrow Plantation in Wilsford; Normanton Gorse (also known as Furze Cover); Fargo Plantation; and Luxemborough Plantation (Bond 1991, 425). Extending to the north of Vespasian's Camp and to the west towards King Barrows are dispersed sets of ornamental clumps which first appear on the Ordnance Survey map of 1879. Since the 1960s it has been widely believed that these clumps represent the disposition of ships at the opening of the Battle of the Nile (1798) or Trafalgar (1805). However, there is no evidence to support this idea (RCHM 1979, xxi), and recent studies have concluded that in fact the clumps were planted about 30 years before 1798 and therefore can have nothing to do with the Battle of the Nile (Chandler 2002, 15–16).

Although attempts to rear rabbits in formal warrens had ceased by the early nineteenth century, the rabbit population of the area remained high and Long (1876, 118) notes how in 1863 the under-gamekeeper of Sir Edward Antrobus was digging deeply for rabbits in the vicinity of the fallen trilithon at Stonehenge.

Many local crafts and industries continued, chalk-pits for example being worked in most parishes to provide road-metal and top-dressing for cultivated land (Bond 1991, 426).

The scale of visitor interest in Stonehenge increased through the nineteenth century, and from the 1860s a Mr Judd ran a photographic business at the site photographing visitors and then developing the pictures in a mobile dark-room (see Chippindale 2004, 148–9). Goulstone (1986) has drawn attention to a mid nineteenth-century description of hare-coursing around Stonehenge and suggests the presence of a turf-cut geoglyph or emblem in the form of a shepherd's crook at or near Stonehenge itself. There are several superb pictures of the site by renowned artists from the early nineteenth century, including watercolours by Bridges in about 1820, Turner in 1828, and Constable in 1835 (Chippindale 1987; 2004).

Perhaps the biggest change of the nineteenth century, and one that has had a far-reaching impact ever since, was

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the acquisition of land for military training. In 1897 the Army purchased about 40,000 acres of land for about £10 per acre, mainly west of the Avon around Durrington and Rollestone, but some east of the Avon around Bulford.

TWENTIETH CENTURY AD

The last century was a period of great and profound change for the Stonehenge Landscape, although not yet documented in detail (see Bond 1991 for a useful start based on a landscape regression analysis). Map P shows the distribution of the principal recorded sites and features relevant to the twentieth-century archaeology of the Stonehenge Landscape.

Following the acquisition by the Army of 40,000 acres of land in the southern part of Salisbury Plain in 1897 (see above) the military presence has been marked. A century later the physical remains of military activities here and elsewhere have attracted considerable attention (Bond 1991; Schofield and Lake 1995; Dobinson et al. 1997), and in 1998 a detailed assessment of the twentieth-century military activity was carried out by Wessex Archaeology (WA 1998a) to assess the potential impact of past and future occupation and land-use, and to emphasize its value as part of the archaeological record of the area. The research, based mainly on written sources, proved effective and allowed the documentation and interpretation of extant and sub-surface remains, as well as temporary structures which had long been dismantled. The assessment covers activity from before World War 1 through to the post World War 2 period.

The military land, now known as the Salisbury Plain Training Area (SPTA), has been the subject of archaeological surveys and management initiatives (DLA 1993; Bradley et al. 1994; McOmish et al. 2002). The effect of military occupation on earlier remains has been a matter that has aroused considerable general interest. There is certainly evidence of localized damage to sites and monuments, but against this must be set the widespread preservation of earthworks and structures that had they been subject to agriculture as elsewhere on the Plain would surely have disappeared long ago. In many respects the training areas have become archaeological reserves of considerable importance.

The military remains themselves also have an important story to tell (Bond 1991, 435–6; Schofield 1998; WA 1998a). In 1902, a permanent camp was established at Bulford Barracks, the most easterly part of the Stonehenge Landscape (Bond 1991). Later, in 1914, Larkhill was also made a permanent base by the School of Artillery (Watkin 1979, 115). Evidence for temporary military camps has been revealed through documentary sources, including the 'extensive hutted encampment', constructed at the eastern end of the Stonehenge Cursus during the First World War and still in place into the 1920s (RCHM 1979, xxiv; Bond 1991, 435).

Balloons were the first form of aircraft used by the Army and came to play an important role in the Boer War. War balloons were launched on Salisbury Plain and the earliest aerial photographs of Stonehenge were taken from such a platform in 1906 (Capper 1907). Larkhill Airfield is one of the earliest surviving military airfields, constructed in 1909, and was one of the very first flying schools in England (Watkin 1979, 115). It was later involved in training pilots in preparation for the First World War (WA 1998a, 16). The aeroplane sheds at Larkhill, built during this time, are still used by the Army today. The remains of other airfields or landing strips can also be found dotted around the Stonehenge Landscape. These include airfields at Stonehenge Down, Lake Down, Rollestone Balloon School, Oatlands, Shrewton, Bulford Fields, and the still operational Boscombe Down.

From 1906 onwards Salisbury Plain has been extensively used as a practice ground for target exercises (James 1983, 20). Former military sites also include military railways, hospitals, military housing, memorials, defensive structures and paraphernalia such as pillboxes and anti-tank obstacles, and recreational facilities. Records have been particularly useful as they have revealed sites previously unknown, such as the Fargo Camp Military Hospital. The hospital was out of use in 1925, but was still occupied, although on a reduced scale, until at least 1939, when it was known as Fargo Lodge (Bond 1991, 436). Narrow-gauge railways and standard-gauge military railways built from 1916 onwards were used for moving military supplies and for tank firing practice (Cross 1971).

A series of excellent vertical aerial photographs taken on Christmas Eve 1943 show the extent of military works at the end of World War 2 (Illustration 70). Especially notable are defensive works and trenches on the south side of the training area, well within the Stonehenge Landscape. Some of these were sampled by excavation in 1991 as part of the evaluation work at a prospective new visitor centre site at Larkhill (Wessex Archaeology in Darvill 1991a, 491).

War graves are known at Durrington, Bulford Village, Maddington, Orcheston St Mary, Hewetson Cross in Fargo Plantation, and the Lorraine/Wilson Cross at Airman's Cross on the A360/A344/B3046 junction (Illustration 71). At Wood Road, Larkhill there is a brass plaque to mark the site of the first military airfield at Larkhill. The Bulford Kiwi is a modern geoglyph cut into the chalk hillside east of Bulford Camp by New Zealand troops stationed at Sling Camp in 1918 (Newman 1997, 202–3).

The population of the Stonehenge Landscape rose considerably during the twentieth century, some attributable to the increasing scale of military occupation. In Bulford, for example, there were 341 residents in 1891, which had increased to 4000 by 1941 (Bettey 1986, 288). A large village was created to accommodate the soldiers and their families. As a result of rises in the population there was very considerable settlement expansion around Amesbury and all the other established settlements too.

During the early 1950s there was a renewed period of arable expansion within the Stonehenge Landscape. This led to the levelling of many archaeological monuments and fundamental changes to the appearance of the landscape. It was in response to these agricultural changes that a number of important excavations were carried out (see Section 1).

The road network was considerably modified during the 1960s, prompted by the regrading in 1958 of the A303 as a trunk road linking London with the west country. Local to Stonehenge, the single biggest change was the creation of the Amesbury bypass on the A303 in 1967–8. Associated work was carried out on the A345 in 1966–8 (see Wainwright and Longworth 1971), and around Long Barrow Crossroads in 1967 (Richards 1990, 208–10).

Stonehenge visitor numbers rose dramatically through the twentieth century. In 1901 the site was enclosed and arrangements for the use of a number of tracks in the area changed (Chippindale 1976). The tourist potential of the area was widely recognized and prompted much comment (Illustration 72). The triangle of land containing Stonehenge and bounded by the A303, the A344, and a trackway now

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known as By Way 10 was gifted to the nation in 1918 by Mr (later Sir) Cecil Chubb. A programme of restoration and investigation was instigated by the Ministry of Works in 1919 and lasted through to 1926 (Chippindale 2004, 179–83). Much of the surrounding land was acquired by the National Trust piecemeal from 1927 onwards when about 587ha was purchased following a public appeal; the estate totalled about 760ha by 1990. As part of the management of the estate through to the later twentieth century much arable land was returned to pasture and a selection of monuments was restored to the condition they had been in the 1950s. Further excavations took place at Stonehenge itself most years between 1950 and 1959 with some later work in 1964 and 1978 (Cleal et al. 1995, 11–12). In 1967–8 a major infrastructure development took place north of the A344 to the northwest of Stonehenge to create car-parks, visitor facilities, and an underpass to provide access to the monument (Illustration 73). A Stonehenge Festival took place in fields around Fargo Plantation between 1974 and 1985, eventually leading to a decade or more of conflict and tension between the authorities and a wide range of interest groups (Chippindale 1986b; Dobinson 1992; Bender 1998). From the mid 1970s, Stonehenge became the only ancient monument in England to be subject to its own piece of parliamentary legislation with the passing of the *Stonehenge Regulations* which were revised in 1983 and updated again in 1997 (Statutory Instrument 1997 No. 2038). These regulations provide controls over public access to Stonehenge and its surroundings.

Illustration 70
Vertical aerial photograph of the area north of Stonehenge, taken on Christmas Eve 1943 by the USAF. North is to the top. In the upper part of the view is the Larkhill Garrison with traces of an underlying prehistoric fieldsystem between the buildings. Earthwork remains of defensive trenches and emplacements can be seen. The Stonehenge Cursus runs obliquely across the frame just below centre; some of the mounds of the Cursus barrow cemetery are visible bottom left. [*Photograph: US/7PH/GP/LOC122/1062 English Heritage (NMR) USAAF Photography.*]

Illustration 71
The Lorraine/Wilson memorial at Airman's Cross on the A360/A344/B3046 junction west of Stonehenge. [*Photograph: Timothy Darvill. Copyright reserved.*]

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How Stonehenge might be Popularised if the Government bought it. Suggestion gratis.



STONEHENGE IN 1930? A DREADFUL VISION OF WHAT MIGHT HAPPEN IF THE PRESENT APPEAL WERE TO FAIL, AND THE LAND IMMEDIATELY NORTH OF THE MONUMENT WERE SOLD AS "A DESIRABLE BUILDING PLOT!"



Illustration 72
Stonehenge for tourists. (top) Cartoon vision of how things might have been if adjacent land was developed. (middle) How Stonehenge might have been popularized if the Government had bought the site, through the eyes of *Punch* (30 August 1899). (bottom) View westward from Stonehenge Bottom in 1930 with the Custodian's cottages to the left and the Stonehenge Café to the right. [*Reproduced courtesy of the Illustrated London News Picture Library (top),* Punch *(middle), and English Heritage FLO1500/02/003 (NMR) (bottom).*]

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Various proposals were made to provide a more worthwhile celebration (e.g. Chippindale 1985b) but it was not until 2000 that general access to the stones at the summer solstice was restored, a move that prompted a mixed reaction (Dennison 2000; and see Worthington 2002 and 2004 for an overview of celebrations at the solstice). Archaeologically, however, the activities of 1974–85 resulted in the installation of new security measures and will have left familiar kinds of features such as pits, postholes, and artefacts in the topsoil in the areas of temporary encampment.

As part of the ongoing programme of management works at Stonehenge a new enclosure and visitor pathway through the site was made in 1981 in order to protect the stones from direct public access (Bond 1982). Other works have been undertaken in the wider landscape in order to deal with the

Illustration 73
Aerial photograph of Stonehenge looking east with construction works for the present visitor facilities and underpass in progress in 1966. [*Photograph: English Heritage. SU1242 ©Crown copyright (NMR).*]

Illustration 74
Modern-day stone circle constructed at Butterfield Down, Amesbury, on the edge of a new housing development in *c.*1998. [*Photograph: Timothy Darvill. Copyright reserved.*]

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results of natural catastrophes such as the devastating gales of October 1987 and January 1990 (Cleal and Allen 1994), and to implement the National Trust's *Stonehenge Estate Land Use Plan* (National Trust 2001) and the *Stonehenge World Heritage Site Management Plan* (English Heritage 2000).

Throughout the Stonehenge Landscape and beyond there are numerous references to Stonehenge in the names of local hostelries (e.g. The Stonehenge Inn at Durrington), schools (e.g. the Stonehenge Comprehensive School in Amesbury), and businesses (e.g. Stonehenge Construction based in Amesbury), and in murals and art displayed in both public and private spaces (e.g. the wall-paintings in the Rajpoot Tandoori Restaurant in Fisherton Street, Salisbury). One expression of this is a continuing interest in the construction of 'ancient monuments', most clearly seen in the stone circle built on the edge of a new housing development at Butterfield Down, Amesbury, in 1998 (Illustration 74). And on a still wider canvas there is a bewildering range of direct and indirect references to Stonehenge and its surroundings in popular literature, art, film, and music (Darvill 2004a).

DIACHRONIC THEMES

Cross-cutting the chronologically based narrative presented above it is possible to pursue a number of themes and developments that run through many periods and which thus provide rather different perspectives.

Holocene environments (10,000 BC to the twentieth century)

Environmental archaeology has made considerable progress in documenting the palaeoenvironment of the Stonehenge Landscape, at least in broad outline. A general setting for the prehistoric environment is provided by the papers brought together by Ian Simmons and Michael Tooley (1981), and detailed accounts are provided by Michael Allen on a general chronology (in Richards 1990, 254–8) and in relation to the phasing of Stonehenge (in Cleal et al. 1995, 470–91; Allen 1997). This and other work can be summarized in terms of a changing series of distinct environments.

Holocene wildwood characterizes the period from before 8000 BC down to about 4000 BC. The Boreal climate was relatively warm and dry. The chalkland at this time had a thick cover of brown earth or argillic brown earth soils (perhaps up to 1m thick) supporting open woodland dominated by hazel and pine. Vegetation was not static, and periods of more open conditions may have punctuated a generally more closed woodland. Human populations as well as animal populations may have played parts in these changes.

Tamed wildwood characterizes the period from 4000 to 3000 BC, as the impact of human communities gets stronger. Soils of this period sealed beneath later monuments are thinner than for earlier millennia and include rendzina soils. Charcoal suggests the presence of elm, ash, oak, hazel, and yew within the woodland, but the extent of woodland was reducing and several buried soil profiles suggest that areas of grassland were already established before 3000 BC, often providing the setting for the construction of monuments. Allen (1997, 127) has described the vegetation cover in this period as a 'complex mosaic … with areas of ancient denser woodland, light open mixed hazel and oak woodland and clear-felled areas of shrubs and grassland for grazing, browse, cultivation, and occupation'. Some cereal cultivation was practised, probably in small clearance plots or 'gardens'. Hazelnuts and tubers are represented amongst the palaeobotanical material recovered from fourth-millennium BC sites (Carruthers in Richards 1990, 251). Domesticated cattle are well represented; pig and sheep are present in small numbers amongst the earliest faunal assemblages from the area. The native fauna is known to include red deer, roe deer, and beaver, but other species may well have been present too (perhaps including brown bear, wolf, wild cattle, wild pig, horse). The rivers supported fish; a brown trout is present amongst the assemblage from the Coneybury Anomaly (Maltby in Richards 1990, 57).

Emergent downland characterizes the period from about 3000 BC down to 1600 BC, with the balance between woodland and grassland shifting so that for the first time grassland predominates. The process by which this happened is currently seen in terms of expanding initial clearances (Allen in Cleal et al. 1995, 477). Many of the main monuments established at this time were constructed within areas of grazed downland, although Coneybury provides an exception and seems to have been built in a small woodland clearing that was allowed to become overgrown (Bell and Jones in Richards 1990, 157–8). The existing range of domestic animals continued to be represented, although the relative abundance of species changed slightly, with some sites showing a higher proportion of pig than cattle. Sheep are poorly represented until well into the second millennium BC. Mallard was reported from Site A Figheldean (Egerton et al. in Graham and Newman 1993, 38). Wheat and barley were cultivated. Little is known about the wild plant species in this phase, but palaeobotanical material recovered includes onion couch, chickweed, stinging nettle, hazelnut, and hawthorn (Carruthers in Richards 1990, 251). Although the extent of woodland is not known, charcoal suggests that its composition can be seen to include oak (used in cremations at Durrington Down G3), hazel, blackthorn, and hawthorn/whitebeam/rowan (Gale in Richards 1990, 252–3). Evidence for ploughing, perhaps with a rip ard, sometime around 2000 BC is preserved below the mounds of Amesbury G70 (Christie 1964, 33) and G71 (Christie 1967, 347). The increasing extent of cultivation through the early second millennium BC may also account for the presence of mobile sediments in the secondary fills of ditches dug in the third millennium BC. Soil erosion does not, however, seem to be a major problem at this period.

Farmed downland characterizes the period from about 1600 BC down to perhaps as late as AD 1500. Formal fieldsystems were established by the later Bronze Age to provide the framework for mixed agriculture that included both arable and pasture. Wind-blown sediment trapped in archaeological features suggests that some arable land was left as open ground for part of the year. Elsewhere, the grazing was characterized by open short-turfed grassland. It is currently believed that many of the fieldsystems established in later prehistoric times continued in use through the early first millennium AD, although this has yet to be fully demonstrated. Ridge and furrow cultivation cuts earlier fieldsystems in several

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areas, for example south of Long Barrow Crossroads, and on Rox Hill (RCHM 1979, xiv). Ridge and furrow cultivation is also visible on aerial photographs of the land east of King Barrow Ridge (RCHM 1979, plate 9). Mapping the former extent of this distinctive phase of land-use would provide a useful perspective on monument survival as well as an insight into the medieval economy.

Late first-millennium BC and early first-millennium AD environmental evidence from Boscombe Down West includes emmer wheat, bread wheat, club wheat, spelt, and barley; charcoal representing birch, holly, beech, and oak as wood exploited by the users of the site; and animal bones representing cattle, horse, sheep/goat, pig, red deer, fox, raven, and frog (Richardson 1951, 165). Carbonized plant remains from a grain drier at Butterfield Down (Illustration 75) confirmed the use of wheat and barley during Roman times (Allen in Rawlings and Fitzpatrick 1996, 35). Animal remains from the same site revealed a wide range of wild and domestic species including cattle, sheep, horse, dog, pig, chicken, red deer, hare, bird, and amphibian. The cattle bones were heavily butchered and there was evidence for the use of all body-parts amongst both sheep and cattle (Egerton in Rawlings and Fitzpatrick 1996, 35–6). Broadly the same range of animal species was recorded at Figheldean (Site A: Egerton et al. in Graham and Newman 1993, 38) and both wheat and barley were present in samples from the Roman corn drier here too. The range of wild plants and weeds from the site as a whole gives an impression of the diversity represented in the Roman landscape: corn gromwell, campions, orache, goosefoot, lesser knapweed, medicks, poppies, plantain, knotgrass, sheep's sorrel, buttercups, cleavers, eyebright, bartsia, corn salad, fat hen, chickweed, bindweed, dock, tare, red clover, mugwort, mayweed, and various grasses and legumes (Ede in Graham and Newman 1993, 38; Allen in McKinley 1999, 29).

Pasturelands are believed to characterize much of the Stonehenge Landscape during the post-medieval period from AD 1500 down to the early twentieth century, although detailed studies are absent and generalization is therefore extremely difficult. The higher ground more remote from settlements along the main river valleys was open grassland; nearer the settlements there was a higher incidence of cultivated ground. However, the balance between these uses shifted according to economic and political circumstances, with increases in the extent of arable in the early seventeenth century and again in the mid nineteenth century. A fair reflection of the situation about 1840–50 is provided by the Tithe Award maps which show extensive arable along the Avon Valley in particular (RCHM 1979, Map 3).

The eighteenth century was probably the all-time low-point in the level of woodland cover in the landscape. Deliberate planting began soon after, and in the nineteenth century a number of fairly substantial plantations were added, including Fargo Plantation and Luxenborough Plantation. In some cases these developed into mature stands, protecting monuments within them (Illustration 76).

Since the early twentieth century there have been a number of changes to the environment of the central part of the Stonehenge Landscape. Intensive military usage until 1950 gave way to a period of agricultural intensification in the wake of clearing away many of the former military installations. Following acquisition of the Stonehenge Estate by the National Trust an ongoing programme of downland reversion has been pursued, gradually returning arable land to grazed pasture with consequent opportunities for the re-establishment of grassland fauna and flora populations.

Cybernetic approaches to early societies

Axiomatic to much processualist analysis of prehistoric and historic societies is the recognition, modelling, and study of related themes – technically subsystems of a cultural system – and the way that through linkages, communications, and control mechanisms (i.e. cybernetic processes) the content and articulation of these change through time (Clarke 1968, 101–23; Renfrew 1972, 22 and 486). The number, nature, and scope of the themes selected depends on the nature of the inquiry, the exact questions being asked, and the way in

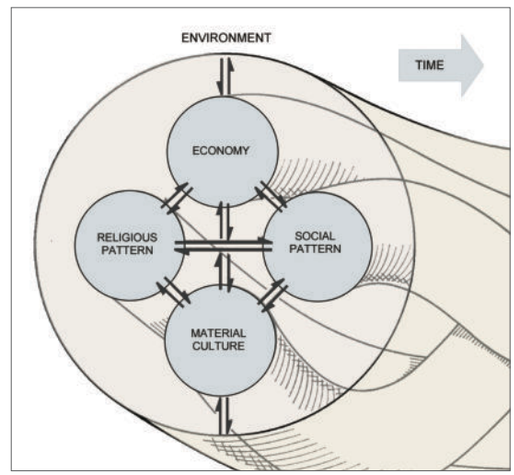


Illustration 75
Romano-British corn drier found at Butterfield Down, Amesbury. [*Reproduced courtesy of Salisbury and South Wiltshire Museum. Copyright reserved.*]

Illustration 76
Woodland clearance at New King Barrows following the storms of January 1990. [*Photograph: Timothy Darvill. Copyright reserved.*]

Illustration 77
Cybernetic model of a dynamic social system comprising four sub-systems, situated within an environment, each with a charted trajectory of change. [*After Clarke 1968, figure 14.*]

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which an ancient society is being conceptualized (Illustration 77). Thus rather than attempting to provide a detailed analysis of a particular set of themes here, the following notes are intended to illustrate the potential for further study relating to a selection of overlapping themes or sub-systems common to many broad conceptualizations of social and environmental systems.

People, health, and populations: The preservation of human skeletal remains within the Stonehenge Landscape is generally good and several hundred individuals are represented amongst excavated assemblages (Illustration 78). Much additional material was reburied after being excavated and this too could be recovered for analysis with minimal effort and disturbance. Although some studies relating to the physical anthropology of these populations have taken place (e.g. Davies and Thurnam 1865; Thurnam 1868) there is much potential here, especially in the application of forensic archaeology, biochemical analysis in relation to health and diet, and DNA studies of genetic relationships. The material is, however, widely scattered and a first step to its use would be the development of a gazetteer of what is extant, where it is kept, and what condition it is in.

Settlement and land-use patterns: The longevity and high intensity of activity within the Stonehenge Landscape are one of its great strengths in terms of research potential. Like many areas of Britain there is what appears to be a fundamental difference between the period before about 1000 BC when the archaeological record is dominated by what appear to be ceremonial monuments and later times where what might be termed settlement archaeology predominates. Inevitably, attempts have been made to find settlements in the early periods and ceremonial sites amongst the archaeology of later periods. These have largely failed, in all probability because the basic categories that are being imposed (settlement, ritual site etc.) are inappropriate to material under scrutiny. New categories that are more sensitive to the archaeology itself are needed to overcome this interpretative conundrum.

The Stonehenge Environs Project and subsequent fieldwalking and test-pitting programmes provide an extensive, although as yet incomplete, picture of activity at different times, mainly within the World Heritage Site. From this work it is clear that different things happened in different places at different times. Models of settlement drift and the structuration of space have been applied to these data. Perhaps the most important focus of activity through prehistory and historic times is the valley of the River Avon and the slope-land on either side. Although this area is heavily disturbed in places by modern settlement, a detailed study, including the detailed mapping of existing finds and investigations, would not only create a better picture of the disparate material already recognized, but also allow better targeting of future research and development control activity.

There are limitations to what can be recovered through this approach, but the SEP is a very good example of its type. Work is currently in progress to reanalyse the lithic assemblages (see Section 4), and in due course the results will be integrated with the very extensive museum collections of flintwork that have built up over the last two centuries.

Equally important is the mapping of the fieldwalking data against archaeological features represented as earthworks and cropmarks on aerial photographs (Map D). Picking all the cropmark evidence apart and setting out its relationships will need sample excavations and field-testing. The greatest potential for enhancing understandings of settlement patterns comes through combining geophysical



Illustration 78
The Boscombe Bowmen. (left) Beaker pot and associated items from the grave. (right) The grave under excavation. [*Photographs: Tom Goskar and Dave Norcott; reproduced courtesy of Wessex Archaeology. Copyright reserved.*]

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and geochemical surveys to create detailed plots of anomalies to set alongside the aerial photographic evidence, and broad use-pattern fingerprints to set alongside the evidence of artefact scatters. In some cases the importance of such work revolves around the definition of incompletely known structures and monuments, for example the Stonehenge Palisade Ditch, and here blanket rather than selective geophysical studies are needed.

Combining data sets derived from a range of techniques, based as they are on different sample intervals and with markedly different constraints, will be a challenge for future data capture, storage, analysis, and visualization systems.

Ceremony, ritual, and belief systems: In one sense this is the most extensive and robust element of the database relating to the Stonehenge Landscape. The density of prehistoric ceremonial and ritual monuments in this small area is probably greater than for any other part of the British Isles. However, the proportion of sites that have been excavated to modern standards with opportunities for scientific studies that allow detailed insights into the date and sequence of events, spatial variations in the nature and extent of activities, and sampling for macroscopic and microscopic environmental data is very low. While much has been made of the results of antiquarian excavations, and there is undoubtedly more to be learnt, new excavations at typical sites within the Stonehenge Landscape are needed.

Social organization: Many papers and studies dealing with prehistoric social organization and socio-cultural evolution have used the Stonehenge area as a case study (e.g. Renfrew 1973a; Thomas 1999, 163–83), yet critical elements of the picture are missing. This is most acute in relation to habitation sites. It remains an outstanding issue as to whether people lived in the Stonehenge area at all; a secondary issue being whether such occupation may have been temporary, seasonal, or more or less permanent. And beyond this there is the question of settlement size and composition. Only in this way will it be possible fully to address issues such as the scale and organization of social units.

Economy, craft, and industry: Although the Stonehenge Landscape is famed for its ritual and ceremonial monuments, recent surveys and the results of excavations over the last century or so show plentiful evidence for what is conventionally referred to as industrial activity, especially flintworking. In fact of course, the association of this work with ceremonial activity may not be fortuitous and the question of embeddedness between apparently diverse activities deserves further attention. Small-scale flintworking is represented at a surprising number of sites, throughout the fourth, third, and second millennia BC, amongst them: in the ditch of the Amesbury 42 long barrow, including refitting material (Harding in Richards 1990, 99–104); and in Christie's cutting V through the ditch of the Cursus (Saville 1978, 17). Larger-scale activity is represented by the working areas recognized at Wilsford Down (Richards 1990, 158–71) and the mines north of Durrington (Booth and Stone 1952). Geophysical surveys in both areas are needed to define more closely the extent of these activities, especially the presence of quarries and extraction pits.

Technical and comparative studies of *in situ* flintworking assemblages have been undertaken by Saville (1978) and Harding (in Richards 1990, 213–25), while specific classes of flint artefact from sites in the Stonehenge Landscape include Riley's review of scrapers and petit tranchet derivative arrowheads (in Richards 1990, 225–8). Saville's (1978, 19) comments on the use of flint derived from the clay with flint deposits at the Winterbourne Stoke G45 barrow as against the more commonly exploited chalk-derived nodules serves to emphasize the need for further technological and typological analyses (and cf. Piggott 1971, 52–3).

Trade and exchange: Discussions of this theme have been dominated by the matter of the Stonehenge bluestones, their origins, and the means by which they came to Salisbury Plain (Green 1997; Scourse 1997; Williams-Thorpe et al. 1997). Although the glacial-action theory has attracted supporters over the years, human agency is generally considered the most likely means of transport. As suggested below, however, the further investigation of this topic requires work around the source areas in southwest Wales as well as on Salisbury Plain. The incidence of bluestone in other monuments around Stonehenge is often commented upon in excavation reports and remains intriguing. In some cases the material is assumed to be waste from dressing the pillars of the bluestone circles and horseshoe erected in Stonehenge Phase 3. In other cases, as for example the block from Bowls Barrow (Cunnington 1889), the stone seems to be an original piece rather than waste. It has long been postulated that another bluestone monument existed in the area, perhaps near to where the Stonehenge Cursus enters Fargo Plantation, but this is as yet not proven. A quantification and mapping exercise to plot the density and spread of bluestone fragments within monuments around Stonehenge, building on the work already done (e.g. Thorpe et al. 1991, figure 4 and table 2), may be enough to highlight search areas to help pinpoint such a structure.

The bluestones and other structural components for monument building were by no means the only items being moved around in the Stonehenge Landscape or brought in from other areas of Europe. In the early and middle Neolithic exotic items such as the jadite axe from near Stonehenge and the stone axes from western and northern Britain travelled hundreds of kilometres from their source. Together with several axes imported from Cornwall, mention may also be made of the gabbroic pottery identified by Peacock (1969) from Robin Hood's Ball on the very eastern edge of the distribution of such ware. Despite the potential for petrological work on the pottery from other Neolithic and Bronze Age sites in the Stonehenge Landscape, using both macroscopic and microscopic analysis, very little seems to have been done to date (cf. Cleal 1995).

During the later third millennium and early second millennium BC the range of imports to the area increased with the availability of new stone sources, metal objects, and imported pottery. Amongst the stone artefacts known to date, some of the finest include the Group XIII (spotted dolerite) axe hammer from Wilsford G54 (Annable and Simpson 1964, 43), and the battle axe from Shrewton barrow G27 (Annable and Simpson 1964, 49). The origin of possibly imported metal objects, shale, amber, and faience beads from Wessex Culture contexts have been extensively discussed (Branigan 1970; Newton and Renfrew 1970; McKerell 1972; Watkins 1976; Barfield 1991; Needham 2000; Illustration 79). Bradley and Chapman (1986) have considered the general nature and development of long-distance relations in the later Neolithic of the British Isles.

The continuation of long-distance relationships into the later Iron Age may be suspected on the basis of coin finds which form part of a widespread pattern across southern England (De Jersey 1999).

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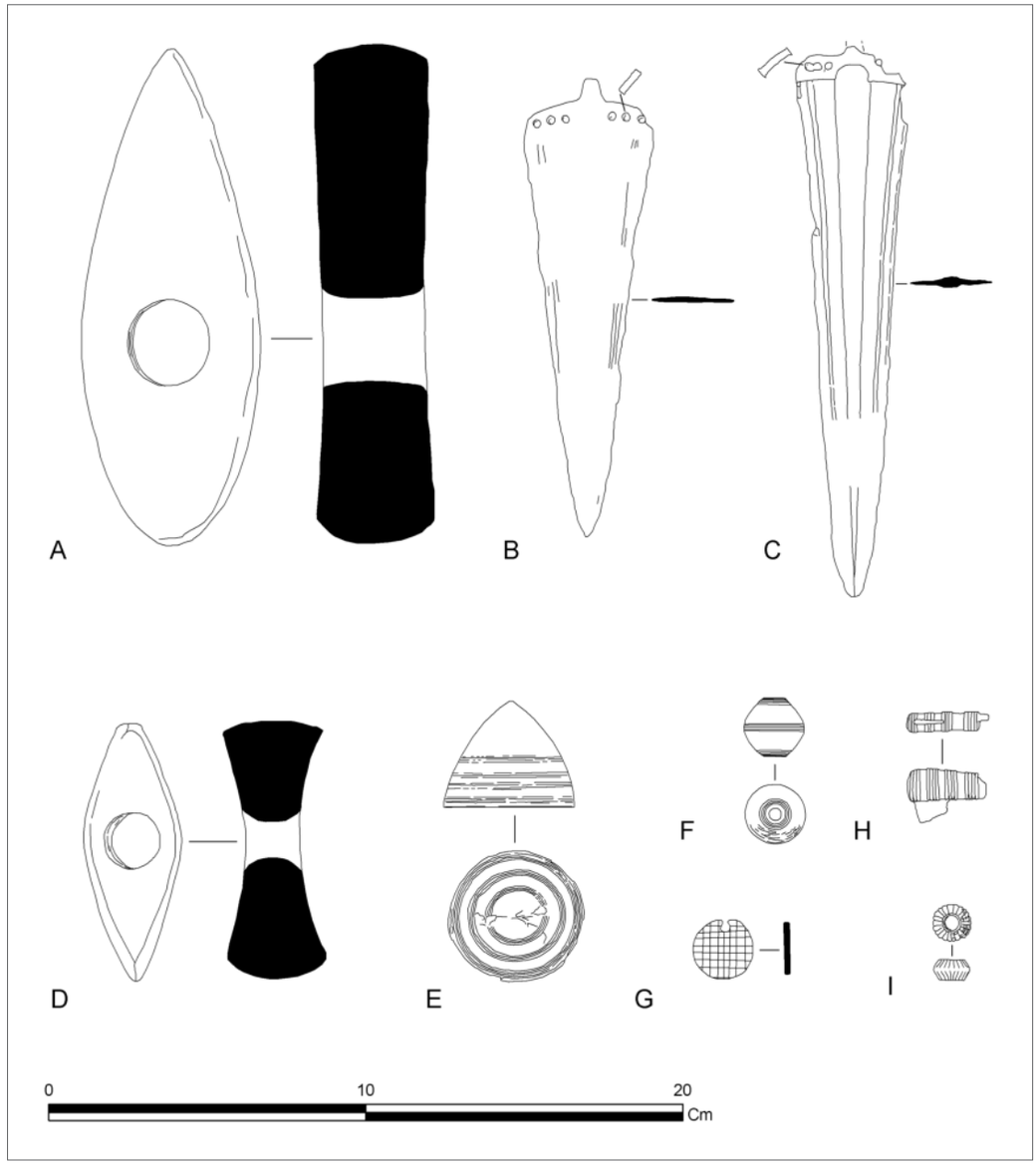


Illustration 79
Imported objects found with early Bronze Age burials in the Stonehenge Landscape. A: Stone axe hammer from Wilsford G54. B and C: Bronze daggers from the Bush Barrow. D: Stone battle axe hammer from Shrewton G27. E: Gold-bound amber disk from Wilsford G8. F: Gold-covered shale bead from Wilsford G7. G: Gold-plated bone disk from Wilsford G8. H: Halberd pendant with amber and gold haft from Wilsford G8. I: Shale bead from Wilsford G7. [*After Annable and Simpson 1964, items 143, 157, 169, 170, 180, 181, 182, 197, 237.*]

Archaeoastronomical interests in Stonehenge and its landscape

Contributed by Clive Ruggles

Over the years, the sarsen monument at Stonehenge has been portrayed variously as a cosmic temple (e.g. Hawkes 1962, 168; North 1996, xxxv; Aveni 1997, 85 and 91), a calendrical device (e.g. Burl 1987, 202–4), and an astronomical observatory and calculating device or 'computer' (Hawkins 1964; Newham 1966; Thom 1975; Hoyle 1977). Many of these ideas have attracted widespread public interest.

The majority of astronomical theories concerning Stonehenge are based on the idea that, at one stage or another, the monument incorporated deliberate architectural alignments upon horizon rising and setting positions of celestial bodies, particularly the sun or moon. To be plausible, such claims must be consistent with broader archaeological facts and chronologies, must be viable astronomically, and must also pay attention to the fact that astronomical alignments can easily arise fortuitously, since every oriented structure must point somewhere. Most of the ideas proposed in the 1960s and 1970s were subsequently shown to be seriously questionable on archaeological, astronomical, or statistical grounds, or a combination of these (Heggie 1981, 145–51 and 195–206; Castleden 1993, 18–27; Ruggles 1999a, 35–41; Chippindale 2004, 216–35).

A more general problem with theories of this type is that they tend to be based on drawing lines between points on a site plan of the monument or a map of the wider landscape – an abstract exercise undertaken from an external perspective. It is better to focus on how people experienced and perceived Stonehenge and its landscape, moving within or around it (Darvill 1997a; Whittle 1997, 162). This opens up a vast range of possibilities, which are only just starting to be explored using modern computer techniques for 3D-visualization and

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for reconstructing ancient skies. However, it is important not to abandon quantitative studies of astronomical potential: a careful balance is needed (Ruggles 2001).

The solstitial axis of Stonehenge Phase 3 remains the only really uncontentious astronomical alignment at the site (Ruggles 1997; 1999a, 136–9; Illustration 80), although even here there is continuing debate as to whether the principal focus of attention was the midsummer sunrise to the northeast and/or the midwinter sunset to the southwest (e.g. Burl 1994; Parker Pearson and Ramilisonina 1998). It is generally accepted that the adjustment of the main axis to a solstitial orientation represented an attempt to reinforce the symbolic power of the monument at the time of its reconstruction in stone (cf. Bradley 1993, 100). Despite much-quoted claims to the contrary, there are no structural features in Stonehenge Phase 1 or 2 that convincingly indicate an earlier interest in the moon, although some evidence to support the idea has emerged recently from studies of the spatial patterning of carefully placed animal and human bone deposits, human cremations, and other artefacts in the ditch and Aubrey holes (Pollard and Ruggles 2001).

A more widespread but coarser concern with astronomy, manifested in consistencies of orientation amongst widely spread groups of monuments that could only have been achieved in relation to the diurnal motion of the sky, is evident even in the early Neolithic. Burl (1987, 26–8) has noted that the orientations of 65 long barrows on Salisbury Plain are consistently between north-northeast and south. Although Burl's own lunar interpretation has been questioned (Pollard and Ruggles 2001) this pattern fits a 'sun rising – sun climbing' explanation that applies to many groups of Neolithic tombs and temples throughout western Europe (Hoskin 2001). An alternative suggestion that alignments on various bright stars were widespread in early and middle Neolithic Wessex (North 1996) has been heavily criticized (Aveni 1996; Ruggles 1999b). Systematic studies of the siting and orientation of monuments in the Stonehenge area landscape, from the early Neolithic onwards, are needed to clarify such issues.

Broader cosmologies remain relatively unexplored. Darvill (1997a, 186–7) has presented a case that Stonehenge 2 and 3 lay at the centre of a conceptual quadripartitioning of space, demarcated by the solstitial directions, that influenced patterns of monument construction and many other activities (e.g. flint mining). The spatial distribution of 'formal' deposits at Stonehenge itself bears strongly upon this issue, but because the available data are limited to the eastern part of the site, their ability to distinguish between various possible prevailing cosmological schemas is severely limited, something that would be altered drastically if it were ever possible to excavate critical sections of the northwestern and southwestern parts of the ditch.

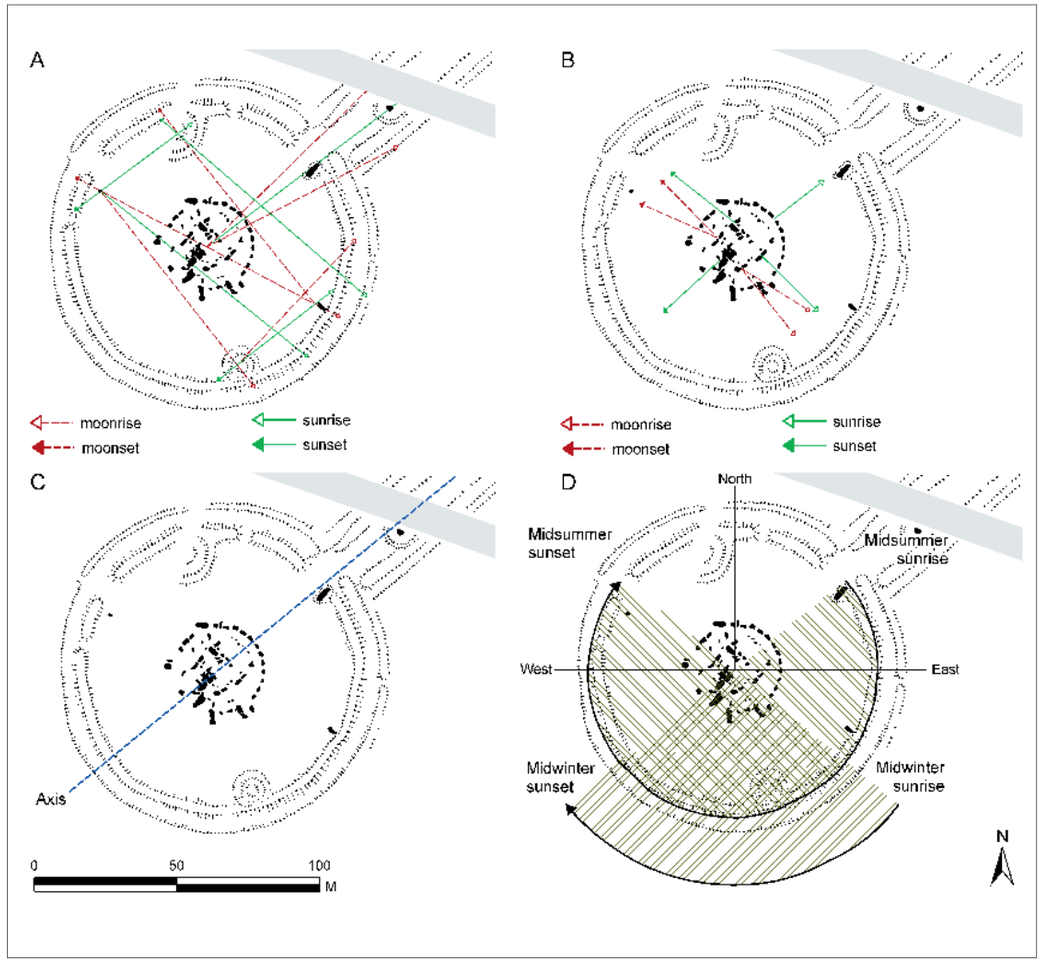


Illustration 80
Stonehenge showing the main astronomical axes and alignments.
A: Alignments proposed by Gerald Hawkins for the early phases of Stonehenge and (B) alignments through the central trilithons. C: The main northeast–southwest axis projected onto Phase 3 of the monument. D: Schematic representation of the main solar movements in relation to Phase 3 of the monument. [*A and B based on Hawkins 1966a, figures 11 and 12; C after Cleal* et al. *1995, figure 79; D after Atkinson 1987, 11.*]

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STONEHENGE IN ITS REGION

There can have been few if any times in prehistoric and historic times when the Stonehenge Landscape as defined here represented the total living-space of a community; the Stonehenge Landscape must be seen as part of much larger environments, territories, and regions. Such spaces can be seen in the structure of medieval and later administrative and political units: first estates, townships, and hundreds; more recently parishes, districts, and counties. The earliest identifiable territorial division relevant to the Stonehenge Landscape is the Roman *civitas* of the Belgae centred on *Venta Belgarum* (Winchester). The Stonehenge area lies in the northwestern corner of this administrative region but it may have provided many of the social, political, and economic needs of the numerous communities living around Stonehenge at the time (Frere 1967, figure 1). How far back the geographical limits of these tribal Romano-British units can be projected is not known, but it is interesting that throughout the later first millennium BC and early first millennium AD the Stonehenge Landscape was on the edge of, or at the junction of, a series of four or five large territorial units extending off in all directions. A similar territory may have existed in the sixth and fifth centuries BC to judge from the distribution of All Cannings Cross – Meon Hill style pottery (Cunliffe 1991, figure 4.4). Ellison's (1981) analysis of Deverel-Rimbury ceramics of the later second millennium BC allows the recognition of a wide distribution of Type I fine wares across central southern England, again possibly indicative of a social territory of some kind. In the second millennium BC differences in the construction styles of round barrows either side of Bokerley Dyke/River Avon have been noted, at least in relation to its southern reaches (Bowen 1990, 79–81), with ring-and-tongue barrows confined to the area west of the line and elongated paired barrows only east of the line.

During the third millennium BC, when Stonehenge was at its zenith, there is some evidence to suggest that the group of monuments hereabouts was at the centre rather than the edge of a sphere of interest. In this connection it is interesting that the Stonehenge Landscape lies fairly central to the main distribution of Case's Group D series Beaker pots (Case 1993, 260–3 and figure 3). All across Britain there are major ceremonial centres of the third millennium BC at intervals of about 40–50km. Around Stonehenge these include Knowlton to the south; Priddy to the west; Marden and Avebury to the north; and Dorchester on Thames to the northeast. Each comprises a selection of monuments of similar general types drawn from a fairly long list of possibilities: henges, henge enclosures, palisade enclosures, hengi-forms, pit circles, cursuses, and so on. Many lie near earlier foci. Various interpretations have been placed on these sites, amongst them the idea of central places within substantial chieftain-based territories (Renfrew 1973a, 547–54), or that they were fixed points within cycles of movement by essentially peripatetic communities (Barrett 1994; Whittle 1997c).

In the fourth millennium BC the region within which the Stonehenge Landscape fits might be rather different and based more on the catchment of the Avon and the group of long barrows and oval barrows clustered to the west side of the Avon and around the Nine Mile River (Ashbee 1984b, figure 6). These may be associated with the causewayed

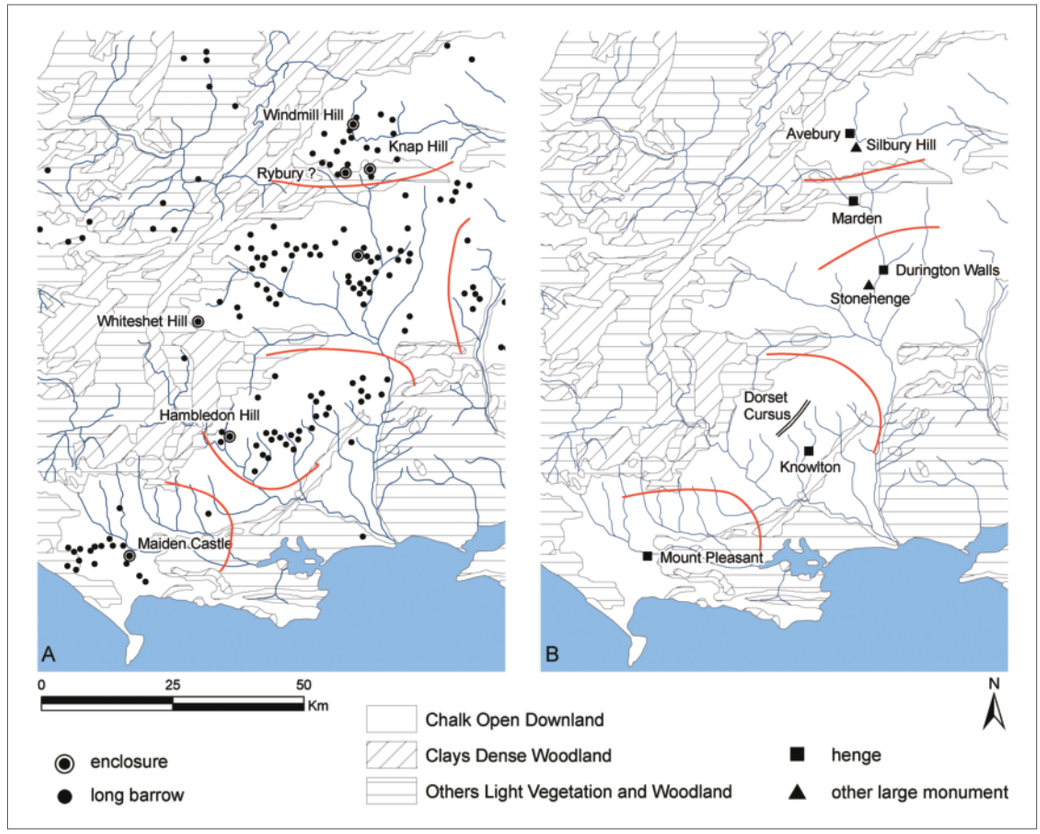


Illustration 81
Social territories in Neolithic Wessex: Renfrew's 1973 model of developing organizational scale. A: Fourth millennium BC. B: Third millennium BC. [*After Renfrew 1973a, figures 3 and 4.*]

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enclosure at Robin Hood's Ball which in Renfrew's model of Neolithic Wessex (1973a; Illustration 81) lies at the centre of the east Salisbury Plain region.

Still greater uncertainty attaches to what can be said about the relationships of the area before about 4000 BC. Roger Jacobi (1979) has mapped the regional variations in tool type for the later Mesolithic to create a series of social territories across northwest Europe. On this model, the Stonehenge Landscape lies within an extensive territory between areas characterized by Wealden type assemblages to the east and the southwestern type to the west. No distinctive type of assemblage is defined for what is essentially Wessex; doing so remains a challenge for the future and is important in setting the scene for the development of the regionally distinct traditions and territories already referred to.

STONEHENGE WORLDS

Beyond its region the archaeology of the Stonehenge Landscape suggests much wider connections for the communities who occupied it. Here there is no one Stonehenge World but a whole series of spatially diverse worlds. Focusing on the Age of Stonehenge, the fourth to second millennia BC, it is clear that the groupings of monuments at different periods within that period are replicated in many other parts of the British Isles from mainland Orkney (Ritchie 1990; Barclay 2000) to the Boyne Valley of Ireland (Eogan 1997), and the Carnac area of Brittany (Burl 2000a, 331–48). The range of monument types represented at each of these centres varies, but the age-span and essential mix of ceremonial enclosures, burial monuments, stone settings, and residential sites concentrated in an area of perhaps 20 square kilometres remains constant. In this sense, what we see in the Stonehenge Landscape and its surrounding region is entirely consistent with the activities of other communities in the Stonehenge World of the third and early second millennia BC.

Movements and contacts within the Stonehenge World have long been recognized. These are most obviously visible in the range of raw materials used in the construction of Stonehenge Phase 3, much of which must ultimately have derived from outwith the Stonehenge Landscape and probably from outwith the Stonehenge Region. The sarsen stones, the biggest elements in the construction, may have come from Salisbury Plain, but are most likely to have come from the Marlborough Downs some 40km to the north (Green 1997, 260–3; and see Bowen and Smith 1977). No extraction pits or quarries have yet been positively identified, although such may await discovery. Variations in the petrology of the sarsens from Stonehenge have been noted (Howard in Pitts 1982) and other possible source areas such as the downs of Dorset and eastern Kent also deserve to be more fully investigated. It is possible that more than one source is represented.

Since the early 1920s, when H H Thomas confirmed by petrological analysis earlier suggestions (Thomas 1923), it has been known that the bluestones used in Stonehenge Phase 3 ultimately derive from the Preseli Hills of southwest Wales (Illustration 82), as too the rhyolite used for some pillars and the sandstone used for the Altar Stone (Green 1997 with earlier references). Much debate has surrounded the means by which these stones reached the Stonehenge Landscape but the inescapable conclusion is that they were brought there by human agency, whether rolled along on logs, carried on sledges or stretchers, or loaded onto boats and shipped by water. Stone axes and perforated stone implements were also moved around the country in much the same way. A recent reanalysis of the provenancing of recorded bluestone axeheads confirmed a marked cluster of imported items in central southern England (Williams-Thorpe et al. 2004), further strengthening the evidence for



Illustration 82
Dolerite outcrops at Carn Menyn in the Preseli Hills, Pembrokeshire. [*Photograph: Timothy Darvill. Copyright reserved.*]

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links between Saisbury Plain and southwest Wales. Perhaps the most impressive thing about the bluestones, however, is not the simple fact that they moved but rather the scale of the achievement. As with the sarsens, there is still much work to be done in exploring the exact sources of the stones, especially in the application of archaeological fieldwork to unpick the cultural landscape, rather than the purely geological landscape, of the Preseli Hills and surrounding areas. Preliminary work along these lines is already yielding interesting results (Darvill and Wainwright 2002) including the close connections between Stonehenge and southwest Wales visible in the form and construction of oval stone settings (Darvill and Wainwright 2003).

The novelty of Stonehenge and the richness and variety of objects deposited as grave goods in the surrounding barrows has long attracted attention in terms of the wider social, cultural, and trading links represented. In 1938, Stuart Piggott made a very strong case for links between his Wessex Culture of southern England and the early Bronze Age of northern France, especially Brittany (Piggott 1938). These proposed links were investigated further by Sabine Gerloff (1975) in a study of early British daggers which essentially reinforced Piggott's views. More recently, Stuart Needham (2000) has suggested that there is little evidence for the migration of more than a few individuals between the two areas and that similarities between them were driven by the procurement of exotic materials and goods through what he calls 'cosmological acquisition'. Humphrey Case (2003) has argued that the Breton links can be seen as far back as the later third millennium BC and that the

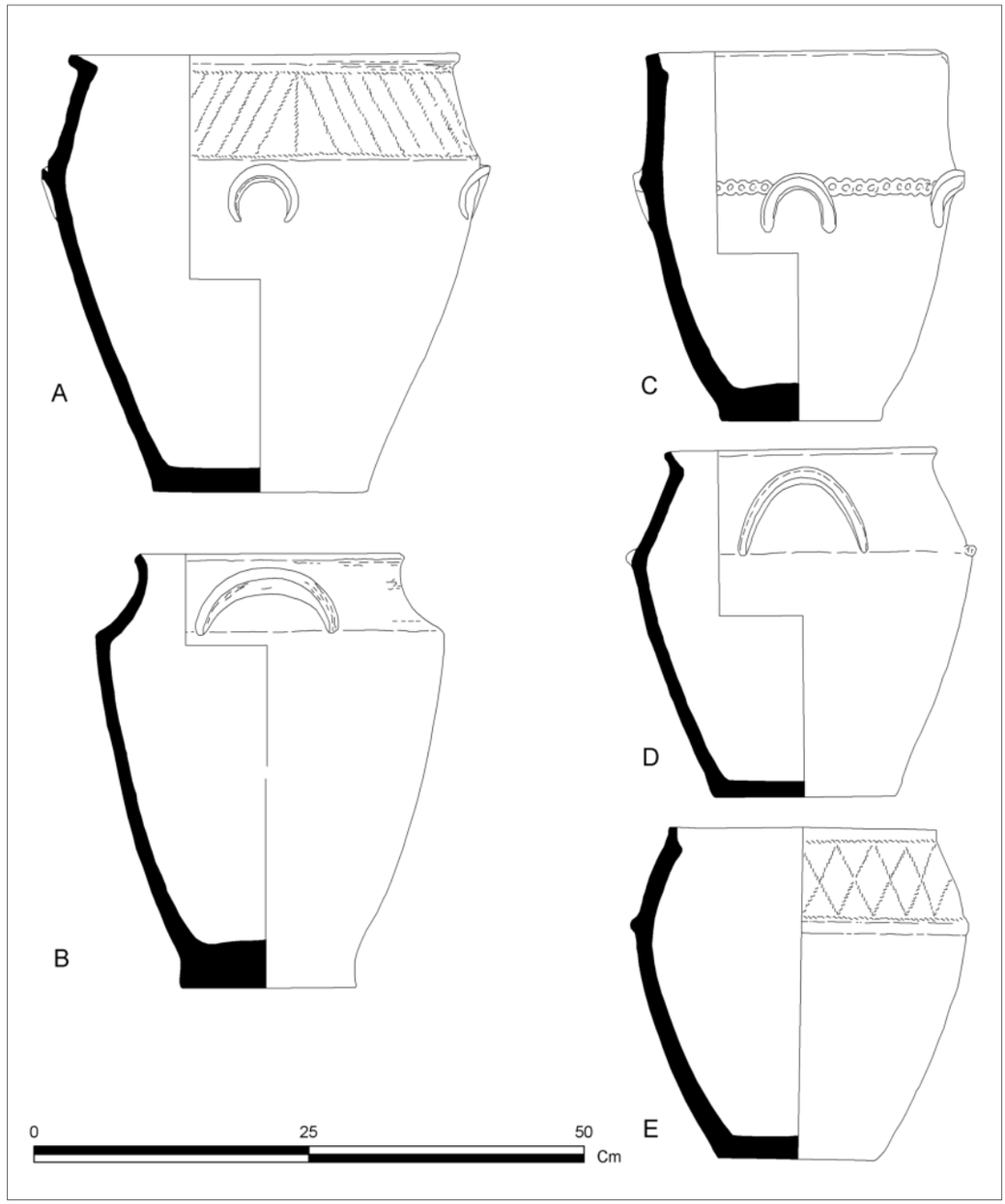


Illustration 83
Hilversum and Wessex biconical style urns from burials in the Stonehenge Landscape. A: Bulford 47. B: Amesbury 71. C: Bulford 40. D: Bulford 47. E: Winterbourne Monkton 2. [*After Piggott 1973e, figure 23a, e–g and j.*]

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development of the rich Wessex burials draws on a combination of local as well as exotic inspirations, centuries-old traditions as well as up-to-date innovations.

Debate has also surrounded possible parallel connections between the same regions in terms of monument construction, design, and meaning. Aubrey Burl (1997) proposed a series of similarities between the form of Stonehenge 3 and the rock art it carried with various horseshoe-shaped settings and rock art in Brittany, a view subsequently challenged by Scarre (1997) who prefers the autonomous development of these structures and motifs in the two areas. However, focusing on relatively few sites and limited geographical areas rather misses the point. Connections along the Atlantic façade of Europe through prehistoric and later times are well established and well documented (Cunliffe 2001, 213–60); what is needed is a more wide-ranging review of similarities and differences in the structure and form of stone monuments dating to the later third and second millennia BC throughout the Irish Sea basin and western approaches.

Continental links extending beyond the stone circles and megalithic constructions are represented in the form and structure of round barrows and the timber monuments. The use of stake-circles within barrow mounds has long been recognized as a regular feature of monuments on both sides of the English Channel, but especially in southern England and the Netherlands (van Giffen 1938; Glasbergen 1954; Gibson 1998a, 70–5). There are also close similarities in the design of some metal artefacts and in the form and decoration of the associated ceramic vessels in the two regions, especially the Wessex biconical urns and the Hilversum and Drakenstein urns of the Netherlands and surrounding areas (Butler and Smith 1956; ApSimon 1972; Illustration 83). Gibson (1998a, 63–70) has drawn attention to certain similarities between the design of British palisaded enclosures and contemporary examples on the continental mainland. Recognizing that the English Channel is as likely to encourage communications as to hinder it, and that continental Europe is rather closer to central southern England than many northern and western parts of the British Isles, there is clearly much scope for further studies of early prehistoric artefacts and monuments. That communities living in or visiting the Stonehenge Landscape were closely involved in those connections, perhaps through links with coastal communities via the River Avon, is amply demonstrated by the presence of imported objects such as the Armorican *vase à anses* from Winterbourne Stoke G5 (Tomalin 1988, 209–10).

Still longer-distance relationships have been proposed for some archaeological elements within the Stonehenge Landscape, although the evidence is contentious and difficult to interpret. As far back as the later nineteenth century, for example, the possibility of contact with the eastern Mediterranean was discussed in some seriousness. In a paper to the British Archaeological Association in August 1880, Dr John Phené reviewed analogies between Stonehenge and sites in the Mediterranean, noting especially the Cyclopean walling and other architectural details found in the fortified citadels of Mycenean Greece. It was a link later picked up by Oscar Montelius (1902) and others, and reinforced by the recognition that at least some of the rich grave goods in barrows of the Wessex Culture could be paralleled amongst objects from the shaft graves of Mycenae itself (and see Piggott 1938, 94–6; Atkinson 1979, 165–6). Yet more support was provided by the recognition of what was interpreted as a Mycenean dagger of Karo B type amongst the rock art discovered at Stonehenge in the early 1950s (Crawford 1954, 27). By 1956, Richard Atkinson felt able to ask: 'is it then any more incredible that the architect of Stonehenge should himself have been a Mycenaean, than that the monument should have been designed and erected, with all its unique and sophisticated detail, by mere barbarians?' (Atkinson 1956, 164). A decade later, this Aegean view, and the diffusionist perspective that it represented, were called into question by Colin Renfrew (1968; 1973b) when it became apparent from radiocarbon dating that the main features of Stonehenge were more than 1000 years older than the supposed prototypes in Greece. Discussion and debate has continued because further refinements to the dating have made the picture still more complicated (see Selkirk 1972 for useful summary; also Barfield 1991). Here it is important to separate out Stonehenge itself from the contents of the rich graves round about. The construction and associated primary use of Stonehenge can now be placed very clearly within the third millennium BC; there is very little evidence for constructional work after about 2000 BC, although it may of course have continued in use in the form that it had reached by that stage. This is clearly too early for any significant connection with Mycenean architecture securely dated to the middle centuries of the second millennium BC, and Renfrew's argument stands.

By contrast, the rich graves of Piggott's Wessex Culture seem to belong mainly to the first half of the second millennium BC and thus appear to post-date the main constructional activity at Stonehenge. Amongst the items from these graves that may have been imported from the Mediterranean are: the crescentic earring from Wilsford Barrow G8, faience beads, and the Bush Barrow bone mounts. Amber spacer plates may have been moving in the opposite direction, from northern Europe to the Mediterranean (Harding 1984, 263). However, within the broad span of the early and middle second millennium BC, the dating of Wessex Culture burials remains difficult and it is still uncertain to what extent the conventionally recognized Wessex I and II sub-phases should be seen as successive, partly overlapping in duration, or essentially contemporaneous; this is a matter that could usefully be clarified by a programme of radiocarbon dating material from excavated graves. With the dating of the Mycenean shaft graves and associated Late Mycenean/Late Helladic material culture to the period from 1600 BC through to about 1200 BC (Harding 1984, 12–15) there is clearly some potential chronological overlap with the Wessex Culture, and thus the possibility of links whether through the exchange of actual objects (cf. Branigan 1970) or through the transfer of knowledge. Concluding his exhaustive review of the Myceneans overseas, Anthony Harding noted that 'one has no alternative but to reject the possibility of any regular contact between Britain and Mycenean Greece … sporadic contact … can be accounted for by very few individual acts of exchange' (1984, 265). If the object carved on the inner face of Stone 53 is indeed a Mycenean dagger, there is no need to associate it with the construction or primary use of the site; the addition of individually meaningful symbols to existing structures as 'graffiti' is a millennia-old practice that still continues. By the middle of the second millennium BC, Stonehenge had clearly become a sufficiently significant place to attract more than its fair share of the richest burials in the British Isles to its

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immediate hinterland, so perhaps it was also a place of pilgrimage and visitation by people from afar. Indeed, given the links between southern England and northern France, contacts with the Mediterranean world are most likely to have been indirect and articulated through much wider networks of relationships with communities falling within the Reinecke A1–B1 horizons of central Europe (and see Gerloff 1975, 245–6).

Long-distance links between communities in the Stonehenge Landscape and other parts of Europe should not be ruled out. In 1962 Stuart Piggott published a remarkable paper entitled 'Salisbury Plain to south Siberia' in which he explored the relationships of the perforated bone points and associated objects from Upton Lovell barrow 4, Wiltshire, finding parallels in a 'well defined but scattered series of similar interments stretching across Eurasia from the Baltic Sea to Lake Baikal' (Piggott 1962, 93). The Upton Lovell barrow lies 17km west of Stonehenge but well within the central distribution of Wessex Culture barrows. That the occupant of the grave might be a shaman was tentatively considered by Piggott (1962, 96) and has been taken up by others since (e.g. Burl 1987, 167–8). Shell (2000) has also raised the possibility, originally noted by John Thurnam, that this is a metalworker's grave. In November 2004 the Russian news and information agency Novosti carried a story about the discovery of a Russian 'Stonehenge' (Sobolevskaya 2004). Quoting archaeologist Ilya Akhmedov, the account described the discovery of a circular monument edged with timber pillars overlooking the confluence of the rivers Oka and Pron in the central Russian region of Ryazan, dating to about 2000 BC. The entrance into the circle is marked by two pillars forming a gateway, the entrance gap opening towards the midsummer sunrise. Perhaps more 'Woodhenge' than 'Stonehenge', this site joins a growing list of vaguely similar circular monuments scattered across central and eastern Europe (see also Behrens 1981) which perhaps support the possibility of long-distance connections raised by Piggott and at the very least deserve further inquiry and cross-cultural comparison.

Hard science is also beginning to help address some of the wider issues connected with the movements of people and artefacts and has much to offer in future. Isotope studies of samples of tooth enamel from the Amesbury Archer, for example, suggest that he spent formative periods of his life in continental Europe, probably in the Alps, while chemical analysis of the composition of some of the objects found with him suggests that the copper knife is Spanish and that the gold could also be from continental Europe (Fitzpatrick 2003a). By contrast, the Boscombe Bowmen seem to have spent their formative years in southwest Wales according to isotope analysis of tooth samples (Fitzpatrick 2004a; Fitzpatrick et al. 2004).

Permeating all these studies are questions about how people in the notional Stonehenge Landscape, Stonehenge Region, and Stonehenge World related to each other; the role of particular places and the significance attached to them; connections between specific individuals and communities established through kinship or alliance structures; and, above all, the meaning of objects, whole artefact assemblages, and monumental constructions, in the lives of these communities.

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section 3

Research Agenda

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SECTION 3 – RESEARCH AGENDA

'The known is finite; the unknown infinite; intellectually we stand on an islet in the midst of an illimitable ocean of inexplicability. Our business in every generation is to reclaim a little more land.'
(Thomas Huxley 1888, 204)

DEVELOPING AN AGENDA: DEFINING ISSUES

The small islet of Huxley's allegory is, for Stonehenge and its landscape, represented by the body of knowledge that has built up over the last 300 years or so, some of it secure, some less so (Section 2). How that body of knowledge can be expanded in the foreseeable future, how more can be added to the islet, is the subject of this section.

Axiomatic to modern traditions of research is the idea that clear well-articulated questions lead to good results. This is especially the case for problem-orientated research, but, equally, to make good use of curiosity-driven research there needs to be a clear vision of what is being looked for and what is really important and worth pursuing if and when it is recognized. There are many different kinds of research question, some simply interrogatory, others interlocutory. In broad terms they can be divided into three groups reflecting different scales of approach (Darvill 1998, 5):

Questions: These are matters that are capable of relatively direct solution given some kind of carefully planned and direct inquiry: things such as the date of a site or structure; the relationship of one thing to another; or the association of one group of material with another.

Problems: These are substantial matters that do not have a simple answer. Rather they require careful resolution, probably over a period of time, based on the structured accumulation of verifiable data using specific methodologies. The quality of solution to any problem is in part a consequence of the methodology adopted. Typical problems might, for example, include the dating of a particular kind of pottery, the nature of settlement in a defined region, the nature of associations between one set of things and another, or the essential characteristics of a type of archaeological deposit. Unlike the solutions found for specific questions, the resolution of a well-defined problem provides the basis from which confident interpretations can thereafter be made, at least until the problem is redefined.

Themes: These are general interpretative matters that are not so much specific studies as broad subject domains that can bind together and embrace a series of connected but not necessarily united studies.

Collectively, these can most easily been seen as 'issues', namely important subjects for consideration, discussion, debate, or resolution through research, inquiry, experimentation, or investigation. Listed together such issues form a *research agenda* of the kind envisaged by Olivier (1996, 5), but there are many different ways of looking at issues, what they cover, their philosophical and theoretical underpinnings, and the interest groups they serve.

Issues generally arise from a critical reflection of what is already known (Section 2 above), sparks of inspiration from seeing things in a new light, or making new connections between established ideas. In trying to move research forward there is always a danger of simply perpetuating existing knowledge through over-reliance on traditional classifications and ways of thinking. Thus rather than following the regularized chronological subdivision of the past into rigid slices, or exploiting the cybernetic logic of integrative themes, the aim here is to allow issues to be self-defining in terms of being essentially reactions to existing interpretations. For presentational reasons, and to assist in evaluating them, they have been arranged below into four main groups:

Period-based and site-based issues: Synchronic views of some particular part of the past in the present or a particular site; the classic snapshot image of what happened at a particular moment in time and space. In many cases these are the BIG issues that visitors focus on when looking at or being shown a particular site.

Subject-based issues: Diachronic views of a currently defined field of interest that cross-cuts time and space, often focused at the landscape or inter-site level.

Contextual and interpretative issues: Perspective or process-based fields of interest that relate to fundamental understandings of the archaeological material, its formation, biases, strengths, weaknesses, and what we make of it.

Management-based issues: Matters which relate directly to the integration of research with day-to-day, medium-term, and strategic management issues, including the effectiveness of management works in conservation, protection, and presentation.

In many cases individual issues naturally span more than one heading, and indeed some overlap in terms of their coverage. Some of the issues relate to a particular site, some to the whole archaeological resource of the World Heritage Site, and others to still wider contexts. There is no attempt here to privilege one kind of issue over another; their inclusion here indicates that at least one sector of the research community concerned with the Stonehenge Landscape considers them important and worthy of pursuing.

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PERIOD-BASED AND SITE-BASED ISSUES

Issue 1: What is Stonehenge?

Probably the most frequently asked question about Stonehenge itself, although recognized by archaeologists as a series of questions about each of the different articulations (phases) of the site (Illustration 84). There is probably no single answer. The archaeological focus on the construction phases has shifted attention away from its use; although ethnographic models suggest that divisions between construction and use are perhaps rather artificial and that the act of construction, modification, and reconstruction is central to the meaning of the structures themselves. Some elements look like well-known kinds of monument: for example the ditch looks like that of a causewayed enclosure while some of the stone settings match with settings found at stone circles elsewhere in northwest Europe. What is unique, as far as can be told, is the sequence represented and the use of five massive trilithons with stone lintels as the central setting. Whether Stonehenge was unique in the Neolithic world or unique only in being the one that survives is not known, but again deserves attention.

Closely linked to this issue are the matters of: Why build Stonehenge? How many Stonehenges were there on the site? How was it used? What was the precursor to the visible Stonehenge?

Issue 2: Who built Stonehenge?

A superficially simple question but one that connects into a wide range of problems and themes. Since it is not known whether the present Phase 1 is indeed the earliest structure on the site there is the matter of whether it is a third-millennium BC community or an earlier one that is the target of attention. Taking the main recorded phases of the monument, there has been considerable debate about the role of cultures outside Wessex in the Stonehenge World and indeed beyond. Henges are generally considered unique to the British Isles, although there is increasing evidence that superficially similar structures may exist in continental Europe. It is therefore relevant to ask which other prehistoric cultures in Europe built similar structures. And whether there is any evidence for contact between them.

For the later phases of Stonehenge, connections with Mycenean Greece have been much discussed (see Renfrew 1968; 1997, 5–6), as too possible influences from Armorica (Burl 1997; Scarre 1997). The International Millennium Exhibition staged in 2001 in Nuremburg (Germany) and entitled 'Mycenae : Nuremburg : Stonehenge' suggested that there is still considerable interest in the very long-distance links represented by later Neolithic and Bronze Age constructions across the Old World. The scientific evidence for population movements represented by the Amesbury Archer (Fitzpatrick 2002; 2003a) serves to reopen these debates which must also embrace discussion of the material culture of the later third and second millennia BC (see Issue 22). Although matters such as migration, colonization, and population movements are not academically fashionable at present, the question of whether the builders and users of Stonehenge were local indigenous populations, representatives of communities elsewhere in southern Britain, or partly or wholly derived from further afield is critically important to an understanding of the monument and to its representation to international tourists.

Closely linked to this issue are questions such as: What kind of social organization prevailed? What geographical area did the builders and users of Stonehenge come from? And was it some kind of 'central place' for the area, the region, the whole of the British Isles, or wider still? The earlier phases of the structure seem well within the abilities of later Neolithic communities to judge from their other achievements, but the sarsen trilithons and peristyle demanded labour on a quite different scale. Perhaps this southern monument ended up being a truly national undertaking.

The potential of facial reconstruction should not be overlooked as it provides a very direct view backwards in time to the people buried at sites within and around Stonehenge. Obvious candidates include some of the recently excavated burials including the Amesbury Archer and the Boscombe Bowmen, as well as the man buried in the ditch at Woodhenge, the Beaker-age burial from ditch segment 98 at Stonehenge, and some of the burials under round barrows of the early second millennium BC.

Issue 3: How was Stonehenge built?

The construction of Stonehenge, and indeed related monuments such as the Stonehenge Cursus and Durrington Walls, individually and collectively represents a huge investment of labour, not least in terms of their physical construction, assembly, fitting together of the stonework, and building earthworks. Some estimates of labour requirements have been made (Renfrew 1973a), and there have been experiments and proposals for simple tasks such as ditch-digging using bone and antler tools as well as more complicated tasks such as moving and raising the large stones at Stonehenge (e.g. Richards and Whitby 1997; Adamson 2002). Many of these exercises explore a range of possibilities and carry out time and motion studies to provide quantifications and insights that strike at the very heart of thinking about how, in practical terms, Stonehenge was built. Some of this work challenges traditional assumptions, for people are still mesmerised by Richard Atkinson's (1979, 105–22) experiments and his insistence upon sledges and the use of vast teams of human beings to pull them. As the date of the large stone settings becomes more sharply focused (2550–1660 BC) the possibility that some kind of wheeled vehicles were used must be entertained and deserves further exploration. Experiments using replica stones blocks and oxen is one approach.



Illustration 84
Stonehenge: the bluestone oval and surrounding sarsen structures. [*Photograph: Timothy Darvill. Copyright reserved.*]

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The search for clues at Stonehenge itself in the form of ruts (Paul Ashbee reports seeing numerous ruts, apparently undated, along the line of the Avenue near Stonehenge during excavations in the 1950s) is another. More work is also needed, especially using the ethnographic evidence of the twentieth-century sarsen industry in Wiltshire and the experience and skill of modern-day communities who have made similar achievements using comparable technologies. Specific matters to investigate include:

- The process of shaping and dressing the sarsen stones
- Raising the lintels
- How much time, labour, energy was needed to achieve various defined tasks.

Issue 4: Where did the builders and users of Stonehenge live?

Although half a dozen timber structures dating to the period 3000–1500 BC are known in the Stonehenge Landscape there is polarized debate about their interpretation (Illustration 85). Some see the timber structures as essentially secular dwellings or dwellings also used for ceremonial purposes (Wainwright 1977, 6). Others unfold the argument that all timber structures are essentially ceremonial features (not necessarily buildings at all), as a consequence of which there are no dwellings, and thus the population was highly mobile (Thomas 1996, 2). Is this right? What variation exists? What should be expected given the known range of habitations in the Stonehenge World? Where might they be preserved? Do such contexts exist? How can they be explored archaeologically? Are existing categories referring to structures and buildings appropriate? Should we be looking for a 'new' kind of archaeological evidence such as yurt-like shelters represented archaeologically as rings of stakeholes, a hearth, one or two pits (possibly latrines), and light scatters of rubbish? Should all pits be regarded as similar or can differences be seen here too? Specific matters to investigate include:

- Problematizing what is meant by 'occupation features' and the signature likely to be left by various settlement systems and the ways in which domestic and ceremonial practices were spatially and temporally interwoven in the Stonehenge Landscape

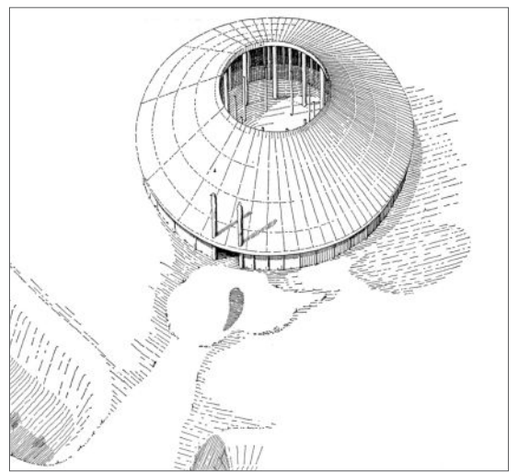


Illustration 85
Reconstruction of the Southern Circle at Durrington Walls in Phase 2. Viewed from the southeast. [*From Wainwright and Longworth 1971, figure 84; drawing and associated research by Chris Musson.*]

- Understanding the nature of posthole structures, their variability, and their interpretation
- Reviewing the nature and content of excavated pits and the preparation of suggestions for the future investigation of such features.

Issue 5: The appearance and later history of Stonehenge

Depictions of Stonehenge with complete rings of stone uprights are based on a series of untested assumptions (Ashbee 1998). There are insufficient stones at the site today to complete the circular settings, but little evidence has been advanced for the systematic robbing or destruction of the site as, for example, is documented at Avebury. Equally, obvious destinations need to be fully checked: use for road-metalling on the adjacent turnpike (now the A344); hardcore to prevent carts and carriages getting bogged down in the seventeenth and eighteenth centuries AD (are the layers of chippings recorded by Hawley and others all working waste or are some broken-up orthostats?); the fabric of local churches and Roman villas; the fabric of Amesbury Abbey; and the rockeries of Wilton. A line of holes made by a stone-breaker's jumper visible in the now supine Slaughter Stone strongly suggests systematic robbing at some period (see Long 1876, 75–8 for early views on the destruction of Stonehenge).

The original position and arrangement of some stones are far from certain, yet are also critical to understanding the appearance and use of the site. A case in point is the so-called Altar Stone in the central area (Burl 2001). What happened at Stonehenge between about 1500 BC and AD 1800 when the first systematic records of the site began to be made represents a big gap in knowledge and one that has very considerable implications for understanding and presenting the earlier periods too. Specific matters to investigate include:

- Position and arrangement of the Altar Stone
- Were the sarsen and bluestone circles ever complete?
- What happened to the missing stones?
- When were the Aubrey Holes dug and what did they contain?What is the date-range and significance of the cremation burials at Stonehenge?What were the Y and Z holes?
- Were there standing stones along the banks of the Avenue as suggested by geophysical survey? Is the sarsen debris scattered across the site only the result of construction activity or is there also debris from stone-breaking?
- How was the site used in later periods?
- How did an Anglo-Saxon inhumation come to be placed within Stonehenge? Was there stone robbing that has so far gone unnoticed?

Issue 6: Carvings, rock art, and the surfaces of the stones

The presence of rock art on the surfaces of some of the stones at Stonehenge was first recognized in 1953, since when the material has been much discussed (Cleal et al. 1995, 30–3). The antiquity of the carvings, mainly axes, is based on stylistic grounds. No detailed full systematic study of the surfaces of the extant stones has been carried out (which must include the tops of the lintels), although some

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latex moulds were made in the 1950s (now seemingly lost) and in 1967 stereometric photography was used (see Cleal et al. 1995, figure 9). Recording could now be done using laser-imaging to create micro-topographic models that can be illuminated from any angle during computer analysis.

One of the key matters is to resolve conflicting interpretations of motifs such as the 'box' (Burl 1997; Scarre 1997); another is to separate out as far as possible the relatively modern graffiti from potentially authentic prehistoric rock art. Knowing its full extent and character is a first step, recognizing that some may have been on the stones before they were brought to Stonehenge. Surface models would also provide a means of monitoring change to the rock surfaces.

The similarity of Stonehenge to the site of Flagstones, Dorset, raises the question of whether there was rock art on the sides of the Stonehenge ditch as there was at Flagstones (Woodward 1988). Indeed it must be queried whether other monuments in the Stonehenge Landscape carry rock art, as seems to be increasingly recognized elsewhere in central southern England.

Issue 7: The linear structures in the Stonehenge Landscape

A great deal of attention has focused on the circular elements of the Stonehenge Landscape, especially the henges and barrows. Also of note are the many linear structures. The Cursus is the most investigated so far, but even here excavation has been minimal and detailed survey almost non-existent (Illustration 86). It is probably the most completely preserved cursus so far known in the British Isles, and was the first to be recognized and so named. Detailed topographic surveys at the Cleaven Dyke, Scotland (Barclay and Maxwell 1998, 27–9), show the complexity of a broadly similar linear structure and the value of such work. Further afield, note may be made of the 'Banqueting Hall' at Tara in Ireland. Geophysical survey would also repay the effort, as shown with the so-called 'Lesser Cursus' (David and Payne 1997, 88) which is probably more at home in the long mound/bank barrow tradition of the Wessex later Neolithic (cf. Bradley 1983). Work at the Stonehenge Avenue suggests that stone settings may be present along the banks, but this has never been tested. The phasing of the Avenue also remains unresolved.

The Palisade Ditch located on the west side of the Avenue and running for over 1km on the northwest side of Stonehenge itself has been sectioned on three occasions (1953, 1967, and 1978). A burial dated to the later Bronze Age was found cut into the top of the ditch in 1967, but the palisade itself is clearly earlier (Cleal et al. 1995, 155–61) and perhaps related to the now widely recognized series of later Neolithic palisaded enclosures from many parts of the British Isles (Gibson 1998b). The Stonehenge Palisade Ditch urgently needs to be dated properly, set within the wider sequence, and traced to determine whether or not it is part of an enclosure. Stonehenge may turn out to be a small structure immediately outside a far more substantial timber-walled enclosure, perhaps analogous to the relationship between Woodhenge and Durrington Walls.

The long barrows within the Stonehenge Landscape have not been studied much in recent years. Many have been damaged by cultivation over the last century or so and their original outline and form obscured. It is clear, however, that there are several different shapes and sizes represented. Within the WHS only two long barrows, Winterbourne Stoke Crossroads and Durrington 42 at the east end of the Cursus, fully deserve that classification; the remaining examples, including perhaps the so-called long mortuary enclosure on Normanton Down, appear to be oval barrows (cf. Drewett 1975, 137–8) but this again needs checking. No details of the internal arrangement of these barrows are known: whether there are stone or wooden chambers, for example. Geophysical surveys could help here, but excavation will ultimately be needed for dating and to determine internal sequences of construction.

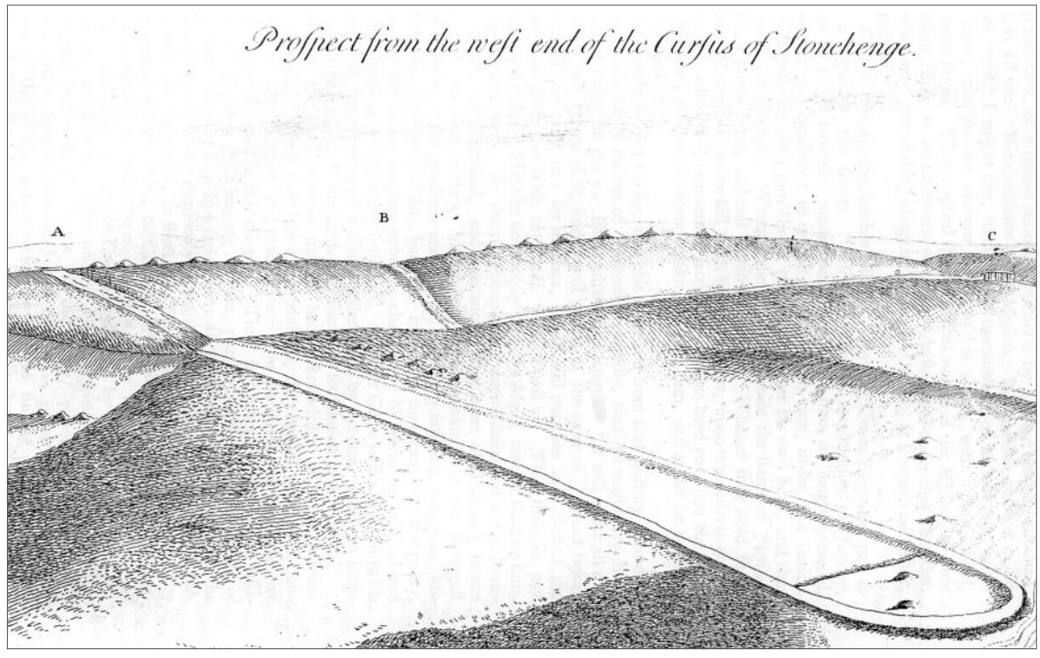


Illustration 86
Stukeley's view of the Cursus in the early eighteenth century. Looking southeastwards towards King Barrow Ridge. Stonehenge is below the letter 'c' towards the right-hand side. [*From Stukeley 1740, Tab. XXX.*]

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Issue 8: Anglo-Saxon Stonehenge and the Christian transition

One of the major advances in recent studies of Stonehenge and its surroundings is the recognition that the Anglo-Saxon presence at the site was rather greater, and perhaps more significant, than previously thought. The seventh-century burial accompanied by possible evidence for a gallows (Pitts 2001b; and see Hinton 1998) together with coins from the area and a fair scatter of Anglo-Saxon pottery suggests that there is more to be found. Other undated features at Stonehenge may indeed prove to belong to this phase. Leslie Grinsell records a number of pagan Saxon burials in the area and there is an intriguing reference to a cemetery on Durrington Down (Grinsell 1957, 66; see above Section 2). A number of recent studies have considered the role and place of prehistoric monuments in the lives of Anglo-Saxon communities (Williams 1998) and it is well known that many such monuments were 'Christianized' in the later first millennium AD (Grinsell 1987). Stonehenge thus provides a highly appropriate case-study for helping to understand this important transitional period when Christianity was replacing earlier, and potentially very deep-rooted ideologies.

SUBJECT-BASED ISSUES

Issue 9: Barrow cemetery evolution, structure, and meaning

The Stonehenge Landscape contains more than 30 clusters of barrows of the sort conventionally referred to as cemeteries. Many have been partly or wholly damaged by agricultural activities with the result that there is not a single undamaged group around Stonehenge. A fair number of barrows have also been excavated, although no cemetery has been completely examined. Little or nothing is known about the flat graves that might be expected between and around the barrows of the major cemeteries. It is, however, clear that cemeteries typically include barrows of different date and form (Grinsell no date; Woodward 2000).

Much reliance has been placed on traditional typologies and classifications of upstanding and recorded monuments, but none has adequately been defined in terms of the number and variety of burials represented, their area and limits, their 'non-monumental' components, and the absolute dating of the constructional sequence and use patterns. Some human remains and cremations do survive in museum collections and could be used as the basis for a dating programme (see Grinsell 1957, 231–8 for a provisional list of cremations). In other cases it is known that their excavators reburied human remains; reopening earlier trenches could easily recover these.

The relationship of the Wessex barrow cemeteries to those found elsewhere in the British Isles is also deserving of attention. Recent surveys of Bodmin Moor, the Dorset Ridgeway, and the Lincolnshire Wolds, for example, provide useful comparanda.

Issue 10: Monumentality, materiality, memory, identity, and the changing landscape

It is widely recognized that the Stonehenge Landscape contains a concentration of monuments the like of which is rare on a European scale. This is often explained as the result of some kind of persistent recognition of the importance or significance of the place. Both these assumptions need to be challenged and tested, and if supported some understanding established of what that importance or draw might have been. Critical in this regard is recognizing when the process of monumentalization began. The presence of postholes dating to around 7500 BC to the northwest of Stonehenge has been cited as being significant (Parker Pearson and Ramilisonina 1998, 323), as too the presence nearby of an ancient and substantial tree (Darvill 1997a, 174–6). Because of the way these features came to light (through excavations connected to management works in 1966 and 1988–9) very little of their context is known (Cleal et al. 1995, 43–56). It is possible that the tree-hole is an incompletely excavated posthole (Cleal et al. 1995, 56) and this needs to be checked next time that the car-park surface is renewed.

One approach is to focus on the idea of 'planning' in the landscape and to see how successive additions were influenced or otherwise by the disposition of the monuments already in place. Critical here is the recognition that some of the animal remains deposited in the ditch at Stonehenge were several centuries older than the monument itself and had presumably been brought from somewhere else. Where might this be? One possible line of inquiry is whether or not a 'bluestone-henge' existed in the area prior to the construction of the Phase 3i structure at Stonehenge itself. The presence of worked stones from a lintelled structure at Stonehenge with no obvious corresponding sockets or pits has long been seen as strong evidence for such a monument either in the locality or in southwest Wales (see Cleal et al. 1995, 207). W E V Young (in 1934) and J F S Stone (in 1947) independently discovered a concentration of bluestone fragments immediately south of the Stonehenge Cursus near to where it enters Fargo Plantation from the east (Stone 1948, 17–18 and figure 4). This may simply be an area where pillars were trimmed and worked before being used at Stonehenge, but equally it may be the remnants of an unknown monument. Geophysical survey and trial excavations may shed light on the question, or at least help explain the apparent concentration of bluestone fragments in the area.

On a broader front, the long-term awareness (right down to the present day) of existing monuments in the landscape affects people's perception and understanding of that place even though the original meaning of some elements may be lost. Through the material expression of ideas that themselves may be hard to gauge, Stonehenge stands at the core of many different identities. Some will never be known, but in the modern world the monument is just as much a symbol of antiquity for professional archaeologists as it is for followers of New Age thinking. A relatively narrow and simple question – why is Stonehenge where it is? – allows a very broad and complicated theme about the meaning of monuments to be explored in a way that resonates with research issues for monuments in the Heart of Neolithic Orkney World Heritage Site (Downes et al. 2002, part 3). Specific matters to investigate include:

- What was the cultural context of the area before Stonehenge?
- How were Stonehenge and surrounding monuments reused/resignificated in later times?
- What is the nature of the tree-hole found in the Stonehenge car-park in 1966?

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- What is the date of the hollows/scoops below barrow Winterbourne Stoke 30 and the bank at Woodhenge and might these be representative of the first 'monuments' in the area?

Issue 11: Sacred shapes, forms, and intervisibility

The shape and form of Stonehenge itself, and all the other monuments in the Stonehenge Landscape too, were deliberately constructed and are likely to embody a range of meanings in their position, shape and form, orientation, and the materials used in their construction. Aspects of these possibilities have already attracted attention and have led to new ways of viewing the sites (Darvill 1997a; Whittle 1997a; Parker Pearson and Ramilisonina 1998; Pollard and Ruggles 2001). The intervisibility of monuments has also begun to be explored using the capabilities of GIS (Batchelor 1997). There is far more to do on this theme, not least drawing in anthropological models to provide new insights into the way things might have been treated.

As it is often perceived, the Stonehenge Landscape tends to be constrained by the better preservation of monuments west of the River Avon. There are, however, fair numbers of barrows east of the Avon and these should perhaps be brought into the picture even though less visible. The Stonehenge Management Plan calls for a research-driven review of the boundaries of the World Heritage Site (English Heritage 2000, 4.4.17) and a preliminary to this would be a systematic review of representation of monuments east of the Avon and west of the Till.

Issue 12: The social use of space

Considerable attention has been given to the reconstruction of the physical environment (although there is still more to do here), rather less to the way societies treated and used space. This is probably critical to understanding questions about the role and purpose not only of Stonehenge but also

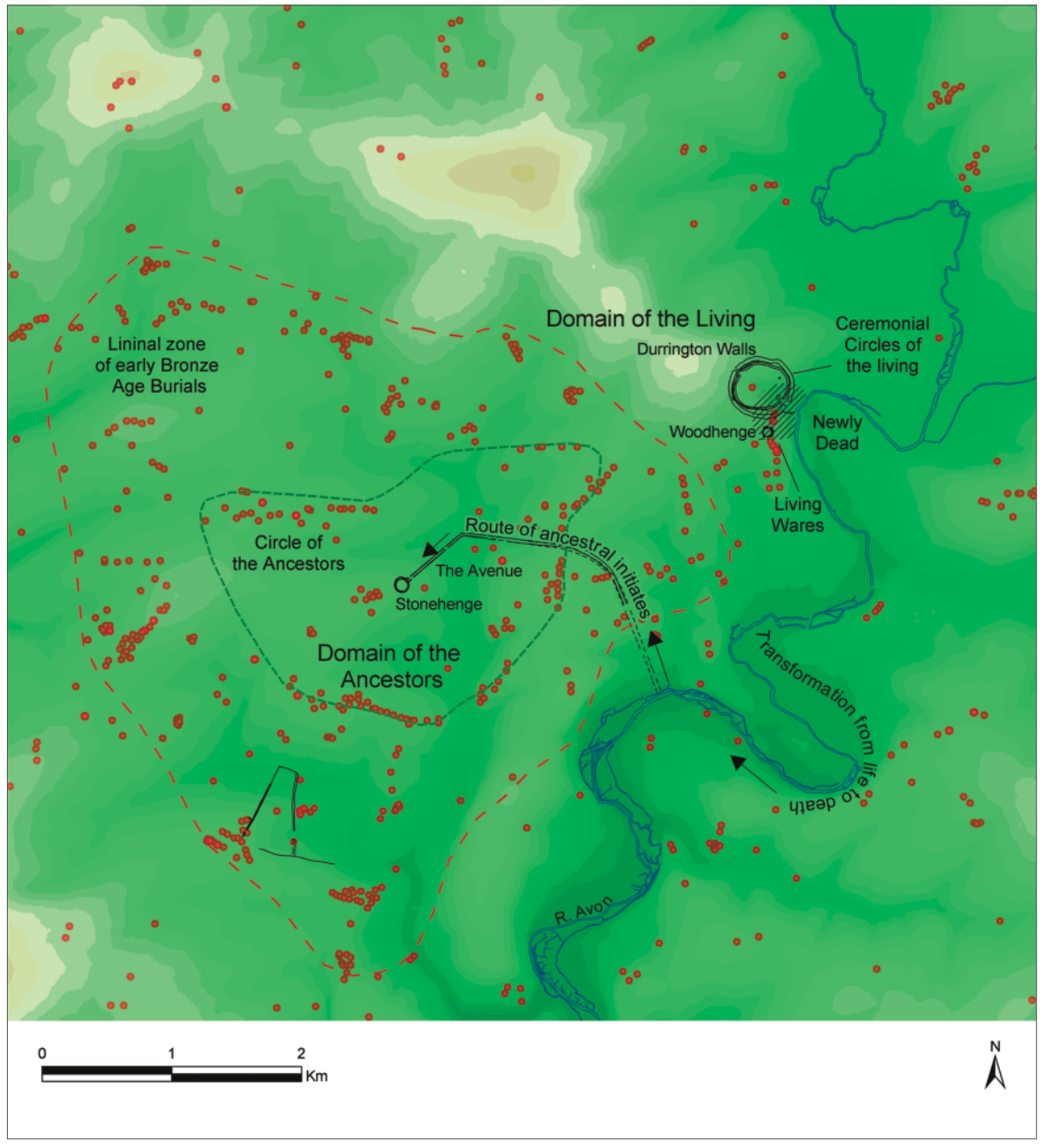


Illustration 87
A model of the social use of space around Stonehenge. [*After Parker Pearson and Ramilisonina 1998, figure 7.*]

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of all the other sites around about. It cannot be assumed to be static, and the processes by which one society regards space in the light of its own heritage is itself a matter of general interest that work within the Stonehenge Landscape may shed light on (Illustration 87).

Distributions of a vast range of archaeological material need to be reviewed: one example is the spread of rich Wessex-style graves which, looked at regionally, cluster east of the Avon rather than around Stonehenge itself (see Cunliffe 1993, figure 3.16 for a useful summary map). Scale is important here, as the way space was regarded may well find expression at the small scale within individual sites and structures as well as across larger expanses (cf. Pollard and Ruggles 2001; Darvill 1997a, 173). Specific matters to investigate include:

- Why do so few barrows occur immediately around Stonehenge itself?
- Where are the cemeteries and associated settlements of Roman, Anglo-Saxon, and medieval times?

Issue 13: Rivers, valleys, and water

Although the chalk downlands have long been the centre of archaeological interest, the Stonehenge Landscape contains two main river valleys running broadly north to south: the Till to the west and the Avon to the east (Illustration 88). The Avon in particular runs close to a number of key monuments including Durrington Walls (with its southeast entrance opening to the river), Woodhenge, Vespasian's Camp, and Ogbury. Long known as the focus of medieval and later settlements, the valley has hardly been explored in terms of its place in the prehistoric settlement system. The Stonehenge Avenue connected Stonehenge with the Avon. The Avon is also widely believed to have played a role in the transportation of the Bluestones to Stonehenge whether by the northern route along the Bristol Avon/River Wylye/Wiltshire Avon route or by the southern route using the Hampshire Avon/Wiltshire Avon (Atkinson 1979, 107).

Darvill (1997a, 179) has proposed that Phase 1 of Stonehenge is a microcosm of the wider landscape,with the flow of the river represented in the position of the main entrances into the enclosure. Parker Pearson and Ramilisonina (1998, 318) suggest that the river links the domain of the living with the domain of the ancestors, journeys along it representing the transformation from life to death. The role of the Stonehenge Cursus crossing the interfluve between the Avon and the Till may also be relevant.

What are now seasonal watercourses or dry valleys deserve some further investigation as part of the need to examine the overall topography of the prehistoric landscape. Some may well have been more conspicuous and perhaps also more significant features in early times. It is notable, for example, that Stonehenge Bottom connects with the Avon Valley and may at one time have been a feeder tributary or even a former river-course. The fact that the Stonehenge Avenue runs into Stonehenge Bottom on its first leg before running over King Barrow Ridge to join the Avon may be worthy of further investigation.

Sherratt (1996b) has drawn attention to possible connections between all the various river Avons in southern Britain, suggesting that they were considered as one in ancient times: 'The River'. Coles (1994) has shown that other river systems in southern England might also be regarded as transportation routes.



Illustration 88
River Avon north of Amesbury. [*Photograph: Timothy Darvill. Copyright reserved.*]

Specific matters to investigate for this issue include:

- The nature and extent of alluvium in the Avon Valley; river regimes and water heights in the past
- The extent and date of peat sequences in the Avon Valley north of Amesbury
- The nature and extent of buried land surfaces in the river valley
- The possibility of waterfronts adjacent to established monuments (this problem is already being pursued by Mike Parker Pearson for Durrington Walls)
- The history and early status of Stonehenge Bottom as a permanent or seasonal watercourse and its relationship to the Avenue.

Issue 14: Materials, resources, and the origins of structural components and objects in the Stonehenge Landscape

Much attention has focused on the source of the Bluestones at Stonehenge and elsewhere, and the means by which they may have been moved. While it is universally recognized that the Preseli Hills of southwest Wales represent the source area, the identity of the actual outcrops exploited remains far from clear. Even the definition of the main petrologically identified rock-types and the ascription of particular artefacts to them have got into a mess. And there are many other kinds of material from archaeological contexts whose origins deserve to be more closely examined.

The sarsen stones at Stonehenge have traditionally been assumed to derive from the Avebury area, but this has not been scientifically demonstrated through characterization studies. Investigations of stone from the 1979–80 excavations around the Heel Stone by Hillary Howard suggested that not all the sarsen came from the Marlborough Downs; the only other likely source is east Kent where builders of the Neolithic Medway tombs used sarsen but this has not been followed up.

There is much more work to be done on the sources of ceramics, stone objects, and metal objects, and perhaps on the movement patterns of human beings buried around Stonehenge. Scientific methods of characterization and analysis provide new ways of exploring the materials represented in structures and objects.

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Issue 15: Astronomy, attitudes, the idea of sacred spaces, and cosmology

The existence of astronomical alignments within the structure of Stonehenge and other monuments in the area (including Woodhenge) has been a recurrent theme of many descriptions and is an assumed element of many interpretations. The nature of these alignments has been the subject of investigation over the last century or so (Lockyer 1909; Atkinson 1978; Hawkins 1989; Ruggles 1997), and some can be supported by the design and architecture of the monuments. In particular, the analysis of a survey of the Station Stones (Atkinson 1978; Hawkins 1989) has been germane, and further accurate on-site measurements should be made, including the gaps in the trilithons. There have been important shifts in the perception of such alignments away from the back-projection of twentieth-century precision astronomy and descriptive geometries towards more realistic views of how alignments may be embedded in prehistoric structures.

One remaining matter is the widespread imposition of binary oppositions onto the archaeological material and the need to break down inappropriate oppositions (e.g. settlement :: ritual site/ritual landscape :: secular landscape). Patterns of deposition and cosmology will be found not only in architecture, but also in the nature, use, and deposition of artefacts (Darvill 1997a; Pollard and Ruggles 2001). There has for a long time been a focus on Stonehenge, but what of the other structures and sites in the area such as Coneybury and Durrington Walls?

The archaeology of significated places is also a theme that deserves to be explored. Examples include places of high visibility, or the focus of attention from within established monuments: what was on the skyline at the point where the midsummer sun rises when viewed from within Stonehenge?

Issue 16: Fieldsystems and the early agricultural landscape

In 1957, Grinsell listed all the recorded ancient fieldsystems in Wiltshire as essentially Iron Age in date, following conventional wisdom at the time (Grinsell 1957, 272–9). It is now known that fieldsystems are of many different types and of various dates from the later Neolithic through the Roman period (Fowler 1983, 94–119; Fowler and Blackwell 1998, 42–56). The evidence of aerial photography in the Stonehenge Landscape has revealed more than a dozen main blocks of fieldsystem; on morphological grounds there are several types represented and these deserve to be examined and characterized.

Such fieldsystems are notoriously difficult to date, but that should not prevent carefully targeted investigations. The temptation to date the construction and use of the fieldsystems by the dominant material spatially associated with them through surface recovery is to be avoided as such material could potentially relate to a period in history when manuring took place or cultivation has scattered earlier or later cultural material. Some investigation of the nature of the various assemblages recovered from fieldwalking in terms of the depositional characteristics of the material might help identify different sources.

The evolution of the fieldsystems is also important. Excavations elsewhere suggest that many have long histories consequent on the major investment in landscape organization that they represent. Are those in the Stonehenge Landscape which appear to be Bronze Age actually late Neolithic in origin?

Issue 17: Landscape evolution and design

The modern landscape is a complicated palimpsest built up since early prehistoric times. There are a number of major gaps in the overall understanding of how things have changed over time.

The early prehistoric landscape, mainly the immediate post-glacial and Mesolithic periods (10,000–5,000 BC), is very poorly understood in terms of both its physical and environmental form (including topography, geomorphology, and appearance), and its cultural components such as the disposition and intensity of occupation. The importance of more fully understanding this phase of the landscape is the increasing recognition of its importance in setting the scene and perhaps providing the impetus for the extraordinary range and density of sites and structures that characterize the rather better-known landscape of the Neolithic and the Bronze Age.

The first millennium BC and first millennium AD are periods for which detailed knowledge is sparse. The role of major monuments such as Vespasian's Camp in relation to nearby sites such as Yarnbury and Ogbury needs to be explored. In some cases the Stonehenge Landscape may be too small an area for meaningful analysis.

Much of what is visible in the World Heritage Site today is the result of post-Roman activities and especially recent land management policies by the principal landowners, the National Trust and the Ministry of Defence. Embedded in the modern structure of the landscape are many ancient features, as Bonney (1976) showed with reference to the Winterbourne Stoke/Wilsford cum Lake parish boundary which utilizes the alignment of the Winterbourne Stoke linear barrow cemetery and the Monarch of the Plain barrow. The relatively modern needs to be separated out from the potentially ancient.

Post-medieval landscape design has not been explored in much detail within the Stonehenge Landscape, yet is potentially rather important and illuminates many of the lines of inquiry currently being tackled elsewhere (Williamson 1995). This is well demonstrated by the expansion of Amesbury Abbey Park in the eighteenth century AD with the creation of the grotto (Gay's Cave, with its 'civilized' classical form emerging from the vermiculated rough stone) and the distant rides through Vespasian's Camp to a distant view of the ultimate romantic ruin in the form of the 'druidical' Stonehenge.

Unpicking such a palimpsest requires great care and the use of multiple sources, especially for the medieval and later periods (cartography, historical documents, estate records, aerial photographs, oral history etc.). The GIS-based mapping already available at English Heritage provides a solid starting point and could be developed to provide a map-regression analysis of the landscape. This will be especially important in relation to:

- The physical and cultural landscape of early prehistory
- The landscape of the first millennium BC and first millennium AD
- The development of the medieval landscape and the Hundred of Underditch
- The Enclosure of the area (building here on the RCHM 1979, xv–xxiv work)

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- The emparkment of some areas (especially around Amesbury)
- The impact of successive phases of military training
- Mapping and fully documenting the historic buildings in the Stonehenge Landscape.

CONTEXTUAL AND INTERPRETATIVE ISSUES

Issue 18: The relationship between physical access, experience, and people's sense of place

Physical access to the Stonehenge Landscape is currently structured by existing roads, pathways, entrances, exits, and boundaries (Illustration 89). How do these relate to known patterns in the sub-division of space in the past? How does the modern experience of space relate to former experiences? How can movement and experience be modelled? To what extent are place-names a reflection upon how the historic landscape has been perceived through the ages?

Issue 19: The robustness of assumed knowledge based on earlier investigations

More than three-quarters of archaeological work in the Stonehenge Landscape was done in the nineteenth century and early twentieth century before the availability of techniques such as radiocarbon dating, soil analysis, and environmental sampling. Many of the things we think we know about Stonehenge and other monuments around about we don't actually know at all; even though many have become 'facts' and major planks in the support of general arguments and interpretations.

Much has been achieved through the reanalysis and study of early archives and reports on this work, but it is not always clear exactly what antiquarian excavators mean when they report particular observations. Reinterpretation is sometimes possible, but in many cases this simply raises possibilities that deserve to be checked. Work at the Sanctuary near Avebury (Pitts 2001a) shows how much can be achieved through the careful re-examination of antiquarian excavations. Indeed, the Council for British Archaeology recommended the re-excavation of barrows unscientifically dug in the past in their 1948 field research policy document (CBA 1948, 92), a proposal that was considered to apply when Paul Ashbee re-excavated Amesbury Barrow 51 in 1960 and found that William Cunnington's excavation for Sir Richard Colt Hoare in 1805 had in fact done relatively little damage (Ashbee 1976).



Illustration 89
Pathways and signing around Stonehenge. Looking westwards along the line of the Cursus. [*Photograph: Timothy Darvill. Copyright reserved.*]

This issue is essentially a contextual one, involving a large number of site-specific questions. For Stonehenge:

- Do the timber structures (Phase 2) really pre-date the first stone phase (Phase 3)?
- Do we really know what the stone phase of the monument looked like? Was there another stone circle around the inside edge of the bank of which only the two Station Stones now remain?
- What date are the Station Stones?
- Are the lines of postholes in Phase 2 part of a timber avenue?
- What is the relationship of the Heel Stone and Stone 97 with the central settings?
- What was the function of the Aubrey Holes?
- When were the 'barrow' ditches around two of the Station Stones and the Heel Stone dug?
- Can any of the numerous undated features be identified as part of an earlier (pre-Phase 1) monument?

For the Stonehenge car-park:

- Are the postholes discovered so far isolated structures or are they part of a larger entity?

For Bush Barrow:

- Was the adult male inhumation associated with the well-known set of rich grave goods excavated by William Cunnington in 1808 really the primary grave?

Issue 20: Understanding and using the artefacts and ecofacts from the Stonehenge Landscape

The 700 plus investigations in the Stonehenge Landscape over the past three centuries have yielded a vast collection of artefactual and ecofactual material. This is widely scattered amongst local and national museums. Some material that was excavated in the nineteenth century is known to have been reburied at its place of discovery and could, if exhumed, provide major new collections. Some artefactual material has been well catalogued and described (e.g. Annable and Simpson 1964) and there have been a number of studies of particular classes of material, often in the context of geographically broader reviews. Site-based studies of excavated assemblages are available for more recent excavations. There is no general corpus of excavated artefacts from the Stonehenge Landscape (although a listing and concordance of material from excavated barrows is awaiting publication), and major groups of material, such as later prehistoric pottery, flintwork, and stone objects, have never been adequately surveyed. Technical investigations of extant artefacts, such as the study of use-wear patterns, breakage, and fragmentation, is urgently needed. In the case of human remains there is scope for biomolecular studies, such as DNA characterization.

There is much scope for the reanalysis of faunal remains from early excavations within the Stonehenge Landscape and for looking at the wider social questions that these remains raise. A starting point is provided by the work of Albarella and Serjeantson (2002) who re-examined the exceptionally large and well-preserved collection of animal bones from the 1967-8 excavations at Durrington Walls.

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They had not previously been washed, and cleaning them revealed that some contained tiny splinters of flint, perhaps the tips of arrowheads. The new study also showed evidence for the large-scale slaughter of domesticated young pigs, the use of distinctive and simple butchery practices, roasting the butchered meat on fires, and consuming the meat and bone marrow together.

Much of this work involves thematic studies whose execution involves looking inside the Stonehenge Landscape and outside it to other parts of the Stonehenge World.

Issue 21: The meaning and utility of traditional monument classifications

Early work in the Stonehenge Landscape was instrumental in defining the categories used for the classification of archaeological monuments. In some cases these have been expanded and applied to other parts of Britain with little critical review of their utility. Amongst the most significant such classifications are those relating to barrows. Since Stonehenge is in some senses the homeland of these classifications it would be appropriate to revisit them and deploy modern methods of investigation as well as new approaches to classification and taxonomy in order to consider the coherence and integrity of these traditional systems. Specific matters to investigate include:

- Long barrows: their structure, internal arrangement and relationship to regional groupings
- Oval barrows: the extent to which they can be separated out as a distinctive class
- Fancy barrows: the integrity of the grouping and the distinctiveness of the typical component forms (e.g. bell barrow, disc barrow, saucer barrow, pond barrow etc.).

Issue 22: Contemporaneity and the relationships between monuments at the landscape, regional, and world scale

Although Stonehenge is unique in terms of some of its structures and the particular succession of structures on the same site over a period of more than 2000 years it is also very much part of a tradition of late Neolithic and early Bronze Age ceremonial centres. Examples are known at intervals of roughly 40km across much of the British Isles. In Wessex they include: Avebury (Wiltshire), Dorchester on Thames (Oxfordshire), Dorchester (Dorset), Knowlton (Dorset), and Priddy (Somerset). Most contain a selection of monuments drawn from a wider repertoire such that not every centre has the same set; all have common elements. Such a pattern has been used by Colin Renfrew (1973a) to look at social change (and see also Ashbee 1978b, 83 and 101).

Accessibility may have been a key element to the positioning and distribution of these centres and associated monuments. In the wider Stonehenge world there are similar sites around Newgrange in the Boyne Valley of Ireland, Mainland Orkney, and Carnac in Brittany. Each is separated by a degree of physical distance, but there are major questions also about the social distance between centres – questions of identity and territory – and whether there are lesser-order centres of some kind in between.

On a wider scale still, there is the question of how the architecture of Stonehenge 3 fits into the contemporary traditions found in other parts of Europe.

Issue 23: Filling the gaps and understanding distributions

A considerable amount of survey work has been done around Stonehenge, much of it methodologically tied to the prevailing land-use regimes. Thus, south of the Packway, most work has concentrated on fieldwalking and the recovery of material from cultivated land; north of the Packway there is very little opportunity for such work, and instead the focus has been on topographic survey and earthwork plotting. Combining earthwork evidence and cropmark evidence visible on aerial photographs provides one means of developing broader overviews even though the nature of the data on which such plots are based is variable. Aerial photographs do not, however, give total coverage of relevant archaeological features. Small features such as graves and pits are poorly represented and need to be sought by other means.

The use of other techniques which would serve to link existing surveys, provide consistent data over broader areas, and fill physical gaps in existing data sets with comparable data is possible. The use of test-pits to quantify topsoil content where fieldwalking is impractical is one possibility whose potential has been demonstrated. Further extensive geophysical and geochemical surveys would provide another layer of distributional information.

Some comparative studies drawing in other areas of southern Britain would provide a more secure understanding, in absolute and relative terms, of the distributional data available. Many of the approaches applied here can be non-destructive or involve only minimal intervention. Taking the broad view there is also work to be done on understanding why preservation is apparently so different in different parts of the landscape, and what the implications of this are for interpreting what is already known and targeting future work. One critical question of wider interest, but potentially answerable with data from the Stonehenge Landscape, concerns understanding the meaning and interpretation of flint scatters and some understanding of their variability.

Issue 24: Populating the record for post-Roman studies

While the importance of understanding the post-Roman landscape is widely recognized and frequently acknowledged, the database from which to work on these matters is generally inadequate. The ability to draw on sources of evidence such as place-names, documentary sources, cartographic evidence, legal instruments, distributions of stray finds and, for the most recent periods, oral histories, provides a rather different complexion to the essential research resource. There is an urgent need to integrate these traditional sources for post-Roman archaeological studies with the existing database which focuses on the kinds of data most relevant to prehistoric archaeology.

Much of the conventional archaeological data for the post-Roman period has accumulated as the incidental outcome of work focused on other matters. Surveys of the area with more explicitly defined objectives in relation to later periods (e.g. historic buildings) provide an obvious means of redressing the balance. Specific matters to investigate include:

- Where are the later first-millennium BC cemeteries and burial places?

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- Is it possible to find cartographic and physical evidence of early medieval boundaries and territorial units?
- Which modern settlements were established in early medieval times?

Issue 25: Environment and change to the physical landscape

It is well known that the Stonehenge Landscape visible today is a relatively modern creation. Major advances have been made in the understanding of earlier environments, and a set of predictive models built up from available local sequences (Allen 1997). Many questions remain, however, on a site-by-site basis and with the Stonehenge Landscape as a whole. The need to provide this was well recognized in the Stonehenge Management Plan (English Heritage 2000, 4.7.6). The basic issue here is how people in the past intentionally or unintentionally transformed, modified, or changed the physical landscape either independently or in response to more deep-seated cycles, trends, or catastrophes. Various models are available to assist in exploring these matters: progressive change; punctuated equilibrium; global catastrophe events; and so on. Resolving this issue will involve rather wider considerations than might be found solely within the Stonehenge Landscape, although locally important matters include:

- When was the post-glacial woodland cover cleared?
- What was the make-up and extent of the woodland cover during the third and fourth millennia BC?
- Was grassland ubiquitous or were monuments mainly only built in grassland areas in the Neolithic and Bronze Age?
- What happened to the rich soils of the untamed wildwood?

Issue 26: The hidden landscapes

The rolling downland and incised river valleys of the Stonehenge Landscape provide a number of situations for the preservation of early land surfaces below more recent layers of colluvium. Sampling to date in areas such as Stonehenge Bottom shows that the accumulation and movement of mantle-deposits is complicated and not easily predicted. Deeper cover-deposits are, however, known along the Avon (Illustration 90). A systematic programme of modelling local site formation processes and the movement of soil and sediment in the environment would provide a major interpretative filter on distributional data, and explain at least some gaps in the current spread of site data.

Another major source of information about early landscapes is the buried soils sealed by structures such as barrows and ramparts. Many of these may be accessible using the holes excavated by nineteenth-century investigations. The extent of later Neolithic land surface sealed beneath the many hundreds of early Bronze Age barrows is probably one of the most important archaeological resources in the British Isles.

Issue 27: The missing slices of time

The Stonehenge Landscape is best known for the archaeology of the 'Age of Stonehenge'. Very little is known about major slices of time either side of the later Neolithic and early Bronze Age, and yet these are very much part of the Stonehenge story. Especially poorly known is the archaeology (in conventional cultural-historical periods) of the:

- Later Mesolithic
- Later Bronze Age
- Iron Age
- Roman
- Anglo-Saxon
- Medieval
- Post-medieval
- Modern.



Illustration 90
Test-pit excavated through floodplain deposits beside the River Avon near Amesbury. Dark organic-rich sediments can be seen at the bottom of the cutting with a series of surfaces and make-up above. [*Photograph: Timothy Darvill. Copyright reserved.*]

Issue 28: Chronology and dating the undated

Telling a good story about Stonehenge and its landscape requires a clear and full understanding of the dating of sites in terms of their internal sequence (order, duration etc.) and the contemporaneity of particular elements with phases or horizons at other sites both near and far. The extensive series of radiocarbon dates for Stonehenge itself has radically changed views on the development and relationships of that structure. There are also likely to be some surprises, as the dating of the isolated burial at Stonehenge to the seventh century AD shows (Pitts 2001b). Few other sites in the area are as well dated, and many are simply not dated or are assigned to broad phases on the basis of form or assemblages of artefacts excavated in the nineteenth century. The need to provide a more robust and extensive framework for all periods was well recognized in the Stonehenge Management Plan (English Heritage 2000, 4.7.6). Opportunities to redress the balance are provided by the absolute dating of human remains and objects, or the recovery of new samples from graves, pits, ditches, or old land surface through the reopening of previous excavations.

Aerial photography, fieldwalking, and surface survey have revealed a great many archaeological sites and scatters of material, many of which are undated. From flint scatters to cropmarks suggesting the presence of plough-levelled ditched enclosures, the majority of material cannot be fitted into robust synchronic views of the landscape at a particular time or the sequence of changes viewed over the long term.

Some material is conveniently used to fit particular models or views of the landscape without much recognition of the uncertainties over the chronological position of the material in question. This expanse of recorded archaeology needs making useful in terms of its contribution to the Stonehenge story by selective excavation to confirm its existence (or former existence), and, where possible,

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provide a date. Only in this way can reasonable sampling schemes be developed to investigate the archaeology of particular periods or regions.

MANAGEMENT-BASED ISSUES

Issue 29: Erosion and rates of change

The Stonehenge Landscape is one of the most intensively managed for archaeological objectives in England. As such it therefore provides an opportunity to monitor monument decay processes over long periods and match the patterns recorded against a detailed knowledge of land-use practices, weather conditions, visitor attention, and other factors that have been recognized as potentially significant for the preservation and conservation of sites. Woodland, pasture, and arable land provide three key starting points for such monitoring, although benchmark studies of a sample of monuments in each will be needed as the starting point. Changes to the surfaces of the stones at Stonehenge itself could be monitored through a rock art recording programme (see above). The need to provide research-based information about the condition of sites and monuments within the World Heritage Sites was well recognized in the Stonehenge Management Plan (English Heritage 2000, 4.4.18–19)

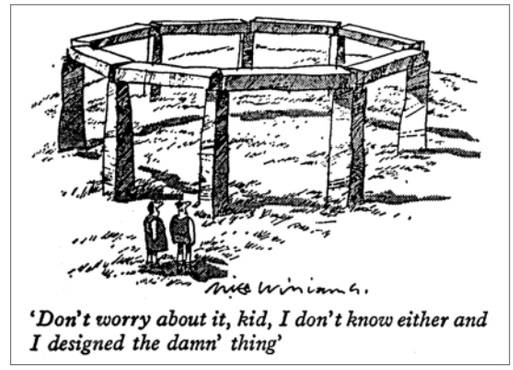
Issue 30: Publishing the outstanding investigations in the Stonehenge Landscape

The publication in 1995 of the twentieth-century excavations at Stonehenge and monuments closely associated with it made accessible a vast body of data that had previously been hidden in unpublished archives and records (Cleal et al. 1995). In the last decade of the twentieth century a great deal of work was carried out in the Stonehenge World Heritage Site in connection with the evaluation of possible sites for the proposed new visitor centre and road corridors for access tracks and the much trumpeted upgrading of the A303. Many of these studies were field evaluations of various kinds involving targeted trenching, surface collection, test-pitting, and extensive geophysical surveys. Some property development within the World Heritage Site also took place. It is also known that there are a few unpublished excavations of barrows and other features in the landscape from the 1960s. In future the publication of archaeological work is likely to be more closely phased with the planning process and the completion of mitigation works. Specific matters to investigate include:

- Draw together and publish investigations connected with the Stonehenge Conservation and Management Programme (principally the road schemes and visitor centre schemes)
- Publish outstanding developer-assisted evaluation and mitigation work from the Stonehenge Landscape
- Publish the results of the remaining 1950s, 1960s, and 1970s excavations in the Stonehenge Landscape.

Issue 31: Shaping popular perceptions

There are many stories, myths, legends, and popular perceptions about both ancient and modern aspects of the Stonehenge Landscape. They are documented since at least the time of Geoffrey of Monmouth and are reflected in many



'Don't worry about it, kid, I don't know either and I designed the damn' thing'

aspects of popular culture through recent centuries: literature, poetry, music, painting, drawing, and most recently advertising and product endorsement. How such things have influenced people's perception of Stonehenge and its landscape is not fully known. Equally, the seemingly endless discussions about the future placement of visitor facilities and the controversy surrounding plans for road improvements impact on shared and individual perceptions of the site and its surroundings: well evident in the level of press coverage and the number of cartoons based on particular readings of the issues (Illustration 91).

The influence of popular perceptions on visitor interest and the levels of expectation that visitors have are major components relevant to visitor management and the presentation of the site and its surroundings.

Issue 32: The human experience of the research process

How does archaeological knowledge of the Stonehenge Landscape get from the hole in the ground to the words on a signboard? Visitors to the World Heritage Site have a general interest in all stages of that process. There are questions of control and the politics of the way knowledge is created. Most people visiting the area have questions in their minds (some are those set out here) and are interested in the process of resolving them. How has knowledge of the site and the landscape changed? Is it any better now than 100 years ago? It is often said that the best thing about Stonehenge from the visitor's perspective is the 'mystery' element; can that thrill of uncertainty be harnessed?

Issue 33: Linking research and site management

It is well established that research leads to discoveries which in turn influence the ways in which land managers tackle fundamental issues such as access, land-use, conservation, interpretation, development control, and the need for further investigation and fieldwork. At one level this requires co-ordination, but the relationship is a two-way one as there are also numerous opportunities for research that arise through management works. Nor do all management works within the landscape arise from archaeological management; there are other interests too and many stewards of other physical and economic resources. The spotlight tends to fall on large-scale management operations, themselves often controversial, such as road-improvement schemes. There are many other

Illustration 91
Stonehenge in contemporary humour. A cartoon that appeared in the *London Evening Standard* on 17 November 1969. [*Reproduced courtesy of Express Newspapers.*]

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situations, far less visible and rarely controversial, where management works and research opportunities can be fitted together.

Issue 34: Restoration and access

A major component of management works within the Stonehenge World Heritage Site concerns the restoration or establishment of appropriate land-use regimes, the creation of vistas and views, and the provision of routes and pathways through the landscape. The viability and authenticity of these are major concerns. Specific matters to investigate include:

- Which views into, across, and out from the Stonehenge WHS should be restored or enhanced?
- What were the prehistoric, Roman, medieval, and post-medieval routeways through the Stonehenge Landscape and which ones is it appropriate to use today?
- How did the prehistoric and later landscape look in terms of the balance between grassland/arable land/tree cover/shrub growth/animal populations?

Issue 35: Importance and vulnerability

The Stonehenge World Heritage Site and its surroundings contain a lot of very diverse archaeological monuments, remains, and deposits. Not all of it is necessarily of the same archaeological importance, nor can the significance of sites or areas be judged simply on the basis of visibility or size. Vulnerability to a range of anticipated threats also needs to be considered – visitor use, stock grazing, planting patterns, and so on. Specific matters to investigate include:

- Which are the most important and significant sites, areas, or deposits within the Stonehenge World Heritage Site and the Stonehenge Landscape?
- Which are the most vulnerable kinds of sites, areas, and deposits?
- Which monuments or structures could usefully be enhanced? And what is the best way of doing that?

Issue 36: Co-ordination, interpretation, and recording

The process of carrying out research in the Stonehenge Landscape potentially involves many individuals and organizations; indeed this is already the case. The sharing of results, information, and resources potentially enriches the overall research endeavour. One of the suggestions made in the Stonehenge Management Plan is for the creation of an archaeological research group of some kind (English Heritage 2000, 4.7.3).

A physical resource through which research can be facilitated is also lacking at Stonehenge. Such a facility might not only provide a local base from which work could be co-ordinated, but also provide a setting for the public display of recent findings and a guide to ongoing work. One of the suggestions made in the Stonehenge Management Plan is for the creation of a research facility at the proposed new visitor centre site (English Heritage 2000, 4.7.5 and 4.7.8).

The present Stonehenge Landscape GIS maintained by English Heritage provides a substantial integrated record of archaeological interventions, sites, and monuments. As a tool to capture and present the vast body of data that has accumulated over the last 300 years or more it works well. Looking ahead, however, the nature of the data that will be generated through future fieldwork programmes is likely to be far more complicated in its structure and able to be used in far more sophisticated ways through combining data sets and using immersive digital technologies in the field and for visualization exercises for academic research and public display. Integrative approaches to diverse data sets such as have already been developed by the Stonehenge Landscapes Project (Exon et al. 2000) are an important first step in the greater use of digital technology.

Issue 37: What was it like to dig at Stonehenge?

It is more than 50 years since substantial excavations have taken place at Stonehenge, and more than two decades since the last small-scale excavations. What was it like carrying out these high-profile investigations? How did the teams interact? What was the gossip about? And what can we understand about the work from contemporary observations?

All of the archaeologists responsible for the early twentieth-century excavations are now dead – Richard Atkinson, Stuart Piggott, Marcus Stone – and it is well known that the records they made of their work were less than fulsome. Some of the students and volunteers who worked with these people are, however, still alive and no doubt have recollections of what was done that would be worth collecting together as an oral history archive. Equally, most of those who excavated at Stonehenge in the later twentieth century are still alive and might also contribute to such an archive. Because Stonehenge is such a high-profile visitor attraction there is also scope for collecting together any photographs or cine-film that members of the visiting public may have taken of the excavations in progress. Another strand of inquiry would be the archives of the BBC, ITV and local radio stations in southern England; numerous programmes have been broadcast about Stonehenge and in some cases additional unused material may also exist.

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section 4

Research Strategy

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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,

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Objective		Links to main issues	Other related Issues	Priority
The BIG Questions				
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
Stonehenge and related monuments				
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
Landscape and regional objectives				
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
Integrating monuments and landscapes				
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
Research infrastructure				
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).

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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 undertaken a baseline survey of the condition of recorded earthwork monuments within the

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

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

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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

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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.

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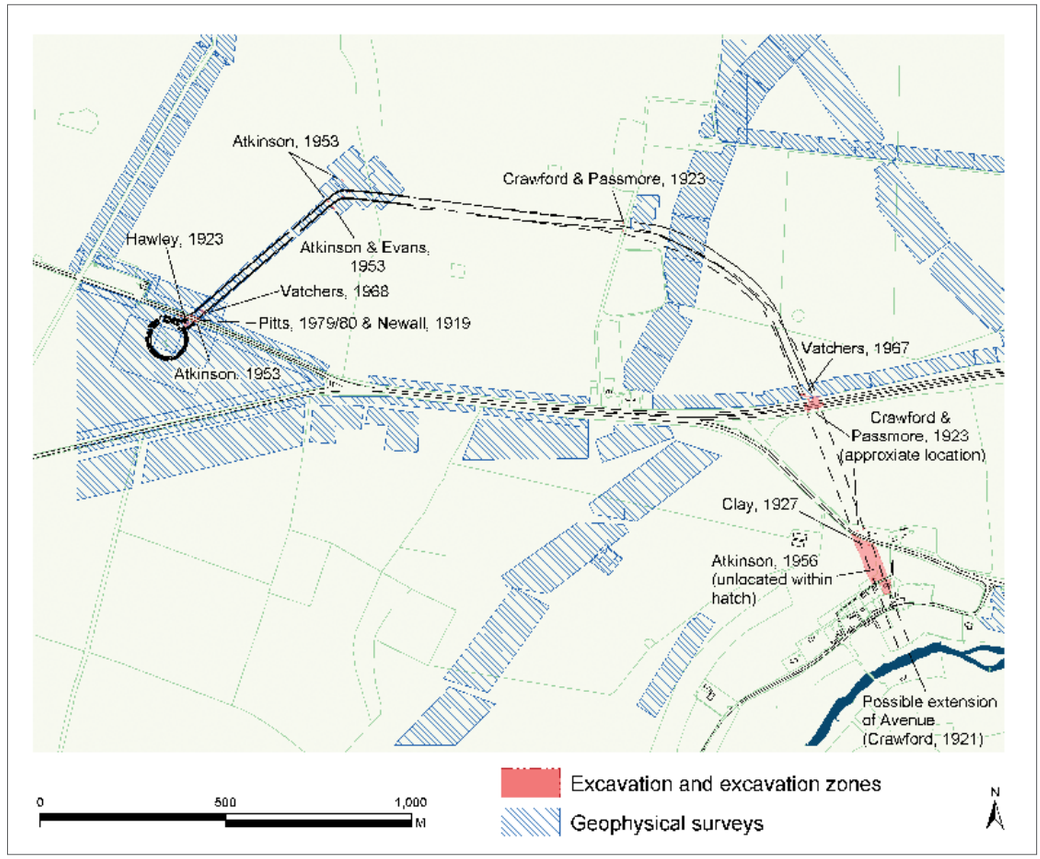


Illustration 93
Geophysical surveys and excavations along the Avenue. [*Based on Cleal* et al. *1995, Plan 3, with additions.*]

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

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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

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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.



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.*]

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

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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.



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.*]

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

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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.*]

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

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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.



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

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

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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.

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).



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

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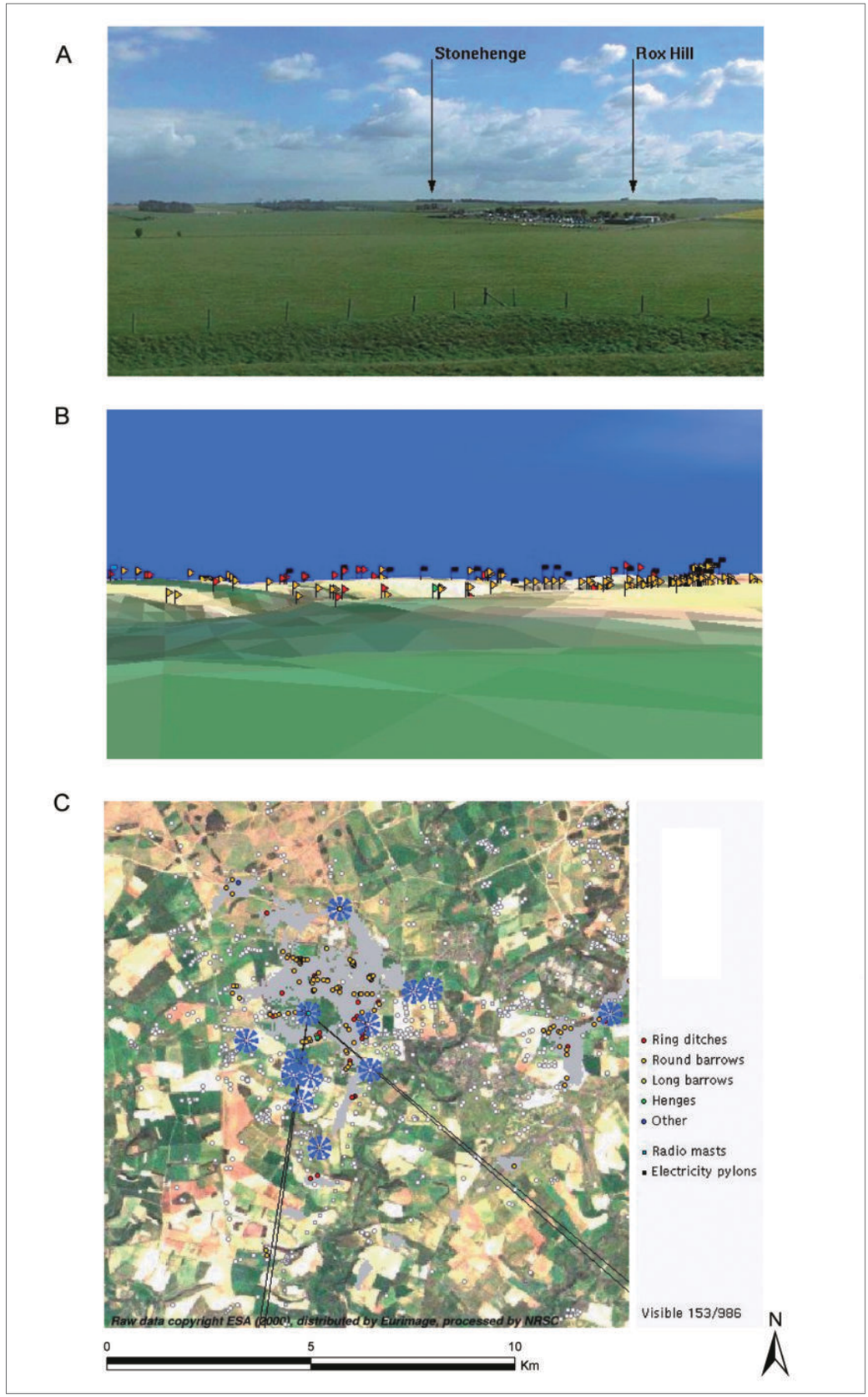


Illustration 100
Immersive technology providing simultaneous access to virtual worlds. Seeing things differently. Three views of the same place. Beacon Hill from Woodhenge. [*From Exon* et al. *2000, reproduced courtesy of Vince Gaffney and the Institute of Archaeology and Antiquity, Birmingham University.]*

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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.

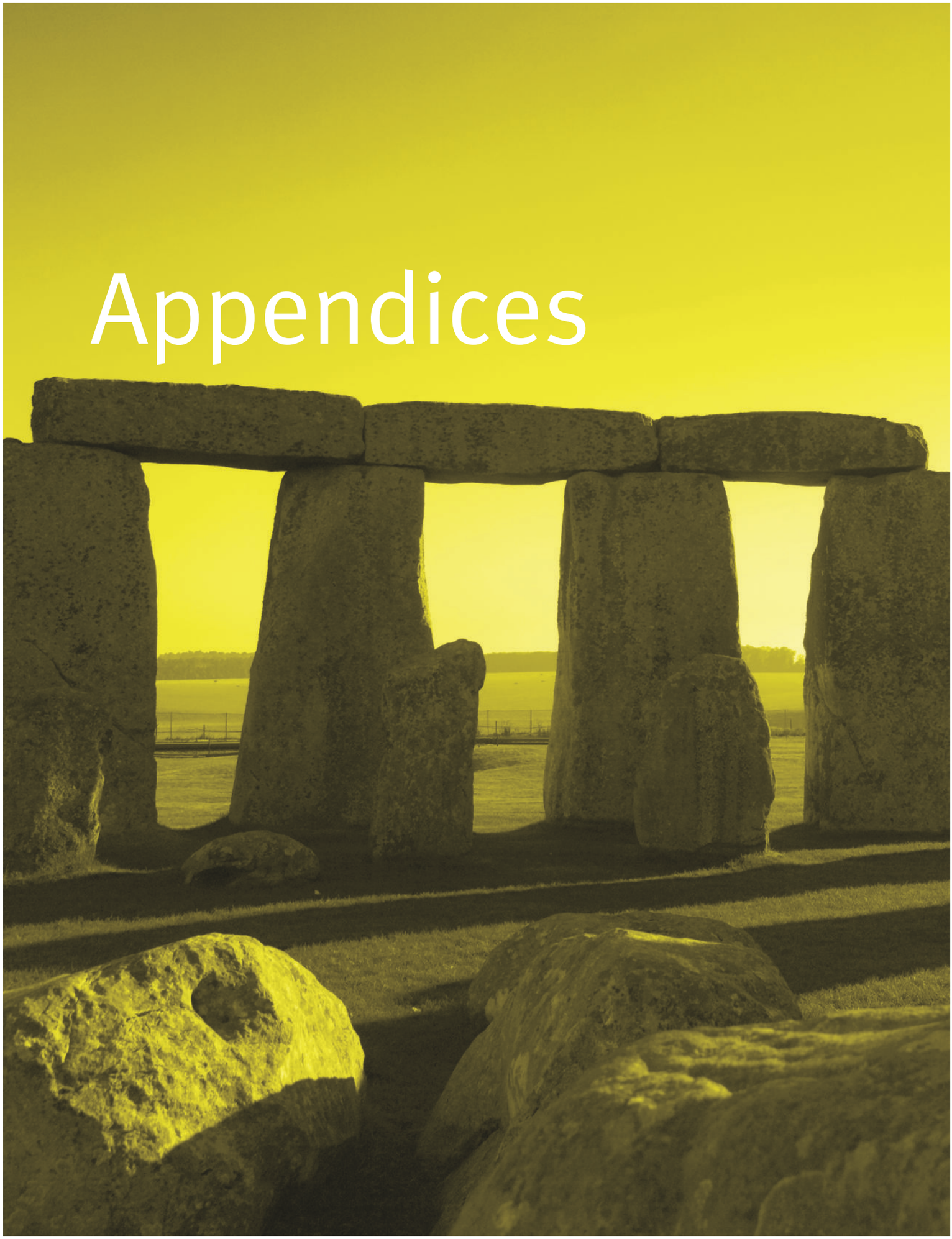
Objective 25: Create a social history archive of the twentieth-century excavations at Stonehenge

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.

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Appendices



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APPENDIX I – SELECT INVESTIGATIONS IN THE STONEHENGE LANDSCAPE

ANTIQUARIAN INVESTIGATIONS

Stonehenge

1620. Duke of Buckingham had an excavation made within Stonehenge.

1633–52. Inigo Jones conducted the first 'scientific' surveys of Stonehenge.

Jones, I, and Webb, J, 1655, ***The most notable antiquity of Great Britain vulgarly called Stone-Heng on Salisbury plain***. London: J Flesher for D Pakeman and L Chapman

1666. John Aubrey surveyed Stonehenge and produced his 'Review' in 1666, where he described the prehistoric pits, later known as the Aubrey Holes.

Aubrey, J, 1693 (edited by J Fowles 1982), **Monumenta Britannica**. Sherborne, Dorset: Dorset Publishing Co

1721–4. William Stukeley surveyed and excavated Stonehenge and its field monuments.

1721. William Stukeley discovered the Avenue extending beyond Stonehenge Bottom to King Barrow Ridge.

1723. William Stukeley discovered the Cursus.

Stukeley, W, 1740, ***Stonehenge: a temple restor'd to the British druids***. London: W Innys and R Manby

1798. William Cunnington dug under the fallen stones (numbers 56 and 57) at Stonehenge.

1805–10. William Cunnington dug at Stonehenge on various occasions.

Cunnington, W, 1884, ***Guide to the stones of Stonehenge***. Devizes: Bull Printer

1839. Captain Beamish excavated within Stonehenge.

1874–7. Professor Flinders Petrie produced a plan of Stonehenge and numbered the stones.

Petrie, W M F, 1880, ***Stonehenge: plans, description, and theories***. London: Edward Stanford

Barrows and related structures

1723. William Stukeley excavated 12 round barrows and a long barrow around Stonehenge for Lord Pembroke.

Atkinson, R J C, 1984, Barrows excavated by William Stukeley near Stonehenge. ***Wiltshire Archaeological and Natural History Magazine,*** 79, 244–6

1802–10. Working mainly for Sir Richard Colt Hoare (but in the early years also H P Wyndham and W Coxe), William Cunnington excavated approximately 200 round barrows in the area of Stonehenge using the shaft technique. In this work he was helped by two labourers (Stephen Parker and his son John Parker) and the draftsman Abraham Crocker.

Colt Hoare, Sir R, 1821, ***The ancient history of Wiltshire. Volume I.*** London: William Miller [reprinted with an introduction by J Simmons and D D A Simpson, 1975, Wakefield: EP Publishing]

1808. William Cunnington excavated a richly furnished Wessex I burial at Bush Barrow (Wilsford 5). It contained a skeleton with a large collection of grave goods. These included a bronze axe, three daggers, a stone sceptre, and two gold rhombuses. One of the three daggers had a pommel decorated with gold pins.

Colt Hoare, Sir R, 1812, ***The ancient history of Wiltshire. Volume I***. London: William Miller [reprinted with an introduction by J Simmons and D D A Simpson, 1975, Wakefield: EP Publishing]

1850–73. John Thurnam excavated numerous long barrows, oval barrows, and round barrows in the vicinity of Stonehenge in an effort to recover human skulls for craniometry. Long barrows included Amesbury 42, Winterbourne Stoke 1 and Figheldean 31. Oval barrows included Netheravon 6, Winterbourne Stoke 53, Wilsford 14, and Wilsford 34.

Thurnam, J, 1868, On ancient British barrows. Part I – long barrows. ***Archaeologia***, 42, 161–244

Thurnam, J, 1869, On leaf and lozenge-shaped javelin heads from an oval barrow near Stonehenge. ***Wiltshire Archaeological and Natural History Magazine***, 11, 40–9

Thurnam, J, 1871, On ancient British barrows. Part II – round barrows. ***Archaeologia***, 43, 258–552

TWENTIETH-CENTURY EXCAVATIONS

Major excavations only, listed alphabetically by site name or monument class.

Boscombe Down West

1949. K Richardson excavated under rescue conditions a series of Iron Age and Roman settlements and burial grounds at Boscombe Down West.

Richardson, K M, 1951, The excavation of Iron Age villages on Boscombe Down West. ***Wiltshire Archaeological and Natural History Magazine***, 54, 124–68

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Butterfield Down

1990–3. Mick Rawlings and Andy Fitzpatrick excavated an extensive sequence of Neolithic, Bronze Age, Iron Age, Roman, and later features in advance of the construction of a housing estate on the east side of Amesbury.

Lawson, A J, 1993, A Neolithic chalk plaque from Butterfield Down, Wiltshire. ***Antiquaries Journal***, 73, 183–5

Rawlings, M, and Fitzpatrick, A P, 1996, Prehistoric sites and a Romano-British settlement at Butterfield Down, Amesbury. ***Wiltshire Archaeological and Natural History Magazine***, 89, 1–43

Coneybury

1980–1. Julian Richards excavated a sample of Coneybury henge and the nearby 'Anomaly', an early Neolithic pit/shaft.

Richards, J, 1990, ***The Stonehenge Environs Project*** (HBMCE Archaeological Report 16). London: English Heritage. 40–60 and 123–57

Durrington Iron Age and Romano-British settlement

1970. Geoffrey Wainwright excavated an Iron Age/Romano-British settlement southwest of Durrington Walls.

Wainwright, G J, 1971, The excavation of prehistoric and Romano-British settlements near Durrington Walls, Wiltshire, 1970. ***Wiltshire Archaeological and Natural History Magazine***, 66, 76–128

Durrington Walls

1949–51. Marcus Stone, Stuart Piggott, and Allan Booth excavated a section through Durrington Walls along the eastern side of the A345, in advance of pipeline construction. This excavation was subsequently expanded and provided the charcoal for the first radiocarbon determinations on British archaeological material.

Stone, J F S, Piggott, S, and Booth, A, 1954, Durrington Walls, Wiltshire: recent excavations at a ceremonial site of the early second millennium BC. ***Antiquaries Journal***, 34, 155–77

1966–8. Geoffrey Wainwright excavated the line of the A345 in advance of realignment.

Wainwright, G J, and Longworth, I H, 1971, ***Durrington Walls excavations, 1966-1968*** (Reports of the Research Committee of the Society of Antiquaries of London 29). London: Society of Antiquaries

Fargo Plantation

1938. Marcus Stone excavated a mini-henge in the Fargo Plantation. In the centre was a grave containing a skeleton in the upper levels, cremations in cists in the lower, and a later cremation which had disturbed the skeleton.

Stone, J F S, 1938, An early Bronze Age grave in Fargo Plantation near Stonehenge. ***Wiltshire Archaeological and Natural History Magazine***, 48, 357–70

Figheldean Roman settlement

1991. Alan Graham and Carole Newman excavated a Romano-British rural site at Figheldean revealed in the course of pipeline construction along the Avon Valley.

Graham, A and Newman, C, 1993, Recent excavations of Iron Age and Romano-British enclosures in the Avon Valley. ***Wiltshire Archaeological and Natural History Magazine***, 86, 8–57

1995. Jacqueline McKinley excavated in advance of the construction of a second pipeline along the west of the Avon Valley.

McKinley, J L, 1999, Further excavations of an Iron Age and Romano-British enclosed settlement at Figheldean, near Netheravon. ***Wiltshire Archaeological and Natural History Magazine***, 92, 7–32

Inhumations and cremations

1919. Frank Stevens excavated a crouched male skeleton at Fargo.

Stevens, F, 1919, Skeleton found at Fargo. ***Wiltshire Archaeological and Natural History Magazine***, 11, 359

1966. Charles Moore excavated a Beaker burial at Larkhill, Durrington.

Moore, C N, 1966, A possible Beaker burial from Larkhill, Durrington. ***Wiltshire Archaeological and Natural History Magazine***, 61, 92

2002. Wessex Archaeology discovered and excavated the 'Amesbury Archer' burial and associated graves.

Fitzpatrick, A P, 2002, 'The Amesbury Archer': a well-furnished early Bronze Age burial in southern England. ***Antiquity***, 76, 629–30

Fitzpatrick, A P, 2003a, The Amesbury Archer. ***Current Archaeology***, 16.4 (no. 184), 146–52

2003. Wessex Archaeology excavate the 'Boscombe Bowmen' burials.

Fitzpatrick, A P, 2003b, Six more bodies found near grave of 'King of Stonehenge'. ***Current Archaeology***, 16.6 (no. 186), 233

Fitzpatrick, A P, 2004, The Boscombe Bowmen: builders of Stonehenge?. ***Current Archaeology***, 17.1 (no. 193), 10–16

Lesser Cursus

1983. Three cuttings excavation by Julian Richards as part of the Stonehenge Environs Project.

Richards, J, 1990, ***The Stonehenge Environs Project*** (HBMCE Archaeological Report 16). London: English Heritage. 72–92

Maddington Farm, Shrewton

1993. Pipeline observation and the excavation of a single trench 45m by 40m by J McKinley and M Heaton for Wessex Archaeology revealed a Romano-British farmstead and associated burial ground.

McKinley, J, and Heaton, M, 1996, A Romano-British farmstead and associated burials at Maddington Farm, Shrewton. ***Wiltshire Archaeological and Natural History Magazine***, 89, 44–72

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Netheravon Villa

1907. W Hawley and G Engelheart excavated the remains of a villa at Netheravon during the construction of a military base.

Anon, 1930, A villa at Netheravon. ***Wiltshire Archaeological and Natural History Magazine***, 45, 490–1

1996. Excavations connected with the making of a *Time Team* programme for television reassessed the extent and preservation of the site.

Rawlings, M, 2001, Archaeological investigations at the Roman villa, Netheravon, 1996. ***Wiltshire Archaeological and Natural History Magazine***, 94, 148–53

Normanton Down long mortuary enclosure/ oval barrow

1958. Trial excavations through the ditch and interior by Ernest Greenfield.

1959. Full excavation by Faith Vatcher following agricultural improvement of the downland revealed an oval causewayed ditch circuit and post-settings at the eastern end.

Vatcher, F de M, 1961, The excavations of the long mortuary enclosure on Normanton Down, Wiltshire. ***Proceedings of the Prehistoric Society***, 27, 160–73

Packway Enclosure

1966–8. Geoffrey Wainwright excavated the kite-shaped Iron Age enclosure north of Durrington Walls.

Wainwright, G J, and Longworth, I H, 1971, ***Durrington Walls: excavations 1966–1968***. (Report of the Research Committee of the Society of Antiquaries of London 29). London: Society of Antiquaries

1991. Alan Graham and Carole Newman excavated a section of the Packway Enclosure ditch, and several adjacent lynchets during the construction of a pipeline along the Avon Valley.

Graham, A, and Newman, C, 1993, Recent excavations of Iron Age and Romano-British enclosures in the Avon Valley**. *Wiltshire Archaeological and Natural History Magazine***, 86, 8–57

Pits and pit clusters

1935. Marcus Stone selectively excavated pit clusters at Ratfyn.

Stone, J F S, 1935, Some discoveries at Ratfyn, Amesbury and their bearing on the date of Woodhenge. ***Wiltshire Archaeological and Natural History Magazine***, 47, 55–67

1948. Marcus Stone and W E V Young excavated near Woodhenge.

Stone, J F S, and Young, W E V, 1948, Two pits of Grooved Ware date near Woodhenge. ***Wiltshire Archaeological and Natural History Magazine***, 52, 287–306

1968. Faith and Lance Vatcher excavated between the King Barrow Ridge and Stonehenge in advance of cable laying by the Southern Electricity Board. They discovered early Neolithic bowl pottery.

Vatcher, F de M and Vatcher, H L, 1969, Excavation and fieldwork in Wiltshire, 1968, Amesbury, King Barrow Wood to Stonehenge. Notes and News. ***Wiltshire Archaeological and Natural History Magazine***, 64, 123

1969. Faith Vatcher excavated two chalk-cut pits on King Barrow Ridge and Stonehenge Bottom during the widening and lowering of the A303. One contained a rich assemblage of late Neolithic material including a pair of incised chalk plaques.

Vatcher, F de M, 1969, Two incised chalk plaques near Stonehenge Bottom, Stonehenge. ***Antiquity***, 43, 310–11

Harding, P, 1988, The chalk plaque pit, Amesbury. ***Proceedings of the Prehistoric Society***, 54, 320–6

1997. Mike Heaton and Ros Cleal excavated six pits in advance of the surfacing of Track 21G on the Salisbury Plain Training Area at Crescent Copse, Shrewton.

Heaton, M, and Cleal, R M J, 2000, Beaker pits at Crescent Copse, near Shrewton, Wiltshire, and the effects of arboreal fungi on archaeological remains. ***Wiltshire Archaeological and Natural History Magazine***, 93, 71–81

Ratfyn enclosure

1908. A large circular earthwork was excavated during the construction of the railway at Ratfyn. Inhumations positioned at intervals along the ditch were found to possess boot cleats.

Hawley, W, 1928, Report on the excavations at Stonehenge during 1925 and 1926. ***Antiquaries Journal***, 8, 149–76

Robin Hood's Ball

1956. Nicholas Thomas selectively excavated sections across the two ditches and a causeway of Robin Hood's Ball.

Thomas, N, 1964, The Neolithic causewayed camp at Robin Hood's Ball, Shrewton. ***Wiltshire Archaeological and Natural History Magazine***, 59, 1–27

Round barrows

1931. Robert Newall excavated the Amesbury 85 barrow.

Newall, R S, 1931, Barrow 85, Amesbury. ***Wiltshire Archaeological and Natural History Magazine***, 45, 253–61

1929. Maude Cunnington excavated four ploughed-out barrows south of Woodhenge: Durrington 67, 68, 69, and 70.

Cunnington, M E, 1929, ***Woodhenge***. Devizes: George Simpson and Co

1940. A D Passmore excavated Amesbury 101 disc barrow near Stonehenge.

Passmore, A D, 1940, A disc barrow containing curious flints near Stonehenge. ***Wiltshire Archaeological and Natural History Magazine***, 49, 238

1951. A St J Booth excavated Durrington G65b barrow.

Booth, A St J, 1951, ***Excavation notes***. Unpublished manuscript. Salisbury Museum

1956. Paul Ashbee excavated four round barrows: Amesbury G58, G61, G61a, and G72.

Ashbee, P, 1985, The excavation of Amesbury barrows 58, 61a, 61, 72. ***Wiltshire Archaeological and Natural History Magazine***, 79, 39–91

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1958. Ernest Greenfield excavated four round barrows on Wilsford Down: Wilsford cum Lake G51–G54.

Greenfield, E, 1959, Excavation and fieldwork in Wiltshire, 1958, Wilsford Down and Normanton Down, Amesbury. ***Wiltshire Archaeological and Natural History Magazine***, 57, 228–9

Smith, I F, 1991, Round barrows, Wilsford cum Lake G51–54: excavations by Ernest Greenfield in 1958. ***Wiltshire Archaeological and Natural History Magazine***, 84, 11–39

1958–60. Charles Green excavated 18 round barrows near Shrewton: Shrewton G5a, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, 5k, 5l, 23, 23a, 24, 25, 28, 29, and 44.

Green, C, and Rollo-Smith, S, 1984, The excavation of eighteen round barrows near Shrewton, Wiltshire. ***Proceedings of the Prehistoric Society***, 50, 255–318

1959. Peter Grimes excavated seven round barrows in the Lake Group: Wilsford cum Lake G36f, G36g, G37, G38, 38a, 38b, and G39.

Grimes, W F, 1964, Excavations of the Lake Group of Barrows, Wiltshire. ***Bulletin of the Institute of Archaeology, University of London***, 4, 89–121

1959. Faith Vatcher excavated two ploughed-out barrows east of the New King Barrows: Amesbury 132 and 133.

Vatcher, F de M, 1960, Excavation and fieldwork in Wiltshire, 1959, barrows east of Stonehenge Avenue. ***Wiltshire Archaeological and Natural History Magazine***, 57, 394

Gingell, C, 1988, Twelve Wiltshire round barrows excavated in 1959 and 1961 by F de M and H L Vatcher. ***Wiltshire Archaeological and Natural History Magazine***, 82, 19–76 (esp. 34–41)

1959. Patricia Christie excavated the bowl barrow Winterbourne Stoke G30 in the western terminal of the Cursus following agricultural improvements in the area. The barrow was restored to its pre-1958 appearance following the excavation.

Christie, P M, 1963, The Stonehenge Cursus. ***Wiltshire Archaeological and Natural History Magazine***, 58, 370–82 (esp. 376–82)

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Field, E V, 1961, Excavation and fieldwork in Wiltshire, 1960, Wilsford. ***Wiltshire Archaeological and Natural History Magazine***, 58, 30–1

1960. Paul Ashbee excavated two round barrows, Amesbury G39 and G51. Both barrows were restored to their pre-1960 appearance following the excavations.

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Ashbee, P, 1981, Amesbury Barrow 39: excavations 1960. ***Wiltshire Archaeological and Natural History Magazine***, 74/75 (1979–80), 1–34

1961. Faith and Lance Vatcher excavated ten round barrows within the Stonehenge Landscape: Winterbourne Stoke 32, 33, 38, 39, 46, 47, 49 and 50; Woodford G12 and G13.

Vatcher, F de M, 1962, Excavation and fieldwork in Wiltshire, Winterbourne Stoke, Greenlands Farm. ***Wiltshire Archaeological and Natural History Magazine***, 58, 241

Gingell, C, 1988, Twelve Wiltshire round barrows excavated in 1959 and 1961 by F de M and H L Vatcher. ***Wiltshire Archaeological and Natural History Magazine***, 82, 19–76

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1964. Patricia Christie excavated the Winterbourne Stoke G45 barrow at Greenland Farm.

Christie, P M, 1970, A round barrow on Greenland Farm, Winterbourne Stoke. ***Wiltshire Archaeological and Natural History Magazine***, 65, 64–73

1978–9. Mike Pitts conducted a watching brief at Amesbury 25 and 103 barrows.

Pitts, M W, 1980, On two barrows near Stonehenge. ***Wiltshire Archaeological and Natural History Magazine***, 74/75 (1979–80), 181–4

1983. Julian Richards excavated Durrington G7 round barrow as part of the Stonehenge Environs Survey.

Richards, J, 1990, ***The Stonehenge Environs Project*** (HBMCE Archaeological Report 16). London: English Heritage. 171–83

1987 and **1990**. Ros Cleal and Mike Allen investigated the tree-damaged barrows on King Barrow Ridge and near Luxenborough Plantation. The storms of 1987 and 1990 upturned a large number of trees, exposing the archaeology. A total of 39 tree-throw holes in 9 barrows were examined and recorded (Amesbury 18–19, 27–32, and 39).

Cleal, R C and Allen, M, 1994, Investigation of tree-damaged barrows on King Barrow Ridge and Luxenborough Plantation, Amesbury. ***Wiltshire Archaeological and Natural History Magazine***, 87, 54–84

1992. Mike Allen, Mike Heaton, and Julian Richards conducted a salvage excavation at Durrington 3 round barrow.

Allen, M, Heaton, M, and Richards, J, nd, ***The salvage excavation of round barrow, Durrington G3***. Salisbury: Wessex Archaeology [limited circulation printed report]

Stonehenge

1901. Professor William Gowland meticulously recorded and excavated around stone number 56 at Stonehenge.

Gowland, W, 1902, Recent excavations at Stonehenge. ***Archaeologia***, 58, 37–82

1919–26. Colonel William Hawley extensively excavated in advance of restoration programmes at Stonehenge for the Office of Works and later for the Society of Antiquaries. Hawley excavated ditch sections of the Avenue, conducted an investigation of the Slaughter Stone and other stones at Stonehenge, and rediscovered a number of Aubrey Holes through excavation.

Cleal, R M J, Walker, K E, and Montague, R, 1995, ***Stonehenge and its landscape: twentieth-century excavations*** (English Heritage Archaeological Report 10). London: English Heritage.

Hawley, W, 1921, Stonehenge: interim report on the exploration. ***Antiquaries Journal***, 1, 19–41

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1929. Robert Newall excavated Stone 36.

Newall, R S, 1929, Stonehenge. ***Antiquity***, 3, 75–88

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1950. Robert Newall excavated Stone 66.

Newall, R S, 1952, Stonehenge stone no. 66. ***Antiquaries Journal***, 32, 65–7

1952. Robert Newall excavated Stones 71 and 72.

1950–64. A major campaign of excavations by Richard Atkinson, Stuart Piggott, and Marcus Stone involving the re-excavation of some of Hawley's trenches as well as previously undisturbed areas within Stonehenge.

Atkinson, R J C, Piggott, S, and Stone, J F S, 1952, The excavations of two additional holes at Stonehenge, and new evidence for the date of the monument. ***Antiquaries Journal***, 32, 14–20

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Cleal, R M J, Walker, K E, and Montague, R, 1995, ***Stonehenge and its landscape: twentieth-century excavations*** (English Heritage Archaeological Report 10). London: English Heritage

1966. Faith and Lance Vatcher excavated within Stonehenge car-park.

Vatcher, F de M and Vatcher, H L, 1973, Excavation of three postholes in Stonehenge car park. ***Wiltshire Archaeological and Natural History Magazine***, 68, 57–63

1978. John Evans re-excavated a 1954 cutting through the Stonehenge ditch and bank to take samples for snail analysis and radiocarbon dating. A well-preserved human burial lay within the ditch fill. Three fine flint arrowheads were found amongst the bones, with a fourth embedded in the sternum.

Atkinson, R J C and Evans, J G, 1978. Recent excavations at Stonehenge. ***Antiquity***, 52, 235–6

Evans, J G, 1984, Stonehenge: the environment in the late Neolithic and early Bronze Age, and a Beaker burial. ***Wiltshire Archaeological and Natural History Magazine***, 78, 7–30

1979–80. George Smith excavated in the Stonehenge car-park on behalf of the Central Excavation Unit.

Smith, G, 1980, Excavations in Stonehenge car park**.** ***Wiltshire Archaeological and Natural History Magazine***, 74/75 (1979–80), 181

1979–80. Mike Pitts excavated along the south side of A344 in advance of cable-laying and pipe-trenching. In 1979, he discovered a pit belonging to a previously unknown stone close to the Heel Stone. Geophysical survey identified pits along the course of the Avenue. In 1980, Pitts excavated beside the A344 where he discovered a stone floor and the only complete prehistoric artefact assemblage retained from the monument.

Pitts, M W, 1981, The discovery of a new stone at Stonehenge. ***Archaeoastronomy***, 4, 17–21

Pitts, M W, 1982, On the road to Stonehenge: Report on investigations beside the A344 in 1968, 1979 and 1980**.** ***Proceedings of the Prehistoric Society***, 48, 75–132

1981. The Central Excavation Unit excavated in advance of the construction of the footpath through Stonehenge.

Bond, D, 1983, An excavation at Stonehenge, 1981. ***Wiltshire Archaeological and Natural History Magazine***, 77, 39–43

Stonehenge Avenue (north of the A344 and beyond)

1919. A narrow cutting by R S Newall in a waterpipe along the south side of the A344.

1923. O G S Crawford and A D Passmore excavated three trenches to confirm the course of the Avenue identified through aerial photography.

Crawford, O G S, 1923, The Stonehenge Avenue. ***The Observer,*** 23 October 1923

1927. R C C Clay excavated two trenches in advance of the Amesbury to Stonehenge road construction at West Farm, Amesbury.

Clay, R C C, 1927, Stonehenge Avenue. ***Antiquity***, 1, 342–4

1953. Three cuttings by R J C Atkinson in Stonehenge Bottom.

1956. Three further cuttings by R J C Atkinson, two near the River Avon and one northeast of the A344.

1967. Full width of the Avenue explored by F and L Vatcher in the A303/Amesbury bypass east of King Barrow Ridge.

1968. Both ditches recorded by F and L Vatcher in a cable trench north of the A344.

1973. George Smith excavated sections of the southern and northern Avenue ditch between the River Avon and the Amesbury–Stonehenge road.

Smith, G, 1973, Excavations of the Stonehenge Avenue at West Amesbury, Wiltshire. ***Wiltshire Archaeological and Natural History Magazine***, 68, 42–56

1978. Two cuttings by R J C Atkinson and J G Evans north of the A344 and at the bend in Stonehenge Bottom.

Cleal, R M J, Walker, K E, and Montague, R, 1995, ***Stonehenge and its landscape: twentieth-century excavations*** (English Heritage Archaeological Report 10). London: English Heritage. 291–329

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Stonehenge Cursus

1917. Percy Farrer excavated the southern flanking ditch of the Stonehenge Cursus during the cutting of a military pipe-trench.

Farrer, P, 1917, ***Excavation in the Cursus, July 1917***. Unpublished MS, Devizes Museum

1947. Marcus Stone excavated a section through the southern bank and ditch of the Cursus.

Stone, J F S, 1947, The Stonehenge Cursus and its affinities. ***Archaeological Journal***, 104, 7–19

1959. Patricia Christie excavated the western terminal of the Cursus.

Christie, P M, 1963, The Stonehenge Cursus. ***Wiltshire Archaeological and Natural History Magazine***, 58, 370–82

1983. The Stonehenge Environs Project excavated two small trenches through the south bank and ditch of the Cursus.

Richards, J, 1990, ***Stonehenge Environs Project*** (HBMCE Archaeological Report 16). London: English Heritage. 93–5

Vespasian's Camp

1987. Kurt Hunter-Mann excavated a section through the ramparts and a sample of the interior of Vespasian's Camp Iron Age hillfort.

Hunter-Mann, K, 1999, Excavations at Vespasian's Camp Iron Age hillfort, 1987. ***Wiltshire Archaeological and Natural History Magazine***, 92, 39–52

Wilsford Shaft

1960–2. Paul Ashbee and Edwina Proudfoot excavated Wilsford Shaft.

Ashbee, P, 1963, The Wilsford Shaft. ***Antiquity***, 37, 116–20

Ashbee, P, Bell, M, and Proudfoot, E, 1989, ***Wilsford Shaft excavations, 1960–62*** (HBMCE Archaeological Report 11). London: English Heritage

Winterbourne Stoke Bronze Age settlement

1967. Faith Vatcher and Lance Vatcher excavated houses, pits, and a ditch at Winterbourne Stoke/Wilsford in advance of road improvements for the A303.

Vatcher, F de M, and Vatcher, H L, 1968, Excavation and field work in Wiltshire, 1967, Winterbourne Stoke/Wilsford. ***Wiltshire Archaeological and Natural History Magazine***, 63, 108–9

Richards, J, 1990, ***The Stonehenge Environs Project*** (HBMCE Archaeological Report 16). London: English Heritage. 208–10

Woodhenge

1926–8. Maude and Benjamin Cunnington excavated Woodhenge after aerial photography had identified its true form in 1925.

Cunnington, M E, 1929. ***Woodhenge: a description of the site as revealed by excavations carried out there by Mr. and Mrs. B.H. Cunnington, 1926–7–8. Also of four circles and an earthwork enclosure south of Woodhenge.*** Devizes: Privately published

1970. Single trench through the bank and ditch on the southeast side of the henge.

Evans, J G, and Wainwright, G J, 1979, The Woodhenge excavations. In G J Wainwright, ***Mount Pleasant, Dorset: excavations 1970–1971*** (Reports of the Research Committee of the Society of Antiquaries of London 37). London: Society of Antiquaries

SURVEYS

1920s. O G S Crawford recorded monuments within the area of Stonehenge using aerial photography.

Crawford, O G S, 1924, The Stonehenge Avenue. ***Antiquaries Journal***, 4, 57–8

Crawford, O G S, and Keiller, A, 1928, ***Wessex from the air***. Oxford: The Clarendon Press

1925. Aerial reconnaissance by G Insall discovered Woodhenge.

Insall, G, 1927, Woodhenge. ***Antiquity*** 1, 99–100

1930s. B Laidler and W E V Young instigated a 'fieldwalking' survey of flint scatters at a domestic site near Stonehenge.

Laidler, B, and Young, W E V, 1938, A surface flint industry from a site near Stonehenge. ***Wiltshire Archaeological and Natural History Magazine***, 48, 151–60

1949–52. Visual inspection and desk-based assessment of the prehistoric monuments for the compilation of the Victoria County Histories.

Grinsell, L V, 1957, Archaeological gazetteer. In R B Pugh (ed), ***A history of Wiltshire. Volume I.1***. London: Institute of Historical Research, Victoria History of the Counties of England. 21–279

1979. RCHM surveyed the archaeological monuments originally defined by Richard Colt Hoare and William Cunnington. The study area covered approximately 13 square kilometres around Stonehenge.

RCHM, 1979, ***Stonehenge and its environs***. Edinburgh: Edinburgh University Press

1980–84. English Heritage funded Wessex Archaeology to carry out a detailed programme of archaeological field survey and sample excavation within the vicinity of Stonehenge. The study area covered approximately 33 square kilometres.

Richards, J, 1990, ***The Stonehenge Environs Project*** (HBMCE Archaeological Report 16). London: English Heritage

1988–2000. Survey of archaeological features within the Salisbury Plain Training Area carried out by the RCHM.

McOmish, D, Field, D, and Brown, G, 2002, ***The field archaeology of the Salisbury Plain Training Area***. Swindon: English Heritage

1990–6. A series of assessments and field evaluations in advance of the Stonehenge Conservation and Management Programme.

Darvill, T C, 1997, ***Stonehenge Conservation and Management Programme: a summary of archaeological assessments and field evaluations undertaken 1990–1996***. London: English Heritage

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1990–2000. A series of watching briefs and investigations connected with visitor management and infrastructure development.

Wessex Archaeology, 1993, ***Stonehenge car park compound: archaeological monitoring and excavation***. Salisbury: Wessex Archaeology [limited circulation printed report reference no. W614]

1992–3. The Wessex Linear Ditches Project undertook an archaeological assessment of the Military Estate of Salisbury Plain East.

Fulford, M, and Raymond, F, 1993, ***Salisbury Plain Project, 1992–93: interim report***. University of Reading

Bradley, R, Entwistle, R, and Raymond, F, 1994, ***Prehistoric land divisions on Salisbury Plain*** (English Heritage Archaeological Report 2). London: English Heritage

OTHER INVESTIGATIONS

1990–5. Wessex Archaeology evaluated and synthesized for publication all the evidence from primary records and excavation accounts relating to work at and around Stonehenge that was undertaken between 1901 and the mid 1960s.

Cleal, R M J, Walker, K E, and Montague, R, 1995, ***Stonehenge in its landscape: twentieth-century excavations*** (English Heritage Archaeological Report 10). London: English Heritage

RECREATION, TOURISM, AND LAND-USE RESEARCH

1983–4. Julian Richards undertook a rapid condition and survival survey of identified monuments within the World Heritage Site and immediate environs.

Richards, J, 1984, ***Stonehenge Environs: a preservation and management policy***. Unpublished report. The Trust for Wessex Archaeology [limited circulation printed report]

1991. Focus Group Study of public perceptions of Stonehenge, level of knowledge and attitudes.

Creative Research Limited, 1991, ***Stonehenge redevelopment: a presentation of research findings***. London: Creative Research Limited for English Heritage [limited circulation printed report]

2002. Wessex Archaeology undertook a survey of the condition of recorded monuments within the World Heritage Site for English Heritage. A total of 661 monuments were considered, 415 of them Scheduled Monuments.

Wessex Archaeology, 2003, ***Condition survey and management recommendations for archaeological sites within the Stonehenge World Heritage Site***. Salisbury: Wessex Archaeology for English Heritage [limited circulation printed report Reference 50670: two volumes]

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APPENDIX II – SELECT BIBLIOGRAPHY OF STONEHENGE AND ITS LANDSCAPE

INTERNET SITES

www.britarch.ac.uk/stonehenge/index.html [chronological account of 'The Stonehenge Saga' from the early 1960s through to present day, focusing on visitor experiences, plans for changing the visitor centre, and proposals for the up-grading of the A303. Many links to other relevant websites]

www.english-heritage.org.uk/stonehenge [home page for English Heritage's interests in Stonehenge including information about visiting the site, exploring the Stonehenge landscape, the World Heritage Site, the history of Stonehenge, the whereabouts of artefacts found at Stonehenge, and the Stonehenge Project]

www.english-heritage.org.uk/stonehenge interactivemap/ [an interactive map of the Stonehenge World Heritage Site with virtual tours including views and video clips of selected sites]

http://homepages.tcp.co.uk/~ait/masterplan.html [details of the Master Plan for Stonehenge launched in April 1999. The Plan deals with the relocation of the visitor centre and the upgrading of the A303]

www.thestonehengeproject.org [overview and latest news on the implementation of the Stonehenge Master Plan through the execution of what has become known as the Stonehenge Project. Links to many facets of the broader project]

www.nationaltrust.org.uk/main/news/stonehenge.html [home page for the National Trust's interests in Stonehenge, including its responsibilities for the Stonehenge Estate and its participation in the Stonehenge Project]

www.wessexarch.co.uk/projects/wiltshire/boscombe/bowmen/index/html [information about the discovery and study of the multiple Beaker burial at Boscombe]

www.wessexarch.co.uk/projects/amesbury/archer.html [information about the discovery and study of the richly furnished Beaker grave found near Amesbury]

http://apollo5.bournemouth.ac.uk/stonehenge [background to the development of the Stonehenge World Heritage Site Research Framework and early consultation drafts]

www.planning-inspectorate.gov.uk/stonehenge [information about the A303 Stonehenge improvement scheme, copies of the published orders, and details of the Public Inquiry held in the spring of 2004. Inspector's report published September 2004]

www.stonehengelaserscan.org [information and images of the laser-scans made of the surfaces of selected stone at Stonehenge in order to help identify and study the rock art at the site]

www.great-britain.co.uk/regions/southern-england/stonehen.html [selection of pictures of Stonehenge]

www.arch-ant.bham.ac.uk/research/computing/shbarrows/ [information about the Stonehenge Barrows Project with interactive samples]

http://ads.ahds.ac.uk/catalogue/projArch/pigs_durham_2004 [a database of metrical data for a large sample of well-preserved pig bones (including teeth) from the late Neolithic site of Durrington Walls]

www.shef.ac.uk/archaeology/research/stonehenge/index.html [information about the Stonehenge Riverside Project: new approaches to Durrington Walls]

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APPENDIX III – RADIOCARBON DATES

INTRODUCTION

The dates are cited as a date-range calculated from the original age determination at two standard deviations ($\sigma 2$) which broadly equates with the 95% confidence limits; the laboratory number and original uncalibrated determination in years BP is also given. All calibrated dates have been calculated using OxCal version 3.5. Where the date-range is marked with an asterisk (e.g. 2280–2010* BC), the ranges for 95% have been combined to represent the whole calibrated date-range.

AVON RIVERSIDE, LAKE, WOODFORD

AD 400–620 (GU-4921: 1560±50 BP) Human bone from a riverside burial covered by wooden planks

CONEYBURY

3350–2700 BC (OxA-1409: 4370±90 BP) Animal bone from interior pit 1447, with Grooved Ware

3100–2450 BC (OxA-1408: 4200±110 BP) Animal bone, W2.2306, from fill of primary ditch

DURRINGTON WALLS

3650–3000 BC (GRO-901: 4584±80 BP) Charcoal from under henge bank

3550–2600 BC (NPL-191: 4400±150 BP) Charcoal from under henge bank with middle Neolithic pottery

3510–3090* BC (GRO-901A: 4575±50 BP) Charcoal from under henge bank

3350–2500 BC (NPL-192: 4270±95 BP) Charcoal from midden within the henge

2900–2200 BC (BM-400: 4000±90 BP) Antler from base of main enclosure ditch

2900–2150* BC (BM-399: 3965±90 BP) Bone from base of main enclosure ditch

2900–2100 BC (BM-396: 3950±90 BP) Charcoal from post packing in the south circle, Phase II

2900–2000 BC (NPL-240: 3905±110 BP) Antler pick from north circle posthole 42

2700–2100 BC (BM-398: 3927±90 BP) Charcoal from base of main enclosure ditch

2650–2000 BC (BM-395: 3900±90 BP) Antler from post packing, south circle, Phase II

2600–2000 BC (BM-397: 3850±90 BP) Bone from post packing, south circle, Phase II

2600–1700 BC (NPL-239: 3760±148 BP) Antler from south circle, Phase I postholes

2350–1650 BC (BM-286: 3630±110 BP) Charcoal from hearth 3 in secondary silt of ditch

2300–1500 BC (BM-285: 3560±120 BP) Charcoal from hearth near base of ditch with rusticated Beaker

DURRINGTON RIVERSIDE

1520–1040 BC (OxA-1399: 3070±90 BP) Bone from crouched inhumation at Durrington Riverside

LESSER CURSUS

3650–3050 BC (OxA-1405: 4640±100 BP) Antler from base of ditch, Phase 2

3650–2900 BC (OxA-1404: 4550±120 BP) Antler from base of ditch, Phase 1

2900–2200 BC (OxA-1406: 4000±120 BP) Antler from ditch fill, western terminal, destruction phase

MISCELLANEOUS

8200–7000 BC (GU-3239: 8460±200 BP) Avon floodplain. Basal layer of a long pollen sequence

NETHERAVON BAKE LONG BARROW

3710–3350 BC (OxA-1407: 4760±90 BP) Antler from base of Phase 1 ditch

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NORMANTON DOWN LONG MORTUARY ENCLOSURE

3550–2900 BC (BM-505: 4510±103 BP) Antler pick from base of bedding trench in the east entrance

PITS AND PIT-CLUSTERS

Coneybury Anomaly

4050–3640 BC (OxA-1402: 5050±100 BP) Animal bone from primary deposit

King Barrow Ridge

3800–2900 BC (OxA-1396: 4700±150 BP) Antler from pit

3550–2850 BC (OxA-1397: 4500±120 BP) Animal bone from pit

Chalk Plaque Pit

3100–2550 BC (OxA-3316: 4250±80 BP) Cattle bone

2890–2490 BC (OxA-3317: 4130±80 BP) Red deer antler

Durrington Married Quarters

2510–1740 BC (BM-702: 3597±76 BP) Antler pick from Pit 27

2500–1900 BC (BM-703: 3743±72 BP) Animal bone from Pit 27

Ratfyn

2300–1700 BC (OxA-3318: 3650±90 BP) Cattle bone

Robin Hood's Ball

3800–3100* BC (OxA-1400: 4740±100 BP) Animal bone from pit outside the enclosure

3500–2900 BC (OxA-1401: 4510±90 BP) Animal bone from pit from outside the enclosure

ROUND BARROWS

Amesbury G39

2300–1650 BC (HAR-1237: 3620±90 BP) *Quercus* sp charcoal from barrow

Amesbury G51

2310–1950 BC (BM-287: 3738±55 BP) Carbonized wood

1770–1410 BC (HAR-6226: 3310±80 BP) *Acer* sp charcoal from occupation hearth

Amesbury G61

2150–1600 BC (HAR-6227: 3520±100 BP) *Fraxinus* sp charcoal from burnt area

2140–1680* BC (HAR-6225: 3550±80 BP) *Fraxinus* sp charcoal and burnt bone

1750–1400 BC (HAR-10514: 3290±80 BP) Charcoal from cremation Grave 2

Amesbury G71

2500–1750 BC (NPL-77: 3690±110 BP) Charcoal from a grave pit

2200–1650 BC (NPL-75: 3590±90 BP) Charcoal from fire in mound

Amesbury G72

2900–2350 BC (HAR-10516: 4070±90 BP) Charcoal from disturbed natural pit below barrow

2300–1650 BC (HAR-10515: 3610±90 BP) Charcoal from ditch bottom

Durrington Down 7

2500–1750 BC (OxA-1398: 3700±100 BP) Bone from crouched inhumation

Shrewton 5a

2130–1770* BC (BM-2525: 3590±50 BP) Human femur from secondary burial

2030–1740 BC (BM-2517: 3560±50 BP) Human bone from inhumation in Pit 1

1700–1100 BC (HAR-4828: 3170±90 BP) Charcoal from secondary cremation cemetery

1700–1050 BC (HAR-4827: 3120±100 BP) Charcoal from secondary cremation cemetery

Shrewton 5K

2480–2200 BC (BM-3017: 3900±40 BP) Human bone from the primary burial

Shrewton 24

2310–1970* BC (BM-2516: 3750±50 BP) Human bone from crouched inhumation

Shrewton 25

2300–1750 BC (HAR-4831: 3640±80 BP) Charcoal from Pit 1 beneath monument

Winterbourne Stoke 44

2460–1950* BC (HAR-4832: 3760±70 BP) Antler within cremation

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STONEHENGE

4340–3980 BC (OxA-4902:5350±80 BP) Animal bone among packing stones of Stonehole 27

3550–2900 BC (OxA-4842: 4520±100 BP) Ox skull from structured deposit in ditch at south entrance

3500–3030* BC (OxA-4833: 4550±60 BP) Red deer tibia from ditch at south entrance near terminal

3350–2920* BC (OxA-4834: 4460±45 BP) Ox right jaw from ditch at south entrance near terminal

3340–2920* BC (OxA-4835: 4455±40 BP) Ox right jaw from ditch at south entrance near terminal

3340–2900* BC (BM-1583: 4410±60 BP) Antler from ditch near the northeast entrance of Phase 1

3310–2920* BC (UB-3794: 4432±22 BP) Antler from context 2934, bottom of primary ditch of Phase 1

3310–2880* BC (OxA-4904: 4365±55 BP) Antler from the base of the secondary ditch fill

3260–2910* BC (OxA-5982: 4405±30 BP) Three articulated cattle vertebrae, from ditch

3100–2700 BC (OxA-4843: 4315±60) Animal bone from the secondary ditch fill

3100–2690* BC (OxA-4881: 4300±60) Animal bone from the secondary ditch fill

3100–2680* BC (OxA-4841: 4295±60) Animal bone from the secondary ditch fill

3100–2600 BC (OxA-4883: 4300±70 BP) Bone chisel from the secondary ditch fill

3090–2910* BC (UB-3791: 4397±18 BP) Antler from the secondary ditch fill near east-northeast causeway

3090–2620* BC (OxA-4882: 4270±65) Animal bone from the secondary ditch fill

3080–2910* BC (UB-3788: 4381±18 BP) Antler from the bottom of the primary ditch, Phase 1

3080–2910* BC (UB-3787: 4375±19 BP) Antler from the bottom of the primary ditch, Phase 1

3030–2910 BC (UB-3790: 4367±18 BP) Antler from the bottom of the primary ditch, Phase 1

3030–2910 BC (UB-3792: 4365±18 BP) Antler from the bottom of the primary ditch, Phase 1

3020–2880* BC (UB-3789: 4330±18 BP) Antler from the bottom of the primary ditch, Phase 1

3000–1500 BC (C-602: 3798±275 BP) Charcoal from cremation at Aubrey Hole 32

2950–2350 BC (I-2328: 4130±105 BP) Antler dating ditch construction

2920–2620 BC (OxA-4844: 4220±60 BP) Animal bone from upper secondary fill in ditch of Phase 2b

2910–2670* BC (OxA-5981: 4220±35 BP) Piglet bone from articulated skeleton in backfill of ditch, Phase 2

2850–2300* BC (OxA-4837: 3995±60 BP) Antler from causeway, Stonehole E, Phase 3

2630–2340 BC (OxA-4840: 3985±45 BP) Antler from sarsen trilithon stonehole, Phase 3ii

2620–2340 BC (OxA-4903: 3980±45 BP) Animal bone from upper fill in ditch, Phase 2a

2580–2470 BC (UB-3821: 4023±21 BP) Antler from sarsen circle Stonehole 1, Phase 3ii

2580–2280 BC (OxA-4884: 3935±50 BP) Antler from the Avenue northern ditch, Phase 3

2500–1650 BC (BM-46: 3670±150 BP) Antler from base of ramp of the Great Trilithon

2490–2140* BC (OxA-4880: 3875±55 BP) Animal bone from secondary fill in the ditch, Phase 2a

2470–2200* BC (OxA-4838: 3885±40 BP) Antler from causeway, Stonehole E, Phase 3

2470–2200 BC (OxA-4839: 3860±40 BP) Antler from sarsen trilithon, Stonehole 57 of Phase 3ii

2470–2200 BC (OxA-4905: 3865±40 BP) Animal bone from the Avenue southern ditch, Phase 3

2470–2190 BC (OxA-4900: 3865±50 BP) Antler from bluestone circle, Stonehole 40c, Phase 3iv

2470–2140 BC* (OxA-4879: 3855±55 BP) Animal bone from the upper secondary ditch fill, Phase 2a

2410–2040* BC (OxA-4901: 3800±45 BP) Pig bone from Q hole ‘in fill near top of hole’, Phase 3i

2400–2140* BC (OxA-5044: 3817±27 BP) Human femur from burial cut into the secondary ditch fill, Phase 3

2400–2140* BC (OxA-4886: 3817±27 BP) Human femur from burial cut into the secondary ditch fill, Phase 3

2400–2140* BC (OxA-5045: 3817±27 BP) Human femur from burial cut into the secondary ditch fill, Phase 3

2400–2140* BC (OxA-5046: 3817±27 BP) Human femur from burial cut into the secondary ditch fill, Phase 3

2310–1880 BC (BM-1582: 3715±70 BP). Human femur from Beaker burial, Phase 3

2300–1600 BC (I-2384: 3570±110 BP) Antler from base of unfinished R hole

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2290–1980* BC (OxA-4878: 3740±40 BP) Animal bone from bluestone circle, Stonehole 40c, Phase 3iv

2290–1880* BC (BM-1164: 3678±68 BP) Antler from Avenue northern ditch, Phase 3

2280–1910* BC (OxA-4877: 3695±55 BP) Antler from bluestone horseshoe, Stonehole 63a, Phase 3v

2150–1300 BC (HAR-4878: 3400±150 BP) Charcoal from stone floor near the Heel Stone

2150–1300 BC (HAR-4879: 3400±150 BP) Charcoal from stone floor

2020–1740* BC (OxA-4836: 3540±45 BP) Antler from Z Hole 29, Phase 3vi

1880–1680* BC (UB-3824: 3449±24 BP) Antler from Y Hole 30, stacked on base, Phase 3vi

1750–1100 BC (I-2445: 3190±105 BP) Antler from base of Y Hole 30 (Phase 3b/3c transition)

1690–1520 BC (UB-3822: 3341±22 BP) Antler from Y Hole 30, stacked on base, Phase 3vi

1680–1510* BC (UB-3823: 3300±19 BP) Antler from Y Hole 30, stacked on base, Phase 3vi

790–410 BC (OxA-4885: 2480±60 BP) Bone point from post-monument sarsen circle, Stonehole 8

770–410* BC (UB-3820: 2468±27 BP) Bone from post-monument Palisade Ditch, human burial cut into ditch

AD 680–1000 (HAR-???: 1190±80 BP) Human bone from skeleton 4.10.4 submitted for dating in 1975

AD 430–660 (OxA-9921: 1490±60 BP) Human bone from skeleton 4.10.4, grave pit

AD 610–780* (OxA-9361: 1359±38 BP) Human bone from skeleton 4.10.4, grave pit

STONEHENGE AVENUE (NORTH OF THE A344)

2340–1910 BC (HAR-2013: 3720±70 BP) Antler pick from bottom of southeast ditch

2290–1880* BC (BM-1164: 3678±68 BP) Antler from bottom of northwest ditch at the northwest end

1700–800 BC (BM-1079: 3020±180 BP) Antler from northeast ditch just north of West Amesbury House

1300–750 BC (I-3216: 2750±100 BP) Antler and bone from both ditches below Amesbury bypass

STONEHENGE CAR-PARK

8800–7700 BC (HAR-455: 9130±180 BP) *Pinus* charcoal from Posthole A

8300–7600 BC (GU-5109: 8880±120 BP) *Pinus* charcoal from Posthole WA 9580

7750–7350* BC (OxA-4919:8520±80 BP) P*inus* charcoal from Posthole WA 9580

7600–7170 BC (OxA-4920:8400±100 BP) *Pinus* charcoal from Posthole WA 580

7500–6650 BC (HAR-456: 8090±140 BP) *Pinus* charcoal from Posthole B

STONEHENGE CURSUS

2890–2460 BC (OxA-1403: 4100±90 BP) Antler from ditch fill

WILSFORD SHAFT

3650–3100* BC (OxA-1089: 4640±70 BP) Wood from bucket

1880–1410* BC (NPL-74: 3330±90 BP) Waterlogged wood from chalk rubble 33m down shaft

1690–1290 BC (OxA-1229: 3200±80 BP) *Bos* horncore

1600–1260* BC (OxA-1216: 3160±60 BP) Wood from bucket

1530–1250 BC (OxA-1217: 3150±60 BP) Wood from bucket

1530–1210 BC (OxA-1214: 3130±70 BP) *Bos* skull

1520–1250 BC (OxA-1215: 3130±60 BP) *Ovis* skull

800–200* BC (OxA-1212: 2360±60 BP) Human left femur

800–150 BC (OxA-1211: 2320±80) Human left femur

790–410 BC (OxA-1213: 2480±60 BP), *Equus* cuboid/tibia

770–400 BC (OxA-1210: 2450±60 BP) *Equus* calcaneum

WOODHENGE

2470–2030* BC (BM-677: 3817±74 BP) Antler pick from floor of ditch

2340–1970* BC (BM-678: 3755±54 BP) Animal bone in primary rubble silt of ditch

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APPENDIX IV – RESEARCH FRAMEWORK CONSULTATION PROCESS

The compilation of this Research Framework involved extensive consultation amongst the archaeological community and the general public over a period of nearly twelve months. A number of different strands were pursued in order to include as many views as possible.

WEBSITE

At the centre of the Project's external communications was the Project website opened to the public in mid June 2001 at:

http://apollo5.Bournemouth.ac.uk/consci/Stonehenge/home.htm

In addition to the usual range of indexing through search-engine links, notice of the site was made through a range of electronic and printed forms, including the mail-shots noted below.

MAILSHOTS

An extensive conventional and electronic mailing list was used to contact interested individuals and organizations. The following mailshots were dispatched:

- Britarch electronic mailbase (2 July 2001)
- The Stonehenge Research Framework Newsletter (Summer and Autumn 2001)
- Wessex Seminar promotional material circulated to libraries, museums, Tourist Information Centres, and local archaeological groups (October 2001)
- Press release (May 2000)

As a result of the press release, letters to editors, and general correspondence, printed notices of the Project's activities included:

- *CBA Wessex News* (October 2001, 20)
- *Conservation Bulletin* (September 2001, 58–9)
- *British Archaeology* (October 2001, 32–3)
- The Megalithic Portal website (added September 2001 – http://www.megalithic.co.uk)
- *3rd Stone* (Winter 2001/2002 (Issue 41), 4)
- *Stonehenge Vision* (Issue 5, March 2002, 4)

WORKSHOPS

Two workshops were convened which involved focused group discussions of particular aspects of the framework.

Workshop 1: 17 July 2001 – Society of Antiquaries, London
Participants included: Mike Allen, Gordon Barclay, David Batchelor, Isabelle Bedu, Barbara Bender, Richard Bradley, Humphrey Case, Helena Cave-Penny, Amanda Chadburn, Tim Champion, Benjamin Chan, Christopher Chippindale, Sue Cole, Vanessa Constant, Simon Crutchley, Brian Davison, Timothy Darvill, Bruce Eagles, Kate Fielden, Peter Fowler, Alex Gibson, Jan Harding, David Hinton, Andrew Lawson, David Miles, Ehren Milner, Dai Morgan-Evans, Adrian Olivier, Mike Parker Pearson, Mike Pitts, Melanie Pomeroy-Kellinger, Andrew Reynolds, Ursula Rimbotti, Paul Robinson, Clive Ruggles, John Samuels, Derek Simpson, Gillian Swanton, David Thackray, Karen Walker, Martin Watts, Ann Woodward, and Chris Young

Workshop 2: 13 September 2001 – Society of Antiquaries, London
Participants included: Gary Ancell, David Batchelor, Rosamund Cleal, Sue Cole, Vanessa Constant, Timothy Darvill, Kate Fielden, Peter Fowler, Vince Gaffney, Gill Hey, David Hinton, Andrew Lawson, John Maloney, Nick Merriman, David Miles, Ehren Milner, Mike Pitts, Paul Robinson, John Samuels, Derek Simpson, and David Thackray

WESSEX SEMINAR

A seminar to launch and discuss the first draft of the Framework was held at Salisbury College on the 11 October 2001. The seminar was also intended to promote awareness and provide an opportunity for interested parties and individuals who had not attended the workshops. Approximately 25 individuals attended the meeting which included an extensive discussion period.

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CONFERENCES AND MEETINGS

Display material and hand-outs were taken to the following meetings and conferences, which also included short presentations on the project:

- Theoretical Archaeology Group Annual Meeting. December 2001. Dublin
- Council for British Archaeology meeting entitled 'Stonehenge and the Roads'. 27 February 2002. London

COMMENTS AND RESPONSES RECEIVED

The following individuals and organizations provided helpful comments on the draft Framework documents, or parts thereof, or answered queries about specific matters:

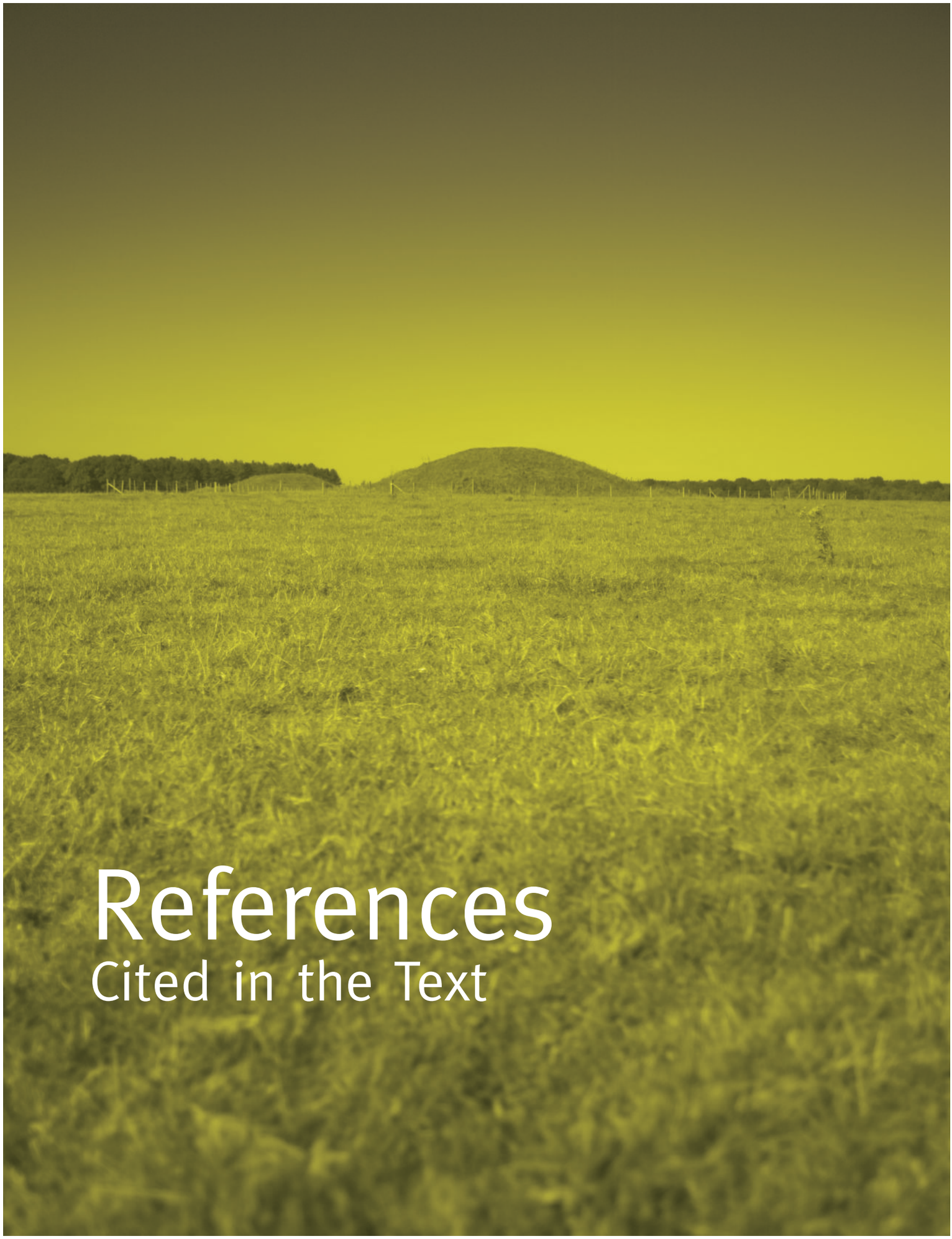
Greg Alexander, Paul Ashbee, Graeme Barker, David Batchelor, Isabelle Bedu, Bob Bewley, Nick Burton, Humphrey Case, Rodney Castleton, Ben Chan, Chris Chippindale, Sarah Cross, Andrew David, Sue Davies, Bruce Eagles, Brian Edwards, Marianne Eve, Sally Exon, David Field, Kate Fielden, Vince Gaffney, Gerald S Hawkins, David Hinton, Neil Holbrook, David Jennings, Jim Keyte, George Lambrick, Jonathan Last, Andrew Lawson, David Miles, Allan Morton, Brendan O'Connor, Michael Parker Pearson, Mike Pitts, Melanie Pomeroy-Kellinger, Talon Profit, Andrew Reynolds, Paul Robinson, Clive Ruggles, Gill Swanton, Dorothy Treasure, Geoffrey Wainwright, Ann Woodward, Richard Wort, Ron Yorston, and Christopher Young

WORKING PARTY

A working party of the Stonehenge Interpretation Panel was established to oversee the production of the Research Framework. Its membership comprised:

Graeme Barker, David Batchelor, Amanda Chadburn, Timothy Champion, Brian Davison, George Lambrick, Andrew Lawson, David Miles (Chair), Martin Papworth, Melanie Pomeroy-Kellinger, Clive Ruggles, Jude Stammers, David Thackray, and Geoffrey Wainwright

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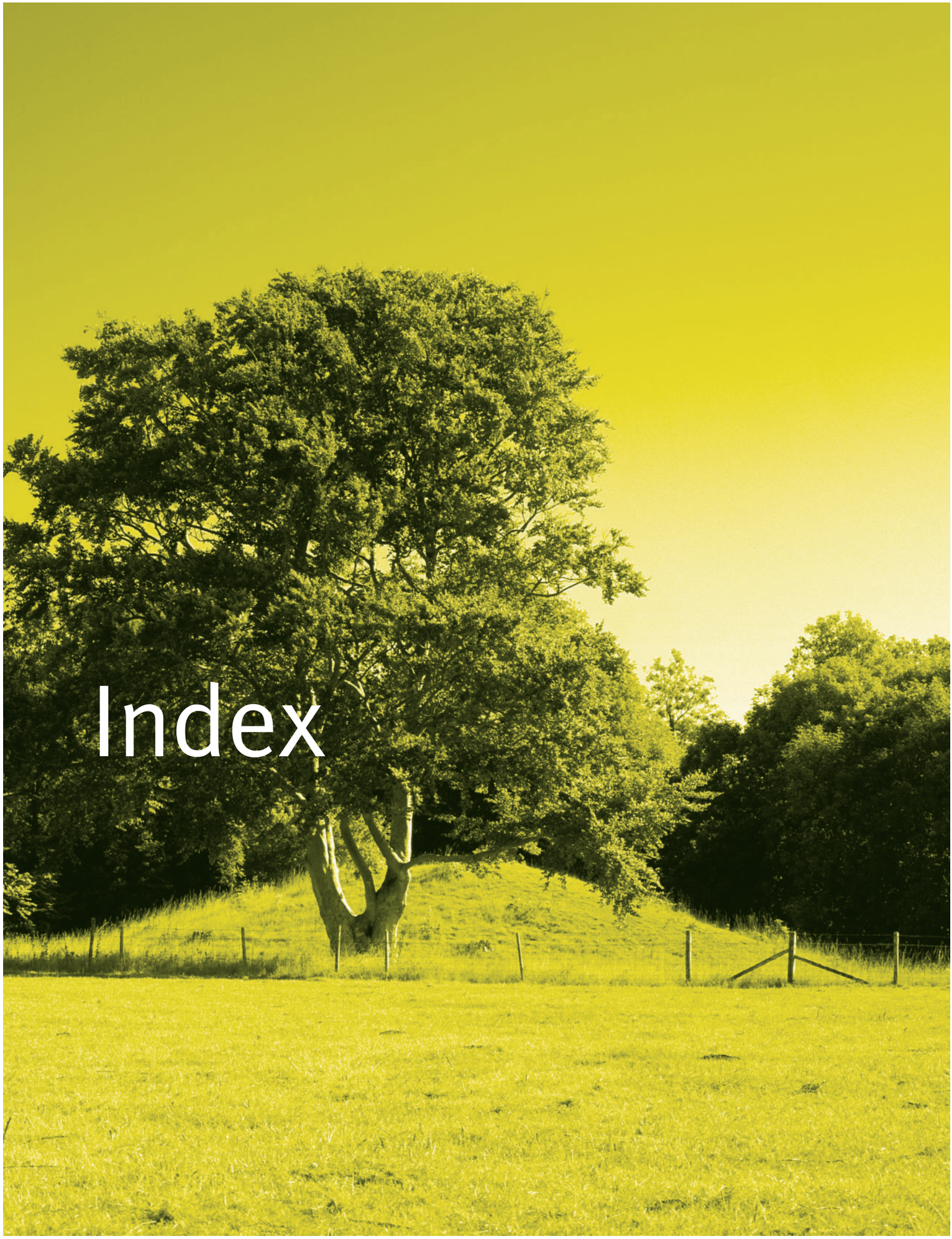
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