A Research Framework for the Stonehenge, Avebury and Associated Sites World Heritage Site

Research Activity in the Stonehenge Landscape 2005–2012

Timothy Darvill

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with contributions by Matt Leivers, Andrew B. Powell, Melanie Pomeroy-Kellinger and Sarah Simmonds

Illustrations by Rob Goller

Contents

List of Figures

List of Plates

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Foreword

In 1986 Stonehenge, Avebury and Associated Sites was one of the small group of seven sites which were the first in the UK to be inscribed on the UNESCO World Heritage List. I am therefore delighted to see the publication of the first joint Stonehenge and Avebury Research Framework on the 30th Anniversary of its inscription as a World Heritage Site.

Stonehenge and Avebury were inscribed as one World Heritage Site for their Outstanding Universal Value. The Site is recognised by UNESCO as a masterpiece of human creative genius that demonstrates the technological and engineering skills of a long lost Neolithic and Bronze Age culture. The World Heritage Site extends far beyond the iconic henges at Avebury and Stonehenge to encompass their surrounding landscapes, each containing an unusually dense concentration of exceptionally well-preserved prehistoric monuments. Both landscapes have a research potential that is internationally recognised. Over the last 30 years, great advances have been made in our understanding of the World Heritage Site as well as its protection and enhancement.

The UNESCO Operational Guidelines for the Implementation of the World Heritage Convention advise States Parties to make resources available to encourage and undertake research. They recognise that knowledge and understanding are fundamental to the identification, management, and monitoring of World Heritage properties. The publication of this first joint Research Framework is an important step in fulfilling this ambition.

Historic England has been eager to produce a single Research Framework covering the whole World Heritage Site in line with UNESCO's recommendation to take a unified approach to managing serial Sites. In doing so, the World Heritage Site partners have built on the success of the earlier *Avebury Research Agenda* and *Stonehenge Research Framework.*

This new joint Framework is the result of committed and effective partnership working. The document is a true collaboration; the work of individual researchers, university academics, national and local authority staff, museum curators and private sector heritage professionals. The wider community has also had the opportunity to influence the questions being investigated through public consultation undertaken as part of the document's development.

This Research Framework will be available to universities and research organisations as well as the wider community. There is much here that will help to inspire and direct future research into these remarkable and unparalleled landscapes over the next 30 years and beyond.

Duncan Wilson
Chief Executive, Historic England

Abstract

The Stonehenge, Avebury and Associated Sites World Heritage Site comprises two areas of Wessex chalkland some 40 km apart, connected by their distinctive complexes of Neolithic and Bronze Age sites. Both areas have played a central role in the understanding of Britain's prehistoric past and are among the most iconic and widely-recognised prehistoric landscapes in the world. Their international significance was recognised by their inscription on UNESCO's World Heritage List in 1986, and it is particularly apt that this new Research Framework should mark the 30th anniversary of the World Heritage Site's creation.

These volumes represent the first step towards the production of a fully integrated Research Framework for the Site. The first volume consists of an update to the Resource Assessment for the Stonehenge area, which extends the scope of the original version (Darvill 2005) to 2012. The second contains a new Resource Assessment for the Avebury area which incorporates the 2008 boundary changes. Both of these volumes explicitly expand the focus of the earlier Resource Assessments from archaeology to the wider historic environment. The third volume is a Research Agenda and Strategy for the whole World Heritage Site. The rationale for the form this Framework takes is complex, and is laid out in the Introduction, but it is envisaged as an intermediate stage between the separate documents that were originally produced (AAHRG 2001; Darvill 2005) and a single integrated assessment, agenda and strategy.

The new Framework is the result of consultation across the research community in its broadest definition. Authors were invited to produce resource assessments and technical summaries; workshops and meetings guided the initial drafts of the Research Agenda; the Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG) provided criticism of both. Drafts of texts were presented for public consultation and comment via the internet. The Research Strategy was formulated based on their content, and the whole circulated for further comment. In consequence, the new Research Framework offers a guide that reflects the priorities and encompasses the views of the widest possible community. It is in every sense a collaborative document, produced by and for the constituency of researchers working within the World Heritage Site.

These documents are intended to guide and inform future research activities in the historic environment and, in turn, its management and interpretation. The intention is that it will be underpinned by data-management systems that can be actively maintained as project-specific tools into the future. This new framework, therefore, fulfils a number of objectives. It provides revisions (redrafting and updating) of the existing Avebury and Stonehenge resource assessments; it starts the process of harmonising and integrating the earlier separate research documents with the production for the first time of a single, combined research agenda and strategy for the whole World Heritage Site; and it develops a method to facilitate future review and revision. In future, this task will be undertaken by ASAHRG, which replaces the Avebury Archaeological and Historical Research Group to promote and disseminate historical and archaeological research in the World Heritage Site as a whole.

Recent Research in the Stonehenge Landscape 2005–2012 consists of summaries of development-prompted research and problem-orientated research, followed by a section looking at recently changed and changing aspects of research: dating, long-distance connections, landscape structure, and the relevance of other monuments. *The Avebury Resource Assessment* provides both cross-period assessments of the resource based on a number of specific research methods which have been used to develop our understanding of the archaeology in the Avebury area, and a series of period-based assessments, from the Palaeolithic to the modern period. The *Research Agenda* articulates the significant gaps in our understanding, by posing some of the outstanding questions in a form that is relevant to a number of chronological periods and major thematic subjects of relevance to the unique character of the World Heritage Site. The *Research Strategy* sets out a framework of principles under which research should be carried out in the World Heritage Site, and identifies practical means by which such programmes of investigation can be facilitated, co-ordinated, resourced, sustained and communicated, and by which the Research Framework as a whole can be reviewed and updated.

The continuing nature of archaeological research inevitably means that many discoveries – some of considerable

significance – were made during the period of the writing of these volumes. In order to bring the years of work which have gone into these documents to fruition, a line had to be drawn. That the Research Framework is not absolutely up-to-date is not a failing, but rather an indication of the need for a planned approach to investigation in an area which still, after centuries of investigation, has not given up all of its secrets.

Abrégé

Le site classé au patrimoine mondial de Stonehenge, Avebury et sites associés comprend deux zones crayeuses, distantes de quelques 40 km, unies par leurs complexes particuliers de sites du néolithique et de l'âge du bronze. Ces deux zones ont joué un rôle central dans la compréhension du passé préhistorique de la Grande-Bretagne et se situent parmi les paysages préhistoriques les plus symboliques et les mieux connus du monde. Leur importance internationale fut reconnue par leur inscription sur la liste des sites classés au patrimoine mondial de l'UNESCO en 1986, et il est particulièrement approprié que ce nouveau cadre de recherches vienne marquer le trentième anniversaire de la création de ce site patrimonial. Ces volumes constituent le premier pas vers la production d'un cadre de recherches entièrement intégré pour ce site. Le premier volume consiste en une mise à jour de l'évaluation des ressources de la zone de Stonehenge, qui allonge la portée de la version originale (Davill 2005) jusqu'en 2012. Le second contient une nouvelle évaluation des ressources pour la zone d'Avebury qui incorpore les changements de limites de 2008. Ces deux volumes agrandissent explicitement le point central de l'évaluation précédente, de l'archéologie à l'environnement historique, plus étendu. Le troisième volume consiste en un programme et une stratégie de recherches pour l'ensemble du site classé au patrimoine mondial. La logique derrière la forme que prend ce cadre est complexe et est expliquée dans ses grandes lignes dans l'introduction, mais on l'envisage comme un stade intermédiaire entre les documents séparés qui furent produits originellement (AAHRG 2001; Darvill 2005) et une évaluation intégrée unique, programme et stratégie.

Le nouveau cadre est le résultat d'une consultation de toute la communauté des chercheurs au sens le plus large du terme.
Des auteurs furent invités à produire des évaluations des ressources et des résumés techniques, des ateliers et des réunions orientèrent les ébauches initiales du programme de recherches, le Groupe de Recherches Archéologiques et Historiques d'Avebury et de Stonehenge (ASAHRG) fournit un bilan critique des deux. Des ébauches des textes furent soumises à une consultation publique et à des commentaires via l'internet. La stratégie de recherche fut élaborée sur la base de leur contenu et on fit circuler le tout pour davantage de commentaires. Par conséquent le nouveau cadre de recherches offre un guide qui reflète les priorités et englobe les idées de la plus large communauté possible. C'est un document collaboratif dans tous les sens du terme, produit par, et pour, les membres du collège de chercheurs travaillant dans le site classé au patrimoine mondial.

Ces documents sont destinés à guider et inspirer les futures activités de recherches dans cet environnement historique et, le moment venu, sa gestion et son interprétation. L'intention est qu'il sera étayé par des systèmes de gestion de données qui peuvent être activement conservés dans l'avenir comme outils spécifiques à une mission. Ce nouveau cadre satisfait donc à un certain nombre d'objectifs. Il apporte des révisions (nouvelle rédaction et mise à jour) des évaluations existantes des ressources d'Avebury et de Stonehenge; il met en marche le procédé d'harmonisation et d'intégration des précédents documents de recherches séparés avec pour la première fois la production d'un programme unique de recherches et d'une stratégie combinée pour l'ensemble du site classé au patrimoine mondial, et il développe une méthode pour faciliter les prochaines revues et révisions.Dans l'avenir cette tâche sera entreprise par ASAHRG, qui remplace le Groupe de Recherches Archéologiques et Historiques d'Avebury pour la promotion et dissémination de la recherche historique et archéologique dans l'ensemble du site classé.

Récentes recherches dans le paysage de Stonehenge 2005–2012 consiste en résumés de recherches suite à des projets de construction et de recherches liées à un problème, suivis d'une section examinant les aspects récemments changés ou changeants de la recherché: datation, relations lointaines, structure du paysage, et rapport avec d'autres monuments. *L'évaluation des ressources d'Avebury* fournit à la fois des évaluations de la ressource à travers le temps reposant sur des méthodes de recherche spécifiques qui ont été utilisées pour développer notre compréhension de l'archéologie dans la région d'Avebury, et une série d'évaluations, concentrée sur une période, du paléolothique à la période moderne.

Le programme de recherches expose les importantes lacunes dans notre compréhension en posant certaines des questions en suspens sous une forme qui est

appropriée à certaines périodes chronologiques et des sujets thématiques majeurs appropriés au caractère unique du site. *La stratégie de recherche* met en place un cadre de principes en fonction desquels la recherche devrait être entreprise dans le site classé, et identifie des moyens pratiques grâce auxquels de tels programmes d'investigation peuvent être facilités, coordonnés, financés, soutenus et communiqués et par lesquels le cadre de recherche dans son ensemble peut être revu et mis à jour.

La nature continue de la recherche archéologique signifie qu' inévitablement de nombreuses découvertes, certaines extrèmement importantes, eurent lieu pendant la période où on écrivait ces volumes. De manière à ce que les années de travaux qui sont passées dans ces documents portent leur fruit, il nous a fallu tirer un trait. Que le cadre de recherches ne soit pas parfaitement à jour n'est pas un échec, mais plutôt une indication du besoin d'une approche planifiée des recherches dans une zone qui, encore maintenant, après des siècles d'investigation, n'a pas révélé tous ses secrets.

Traduction: Annie Pritchard

Zusammenfassung

Die Weltkulturerbestätte Stonehenge, Avebury and Associated Sites (Stonehenge, Avebury und zugehörige Fundstellen) besteht aus zwei 40 km voneinander entfernten Kreidelandschaften in der Region Wessex, die beide durch einzigartige Komplexe neolithischer und bronzezeitlicher Fundstellen gekennzeichnet sind. Beide Gebiete sind von zentraler Bedeutung für unser Verständnis der britischen Vorgeschichte und gehören weltweit zu den prähistorischen Landschaften mit dem höchsten Wiedererkennungswert und Symbolcharakter. Ihre internationale Bedeutung verhalf ihnen 1986 zum Eintrag in die Liste der UNESCO Welterbestätten, und es ist daher mehr als angemessen, dass dieses neue Rahmenkonzept für die Forschung zum 30. Jahrestag der Eintragung erscheint. Die vorliegenden Bände sind ein erster Schritt für die Festlegung eines ganzheitlichen Rahmenprogramms für die weitere Erforschung dieser Fundstellen. Der erste Band besteht aus einer Aktualisierung der ersten Version einer Bestandsaufnahme und Potentialseinschätzung für die Region um Stonehenge (Darvill 2005), wobei der abgedeckte Zeitraum bis auf 2012 erweitert wird. Der zweite Band beinhaltet eine neue Bestandsaufnahme und Einschätzung für die Region um Avebury, mit Berücksichtigung der Verschiebungen der Grundstücksgrenzen im Jahr 2008. Beide Bände sind explizit darauf angelegt, den Fokus der früheren Bestandsaufnahmen von einer rein archäologischen Perspektive auf die historische Landschaft als Ganzes zu erweitern. Der dritte Band enthält die Forschungsagenda und -strategie für die gesamte Welterbestätte. Die Gründe für die Form dieses Rahmenkonzeptes sind komplex und werden in der Einleitung beschrieben. Es ist beabsichtigt, dass das vorliegende Werk einen Zwischenschritt zwischen den zuerst angefertigten Einzeldokumenten (AAHRG 2011; Darvill 2005) und der angestrebten ganzheitlichen Bestandsaufnahme, Agenda und Strategie darstellt.

Das neue Rahmenkonzept ist das Ergebnis von Rücksprachen mit einer so inklusiv wie möglich definierten Forschungsgemeinschaft. Die einzelnen Autoren sollten Bestandsaufnahmen und fachliche Zusammenfassungen liefern; zu ersten Fassung der Forschungsagenda fanden begleitende Workshops und Treffen statt; der Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG) kommentierte beides kritisch. Erstfassungen der Texte wurden im Internet zugänglich gemacht, um Kommentare und Vorschläge der breiteren Öffentlichkeit einzuholen. Auf deren Grundlage wurde dann eine Forschungsstrategie ausformuliert und noch einmal zirkuliert, um weitere Kommentare zu ermöglichen. Somit bietet das neue Rahmenkonzept einen Leitfaden, der die Prioritäten und Ansichten der größtmöglichen Anzahl an Interessierten umfasst. Es handelt sich um ein in jedem Sinne kollaboratives Dokument, das von und für die in der Welterbestätte tätige Forschungsgemeinschaft erstellt wurde.

Die Dokumente sollen zukünftige Forschungsvorhaben in der historischen Landschaft, sowie deren Management und Interpretation begleiten und unterfüttern. Es ist geplant, dies durch Datenverwaltungssysteme zu unterfüttern, die zukünftig als projektspezifische Tools aktiv gepflegt werden können. Das neue Rahmenkonzept erfüllt daher mehrere Ziele. Es bietet eine Neubearbeitung (Neuentwürfe und Aktualisierungen) der existierenden Bestandsaufnahmen für Stonehenge und Avebury; es beginnt den Prozess, die bereits vorhandenen älteren Forschungsdokumente zu integrieren und mit der erstmaligen Schaffung einer einheitlichen, ganzheitlichen Forschungsagenda und -strategie für die gesamte Welterbestätte zu harmonisieren; und es entwickelt eine Methode, die zukünftige Prüfungen und Überarbeitungen ermöglicht. Diese Aufgabe wird in Zukunft von ASAHRG wahrgenommen. Sie ersetzen damit den Avebury Archaeological and Historical Research Group und werden historische und archäologische Forschungen in der Welterbestätte insgesamt fördern und veröffentlichen.

Neue Untersuchungen in der Landschaft um Stonehenge 2005–2012 besteht aus Zusammenfassungen von baubegleitenden oder problemorientierten Forschungsvorhaben, gefolgt von einem Abschnitt zu kürzlich veränderten oder sich verändernden Aspekten der Forschung: Datierung, Fernkontakte, Landschaftsstruktur und die Bedeutung anderer Monumente. Neben periodenspezifischen Abschnitten, vom Paläolithikum bis in die Moderne, bietet die *Bestandsaufnahme*

Avebury diachron angelegte Einschätzungen des Potentials der archäologischen Ressource, gestützt auf eine Reihe von Forschungsmethoden, die unser Verständnis der Archäologie von Avebury vertieft haben. Die *Forschungsagenda* legt die erheblichen, noch bestehenden Wissenslücken dar. Hierbei werden einige der noch unbeantworteten Fragen in einer Art und Weise formuliert, die ihre Relevanz für mehrere der chronologischen Perioden und Themenbereiche darlegt, welche für den einzigartigen Charakter der Welterbestätte von Bedeutung sind. Die *Forschungsstrategie* definiert ein Gerüst aus Prinzipien, nach denen sich weitere Forschungen in der Welterbestätte richten sollten und identifiziert praktische Wege, mittels derer solche Untersuchungsprogramme ermöglicht, koordiniert, finanziert, aufrechterhalten und kommuniziert werden sollen, sowie die Bestandsaufnahme selbst überprüft und aktualisiert werden kann.

Archäologische Forschung ist von Natur aus kontinuierlich. Es ist somit unvermeidbar, dass viele Entdeckungen – einige davon von erheblicher Tragweite – während des Schreibens der vorliegenden Bände gemacht wurden. Um die vielen Jahre Arbeit, die in diesen Dokumenten stecken, zu einem fruchtbaren Abschluss zu bringen, musste dennoch eine Grenze gezogen werden. Dass das Rahmenkonzept nicht absolut aktuell ist, ist jedoch keine Schwäche, sondern zeigt eher, wie wichtig ein gut durchgeplanter Ansatz für weitere Untersuchungen in einer Region ist, die selbst nach jahrhundertelanger Erforschung noch nicht alle ihre Geheimnisse preisgegeben hat.

Übersetzung: Daniela Hofmann

Introduction

by Matt Leivers, Andrew B. Powell, Melanie Pomeroy-Kellinger and Sarah Simmonds

The *Stonehenge, Avebury and Associated Sites World Heritage Site* comprises two areas of Wessex chalkland, 40 km apart, surrounding Stonehenge and Avebury (Fig. 1), that are renowned for their distinctive complexes of Neolithic and Bronze Age sites. These sites have played a central role in the understanding of Britain's prehistoric past and – together with their surrounding landscapes – have international significance, as recognised by the inscription of the World Heritage Site in 1986 on UNESCO's World Heritage List for its *Outstanding Universal Value*.

Over the centuries, research into these sites and the landscapes they occupy has taken many forms and reached many and diverse conclusions: about the people who used them and about how, when and why they were constructed. Some of that research contributed to the degrading of the archaeological remains and it is the awareness that this finite resource needs to be effectively conserved which makes a framework for the facilitation and direction of sustainable research central to the management of the World Heritage Site (UNESCO 1972, Article 5).

Management Plans and Research Frameworks

UNESCO stresses the need for 'serial' World Heritage Sites comprising more than one area (such as Stonehenge and Avebury) to have 'a management system or mechanisms for ensuring the co-ordinated management of the separate components' (UNESCO 2013, para. 114). Although arguments have been advanced for the separation of Stonehenge and Avebury into separate World Heritage Sites, this possibility was ruled out in December 2007 when the Government announced that there would be no re-nomination of the World Heritage Site. The individual management plans – the *Stonehenge World Heritage Site Management Plan 2009* (Young *et al.* 2009), and the *Avebury World Heritage Site Management Plan* (Pomeroy-Kellinger 2005) – have recently been replaced by a joint management plan for the whole World Heritage Site (*Stonehenge and Avebury World Heritage Site Management Plan*: Simmonds and Thomas 2015).

The two areas were also the subjects of separate research frameworks – *Archaeological Research Agenda for the Avebury World Heritage Site* (Avebury Archaeological and Historical Research Group 2001) and *Stonehenge World Heritage Site: An Archaeological Research Framework* (Darvill 2005).

The Avebury Research Agenda, published in 2001, was highly influential, being the first such document produced for any World Heritage Site. It was produced by the Avebury Archaeological and Historical Research Group (AAHRG), a group of professional curators, academics and freelance researchers who met to encourage, co-ordinate and disseminate research in the Avebury part of the World Heritage Site. A chronological and thematic approach was adopted in compiling the document, which consisted of individually-authored papers written by period and subject specialists.

The Stonehenge Research Framework, published four years later, was a significantly different document, reflecting the rapidly evolving thinking about the role, format and content of archaeological research frameworks. It, too, was based on the contributions of individual specialists, but it was compiled and edited by a single hand giving it a greater consistency of style and content; it also benefited from the availability of considerably greater resources for mapping and illustration.

Both research frameworks followed the tripartite structure recommended in *Frameworks For Our Past* (Olivier 1996), a strategic review of research policies undertaken for English Heritage. Each comprised a period-based *resource assessment* describing the current state of knowledge about the archaeological resource in their respective areas, a *research agenda* pointing out areas of research which could help fill gaps in that knowledge, and a *research strategy* formulating proposals and priorities for carrying out such research. Despite their shared overall structure, the organisation and presentation of these three main sections differed considerably between the two documents. Nonetheless, both shared a strong

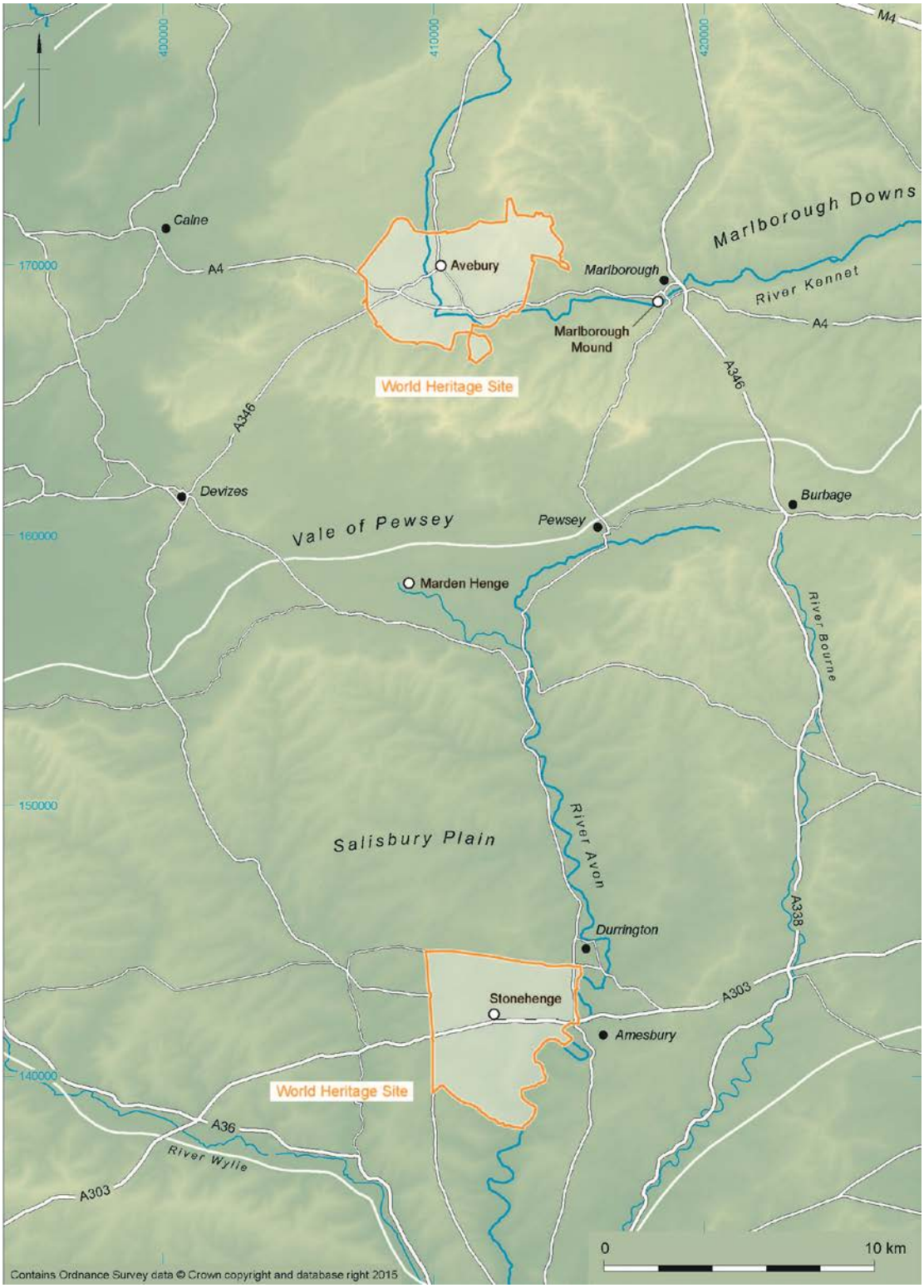

Figure 1 The WHS boundaries

emphasis on archaeology rather than the wider historic environment.

Review of the Existing Frameworks

by Melanie Pomeroy-Kellinger

Research frameworks are temporary documents, providing a point-in-time view of the state of knowledge, priorities and strategies for research as envisaged at their compilation. In the introduction to the original Avebury agenda it was stated that the document would be updated on a regular basis as research was conducted and new discoveries made, and as research priorities evolved (AAHRG 2001, 4). Similarly, the need for reflexivity and revision was made explicit in the Stonehenge framework (Darvill 2005, 32) which was anticipated as being a statement of research issues and priorities for approximately a decade (*ibid.*, 4).

Attempting to assess the relative success or failure of archaeological research frameworks is quite a challenging task. There are no agreed criteria for such an analysis, or a consensus on their value. There is a range of indicators which could be measured, such as how many research projects were undertaken, how many research questions were addressed, or how many new sites have been added to the Historic Environment Record (HER), but none of these are meaningful in isolation. In many ways it is easier to focus on what would constitute failure. In the case of the earlier documents for Avebury (AAHRG 2001) and Stonehenge (Darvill 2005), failure would mean that the documents were ignored and not used, which clearly has not been the case. The fact that there is presently a consensus that they need to be revised (and that funding has been obtained to undertake this process) can be seen as indicating a level of success.

The aims of both of the earlier documents were clearly set out (Avebury, section 1.3; Stonehenge section 1), and were similar: to actively encourage research into all periods, to improve understanding, to better inform other researchers, and to allow informed management to take place. Looking at the wide range of research and management projects undertaken since 2001 across both parts of the World Heritage Site, there is a good indication that many of these earlier aims have been addressed. There have been at least 10 major archaeological projects, and many other smaller ones, including the Silbury Hill project, SPACES, Negotiating Avebury, and others. These include both academic research and development-led projects, and both intrusive and non-intrusive fieldwork, and their results are outlined in the various sections of this document. It is apparent that the research frameworks have been referred to in fieldwork project designs, and indeed in bids for funding.

To what extent these projects would have been undertaken anyway, without the existence of the research frameworks, is difficult to assess; this was a subject of lively debate during a Research Agenda Workshop held in Devizes in June 2011. What is clear, however, is the large number of new discoveries, leading to the development of new theories and interpretations, which have resulted from these projects. In many ways they have led to a wider focus on the prehistoric landscapes surrounding the two iconic stone circles. With the media attention that has come with some of the discoveries, there is now a greater public appreciation of the complexity and significance of these landscapes. While many of these fieldwork projects have been published, it is anticipated that in the next few years a wealth of new information will become available.

Despite this, we know that the landscapes of Stonehenge and Avebury have not yet given up all of their secrets. However, what has been discovered in the last 10 years will help us to ask more detailed and complex questions in the future, and within the aims and objectives of this new, combined research framework. The discussions, debate and communication within the archaeological community resulting from the publication of the earlier documents and this revised version, will continue to be hugely beneficial to our understanding and management of these internationally significant landscapes.

Recent Research

Since 2001 major research has been undertaken in both parts of the World Heritage Site. This included survey, excavation and synthesis at Avebury and its surrounding monuments (Fig. 2), by a team from the Universities of Bristol, Leicester and Southampton (the Longstones and Negotiating Avebury projects) which had notable results, such as the discovery of the Beckhampton Avenue (Gillings *et al.* 2008). At Silbury Hill, English Heritage undertook conservation, repair and excavation, and the Romano-British settlement was examined. The on-going Between the Monuments Project (a collaborative effort by the Universities of

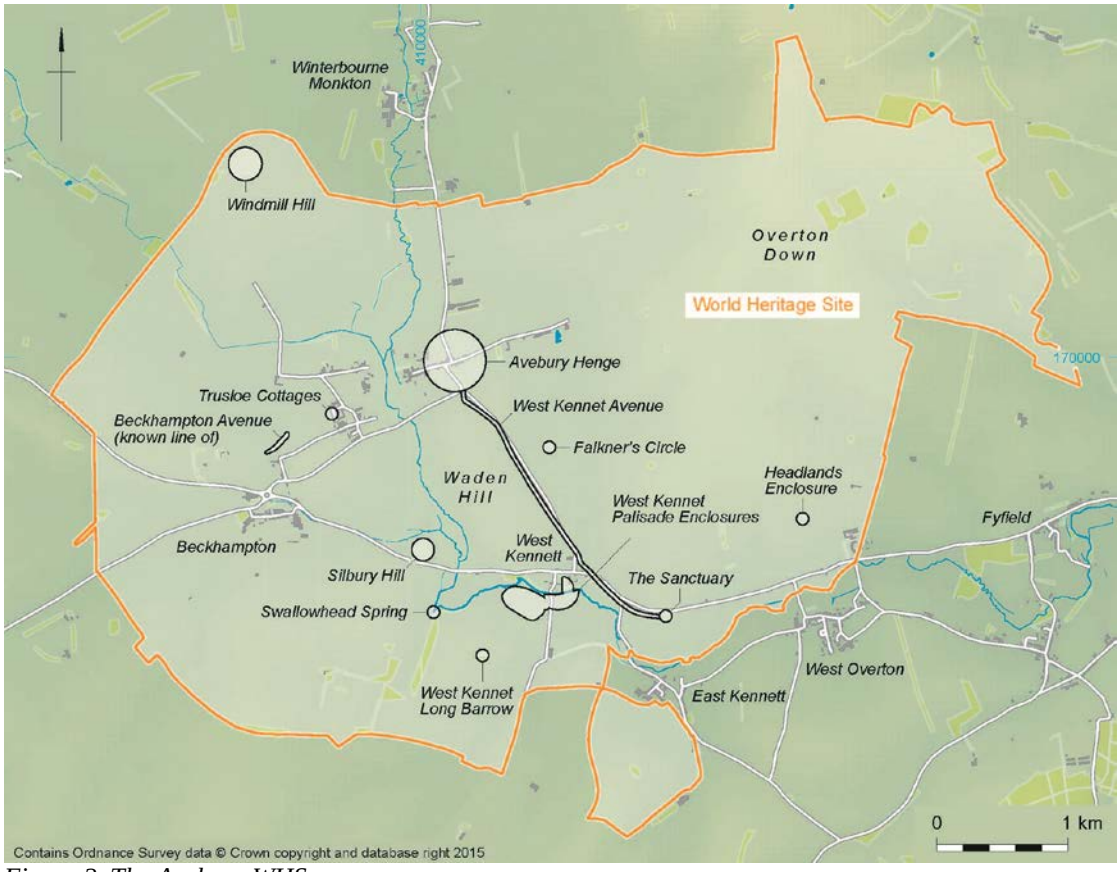

Figure 2 The Avebury WHS

Southampton and Leicester and the National Trust) has been investigating the character of human settlement in the Avebury landscape during the 4th to mid-2nd millennia cal BC, and its relationship to changing environmental and social conditions.

At Stonehenge (Fig. 3) excavation was carried out in 2008 by the SPACES Project, while several well-known prehistoric monuments close to Stonehenge were investigated by the Stonehenge Riverside Project, which also discovered the West Amesbury Henge at the end of the Stonehenge Avenue on the bank of the River Avon as well as investigating Aubrey Hole 7 within Stonehenge itself. The Stonehenge World Heritage Site Landscape Project (English Heritage) involved non-invasive survey of the Stonehenge environs alongside documentary and archive research (Field *et al.* 2014a and b; Bowden *et al.* 2015). The Stonehenge Hidden Landscapes project (by the Ludwig Boltzmann Institute, Birmingham University and international partners) has produced digital mapping of the Stonehenge landscape, revealing a wealth of previously-unknown sites via remote sensing and geophysical survey (Baldwin 2010; Gaffney *et al*. 2012).

Work on museum collections includes the Early Bronze Age Grave Goods Project by Birmingham University, and the Beaker People Project by the Universities of Sheffield, Durham and Bradford. Chronological modelling of the Stonehenge sequence has been revised (Marshall *et al*. 2012). Parch-marks observed during the dry summer of 2013 revealed the locations of missing sarsens 17–20 (Banton *et al*. 2014).

Practice-based research includes the publication of the surveys for the Highways Agency in advance of the proposed A303 road improvements (Leivers and Moore 2008), and further work associated with the new Stonehenge Visitor Centre, including the closure of the A344 and excavations on the line of the Avenue beneath it (Wessex Archaeology 2015).

The landscape of the entire World Heritage Site and its wider environs has now been mapped twice as part of the National Mapping Programme (NMP): in 1997–8 from all accessible aerial photographs, while in 2010–11 that mapping was further enhanced via the analysis of more recent reconnaissance photographs and of lidar data (Crutchley 2002;

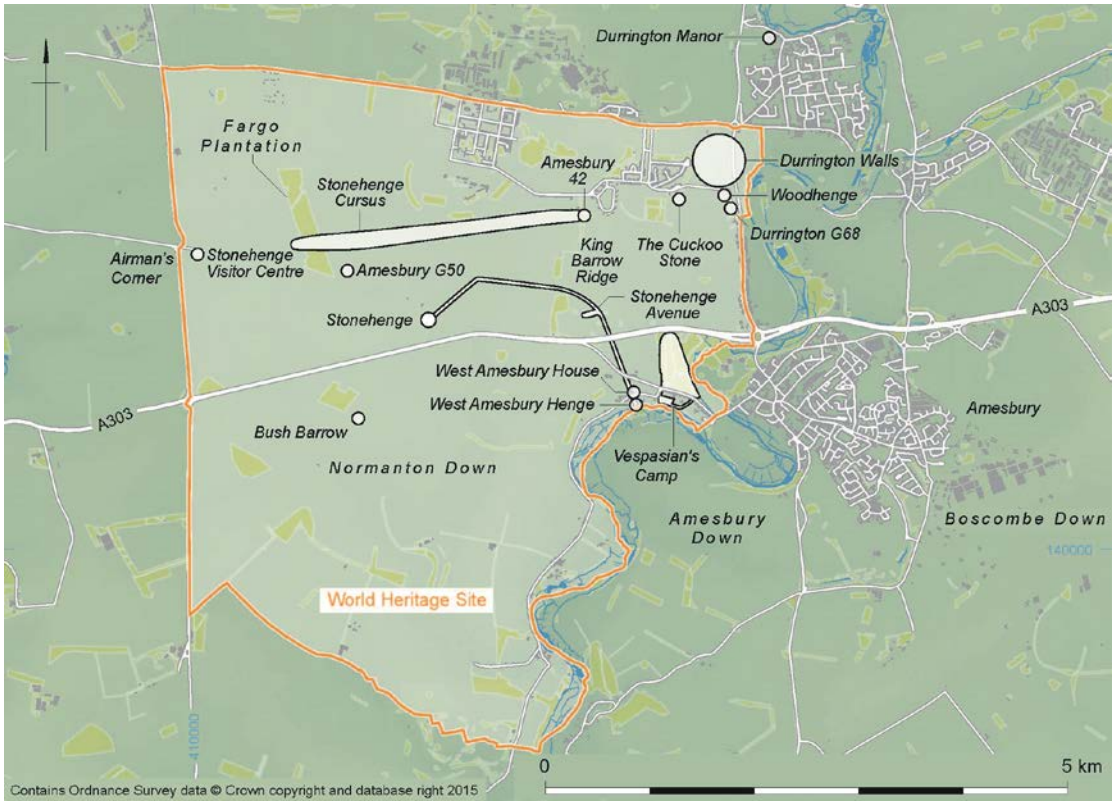

Figure 3 The Stonehenge WHS

Bewley *et al*. 2005; Barber 2016, Avebury Resource Assessment).

The New Research Framework

by Sarah Simmonds

The path to the production of the Stonehenge and Avebury Research Framework has been a complex one. During the period of review and update of the Avebury Research Agenda (AAHRG 2001), which began in 2008, a number of key changes occurred in the management context. These led to the decision to combine the Avebury document with the more recently-produced Stonehenge Research Framework (Darvill 2005) in order to create a joint Stonehenge and Avebury Research Framework. The decision to produce a three-volume framework was influenced by a number of factors, particularly the challenge of combining two very differently-produced resource assessments. This continuing difference in approach to the two halves of the World Heritage Site was in part a result of the funding criteria in place during the development of the joint framework.

A fundamental change in the management context was triggered by the governance review of the World Heritage Site in 2012. The review recommended a more joined-up approach to the management of the two halves of the World Heritage Site, and this had a significant influence on the decision to produce the first joint World Heritage Site Management Plan for Stonehenge and Avebury, published in 2015 (Simmons and Thomas 2015). Reflecting the move to closer working across the World Heritage Site the Avebury Archaeological and Historical Research Group (AAHRG) was expanded in 2014 to include Stonehenge and become the Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG). The decision to produce a joint research framework for Stonehenge and Avebury is part of this movement towards a more integrated approach to the single World Heritage Site.

Funding criteria for the production of research frameworks over this period also influenced the three-part publication format. The process of updating the Avebury Research Agenda began in 2008 following a period of peer review and an online survey circulated widely among the academic community. A project outline was submitted to English Heritage on behalf of AAHRG based on the needs identified in the review and Wessex Archaeology was contracted to put together a detailed project design. Funding was agreed for new graphics and mapping and project management.

No funding was available for the production of the new Resource Assessment, which consequently led to this section again being produced by individuals on a voluntary basis. This approach provided the engagement of the academic community and in-kind contribution required by funders. An editorial committee made up of members of AAHRG was established at the end of 2009. The process of inviting contributors to update the resource assessment began in 2010.

The decision to produce a joint research framework for Stonehenge and Avebury – although very much in line with its recommendations – did in fact precede the outcomes of the World Heritage Site governance review. In mid-2010, revised English Heritage funding criteria meant that support was no longer available for updates to existing research frameworks and it appeared that the update of the Avebury Research Agenda could no longer be supported. The idea of producing a combined Stonehenge and Avebury Framework was suggested. In addition to producing a consistent approach to the single World Heritage Site this would also constitute a new publication that would be eligible for funding. Funding was secured for the production of a new joint agenda and strategy but it was decided that the resource assessments for the two halves would still be considered updates. The Avebury resource assessment therefore maintained the approach of securing updates from individual contributors, while a brief update of the relatively recent Stonehenge Framework would be produced by the single author (Tim Darvill) who had produced the 2009 Stonehenge Research Framework. This approach was agreed by AAHRG who recognised both the necessity and the challenge of combining the two very different formats of resource assessment in a single joint framework.

Following completion of the Framework the project board decided to publish the Stonehenge and Avebury Research Framework in three parts to reflect the very different approach to production of the two resource assessments. The joint agenda and strategy section has been published as the third part of the Framework.

Aims and Objectives

The new Framework is intended to cover the whole World Heritage Site, revising and updating the earlier documents. It is the result of consultation across the research community (in its broadest definition) and is intended to guide and inform future research activities in the historic environment and, in turn, its management and interpretation. The intention is that the Framework will be underpinned by data-management systems that can be actively maintained as project-specific tools into the future. This new Framework, therefore, fulfils a number of objectives:

- it provides revisions (redrafting and updating) of the existing Avebury and Stonehenge resource assessments, incorporating the 2008 boundary changes to the World Heritage Site, and explicitly expanding the focus from archaeology to the wider historic environment;
- it starts the process of harmonising and integrating the earlier separate research documents with the production for the first time of a single, combined research agenda and strategy for the whole World Heritage Site; and
- it develops a method to facilitate future review and revision. In future, this task will be undertaken by the Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG), which replaces AAHRG to promote and disseminate historical and archaeological research in the World Heritage Site as a whole.

Consultation

Since the revised framework was first proposed, various forms of consultation have been undertaken as to its form and content. Named authors were invited to produce resource assessments and technical summaries; workshops and meetings guided the initial drafts of the Research Agenda; ASAHRG provided criticism of both. Drafts of these sections were presented for public consultation and comment via the internet, prior to further revision and comment by ASAHRG and Historic England. Following their finalisation, the Research Strategy was formulated based on their content, and the whole circulated for further comment. The entire process was guided by a Project Board.

In consequence, the new Research Framework offers a guide that reflects the priorities and encompasses the views of the widest possible community. It is in every sense a collaborative document, produced by and for the constituency of researchers working within the World Heritage Site.

Plate 1 Removing the A344 during the Stonehenge Environmental Improvement Project © Copyright Wessex Archaeology

Geographical Scope

One problem raised by the 'serial' nature of the World Heritage Site, comprising two relatively small areas of landscape separated by a distance of some 40 km, is that of determining the appropriate geographical scope for its Research Framework (Fig. 1). The boundaries of the two areas are largely arbitrary, although the development in them of notable complexes of monuments does distinguish them from much of the intervening (and surrounding) landscape. Nonetheless, the density of archaeological sites and monuments more widely across Salisbury Plain, the Vale of Pewsey and the downland around Avebury does mean that research into the World Heritage Site cannot be undertaken in isolation. Indeed, the presence of a henge at Marden of comparable size to those at Avebury and Durrington Walls (and approximately midway between them), and of a mound at Marlborough comparable to Silbury Hill, as well as other monument complexes at a greater distance, such as in the Thames Valley and on Cranborne Chase, indicates that many of the questions which can be asked about the World Heritage Site can only be answered if consideration is given to a much wider area.

However, the World Heritage Site lies within, and close to the eastern edge of, the area covered by the South West Archaeological Research Framework (SWARF, Webster 2008), which is bordered to the east by that covered by the Solent Thames Research Framework (STRF, Hey and Hind 2014). Together these two frameworks cover all the Wessex chalkland, which defines the wider landscape occupied by the World Heritage Site. Although they encompass much larger areas than the present research framework, they articulate many of the broader research issues, of all periods, which are also of general relevance to the World Heritage Site. They also cover some specific issues relating to the Stonehenge and Avebury monumental landscapes, and the other monument complexes in their respective regions.

For these reasons, it has not been considered necessary to impose another arbitrarily defined 'study area' around the two areas of the World Heritage Site. Instead, this research framework keeps a close focus on the World Heritage Site, while recognising variable wider contexts as appropriate.

Structure

Although the new Research Framework covers the whole of the World Heritage Site, only its agenda and strategy sections have been fully integrated. Because the levels of revision considered appropriate for the two resource assessments differed so markedly, their integration was not considered possible at this stage. This framework therefore comprises a number of component parts.

Resource Assessment

Not only is there at present no overall resource assessment for the whole of the World Heritage Site, there also remain significant differences in the organisation and presentation of the current resource assessments for the Avebury and Stonehenge areas, as brought together here.

Stonehenge
The 2005 resource assessment remains current, but it is supplemented by this update by the same author. This consists of summaries of development-prompted research and problem-orientated research, followed by a section looking at recently changed and changing aspects of research: dating, long-distance connections, landscape structure, and the relevance of other monuments.

Avebury
The Avebury Resource Assessment has, for the most part, been completely re-written and expanded, and the new version replaces that contained in the 2001 document. As with the original Avebury resource assessment, individual authors provided papers on a voluntary basis, and not all conformed to the same template. In consequence, two (Romano-British and mid–late Saxon) are updates similar to that produced for Stonehenge, rather than full reassessments. In those instances, the original 2001 assessments have been included here for the sake of completeness. Most of the resource assessments were produced in 2011 and 2012, except for the sections covering environmental archaeology, GIS, the Iron Age, and modern Avebury, which date from 2013, the post-medieval and modern resource assessment, which dates from 2014, and the assessment of built heritage, which dates to 2015.

The resource assessment is split into two parts. The first, *Methods of Research*, provides cross-period assessments of the resource based on a number of specific research methods, old and new, which have been used to develop our understanding of the archaeology in the Avebury area. Descriptions of some of these methods, and in some cases assessments of the resource as revealed by them, were provided in *Part 5: Methods and Techniques* of the 2001 framework, as well as in a chapter on *Palaeo-Environmental Evidence* at the end of the original resource assessment.

The second part, *Period-Based Assessments*, represents to a large extent the complete replacement of the 2001 resource assessment. It now includes, however, papers on the *Post-Medieval* period, *Built Heritage*, and *Modern Avebury*, as well as separating the Middle and Late Bronze Age.

Research Agenda and Research Strategy

The new Research Agenda and Strategy cover for the first time both parts of the World Heritage Site. In the tripartite structure recommended by Olivier (1996), as followed by the earlier Avebury and Stonehenge frameworks, these two sections appear to have quite distinct roles, the agenda describing the gaps in our knowledge and the strategy proposing ways of filling those gaps. There is, however, a degree of overlap between them, since some research questions cannot be realistically addressed until others have been answered. Finding answers to some questions, therefore, becomes part of the strategy for answering other questions.

There have been a number of guiding principles in the compiling of the agenda and strategy. First, an attempt had been made to make the document recognisable, as far as possible, as a progression from the two earlier versions, despite their evident differences in approach, combining both thematic and period-based components. Secondly, consideration has been given to the need for it to be in a form suitable for future combined revision. Thirdly, as the agenda is intended to be a working document of use to a wide range of audiences, the objective has been to give it a relatively straightforward and transparent structure; what it may lack in theoretical and philosophical

Plate 2 Neolithic timber settings south of Woodhenge © Copyright Stonehenge Riverside Project

sophistication, it is hoped that it gains in clarity and usability.

Research Agenda

The purpose of the agenda is to articulate the significant gaps in our understanding, by posing some of the outstanding questions in a form that is relevant to a number of chronological periods and major thematic subjects of relevance to the unique character of the World Heritage Site. The first part of the agenda outlines the themes which underlie the period-based questions described in the second. These questions are those generated during the process of workshops, consultation and comment outlined above.

Research Strategy

There were significant differences in the structure and content of the two previous strategies. The *Research Strategies* in the original Avebury agenda comprised largely specific methodologies for answering specific questions, while the *Research Strategy* in the Stonehenge document consisted more of an overarching plan, made up of a series of objectives under a number of broad thematic headings.

The new research strategy has a number of aims:

- to set out a framework of principles under which research should be carried out in the World Heritage Site; and
- to identify practical means by which such programmes of investigation can be facilitated, co-ordinated, resourced, sustained and communicated, and by which the research framework can be reviewed and updated.

After considerable discussion, it remained of particular concern to the Project Board and authors that the Research Strategy was not prescriptive. Consequently, it is a deliberate move away from a document which prioritises particular pieces of research, instead offering guidance designed to encourage innovative research which exceeds the requirements of 'best practice'.

The New Research Framework's Components

Although the individual parts of this present Research Framework collectively cover the whole of the World Heritage Site, it remains an intermediate stage in the production of a fully integrated framework, and is on its own a necessarily incomplete document. It needs to be read in conjunction with the 2005

Stonehenge framework particularly and, to a lesser degree, with the 2001 Avebury agenda. Although some elements of the original Avebury agenda have been completely re-written, the cumulative nature of archaeological research and the re-iterative nature of research frameworks mean that these superseded components still have a degree of currency and value. All relevant components of the past and present frameworks, therefore, will be accessible online at a single location on the Stonehenge, Avebury and Associated Sites World Heritage Site website (http://www.stonehengeandaveburywhs.org/management-of-whs/stonehenge-avebury-research-framework/).

The new *Stonehenge, Avebury and Associated Sites World Heritage Site Research Framework* comprises the following main component parts:

- **Resource Assessment**
  Avebury Resource Assessment (Leivers and Powell (eds) 2016)
  Stonehenge Resource Assessment (Section 2: Darvill 2005)
  Stonehenge Update (this volume)
  Avebury Resource Assessment (Part 1: AAHRG 2001)

- **Research Agenda**
  Stonehenge and Avebury Research Agenda (Leivers and Powell 2016)
  Avebury Research Agenda (Part 2: AAHRG 2001)
  Stonehenge Research Agenda (Section 3: Darvill 2005)

- **Research Strategy**
  Stonehenge and Avebury Research Strategy (Leivers and Powell 2016)
  Avebury Research Strategy (Part 3: AAHRG 2001)
  Stonehenge Research Strategy (Section 4: Darvill 2005)

Radiocarbon Dates

Calibrated date ranges were calculated by the maximum intercept method (Stuiver and Reimer 1986), using the program OxCal v4.1 (Bronk Ramsey 1995; 1998; 2009) and the INTCAL09 dataset (Reimer *et al.* 2009). Ranges are rounded out to the nearest 10 years.

Lifespan

The lifecycle of this document is likely to be between five and ten years, parallel to the *Stonehenge and Avebury World Heritage Site Management Plan*, and depending on the pace of research in the World Heritage Site. The progress of research will be monitored by ASAHRG, who will determine when a further revision is necessary. The next version of the Research Framework should fully integrate both parts of the World Heritage Site into a single document.

Research Activity in the Stonehenge Landscape 2005–2012

by Timothy Darvill

(Received June 2012)

Introduction

Since the cut-off date of January 2005 for activities included in the first Research Framework (Darvill 2005), work within the Stonehenge part of the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS) has continued apace, including the first excavations for more than 40 years inside Stonehenge itself. This review continues the story up until March 2012, and considers both development-driven and curiosity-driven research. Much of the work, regardless of its origination or operational context, has contributed towards the furtherance of 20 out of 25 research objectives articulated in Darvill 2005. This is a remarkable achievement within a period of just six years or so, and in part illustrates the continuing attraction of Stonehenge and its landscape as a key resource for the investigation, illustration, and understanding of British prehistory and its wider European context. It also illustrates the value of using the WHS as a laboratory for the innovation, testing, and validation of new methods and techniques that even when applied to familiar archaeological landscapes provide new discoveries and new insights of real significance.

The Stonehenge part of the WHS is a dynamic working landscape requiring active management, maintenance, and improvement which naturally gives rise to the need for predetermination works (desk-based assessments; field evaluations; Environmental Impact Assessments etc.) as well as mitigation schemes during groundworks and site-based operations. These provide an interesting randomizing element to the study of the landscape which usefully complements the more targeted investigations prompted by problem-orientated research.

The following account is divided into two parts. First there is a brief overview of the research undertaken and the results achieved. Second, building on these findings, attention is directed towards changing understandings of selected aspects of the past, the landscape, and the sites within it. In compiling this account extensive use has been made of project-related publications, many of which are interim statements. However, mention may also be made of several syntheses and overviews that have appeared between 2005 and 2012, notably Darvill's (2006) study of the Stonehenge landscape from earliest times through to the 20th century AD from a biographical perspective; Burl's (2006) history of Stonehenge; Lawson's (2007) overview of archaeology in Wessex drawing heavily on the results of investigations by Wessex Archaeology; Richards' (2007) story of what is known about the monument; Hill's (2008) incisive historical overview of changing interpretations of Stonehenge and what it means to people; Johnson's (2008) innovative study of the lay-out and design of Stonehenge; and Chippindale's (2012) fourth revision of his encyclopaedic work on Stonehenge and its history.

Research Undertaken

Research undertaken during the time period covered here can be divided into that prompted by development proposals and problem-orientated investigations. The main database of the Archaeological Investigations Project records a total of 47 archaeological events within the parishes of Durrington, Amesbury, Wilsford and Winterbourne Stoke in the period 2006–2010, just under half being desk-based assessments, field evaluations, and Environmental Impact Assessments, while just over half are post-determination or research-focused investigations (on-line database at: http://csweb.bournemouth.ac.uk/aip/aipintro.htm).

Development-prompted Research

Stonehenge Visitor Centre

The most high-profile development in the WHS over the past 30 years has been that connected with the relocation of the visitor centre as part of the ongoing Stonehenge Conservation Management Programme promoted and co-ordinated by English Heritage. After the preparation and retraction of planning applications for a development at Larkhill in 1991 and Countess Road in 2005 (Darvill 2005, 11–14; 2006, 276–80; Pitts 2005a) further desk-based studies (Leary 2008) and public consultations (see Pitts 2008a for

Plate 3 Airman's Corner, prior to the closure of the A344, the relocation of the cross, and the construction of the new Stonehenge Visitor Centre © Copyright Wessex Archaeology

summary) were carried out for five sites (V, W, X, Y, Z), with Airman's Corner emerging as the favoured option with closure of the A344 and a visitor centre designed by architects Denton Corker Marshall (Anon. 2009a; Pitts 2010; and see Marshall 2007 for interview with the architect). Field evaluations included a geophysical survey of an area of about 3ha that confirmed details of probable 19th- and 20th-century buildings and identifying a series of pit-like anomalies (Draper 2011, 287–8). A previously unrecorded ring of pit- or posthole-like anomalies was located in the field north-west of the cross-roads at Airman's Corner immediately outside the WHS boundary. Surveys were undertaken of the A344 corridor (Komar and Field 2012). Field evaluation trenches were excavated to the north and south of the A344 in 2011. Construction work on the site began in February 2012.

Numerous evidence-based research papers and strategy documents have been compiled in connection with the development of the visitor centre and independently, including a synthesis of work on the landscape, environment and economy of the WHS (Canti *et al.* 2011); an interpretation strategy (Carver and Greaney 2011); and reviews of visitor trends (Mason and Kuo 2008). (Contribution to 2005 Research Objective 1)

A303 Stonehenge Improvement Works

The Public Inquiry on proposals for the upgrading of the A303 with an on-line solution that included a bored tunnel south of Stonehenge was held in Salisbury in February and March 2004. The inspector's report was finally published in July 2005 but the Department of Transport announced its decision not to proceed with the published scheme because of increased construction costs (Pitts 2005b). Further consultations followed in January 2006 (Pitts 2006a) with the conclusion that the Department of Transport would undertake minor works to existing roads as an interim solution and on 6 December 2007 the Government announced that the tunnel scheme had been withdrawn. These consultations and reviews prompted considerable debate (*cf.* Brown 2005; Fielden 2007; Heyworth 2006; Pitts 2006b; 2008b; Stone 2006). No new archaeological works were undertaken after 2006, although investigations relating to schemes proposed in the period 1991–2006 have been published (Leivers and Moore 2008). (Contribution to 2005 Research Objective 20)

Plate 4 Finds from the Amesbury Archer grave © Copyright Wessex Archaeology

Amesbury Down

Although outside the WHS, the high ground to the south and east of Amesbury has been the subject of extensive development through the 1990s and 2000s and has proved rich in archaeological remains of prehistoric and later date. In total, more than 25 ha have been excavated or stripped of topsoil and the archaeological features mapped, recorded and sampled (Barclay 2010). Celebrated finds include the 'Amesbury Archer' and his 'companion' discovered and investigated in May 2002 as part of an open-area excavation, and the 'Boscombe Bowmen' discovered and excavated in April 2003 during the course of a watching brief. Both graves, the earliest Beaker burials currently known in Britain dating to the 24th century cal BC have been fully published (Fitzpatrick 2011), supporting several new popular accounts (McKinley 2011; Fitzpatrick and Catling 2012). Connections with the continent are evident in both graves and scientific evidence suggests that the 'Archer' had travelled very considerably during his life and that many of the other burials represented in these two graves had travelled widely (Chenery *et al.* 2006).

Much else has been found in this major development area, including a pit circle 63 m across, prehistoric pits, food vessel graves, and a teenage boy buried with 90 tiny amber beads which have reignited a debate about the possibility of connections with the Aegean world in the early 2nd millennium cal BC (Barclay 2010: 41). Work in the area continues.

A watching brief carried out during the construction of a new fire hydrant at Boscombe Down Airfield in 2008 revealed the burial of an adult male in a shallow oval grave below a cairn of stones dated to 1750–1610 cal BC (NZA 28700: 3379±30 BP) as well as six sections of ditch probably connected with a later prehistoric field system in the area, two pits, and Early Bronze Age pottery in a tree-throw hole (Manning *et al.* 2010). A further watching brief in 2008 connected to the construction of a new accommodation block at Boscombe Down Airfield, Amesbury, revealed a section of a Wessex Linear ditch and a burial dated to cal AD 1460–1640 (NZA-30656: 438±20 BP) (McKinley and Manning 2010). A series of important Romano-British cemeteries have also been investigated. (Contributions to 2005 Research Objectives 13 and 15)

Amesbury

Also outside the WHS, investigations in Amesbury continue to enhance understanding of its early structure and development. A 0.05

ha site near Salisbury Street examined in 2005–6 revealed Saxon ditches whose alignment and position carry through into modern boundaries, and substantial domestic and craft activity in the 10th and 11th centuries AD, but less in the 12th century (Powell *et al.* 2009). Test-pitting on the former Co-op site in Salisbury Street in 2008 revealed post-medieval garden soils and made ground (Draper 2010, 336) while a watching brief in the same year for topsoil stripping over 5.8 ha of ground in Southmill Hill revealed a section of a previously investigated Wessex Linear ditch and tree-throw pits (Draper 2010, 336–7). A field evaluation in 2008 in Countess Road revealed a large ditch that was considered part of the eastern boundary of Amesbury Abbey (Draper 2010, 337) while a second evaluation in the same road revealed post-medieval pits (Draper 2010, 337). Negative evidence is also important and a watching brief at 14a Stonehenge Road, Amesbury, on the edge of the town revealed no archaeological deposits (Brayne 2006). (Contribution to 2005 Research Objective 15)

Portable Antiquities Scheme results

Stray finds arising from development work, metal-detecting, or casual discoveries have been recorded by the Portable Antiquities Scheme with some of the highlights published in *Wiltshire Archaeological and Natural History Magazine* since 2007 (Hinds 2007; 2008; 2009; 2010; 2011). Items from the Stonehenge area include fragments of a Late Iron Age copper alloy beaded torc from near Amesbury (Hinds 2009, 339). (Contribution to 2005 Research Objective 15)

Other investigations

Other small-scale archaeological investigations include recording works at Durrington Manor in 2004 which revealed chalk quarry pits and garden features of late 18th- and 19th-century date as well as residual medieval, Romano-British, and prehistoric material (Anon. 2006, 266); and a watching brief associated with power cable laying which examined a total of 23 test pits of which five produced evidence of possible archaeological features, although none contained datable material (Wessex Archaeology 2005).

Problem-orientated Research

Stonehenge Riverside Project/Feeding Stonehenge Project

Fieldwork for the Stonehenge Riverside Project was carried out annually between 2003 and 2009; and a post-excavation programme based around the Feeding Stonehenge Project is on-going. The AHRC-funded project involved collaboration between staff from the Universities of Sheffield, Bristol, Bournemouth, Manchester, and London. In addition to a great deal of media interest, some sensationalising the discoveries made, there are numerous published reports, overviews, summaries, and notes (Anon. 2007a; 2008a; 2011a; Aronson 2010; Alexander 2009; Balter 2008; Parker Pearson 2007; 2008; Parker Pearson *et al.* 2005; 2009a; Pitts 2005b; 2006c; 2008c; 2008d; 2009; 2011a, 35; SRP 2007; 2008). A website shows the positions of trenches and surveys (http://blogs.bournemouth.ac.uk/seeing-beneath-stonehenge/).

The underlying hypothesis explored through the project was that Stonehenge was a place memorializing the ancestral dead that was connected by way of the River Avon to sites such as Durrington Walls which were occupied by the living on festive occasions if not on a permanent basis. Such a model posited a simple binary opposition between eternal stones and perishable timber that was mediated by the monuments' relationships to the Avon which was proposed as an intermediate zone into which the remains of the dead were cast (Parker Pearson 2004; 2007, 125; Parker Pearson *et al.* 2005; 2006a).

Investigations in 2003 were confined to clearance of vegetation along the banks of the Avon east of Durrington Walls, coring across the floodplain of the Avon Valley and westwards to Durrington Walls, and geophysical surveys inside the henge (Parker Pearson 2007, 129). 2004–06 saw further studies of the landscape (Tilley *et al.* 2007), but investigations focused on a series of trenches at Durrington Walls (Pitts 2008b, 15–16). These included extensive coverage around the eastern entrance and avenue leading to the Avon (Parker Pearson *et al.* 2006b); a cutting through the bank of the henge-enclosure on the east side; the examination of the west side of the Southern Circle; and three trenches in the central part of the interior to investigate small ditched enclosures revealed by geophysical survey (Parker Pearson 2007; Thomas 2007). Together this work led to a revised provisional phasing for the site and other monuments in

Plate 5 Multi-sensor vehicle-towed gradiometer at Stonehenge, June 2011. Photograph by Timothy Darvill. Copyright reserved: BU and DAI

the area (Parker Pearson 2007, 133; Parker Pearson *et al.* 2007): limited activity in the 4th millennium cal BC; Southern Circle built in the mid-3rd millennium cal BC, perhaps with other structures to the west; avenue constructed to link the Southern Circle with the Avon, incorporating solsticial alignments; square-shaped structures built over the banks of the avenue and to the north of it (six excavated in all); bank and ditch of the henge-enclosure built partly covering the south-western avenue bank and the ground surface on which the houses had been built; occupation associated with Grooved Ware and Beaker around the south side of the henge-enclosure bank.

Also in 2006 a small trench was excavated within the southern part of the interior of Woodhenge, intersecting the outer three rings of posts known from earlier work in an area where stone sockets had also been recorded (Pollard and Robinson 2007; Pitts 2008b, 17). The presence of stone settings within Woodhenge was confirmed although the sequence of construction could not be established. Test-pitting was carried out in the area south of the Stonehenge Cursus at its eastern end in an effort to pinpoint a putative monument associated with a long-known scatter of Bluestone. Although further pieces of Bluestone were found no structure was located.

Resistivity and magnetometer surveys were carried out by English Heritage over the western end of the Stonehenge Cursus to clarify the position of the earthworks in July 2006 and 2007, and the southern end of the Stonehenge Avenue where it approaches the Avon in July 2006 (Draper 2008: 274; 2009: 338; Payne 2007a; 2007b). Surveys were also carried out at Durrington Walls in 2005 and 2006, here including ground penetrating radar (Anon. 2007b, 234; Draper 2008, 276).

In 2007 work continued at Durrington Walls in the area between the henge-enclosure and the Avon, and sampled a wide range of other sites in the landscape. Five trenches were excavated into the Stonehenge Cursus (SRP 2007; Thomas *et al.* 2009): one through the western terminal ditch, showing that the ditch here was 1.6 m deep. A piece of antler pick from the base of the ditch has provided two almost identical radiocarbon dates of 3630–3380 cal BC (OxA-17953: 4716±34 BP) and 3630–3370 cal BC (OxA-17954: 4695±34 BP) which are taken as secure dates for the initial construction of the cursus in the middle centuries of the 4th millennium cal BC. A trench through the northern boundary at the point where it is joined by the internal cross-ditch showed that the two ditches did not intersect and that the cross-ditch contained pottery of the later 2nd millennium cal BC. The northern cursus ditch was 1 m deep, and in

the 5 m stretch investigated seemed to be slightly off-line, so confirming that it was dug as a series of short segments. A third trench in the southern boundary immediately adjacent to the cutting made by Stone in 1947 confirmed the presence of recut pits dug in the mid-3rd millennium cal BC at a time when monument construction in the area was at its peak. Two trenches were excavated in the interior towards the western end to investigate geophysical anomalies but failed to reveal corresponding archaeological features. An area around the Cuckoo Stone to the west of Woodhenge was examined (Pitts 2008c, 14–15). Trenches were cut into and around ring ditch Durrington 68 to investigate the possible house-structure.

In 2008 a sixth trench was cut into the Stonehenge Cursus to investigate its eastern terminal showing that, like the western, the earthworks at the terminals were more substantial than those forming the long sides (SRP 2008; Thomas *et al.* 2009). At Stonehenge itself Aubrey Hole 7 was re-excavated in order to recover for analysis the 60 or more cremation burials deposited there in 1935 by William Hawley following his excavation of 32 Aubrey Holes during the 1920s (Parker Pearson *et al.* 2009b; 2010, 15; Pitts 2008d). Despite being excavated on two previous occasions (in 1920 and 1935) the base of Aubrey Hole 7 is reported to have preserved crushed chalk comparable to that found in stone-holes elsewhere at Stonehenge while a previously unrecognised cremation pit in the side of the Aubrey Hole was also recorded (*cf.* Anon. 2009b; Catling 2009, 24–5). The idea that Stonehenge was a cemetery for an elite was proposed (Anon. 2008a; Parker Pearson *et al.* 2009b).

2008 also saw work on the Stonehenge Avenue with trenches across it north of the A344 and in Stonehenge Bottom. Test pits and an evaluation trench were dug at the riverside end of the Stonehenge Avenue in a garden east of West Amesbury House revealing a Mesolithic flint scatter, a 4th or 3rd millennium cal BC flint scatter, and features that were later understood as the earthworks of a henge monument between the boundary earthworks of the Avenue and overlooking the Avon (Parker Pearson *et al.* 2009a, 8–9). A stone-dressing area north of the A344 and west of the Avenue was explored, and the eastern ditch of the Amesbury 42 long barrow was sampled to reveal evidence for at least two phases in its construction. West of Stonehenge a section of the Gate Ditch (otherwise known as the Palisade Ditch) was explored and shown to be Bronze Age in origin (Catling 2008); a roughly carved chalk pig was recovered from a pit that also contained infant bones cut into the fill of the ditch and provisionally dated to the period 450–100 cal BC (Anon. 2008b; Pitts 2008e).

In 2009 further investigations were undertaken at the southern end of the Stonehenge Avenue revealing further details of a stone circle *c.* 10 m in diameter with an estimated 25 pillars considered to have been Bluestones. The circle was dismantled in prehistoric times and its site contained within the earthworks of a small henge (variously referred to as Bluestonehenge or West Amesbury Henge) with an entrance to the east and a ditch 25 m in diameter (Catling 2009; Parker Pearson *et al.* 2009a; 2010). The riverside end of the Stonehenge Avenue was also located as a pair of parallel ditches 18.1 m apart; they had held posts forming a small palisade. Re-use of the area in the later Bronze Age was recorded. (Contributions to 2005 Research Objectives 1, 2, 3, 4, 6, 8, 15, and 24)

Stonehenge World Heritage Site Landscape Project

Closely associated with the development of the Stonehenge Visitor Centre and associated management and presentational works, English Heritage undertook a new detailed survey of the Stonehenge landscape between 2009 and 2012. The work included topographic and geophysical surveys, architectural surveys and investigations, revisions to aerial photographic plots, and the revision of the GIS for the WHS. Lidar data was also examined with a special focus on 20th-century military activity, and medieval, post-medieval, and modern impacts on the landscape.

A series of survey reports has been produced (Barber, 2014a; 2014b; Bishop 2010; 2011a; 2011b; Bishop and Amadio 2010; Bishop and Komar 2010; Bowden 2010; 2011; Bowden and Barrett 2010; Bowden *et al.* 2012; Field 2009; Field and Pearson 2010; Field *et al.* 2012; 2014b; Komar 2010; Lane 2011; Linford *et al.* 2012; Newsome *et al.* 2010; Pearson *et al.* 2011; Pearson and Field 2011a; 2011b; Soutar 2012). Popular accounts of aspects of the work have been published (Anon. 2010a; Field *et al.* 2010), as well as more substantial reports (Bowden *et al.* 2015; Field *et al.* 2014a). Amongst the important findings are the possible presence of a low mound under the south-eastern sector of Stonehenge itself and the multi-phase structural nature of many of the round barrows in the surrounding landscape. (Contributions to

2005 Research Objectives 1, 3, 4, 5, 6, 9, 10, 11, 12, 15, 16, 17, and 24)

Laser scanning of Stonehenge

In March 2011 English Heritage commissioned 3D laser scanning specialists the Greenhatch Group, together with Atkins Mapping and Archaeo-Environment Ltd, to capture the stones and the landscape surrounding them at a level of precision and definition never before attempted (Last *et al.* 2011). The survey includes all the visible faces of the standing and fallen stones of Stonehenge, including Station, Heel and Slaughter stones, as well as the top of the horizontal lintels (Abbott and Anderson-Whymark 2012). (Contribution to 2005 Research Objective 7)

Human remains

In 2007–8 English Heritage compiled a preliminary catalogue of human remains excavated from within the Stonehenge Landscape that were datable to the period 3700–1600 cal BC (Vincent and Mays 2010a; 2010b). Contacts with museums and other institutions that might hold relevant material provided the main sources of information. Four 'standard boxes' and fourteen 'skull boxes' of disarticulated remains from more than 30 different sites were examined and considered to have little further research value. Some 116 articulated skeletons were identified, of which about half were found to be in good condition and all have potential for further work. A total of 123 cremation deposits were assessed, many of which had not previously been studied. (Contribution to 2005 Research Objective 23)

Beaker People Project/Beaker Isotope Project: mobility, migration and diet in the British Early Bronze Age

This interdisciplinary project based at the Universities of Sheffield and Durham, and the Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany, aims to resolve the 'immigration versus local development' problem amongst Beaker populations in Britain and, in doing so, transform understanding of economy and society at the time of Stonehenge by studying mobility, diet, and health (Jay and Montgomery 2008; Chamberlain *et al.* 2012).

The objectives of the project are: a) to systematically sample a large proportion of the surviving, well-preserved skeletal remains of the Beaker period for a comprehensive range of isotopes relating to the reconstruction of individuals' diet and mobility; b) to systematically record and/or reassess these

Plate 6 Excavations over the line of the Double Bluestone Circle at Stonehenge, April 2008. Photograph by Timothy Darvill. © SPACES

individuals' dentition (through studies of microwear and macrowear) and skeletal remains which will shed light on diet, health, trauma, physical stress and funerary manipulation, and: c) to improve knowledge of these individuals' social and temporal contexts through systematic study of their burial contexts, circumstances of discovery and chronology. Around 250 individuals from five geographical areas (Scotland, East Yorkshire, Wessex, Wales, and the Peak District) are being studied. Preliminary results suggest some movement of people (Jay and Richards 2007a; Jay *et al.* 2012). (Contribution to 2005 Research Objective 1, 4, 23)

SPACES: Stonehenge excavation

In April 2008 Timothy Darvill (Bournemouth University) and Geoffrey Wainwright (Bluestone) directed an excavation within the south-eastern quadrant of Stonehenge in the area between the Sarsen Circle and the Bluestone Circle adjacent to Stones 9 and 10 to the south-east, and 34 and 35a to the north-west amid much media interest (Anon. 2008c; 2008d; 2009b; Draper 2010: 337; Pitts 2008c; 2009; Selkirk 2008). The work formed part of a wider long-term collaborative programme of investigation known as SPACES (Strumble-

Preseli Ancient Communities and Environment Study) that seeks to examine, characterise, and date, identified bluestone extraction sites, associated monuments, and nearby settlements on Carn Meini, and to examine the relationships between these places and water sources within and around the eastern Preseli ridge. The central research questions are simply: when were the spotted dolerite (Preselite) pillar stones taken from Preseli to Stonehenge, by whom, in what context, and why?

Moving beyond Stonehenge is considered critical to resolving issues of structure, significance and importance, and regular interim reports and accounts have been published on the SPACES project since its inception in 2002 (Anon. 2011b; Catling 2007; Darvill and Wainwright 2002a; 2002b; 2003; 2005; Darvill *et al.* 2003; 2004; 2006; 2007a; 2007b; 2009; Jones 2008; Marziou and Crançon 2008). As a working hypothesis, it is contended that the Bluestones provided the power of place that made Stonehenge special and that their significance to people at the time was that the stones themselves and water associated with them were believed to have healing properties (Alexander 2009; Catling 2007; Darvill 2007; 2009a; 2009b; 2011; Darvill and Wainwright 2011).

The specific purpose of the 2008 investigations at Stonehenge was two-fold. First, to clarify the form and date of the Double Bluestone Circle constructed from *c.* 80 stones transported to the site from the Preseli Hills of south-west Wales. Second, to document the subsequent history of the bluestones through later phases in the monument's history, particularly the activities resulting in the so-called 'Stonehenge Layer' and the construction of the Bluestone Circle still visible today. A detailed interim account has been published (Darvill and Wainwright 2009) as well as various summaries documenting on-going post-excavation research (Darvill and Wainwright 2011).

The Stonehenge Layer proved to be a heterogeneous series of interdigitated accumulative spreads of stone-rich material and soil that were subject to periodic disturbances, bioturbation, and stabilization giving rise to the formation of thin localised worm-sorted soils.

A total of 15 bedrock-cut features were recorded within the excavation, including four wholly or partially investigated by Hawley and Atkinson. The earliest features in the previously unexcavated section of the trench comprised four small round steep-sided pits, all wholly or partly truncated by later features. Two of the pits were cut by a larger roughly circular pit interpreted as a stone socket for one of the pillars in the Double Bluestone Circle which would equate with Q-Hole 13 in Atkinson's scheme. Half of this feature lay within the trench and this part was fully excavated. Q-Hole 12, partly excavated by Atkinson, was also recognised in the trench, but the portion left untouched in 1964 was found to have been completely cut away by a pit/shaft of Roman date.

In the northern side of the trench two sockets for Bluestones 34 and 35a forming part of the Bluestone Circle were excavated. In the southern side of the trench part of the socket for sarsen Stone 10 was excavated. In the centre of the trench was a large slightly oval pit approximately 1.6 m by 1.25 m and 1.1 m deep, in the bottom of which as a rather worn copy of a coin of Constantius II dating to *c.* AD 348. A second Romano-British feature lay in the south-east corner of the trench. Medieval, post-medieval, and modern features are represented across the trench connected with stone robbing and antiquarian investigation.

Post-excavation work is underway. (Contribution to 2005 Research Objectives 1, 2, 3, and 5)

Hidden Landscapes Project

A collaborative programme by Birmingham University's Visual and Spatial Technology Centre (VISTA) and the Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology aims to use a range of geophysical surveys to consider the following objectives: the inter-visibility of monuments in the landscape; Stonehenge and its interaction with other monuments; the development over time of the Stonehenge landscape; and the activities between known monuments (Anon. 2010b). In 2010 the Greater Cursus Field was surveyed at high resolution and a segmented ditch and secondary inner ring of posts were discovered at Amesbury G50 attracting considerable publicity (Anon. 2010c; 2010d). First World War trenches were identified in the east of the survey area while much disturbance at the west end of the Cursus made interpretation difficult. Further surveys were carried out in 2011, extending the geographical extent of the survey eastwards and southwards (Anon. 2011c). (Contributions to 2005 Research Objectives 1, 3, 4, 6, 8, 10, 14, 15, 16, and 17)

First Monuments Project geophysical surveys

An extensive high-resolution geophysical survey covering approximately two square kilometres was undertaken to the north of Stonehenge in June and October 2011 as an international collaboration between Bournemouth University and the German Archaeological Institute as part of a broader programme investigating early monument-building in different parts of Europe (Darvill *et al.* 2013). The area investigated included all of the Stonehenge Cursus together with downland extending southwards to the A344 and between King Barrow Ridge in the east and Fargo Plantation in the west. The aim of the work was to understand the structure of the Cursus and its spatial relationships with other monuments in the area. The survey provided abundant additional detail on the form and structure of the Stonehenge Cursus, including the recognition of entrances in both the long sides. Additional information about the internal form of round barrows in the Cursus Round Barrow Cemetery, the course of the Avenue, the course of the so-called Gate Ditch, and the numerous tracks and early roads crossing the landscape was gathered. In addition, a series of previously unrecognised features were recorded including: a pit-arc or cove below a barrow on the west side of King Barrow Ridge, a square enclosure on the east side of Stonehenge Bottom, a linear ditch on the same solsticial axis and parallel to the southern section of the Stonehenge Avenue, and a variety of pits and scoops. (Contributions to 2005 Research Objectives 1, 3, 4, 6, 8, 10, 14, 15, 16, and 17)

Vespasian's Camp excavations

Studies of the historical records for the area around Vespasian's Camp between 1999 and 2005 provided new insights into the impact of the 18th-century landscaping works in the area and suggested a lesser impact than had first been thought. Since 2005 excavations by a team initially from the Open University and subsequently the University of Buckingham have focused on the investigation of Blick Mead outside the north-east corner of Vespasian's Camp (Jacques 2012; Jacques *et al.* 2010). Although once considered an 18th-century pond it is now recognised as a natural spring, the largest of a series in the area. In prehistoric times it may have been a seasonal feature, but 10 small excavations have revealed a wealth of deposits, the earliest of which include worked flints and an animal

Plate 7 Stonehenge: the Bluestones and Trilithon © Copyright Wessex Archaeology

bone assemblage dominated by aurochs from the period 6250–4700 cal BC on the basis of two radiocarbon dates. A piece of rapier refashioned as a dagger and a piece of a bronze chisel suggest deposition at the spring in the Middle Bronze Age around 1400 cal BC. Later finds from the area include Iron Age pottery, a Romano-British lead curse, an Anglo-Saxon disc brooch, and medieval wooden staves showing the enduring nature of the place which the excavator suggests may be associated with a fertility/healing deity. The excavator notes the presence of other springs in the area, including one very near the stone circle and henge found by the Stonehenge Riverside Project at the southern end of the Avenue (Jacques 2012, 4). (Contributions to 2005 Research Objectives 4, 11, 15, and 17)

Stone sourcing projects

Much new research has been carried out into the geological origins and source outcrops of the various lithologies subsumed within the term 'Bluestone' as applied to the non-local stone used in the construction and workings of Stonehenge and found at the site itself and in the wider landscape. Stones SH34 and SH35a have been shown to be spotted dolerites (also known as Preselite) very similar to samples from Carn Menyn, while stones SH38 and SH40 are two different dacitic crystal-vitric-lithic ash-flow tuffs and SH46 and SH48 are two different rhyolitic crystal-vitric-lithic ash-flow tuffs (Ixer and Bevins 2011a). The stone

Plate 8 Barrows in the Stonehenge landscape © Copyright Wessex Archaeology

type represented by SH48 was later defined as rhyolite Group E (rhyolite with visible feldspar phenocrysts) which is also represented by two pieces of debitage from the 2008 excavations (Ixer and Bevins 2011a, 22). Group D rhyolites (rhyolitic tuffs with late albite-titanite-chlorite intergrowths) are mainly confined to samples from the Stonehenge Cursus (see below) and are of unknown source (Ixer and Bevins 2010, 7; 2011a, 21–2). Three defined types of rhyolite (A–C) which are not represented amongst standing Bluestones at Stonehenge but have been recognised as debitage from the 2008 excavations within Stonehenge, the Heel Stone area, several Aubrey Holes, the Stonehenge Avenue, and the Stonehenge Cursus all derive from a series of outcrops at Craig Rhos-y-Felin near Pont Saeson on the north side of the Preseli ridge in Pembrokeshire (Ixer and Bevins 2011b; Bevins *et al.* 2011; Anon. 2011d; 2012a; 2012b). This source area was the focus of archaeological attention in summer 2011 when evaluation trenches against the outcrop located a detached columnar block and associated hammerstones (Parker Pearson *et al.* 2012).

A review of samples from the Altar Stone confirmed that it was a fine-to-medium grained calcareous sandstone of the kind found in the Senni Beds of south Wales. Four other pieces of sandstone from the Stonehenge Cursus, Stonehenge, Aubrey Hole 1 and Aubrey Hole 5 share a common lithology as low-grade metasediments and derive from a different source area, possibly from Lower Palaeozoic sandstone beds (Ixer and Turner 2006).

An examination of finds from the Cursus Field collected in 1947 and from excavations by the Stonehenge Riverside Project in 2006 and 2008 confirmed that much of the material could be matched with samples from Stonehenge (identified as Groups A–D: Ixer and Bevins 2011a; 2011b) but that some rhyolites could not be matched amongst existing samples (Ixer and Bevins 2010; Ixer *et al.* forthcoming).

Paul Robinson (2007) reported the results of petrological studies of 21 stone items from the Devizes Museum collections that were thin-sectioned by the Implement Petrology Committee of the South Western Federation of Museums and Art Galleries in the late 1950s. This includes material from barrows in Wilsford, Shrewton, and Winterbourne Stoke. An examination of spotted dolerite axeheads from southern England suggests that some may have been made from pieces of Stonehenge rather than introduced from more distant sources (Williams-Thorpe *et al.* 2006).

A new study of jadeite axe-heads from Wiltshire has shown that the example said to have derived from a barrow near Stonehenge and now in the Salisbury and South Wiltshire Museum (Accession number SSWM 28/59 (02919)) is of Alpine rock and is used to define the ‘Durrington type’ with an

almond or teardrop-shaped outline and a sharply pointed butt. The original findspot of the piece remains a matter of debate, but a good case is made for derivation from the Knighton (Figheldean 27) long barrow (Sheridan *et al.* 2010, 26 and fig. 7.2). (Contributions to 2005 Research Objectives 1, 5, 22)

Ritual in Early Bronze Age grave goods

This Leverhulme Trust funded project based at the University of Birmingham with participants from the universities of Bournemouth, Leicester, and the Open University, aims to catalogue and identify the significance of burial assemblages from Beaker and Early Bronze Age contexts in England (Woodward *et al.* 2005). Initial results show remarkable disparity in the use and fragmentation patterns of different artefact types. Some objects and groups it is suggested might be seen as symbolic depositions placed by mourners, or as parts of ceremonial costume, rather than as possessions of the deceased (Woodward *et al.* 2006; Woodward and Hunter 2011). (Contribution to 2005 Research Objective 22)

Other projects

A variety of other pieces of research have been published, some revising earlier studies and others expanding into new areas.

The relative significance of solar and lunar orientations embedded in the architecture of Stonehenge has long been a subject of interest, and it remains so. Sims (2006) treats the sarsen monument at Stonehenge as one among a number of monuments with lunar–solar alignments which privileged night over day, winter over summer, dark moon over full. He proposes that the aim of the monument builders was to juxtapose, replicate and reverse certain key horizon properties of the sun and the moon, apparently with the intention of investing the sun with the moon's former religious significance.

Beaker period and Early Bronze Age 'Wessex Culture' burials and burial mounds have attracted much attention in addition to the projects already described. An on-line database of late 3rd and 2nd millennium cal BC graves has been created by Andrew Martin and its content analysed (Martin and Langley 2006; Martin 2011). The first secure radiocarbon date of 2020–1770 cal BC (SUERC-26203: 3550±35 BP) for a Wessex I burial, the flexed inhumation of an adult male buried in a tree-trunk coffin accompanied by a Willerby type bronze flat axe, a crutch-headed bronze pin, a tanged bronze knife, and a piece of antler below West Overton G1 barrow, was published courtesy of the Beaker People Project (Needham *et al.* 2010a). And celebrating the two-hundredth anniversary of William Cunnington and Sir Richard Colt Hoare's excavations into Bronze Age barrows on Normanton Down a reanalysis of the cemetery has been published (Needham *et al.* 2009; 2010b). This suggests that the EBA Period 3 burials in the cemetery, including the Bush Barrow grave, represent the last resting places of a dynastic succession that controlled access to Stonehenge for a while and presided over the ceremonies therein.

Artefacts from various parts of Britain have been shown to link with the gold lozenge from the Bush Barrow, amongst them a jet lozenge from Carlton Colville, Suffolk (Pitts 2007) and a broken amber lozenge from the Heathrow T5 excavations (Pitts 2011b).

A revised, slightly later, date for the early medieval execution at Stonehenge of cal AD 660–890 (OxA-13193: 1258±34 BP) has been published in the light of retesting one of the original samples (Hamilton *et al.* 2007).

Early images of Stonehenge continue to provide a fascinating line of inquiry, with attention directed to a vignette of the site in a *Scala Mundi* dated to AD 1440–1 (Heck 2007) and the image on page 291 of the edition of Camden's *Britannia* published in 1600 which seems to be the earliest known illustration in a bound book (Allen 2008). John Herschel's visits to Stonehenge in August 1865 provide dated illustrations before the collapse of Stones 21, 22 and 122 (Mitchell 2007). Alan Sorrell's well-known reconstructions with their shades of gloom and foreboding are now over 50 years old (Pitts 2005c) while new images of Stonehenge in action have also been produced in a way that prompts interesting questions about the conventional phasing of the stone settings (Dunn 2012). The early history of aerial photography and its contribution to understanding the Stonehenge landscape has been thoroughly investigated by Martyn Barber (Barber 2011) while the potential of recent developments in lidar technology have been experimentally applied to the Stonehenge landscape (Bewley *et al.* 2005).

Military remains in the area continue to be a theme for research, the construction and use of training trenches being a theme explored by Graham Brown and David Field (2007).

On a rather different track, the sounds and musicology of Stonehenge have emerged as an interesting theme (Banfield 2009; Darvill

Plate 9 Replicas of the Beakers from Amesbury Down © Copyright Wessex Archaeology

2009c; 2009d) while the site and its landscape remain an inspiration for artists (Wickstead 2008; 2014; Anon. 2008d), photography (Pitts 2008f), and the production of souvenirs and memorabilia (Richards 2008; 2009). Access to Stonehenge and its uses at the solstices have been probed and documented (Blain and Wallis 2006; Hutton 2005; Worthington 2005a; 2005b). There has also been a continuing interest in experimental archaeology-related Stonehenge problems: prominent is the practical question of how the large sarsens and the much smaller Bluestones were moved from their sources to the site – with increasingly ingenious (and increasingly unlikely) solutions offered, including the use of ball-bearings in wooden runners (Young 2011). Finds from Durrington Walls have been used to suggest brewing at the site, an activity enthusiastically reconstructed (Dineley 2008). (Contributions to 2005 Research Objectives 1, 3, 4, 11, 13, 17, and 25)

Forging New Understandings

The state of knowledge about Stonehenge and its landscape is always provisional, always changing, and always contingent on wider understandings of the monuments, material culture, and the worlds that earlier communities inhabited. That is what makes the site and its landscape so exciting as an arena for research, and it is notable that Stonehenge features at number six in the top-ten of BIG research questions identified at the start of the second decade of the 21st century (Pitts 2011c, 18). As a result of work over the last decade some established ideas have been supported, other things overturned, and whole new dimensions revealed. A selection of changed, changing, and new aspects are considered briefly in the following sections.

Dating

Much has been done in recent years to improve understandings of prehistoric chronologies and the temporality represented by stratigraphic sequences. Key here is the erosion of the largely obsolete cultural-historical Three-Age terminology developed in the late 19th century which can be replaced by a back-projected calendrical chronology. This has the effect of focusing attention on the way events unfold and the speed of change over time. Needham (2008) for example has compared the late 3rd millennium cal BC to the Renaissance in terms of the cultural, artistic, and technical changes wrought over a relatively short time. Placing Stonehenge and the other features in the landscape within a more robust chronological framework allows direct comparisons between sites in terms of their construction, use, modification, and abandonment and on a broader scale allows these sites to be situated in relation to contemporary sites around the world.

In looking at the history of individual prehistoric sites there has been a tendency to follow an architecturally-based scheme for the identification of formal phases; this is especially marked at Stonehenge itself. But there is an increasing recognition that prehistoric sites were not delivered to predetermined ‘blue-prints’, rather they evolved and developed through iterative

episodes of creativity in which the act of construction was itself a major focus of attention, so while it may be helpful to think in terms of 'stages', monuments should be seen as ongoing projects rather than a succession of complete entities.

The 2008 excavations in the central part of Stonehenge revealed the difficulties of interpreting the documented stratigraphy for the purposes of chronological modelling. Together with new information from work at Aubrey Hole 7, a new staging of the features inside Stonehenge has been assembled on the basis of a revised modelling of the available radiocarbon dates (Darvill *et al.* 2012). This suggests that the central Trilithon Horseshoe was the first structure to be built in the central area, perhaps along with the Sarsen Circle. The Bluestone circles were added later. Some discussion of the contemporaneity of other monuments in the landscape has been published on the basis of interim results from the Stonehenge Riverside Project (Parker Pearson *et al.* 2007).

With a start-date of *c.* 2950 cal BC for the construction of the earthwork enclosure at Stonehenge itself, many questions remain about what was happening in the landscape during the preceding millennia. This gap is starting to be filled by the discoveries around Vespasian's Camp by David Jacques and colleagues (Jacques *et al.* 2010) and by discoveries made north-west of Countess Roundabout during field evaluations for the A303 upgrading (Leivers and Moore 2008, 14–19). There is much more to be done on this chapter in the history of the Stonehenge landscape.

Long-distance Connections

Discussion of long-distance connections between the Stonehenge area, the near continent, and the world of central Europe, southern Europe, and the Mediterranean has a long and turbulent history (see Darvill 2006, 174–5 for summary). Over the past decade or so the cultural geography of northern and western Europe has come into sharper focus as a result of much new research, especially for the 3rd and 2nd millennia cal BC. The relative isolation of the British Isles during the early 3rd millennium cal BC when Grooved Ware was the dominant ceramic in use has become clear. Equally, the period of internationalization associated with an uptake in the use of Beaker pottery around 2400 cal BC illustrates the speed with which things change. Heyd (2007; 2008) has characterised the Bell Beaker Culture as the third and last of a succession of supra-regional expansionistic cultures to emerge in northern and western Europe from the mid-4th millennium cal BC onwards. The Bell Beaker Culture originated in the Iberian Peninsula and spread eastwards not as a single homogeneous tradition but rather as a series of supra-regional groupings including the Mediterranean Group, East Group, and Atlantic Group. Within the Atlantic Group (also known as the Maritime Beaker Complex) Needham (2005) has identified what he terms 'the phases of meaning' spanning the period 2400 cal BC to 1700 cal BC. First is a period when Beakers were part of a circumscribed exclusive culture; pottery styles comprised low-carinated (Maritime) forms. Around 2250–2150 cal BC was a period of rapid mutation when Beaker traditions underwent a fusion with local Corded Ware traditions along the coastlands of the English Channel, North Sea, and Rhine Delta, prompting the second phase as a period of instituted culture when pottery forms included weak-carinated, tall mid-carinated, long-necked, short-necked, high-bellied, low-bellied, and globular forms. Finally, from 1950 cal BC to 1700 cal BC Beaker traditions were 'past references' to by-gone trends with pottery forms dominated by long-necked, globular, and mid-bellied styles.

A critical question now is how changes at Stonehenge fit into this bigger picture. Relevant here is the interest in solar symbolism represented within the Bell Beaker Culture, the role of the distinctive ceramic vessels, and the impact of the wanderlust shown by early Bell Beaker communities. The 'Amesbury Archer' is the earliest recorded Beaker-associated burial in Britain dating to the period 2380–2290 cal BC (Fitzpatrick 2011). Oxygen isotope analysis of his teeth suggests that in his early years he lived in a colder climate than Wessex, and an Alpine origin for this individual is favoured. Objects in the grave indicate international connections for the deceased or those associated with his funeral rituals that extend from Iberia to central Europe. Based largely on the presence of a well-used cushion-stone amongst the grave goods accompanying the 'Archer', Fitzpatrick (2011, 236–7) concludes that he was somehow involved in metalworking and that he travelled to Britain in this connection. The 'Boscombe Bowmen' also travelled, although probably on a more limited compass and most probably from west Wales (Fitzpatrick 2011, 32). It is tempting to link

their travels with the transportation of the Bluestones from west Wales to Stonehenge and certainly an early Beaker context for this would be appropriate (Case 1997). Much therefore depends on when exactly these stones first appeared at Stonehenge: Parker Pearson preferring a date in the first quarter of the 3rd millennium cal BC date, while Darvill and Wainwright favour the last quarter of the 3rd millennium cal BC when Beaker associations would be fully acceptable (*cf.* Anon. 2009b).

A continuation of international connections through the post-Beaker centuries of the early 2nd millennium cal BC can be suggested from finds made with burials in the surrounding landscape; it was these that mainly fuelled earlier debates. Needham (2000) provides a context for the movement of artefacts over long distances in terms of cross-channel connections with communities who were themselves in contact with more distant groups so that items could move 'down the line' step by step. Isotope analysis of teeth from the skeleton of a young man associated with a necklace of amber beads found at Amesbury Down re-opened the debate about direct links to the Aegean in the mid-2nd millennium cal BC (Barclay 2010) although these have not yet been fully published.

Landscape Structure

It has long been recognised that Stonehenge is not an isolated structure but rather one that is spatially and chronologically connected to other sites in the area and beyond. One of the big achievements of the extensive hi-resolution geophysical surveys is to show just how empty the surrounding landscape really is. This is supported by the poverty of finds made during field evaluation for the road schemes in the area (Leivers and Moore 2008). Prior to the development of the major barrow cemeteries there were large open spaces around Stonehenge; open that is in the sense of not containing structures that leave distinctive geomagnetic signatures. Even with the appearance and elaboration of the barrow cemeteries to their full extent during the middle centuries of the 2nd millennium cal BC there were large empty spaces. These could be seen as gathering places or arenas for performances associated with the use of Stonehenge itself or the barrows within the barrow cemeteries. Such a pattern has been discerned in the layout of the excavated barrow cemetery at Barrow Hills, Radley, Oxfordshire (Barclay and Halpin 1999, 298–325) and it would be interesting to examine similar possibilities in relation to the social use of space within the Stonehenge cemeteries in the light of the detailed survey data now becoming available.

Natural characteristics of the post-glacial landscape have been presented as possible structuring elements of the 3rd and 2nd millennia cal BC socially-constructed landscapes of monuments (Parker Pearson *et al.* 2010), although earlier debates about similar patterns in relation to a possible northern branch of the Stonehenge Avenue summarily dismissed at least some options (Cleal *et al.* 1995, 312–14). Geophysical surveys have revealed other cultural features in the landscape that might be relevant to large-scale structuring but these need investigating in order to date them and assess their contribution. The full publication of investigations carried out on behalf of English Heritage for the proposed visitor centres at Larkhill and Countess Road as well as the recent studies at Airman's Corner would provide useful information about the date and extent of features recorded through aerial photography and geophysical survey.

Importance of Other Monuments

Stonehenge has long dominated the archaeology of its landscape, a matter that the topographic and geophysical surveys on a landscape scale are beginning to address. Through this work new structures are being discovered and additional phases to previously recorded structures are being identified. Important here is the pit/post circle north-west of Airman's Corner, the henge and stone circle within the southern terminal of the Avenue at West Amesbury, the possible cove on King Barrow Ridge and the features on the flanks of Stonehenge Bottom recorded through geophysical surveys. With the exception of the West Amesbury Henge, all need field evaluation as a matter of urgency to validate them. The same applies to other features identified though aerial photography and surface survey. One of the obvious conclusions of such work by the Stonehenge Riverside Project is just how dangerous it is to build models that are heavily reliant on undated earthworks and structures.

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The Stonehenge, Avebury and Associated Sites World Heritage Site consists of two blocks of Wessex chalkland some 40km apart. Individually they contain distinctive complexes of Neolithic and Bronze Age monuments; together they are one of the most iconic and important prehistoric landscapes in the world.

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