Stonehenge in its Wider Context

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Introduction

DUE TO MANY FACTORS such as a growing environmental awareness, a pride in the past, or commercial potential a new philosophy has been emerging in most countries regarding the archaeological inheritance. In view of its usefulness not only for academic study but for more general purposes also, the need to maintain it is a most relevant factor. People are, therefore, becoming more aware of the importance of the archaeological inheritance but also conscious of the fact that the remains cannot reproduce themselves; they are non-renewable and finite. But what value can we put on archaeological monuments almost at the dawn of the twenty-first century and how can we measure value in this current materialistic context? The term 'resource' is often applied to archaeology; I see nothing wrong with that term provided that it embraces all the different strands. Stonehenge and other monuments have many values, such as in the realms of general education and curiosity, but for me the primary one is that they constitute an unerring index to the achievements of past societies and provide documents for understanding them.

Stonehenge and its environment constitute a composite archaeological landscape. Therefore, dealing with such a site in its wider and comparative context is not an easy matter. This has of course been made easier—due to the recent magistral English Heritage publication we now know much more about Stonehenge than ever before. In the evaluation of any site many aspects have to be considered; these range from straightforward academic and cultural issues, to the role of scientific interpretation and preservation, and also making the monuments available for study by specialists but also for visiting by the general public.

As has been discussed on numerous occasions there are many problems associated with the preservation of Stonehenge. The major one is, of course, that it attracts so many visitors but in addition its location between two main roads presents difficulties. However, major work has been achieved over the years by the National Trust and English Heritage in acquiring land in the immediate vicinity and this has been an outstanding contribution to the re-creation of the rural setting for the monument and the other monuments that

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constitute the wider complex. This is an enormous achievement and one that should without delay be initiated elsewhere. The conservation programme would, of course, be helped by finding a solution to the problem of the roads and the location of the Visitors Centre. The latter could inform people about the richness of the archaeological environment of Stonehenge, and convey an understanding and appreciation of it. Despite its spectacular nature and its unique aspects there is more to Stonehenge than Stonehenge itself.

A thorough study of the wider setting of Stonehenge would involve an in-depth evaluation of a large segment of European prehistory and would have to be multi-faceted involving current land usage by farming communities, past usage as a ritual landscape as well as various technological aspects. Consequently one has to be selective and that is precisely what my approach is. My selection consists of four other areas-Orkney and Kilmartin in Scotland, the Boyne Valley (Brugh na Bóinne) in Ireland and Carnac-Locmariaquer in Brittany. As all of these areas constitute rich archaeological landscapes, they are well-known generally and scientifically, many publications have been devoted to them and they are sites that I have visited on more than one occasion. However despite that, I can claim to have a thorough knowledge of only one of the sites, the Boyne Valley; for the others it is superficial. As a result the Boyne will figure more prominently in my remarks that will follow, but even for that site I will not be offering detailed descriptions of its archaeological content, either from the point of view of its environmental setting or its monumental context. Neither will this paper attempt to provide an academic assessment or an interpretative review of the archaeology of any of the regions; that has already been done by more than one distinguished scholar. This paper is not the appropriate vehicle for a new review which would at least have to include an assessment of the then contemporary society in its regional setting. The main focus will be on the role of the monuments in each area in the context of modern society. I, of course, should say that while the areas that I am reviewing had a long archaeological life, nevertheless at least some aspects of all overlapped with the use of Stonehenge. Furthermore, all are rural sites and all have special characteristics. At least one type of monument is common to all, the open-air circle or henge, the precise form of which can vary from area to area. In addition each area contains significant monuments the construction of which involved large labour forces and, therefore, a social commitment well beyond the ordinary. This included control over labour but also control over resources. There must have been a population catchment of several hundred families over an area of say 16 square kilometres. In each area the leading monuments display sophistication in construction. All of the four areas contain notable monuments, the finest examples of their class, some even without exact parallels. This would have involved a skilled and trained work-force with different levels of accomplishment, scientific knowledge such as geology while some, as Stonehenge itself, have astronomical connotations. For instance, the Newgrange entrance faces the rising sun at the Winter solstice while at the same time Maes Howe faces the setting sun. Apart from the monuments themselves some splendid associated artifacts are a feature the manufacture of which involved precision, care and experience. But a main

underlying comparison between all is that during the Neolithic and Chalcolithic/Early Bronze Age each constituted a major ceremonial centre and as a result of that the monuments then created have in modern times become foci for mass tourism. In addition all are in good agricultural land the utilisation of which can make monuments vulnerable and there are pressures such as the building of dwelling houses. Like Stonehenge all are noted for their long history of archaeological research: Newgrange was first described in 1699, accounts of Orkney mounds go back to 1772, Kilmartin from about the middle of the nineteenth century, and the Carnac area to around the middle of the seventeenth century. It is largely the fruits of that research, including publication, that have made the sites familiar, enriched our understanding and added to our appreciation of them.

Virtually from the beginning of human settlement the emergence of focal points has been a feature of the landscape in different parts of Europe. Back in the Upper Palaeolithic places such as the valley of the river Dordogne in France became ritual centres. In later prehistory, during Hallstatt D, sites such as Heuneburg/Hohmichele, southern Germany (Moscati *et al.* 1991, 114–15) fulfilled a similar role. Extending backwards into the Bronze Age we can cite the emergence of what has been termed 'wealth centres' in northern Europe (Thrane 1995). These include the Seddin complex in northern Germany with its spectacular *Königsgrab* underneath a circular mound 90 m in diameter and 11 m in height (Wüstermann 1974) and the equivalent site at Voldtofte in Funen also with its prominent burial mound, the Lusehoj, which measures 35 m in diameter and 7 m in height (Thrane 1984). Returning to the period equivalent to Stonehenge in its various stages (Cleal, Walker and Montague 1995) one can cite other comparative sites, not necessarily consisting of a single prominent site and associated structures, from other parts of Britain and Ireland.

Orkney

In this connection an obvious place to mention is Orkney which was intensely occupied and where many of the monuments are spectacular to observe, not only the megalithic monuments but also the Early Bronze Age barrows. For an area of 970 sq km there are over 80 megalithic tombs (Davidson and Henshall 1989), 250 round barrows, the bulk of which may have been erected during the Bronze Age, and about 100 short cists, again probably of Bronze Age date (Renfrew 1985, 131). Even within the relatively small area of Mainland there are many favourite sites. Sometimes these occur in groups; probably the most notable clustering of all is to be found on the promontories between the Lochs of Stenness and Harray (Ritchie 1975–6), extending from Bookan to the Barnhouse stone (Fig. 1). This area, less than 4 km in length and 1 km in maximum width was a focus for ritual activities with its henge monuments at Stenness, Brodgar and Bookan and a number of standing stones some of which may have been connected with a ceremonial way between Stenness and Brodgar and its nearby passage tombs, including the



remarkable Maes Howe. Thom and Thom (1978) suggested that the Ring of Brodgar and its surrounding mounds could have served as a back-stage from which lunar observatories could be made. As was the case at Stonehenge, the Loch Stenness-Harray area was also a focus for burials in the early second millennium. There are a number of round barrows close by and not far away (but not part of the cluster) is the important group, the Knowes of Trotty, which consists of ten barrows. Investigations in 1858 in the larger of these, 18 m (60 ft) in diameter and 3 m (10 ft) in height revealed a cist containing human bones, part of a spacer plate, amber necklace and four decorated sheet-gold discs. As already noted all round barrows need not belong to the Bronze Age; nevertheless, it can be assumed that in addition to large-scale activity during the passage tomb and Grooved Ware stages the Early Bronze Age was also a significant stage with ritual still playing an important role.

Apart from scientific activities the monuments also constitute foci for tourists. All the well-known sites are easily accessible. There is already a small display at Skara Brae and currently plans are afoot to carry out a complete overhaul of access and visitor facilities including more comprehensive interpretation. In the Stenness-Maes Howe area due to the nature of the landscape care has to be taken not to intrude on it unnecessarily; landown-ership also presents some problems. At present large-scale tourist facilities are not called for but sensitive developments are and will take place when considered necessary.

Kilmartin (Fig. 2)

Another circumscribed area occurs in the west of Scotland, in mid-Argyll (RCAHM (Scot) 1988). There, a valley in the parishes of Kilmartin and Kilmichael Glassary has a dense distribution of funerary and ritual monuments which indicate that settlement goes back to the beginning of the Neolithic. During the succeeding millennia the resources of the glen were extensively exploited; from the early sixth century AD the rock of Dunadd was the capital of the Gaelic kingdom of Dál Riata. As a result the area presents an array of monuments, some quite spectacular. For the prehistoric period there are about 80 barrows and cairns but also the densest and most elaborate concentration of rock art known from Scotland. Amongst the other monuments are long chambered cairns of the court-tomb (Clyde) family, henge monuments and stone circles, multiple cist cairns and the previously mentioned rock art.

Kilmartin Glen forms the core of an impressive archaeological landscape with a wide range of natural and managed habitats. Today this is farmed and afforested but archaeology also contributes an important element not only from the academic point of view but also from the tourist aspect. There are, therefore, different interests and parties involved so it is important to harmonise the various user needs. To meet this challenge interested parties have joined together to create a structure for the management and interpretation of the area. Several public bodies are actively interested in the area arising out of their





Figure 2. The Kilmartin-Kilmichael Glassary (Argyll) archaeological area. (After RCAHM (Scot), Vol. 6 (1988), 13.)

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responsibilities for the natural and archaeological heritage, land-management, planning, tourism and recreation. At present an equilibrium exists but changes could have a major detrimental impact on the landscape. In order to prevent this and to harmonise the various user needs and interests a strategic framework for the management and interpretation of the landscape is currently being considered. A broadly-based working party was formed in December 1992. This led to an assessment of the problems and opportunities of the area and the consequent production of a detailed action plan. Basically this involves a co-ordinated approach by both the local communities and official bodies to the management of the countryside and visitors to it. A key principle in all of this is strict adherence to an environmentally sensitive approach and one that will include the conservation of the archaeological resources in their natural landscape. The achievement of this will involve the provision of long-term management, monitoring and maintenance regimes, part of which will be an integrated approach to interpretation, education management, the provision of an interpretative centre is central to the overall development.

The Boyne (Fig. 3)

Ireland may be a rural country but nevertheless pressures on its monuments are just as intense as elsewhere. This is especially so in the east of the country with its rich farming land and population density. It is within this region that a particularly rich archaeological zone occurs. Large-scale archaeological excavations since 1960 have demonstrated the long sequence of human endeavour in the area, starting in Early Neolithic times and continuing through many subsequent archaeological stages down to modern times (O'Kelly 1982; Eogan 1986). In this connection it should be pointed out that in all areas where excavation has occurred additional monuments have come to light. Therefore, one cannot judge the extent of the archaeology from visible remains; to do so would underestimate the richness of the area both numerically and chronologically. Since the days of Sir William Wilde, 150 years ago, this portion of the Boyne Valley has been referred to as Brugh na Bóinne (Wilde 1849). But for a previous 150 years the area had been attracting sightseers and antiquarians. This is also an area of rich farming land; nearly 97% of the land is used for agricultural purposes, only 0.5% is in State ownership, and it is also close to centres of population. As a result, over the past 20 or so years it has become popular as a residential area. Within the overall area there is a population of about 1000 people, around 300 dwelling houses and three or so large farming complexes. Amongst its leading sites Newgrange was in a dilapidated state up to the early 1960s due to the growth of trees and scrub on the mound and animals trampling over it. The number of visitors was rapidly increasing and as a number of the passage orthostats, many of which were decorated, were leaning inwards they were being damaged by people rubbing against them. To ameliorate this situation it was decided in 1961 that greater care should be extended



Figure 3. Prehistoric sites in the Brugh na Bóinne (Co. Meath) archaeological area. (Copyright G. Eogan.)

to the monument. This would involve conservation but before any work of that sort could be put in hand it was necessary to carry out excavations. Accordingly a programme of excavations commenced under the direction of Professor M.J. O'Kelly in 1962 and continued until 1975 (O'Kelly 1982). After subsequent conservation Newgrange was opened to the public. Today its chamber receives 150,000 visitors each year and the numbers are increasing. With hindsight it was an unwise move to allow unrestricted access to the tomb as it puts the site, and continues to put the site, under severe strain. Just as O'Kelly previously noted, passage orthostats, great works of art in their own right, are still being rubbed smooth by visitors' clothing. That, and the previously-mentioned agricultural and housing development, led to a review of the problem in the mid 1980s by

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a committee that was brought together under the auspices of the Royal Irish Academy and which included representations of the Office of Public Works, the National Museum of Ireland, the Meath County Council and the Department of Archaeology, University College, Dublin. Initially the Committee addressed a series of questions and set out plans for the future. For that the whole archaeological area was accepted as a monument. As a result planning and management issues should be addressed in an integrated fashion. In order to do that and to provide an overall evaluation of the various problems and issues a landscape architect and planner, Anthony M. O'Neill was commissioned (funded by Bord Fáilte) to draw up a study in archaeological resource management. The ensuing report, which was completed in January 1989, was all-embracing and dealt with physical resources, human activities, management, zoning analysis and proposals for future preservation, maintenance and availability including the provision of a visitors centre.

Arising out of this a first and important step that was adopted was to redefine the map of the area as a whole. This led to the identification of a core area with surrounding buffer zones. The core contains all the major visible sites and other monuments; it encompasses an area of 780 hectares and extends over an area that is 6 km in length and up to 2 km in maximum width. Of the two proposed buffer zones, that on the north contains about 700 hectares and that on the south is over 1000 hectares. These zones are intended to protect the environmental setting of the core area but in a portion of the northern buffer zone, at Monknewtown, there are also visible archaeological sites. Overall the total area is up to 3000 hectares. This provided a firm basis for devising management strategies (including planning controls), a new visitor access regime and the provision of an infrastructure. Equally important it acted as a focus for integration with regional socio-economic planning on a substantial basis and for the attraction of resources for conservation and management objectives. A key element in the overall management strategy was the provision of a visitors centre on the periphery of the archaeological area. This would act as a gateway to the overall complex, it would present and interpret the archaeological landscape as an entity and facilitate the management and distribution of visitors. A critical factor in all of this is to create conditions, such as the rights of way, which would allow visitors to comprehend the area as a whole but also to dissipate visitor pressure on Newgrange and other monuments. In this aspect of the development the acquisition of property by the State is a prerequisite necessary to the overall preservation plan.

The State has ownership of Knowth, Dowth and Newgrange as well as some other areas while all visible monuments have protection orders. In addition to the State the Local Authority, Meath County Council, can and is playing a significant role. In the County Development Plan the entire Boyne Valley is designated an area of High Amenity, Brugh na Bóinne as a special area of archaeological interest and the section between Navan and Drogheda as an area of High Natural Beauty. In that arrangement the core area has three orders of protection; the proposed buffer zones two orders.

The Boyne Valley monuments have, of course, a role to play in the wider theme of this conference—science and society. Their building implicated people with skills and

knowledge and involved both construction and layout which included precise geometric shapes. Some of the monuments have features that characterize the concept of Neolithic science. In his recent study Andrew Powell (1994, 89) put forward the view that the distinctive heart shape of Newgrange can be attributed to the fact that it was built around a rigid frame comprising two 4:5:6 triangles and one 3:5:6 triangle. On the other hand Knowth was constructed around two 5:6:7 triangles. Jon Patrick (1974) argued that Newgrange was built to incorporate an astronomical alignment as is best demonstrated by the alignment of the passage on the rising sun at the Winter solstice, the shortest day of the year. The great Orcadian passage tomb of Maes Howe was aligned on the setting sun at the same time of the year. Knowth with its two tombs faces both the rising and setting sun twice a year, the Spring and Autumn equinox. Although Newgrange does not have a second chamber nevertheless the presence of Kerbstone 52 with its vertical central line directly opposite the entrance stone (K 1) indicates a front-back symmetry.

Stone selection, and therefore incipient geology, was also a feature of Brugh na Bóinne. This is most adequately demonstrated by the fact that nearly all the structural stones of the large sites and some in the smaller tombs had their origin in the Lower Palaeozoic geological zone the nearest part of the southern limits of which is about 3 km away (Eogan 1986, 112-13), but in order to acquire the most suitable stones the source could have been further away. This palaeozoic rock has distinctive qualities; it is hard and therefore will preserve better while its cleaved surfaces provide an ideal plane for the art. This demonstrates that the passage tomb builders had a knowledge of rock quality and accordingly selected building stones that were most advantageous from their point of view. But exotic stones, which were used for non-utilitarian purposes, were also acquired. For this category the varieties represented were quartz, granodiorite, granite, banded siltstones and gabbro (Mitchell 1992). Due to aspects of its composition the origin of the quartz can be attributed to the granite areas of the Wicklow mountains about 60 km to the south. The other four varieties could have been acquired in a limited region of north Louth-south Down, 50 km to the north. The primary geological source of granodiorite would have been the Newry igneous complex. The granite boulders would have been derived from the Mourne mountains while the banded siltstones may have originated in the Carlingford peninsula as did gabbro. Except for the quartz all the other exotic small stones could have originated in the adjoining geological complexes of the Carlingford, Newry, Mourne region. But the immediate source for these could have been on the sea shore, especially along the coasts of the Carlingford peninsula. Today all varieties occur, for instance, at Rathcor on the southern side of the peninsula (Mitchell 1992).

Carnac-Locmariaquer (Fig. 4)

The main monuments are found in a limited coastal area between the Quiberon and Arzon peninsulas which is less than 20 km in length and about 6 km in maximum width. Here



too, orientation is a feature of some monuments, such as the alignments at Kerlescan, Kermario and Le Menec (Bailloud *et al.* 1995, 48–68). This generally low-lying area is traversed by the rivers Crach and Auray and contains examples of impressive monuments —tombs, alignments, standing stones. Amongst these are some of Europe's classic and best known megalithic monuments—the massive long mound of Saint-Michael, the impressive passage tombs of Locmariaquer and Gavrinis, the stone alignments in the Carnac area and the massive Grand Menhir Brisé and its alignment at Locmariaquer. But this area is thickly inhabited, including towns and villages, agriculture is widely practised and it is a key tourist region. The latter is well-developed and established. Taking all these factors into account this renowned archaeological area is under threat and its landscape is endangered.

While the archaeological significance of the area has for long been known, recent excavations, especially in the Locmariaguer region by Jean L'Helgouac'h and Charles Le Roux, have added enormously to our understanding of the Neolithic inhabitants of the area. For the general public there is a most useful series of excellent guide books and associated with the excavations are programmes of large-scale conservation. In combination these have made, or are making, the sites accessible to the public both visually and in writing. Table des Marchands, Petit-Mont and Gavrinis have official and organised visitor arrangements and guide service from Easter to All Saints Day. These are the responsibility of the Société d'aménagement et de gestion du Morbihan (SAGEMOR) which is officially recognised and supported by the Département of Morbihan. There are certain problems in this area regarding access to a number of the monuments and their ownership. Gavrinis is the property of the Département of Morbihan but because it is situated on an island the Département has had to make arrangements with a boatman to provide an official link between the site and the mainland at Larmor-baden. The number of visitors is limited to 15–20 for each trip but there can be as many as two or three trips each hour. At the site there is a small visitors centre and a guide service is in place provided by SAGEMOR. Unaccompanied visits are not permitted. Petit Mont is the property of the town of Arzon. Large-scale excavations have taken place within recent years (Le Cornic 1994) and subsequently conservation work was completed. A guide service exists during the summer months (financed by SAGEMOR) but as yet no other facilities exist but there are plans to remedy this deficiency before too long.

The situation regarding monuments in the immediate area of Locmariaquer is more complex. Table des Marchands and the Grand Menhir are the property of the French State but ownership of Er Grah is divided between the town of Locmariaquer and the Morbihan Département. The complex nature of property ownership is clearly demonstrated by taking into account the situation that prevailed when the recent excavations were in progress. Er Grah and Table des Marchands were separated from each other by a pathway which is privately owned. Furthermore, all the land adjoining the megaliths was privately owned, several different owners being involved. Some years ago the State and the Département of Morbihan had plans to acquire more land and to provide access between the major sites by means of public pathways but due to local pressure this had to be largely abandoned. However the land around the megaliths has been acquired.

Carnac also presents problems. The alignments are the property of the State but nevertheless, due to an established practice of access, it may be difficult to organise a comprehensive programme of protection and conservation. It has been the custom that anybody could walk through the alignments and even interfere with them such as climbing on the stones. The area was being over-used, car-parks were too close to the monuments and this encouraged more and more people to walk through the rows; as a result soil erosion became a major problem. Fortunately this has now changed. The monuments are closed to the public and efforts are underway to reconstitute the surface and allow the growth of grass. A temporary visitors centre has been established near the western end of the Kermario alignment. It is the aim of the State to acquire additional lands around and in the neighbourhood of the alignments and to provide guided tours.

Obviously there is still a lot to be done in this area and this is difficult in view of the large permanent population and the presence of tourists in the environment of the monuments and on their fabric in some cases. In view of the importance of its megalithic art the continuation of allowing the practice of general access to the chamber at Gavrinis requires an evaluation.

Conclusions

From what I have said it is clear that Stonehenge and the four complexes that I outlined have features in common. All consist of assemblages of monuments that in the main served non-utilitarian purposes such as tombs, temples and processional ways. In other words they constitute ceremonial or ritual landscapes, foci for ceremonies extending in time from the Neolithic into the Early Bronze Age. They reflect ritual centralisation but also a consolidation of society indirectly suggesting socio-political complexity, including people in authority, and a display of power. The building of these monuments reflects an abundance of labour as human energy was consumed on a grand scale, not only just 'casual' labour but people with skills, knowledge and training. In each area the quality and quantity of the monuments are high, some are exceptional and have today an international reputation. The monuments had a specialised function. Many are large and, therefore, highly visible and as a result had a better chance of survival. Their construction displays specialist building skills and organisational capabilities including the transportation from a distance of large stones used in building. Even though the type of building in use varied between the Neolithic, Grooved Ware, Beaker and Early Bronze Age stages, nevertheless a feature of all is the presence of monumental architecture (Trigger 1990).

Monumental architecture involved major efforts in building. In the areas that we are considering these were generally special purpose buildings of a lavish scale, they were non-utilitarian in nature and their construction demanded personnel with skills and specialist knowledge. Many are much more massive and enduring than their function would have required. The layout and orientation of some involved mathematical precision. The use of materials exotic to the area was in some cases a feature. Such materials demonstrate 'conspicuous consumption'.

Despite the significant role that the various complexes played in our understanding of past human endeavour and creativity and their added role within recent times as attractions for visitors, nevertheless, we should not lose sight of the equally important role that the apparently more mundane monuments play; these need not be visually inspiring or spectacular in form and may have no role in the time-table of the casual visitor or sightseer. In the overall scheme of preservation such monuments cannot be neglected, they are wide-ranging documentation of archaeology. In this connection we should never forget the philosophy of the first Inspector of Ancient Monuments, General Pitt Rivers who reminded us that in archaeology that which is important is that which is persistent—in other words it is the common things that matter (cf. Daniel 1950, 173). Those words are as true today as they were a century ago.

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Stonehenge in its wider context

A feature of Europe during prehistory is the emergence of core areas. Stonehenge and its environs is of course one of the most notable but in different parts of Europe the clustering of monuments or artifacts or both is a feature. As at Stonehenge the other sites that I will mention include spectacular monuments; one variety that is characteristic of all is an open-air ceremonial enclosure. Apart from its scientific importance Stonehenge and also the other four complexes are significant tourist attractions and this has led to the development of visitor facilities, management regimes and programmes of monument and landscape conservation.

In Britain an obvious analogy to the Stonehenge area is to be found in the Orkneys, especially on Mainland, particularly in the general area of Stenness with its great passage tomb of Maes Howe, its henge monuments, standing stones and the significant settlement of Grooved Ware date at Barnhouse.

Another significant area, again in Scotland, is the Kilmartin area of Argyll which is a naturally defined archaeological region. Plans are afoot with the development of a major conservation programme and also to make the area more readily available for both scientific activities and general visitor needs.

In Ireland a most relevant area is in the valley of the river Boyne, known as Brugh na Bóinne. There, at different times during prehistoric and historic times a succession of cultural complexes arose. At the time of building and use of the passage tombs the area must have constituted a ritual landscape but the tombs also inform us about the scientific accomplishments of their builders.

One of the most celebrated archaeological areas of continental Europe is in the Carnac-Locmariaquer region of Brittany. In particular this area is renowned for its passage tombs and stone alignments including such spectacular sites as Gavrinis. This is an area with a considerable resident population but also an area that attracts large numbers of tourists.

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Future directions for the study of Stonehenge and its landscape

Many campaigns of excavation and fieldwork have been carried out at Stonehenge and in the surrounding landscape over the past 150 years. The work at the monument this century has recently been published by English Heritage and the proposal to create a Millennium Park around Stonehenge has been seen as the opportunity to undertake a programme of research which will address fundamental questions and integrate the work with the presentation of that landscape to the public.