This easily readable paper details a number of karst features on "non-karst strata" and is likely to be of value to all those interested in "pseudokarst". It is especially useful as grid references are quoted for the location of many features of interest, although for the smaller features 8 rather than 6 figure references would have been more appropriate.

This book cannot be recommended as one for the bookshelves of the discerning spelaeologist. At £45 it is expensive for three karst papers, one of which is very specialised and unlikely to be of general interest to the British spelaeologist. The book may be of more interest to the academic geomorphologist/hydrogeologist who has a wider area of study than just karstic landforms.

CLEAL, R.M.J., WALKER, K.E. and MONTAGUE, R., 1995. Stonehenge in its landscape. Twentieth-century excavations. *English Heritage Archaeological Report* **10**. xxi + 618 pp, 297 figs + 4 plans in wallet, 69 tables, 8 colour pl. £70. ISBN 1 85074 605 2.
(Reviewed by A.M. ApSimon)

The publication of this monumental study of the world-famous, unique, but enigmatic construction that is Stonehenge, is without doubt a major event in British archaeology, and one on which both the progenitors, English Heritage, and the three principal authors and 14 major contributors, as well as a host of other labourers in the field, are to be most warmly congratulated. Particularly meritorious is the speed with which, once commissioned, this report was produced.

Its major achievement is the integration of the records of previous excavators, notably Prof. Gowland in 1901, Lt-Col. Hawley in 1919-26 and Profs Stuart Piggott and Richard Atkinson between 1950 and 1964. It is a tribute to the conscientiousness of these earlier excavators, that so satisfactory a synthesis has been achieved, despite the imperfections of Hawley's often highly detailed record, and despite the lack of any daily written descriptive record of contexts and stratification found by Atkinson and Piggott's technically much more accomplished excavations. It is sad that Prof Atkinson was not able to complete a definitive account of his work at Stonehenge and that his death in 1994 has robbed of us of his comments on this, but the complete reappraisal given here is a substantial compensation.

The presentation of the volume is generally excellent, with clear type and numerous well designed illustrations, many with phase coding and other information in colour, and some beautiful colour plates. The reviewer found it very easy to use, the index good. Unfortunately inadequate final proof reading has left an irritating sprinkle of mis-spelt words and omissions. The bibliography would have been easier to read if hanging indents had been used for entries. Curiously, the initial pages are numbered in the Contents, but not on the pages.

The report is divided into four parts. Part 1 covers introduction, previous work and methods, and description of Stonehenge and its modern setting. Part 2 presents the archaeology of the monument and the history of development of the surrounding landscape, divided into 5 sections: a Mesolithic and Neolithic prelude before Stonehenge, three sections covering the main phases of the monument, and a coda of later 'use and abuse'. Interpolated throughout are sections summarising environmental and archaeological evidence for the surrounding area. Part 3 presents the artifacts and environmental data, and Part 4, Discussion, expounds the new phasing developed by the authors and places these phases in a changing landscape.

Nine appendices include the results of geophysical surveys and a comprehensive exposition of the rigorous radiocarbon dating programme. Also given are necessary details of excavations, postholes, etc., and an index of, and user's guide to the archive.

What then is new in this report? Firstly, the Stonehenge phases developed by Atkinson, with every stone and hole seemingly fitting neatly into an elaborate scheme, and with some remarkably unbelievable elements such as the extraordinary time span for the construction of the Avenue, are replaced by a new scheme of 3 phases with all the stone structures in phase 3.

To phase 1 belongs the digging of the ditch round Stonehenge, which with its segmented form, its 2 or 3 entrances, its internally placed bank, and deposition of specially chosen objects, seems to hark back to the causewayed enclosures of the Early Neolithic. Strikingly the objects deposited, notably cattle remains, turn out to have older radiocarbon dates than the antler picks used to dig the ditch, and thus must have been 'curated' for many years before.

The time horizon for this event was between 3020 and 2910 cal-BC, probably in the Middle Neolithic phase when Peterborough style pottery, the last variant of the Windmill Hill series, was current, before the discontinuity marked by the appearance of the Grooved Ware styles of the Late Neolithic. Within the line of the bank, the widely spaced ring of 96 Aubrey Holes, now thought to have held timber posts, later removed, is ascribed to this phase, and is perhaps the earliest known large timber circle. There was no evidence for any central structures.

After a seeming period of neglect, phase 2 is distinguished by the filling up of the ditch, partly naturally, partly by the shovelling back into it of chalk from the bank and by deposition of numerous cremation burials in holes dug in the ditch, the bank and the Aubrey Holes. Posts set across the northern entrance and on the south side seem designed to control and channel access to the centre, where there may have been further wooden structures, although not of the elaborate kind found at Woodhenge and Durrington Walls. Finds including a few scraps of Grooved Ware support the attribution of this phase to the Late Neolithic, perhaps from around 2750 cal-BC, but continuing to overlap with phase 3.

Phase 3 in the interior of the monument has 6 sub-phases, 3i-vi. Phase 3i had a complex setting of Bluestones, originating in south-west Wales, which seems designed partly to control and channel access in the same way as the Phase 2 posts, partly to enclose the centre, in which there may have been a concave setting or cove, comparable in our region to that at Stanton Drew. In Phase 3ii this was swept away in favour of the familiar Sarsen stone Trilithon Horseshoe and Circle. Phase 3iii is a 'missing' phase in which there may have been an internal setting of dressed Bluestones, possibly including trilithons. In Phase 3iv the Bluestone Circle and Oval were set up within the sarsen structures, modified in 3v by removal of stones from an arc of the north-east side of the Oval to leave the existing Bluestone Horseshoe. Finally in Phase 3vi, two rather irregular rings of pits, the Y and Z holes, were dug outside the Sarsen Circle, apparently to hold stones, but never used and allowed to fill up naturally.

Phase 3 events on the periphery are divided into 3 sub-phases, 3a-c. For 3a, the Heelstone and its companion, stone 97, whose stone-hole was found in 1979, may be linked with stones, including the Slaughter Stone, at the entrance and the 'Station Stones' within, in fulfilling the functions of delimiting, marking the approach and controlling access to the refurbished Sarsen stone monument. The ditch round the Heelstone and those round the North and South Barrows, constitute phase 3b, while though its date is not closely established, the construction of the Avenue in phase 3c, linking the monument with the River Avon, can be seen as forming

a ceremonial way up which the Bluestones were transported after their long water-borne journey.

The evidence of finds, including one certain Beaker-age burial, where the dead man had been shot with at least one Beaker style arrow, and another probable grave, as well as some unassociated material, points to activity by people using Beaker pottery during phase 3. Interpretation suggests that all the sub-phases, were part of a continuing process of modification, with 3ii-v radiocarbon dated to between 2500 and 2000 cal-BC, and 3vi to around 1600.

After this time the history of Stonehenge is essentially of farming around it and touristic visitors. No evidence has been found of Roman or medieval wrecking of the monument, although the report notes the possibility of early Christian wrecking.

The sections on the finds make apparent the modest quantity of retouched flint tools attributable to phases other than 1 and 2 in the ditch filling, and because the activities at Stonehenge mostly did not involve deposition or loss of pots, the paucity of ceramic finds, as well as the difficulties of phasing in the absence of a continuous stratified sequence. The reviewer was pleased to see the supposed use of cattle shoulder blades as shovels finally dismissed. It is instructive to observe the lack of evidence for significant presence or use of Bluestones or large Sarsens on the site before phase 3.

The second major advance presented by the report is its confirmation that the main sequence of stone structures is relatively and absolutely earlier than Atkinson had supposed, in that it belongs not to the Early Bronze Age, but to the period before 2000 and after 2500 cal-BC, which the reviewer finds convenient to call *Final Neolithic*. In this period archaeological evidence suggest quite rapid replacement of Grooved Ware style pottery by Beaker styles, even though radiocarbon dates suggest a substantial degree of overlap, a situation whose implications deserve critical analysis. Only the Y and Z holes can reasonably be retained in the Early Bronze Age, initially marked by developed style Beaker material and later by Food Urn series pottery, to which the representations of daggers and axeheads carved on some stones are appropriate.

The report also provides instructive answers as to whether Stonehenge can properly be called a 'henge', as these are currently defined. The answers seem to be 'No' for phase 1; 'Only with difficulty' for phase 2, though the arrangements for restricting and controlling access are reminiscent of those at the classic 'henge' of Durrington Walls, nearby; while for phase 3, the unique lintelled stone structures are best understood as translations into stone of wooden structures known from the major 'henges', hence the interest in knowing whether they were raised by the same society or by one which had undergone the major transformation which elements associated with Beaker pottery suggest. The Avenue also remains unique, with no real likenesses to earlier cursus monuments or other avenues, except perhaps the link to water.

Readers interested in supposed astronomical connotations, may be disappointed to find that the only mention is of the axial line passing through the centre of the phase 3 monument and between stone 97 and the Heelstone, which works well for observing the summer solstice sunrise, and reversed, for the winter solstice sunset. However these topics, like the function and significance of the monument for its builders, lend themselves better to speculation than verification, and the authors do well to eschew them in this report. It is most encouraging to see that a further programme of selective research designed to answer specific questions is envisaged, and it is to be hoped that this may advance our understanding of a monument whose subtleties and complications never fail to amaze.