



Quaternary geoconservation and Palaeolithic heritage protection in the 21st century: developing a collaborative approach

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ABSTRACT

This paper explores the links between the study and conservation of Palaeolithic archaeology and Quaternary geology, using examples from England. In Britain, human occupation is believed to have started approximately 800,000 years ago, thus giving rise to significant overlap between sediments studied by Quaternary geologists and those of interest to Palaeolithic archaeologists. Given the scientific importance of understanding environmental change and its impact on previous populations, along with the cultural significance of studying past human communities, there is an equal need to understand the opportunities and challenges for conservation. There are long-standing legislative, resourcing and methodological differences between geological and archaeological conservation, which we review here, as well as different approaches to site selection and management. There are also differences between the treatment of Palaeolithic and more recent archaeology, which strengthen the need for a closer alliance with Quaternary geoconservation. Ultimately, successful conservation of Palaeolithic archaeology and Quaternary geology should use both heritage protection and geoconservation measures to best advantage, for which mutual understanding is essential. Here, as a contribution to furthering such understanding, we explore the opportunities and challenges for conservation, and set out key areas and priorities for effective collaboration, which is illustrated by a case study from Cannoncourt Farm Pit SSSI (Maidenhead, Berkshire, UK).

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1. Introduction

There is a long history of joint working between Palaeolithic archaeologists, geologists and other Quaternary scientists studying environmental change in Britain. This legacy includes a number of important multidisciplinary research projects in the 1980s and 1990s, such as at Boxgrove (Roberts and Parfitt, 1999) and Barnham (Ashton et al., 1998), as well as more recent work supported by the Aggregates Levy Sustainability Fund (ALSF) and the Ancient Human Occupation of Britain (AHOB) Project, funded by the Leverhulme Trust. In this paper we consider how similar collaboration can be fostered in the area of conservation.

A recent review by Prosser et al. (2011) identifies the need for geoconservation policies to integrate better with other disciplines, including those related to the historic environment. The authors call for closer partnership working with conservation practitioners from different disciplines and the sharing of good practice, especially with regard to tackling 21st century conservation

challenges. They also advocate further consideration of how to maintain and find resources for the expansion of site audits to underpin conservation. As a contribution to this process, we wish to examine the complementary and contrasting approaches to Palaeolithic heritage protection and Quaternary geoconservation in England, particularly regarding the planning process, site designation and site management, including a case study from the Thames valley. We go on to identify priority areas for future collaboration between government agencies, local authorities, the voluntary sector and the academic community that would benefit both Quaternary geoconservation and Palaeolithic heritage protection. While much of the discussion focuses on the work of the main statutory bodies in England, English Heritage and Natural England, their management roles need to be seen not as controlling but facilitating joint working between all groups interested in geology and archaeology.

2. Quaternary science and the study of Palaeolithic archaeology

When the archaeologist John Evans set out “the natural connection between Geology and Archaeology” in a paper read to the Society of Antiquaries on June 2nd 1859, it marked the

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growing realisation among 19th-century archaeologists that their discipline extended back into geological time, an insight arguably as significant as those published by Darwin in the same year. The discovery of flint artefacts in gravel beds around Abbeville and Amiens showed that the common supposition that “the last of the great geological changes took place at a period long antecedent to the appearance of man upon the earth” could no longer be sustained (Evans, 1860, p. 280).

A hundred and fifty years later, Palaeolithic archaeology and Quaternary geology are united under the banner of Quaternary science, an approach enshrined in collaborative projects such as AHOB. Although there is still much to discover, advances in fields like scientific dating have given the lie to Evans's assertion that “the race of men by whom these implements were fashioned, and at what exact period they lived, will probably be always a matter for conjecture” (Evans, 1860, p. 303). But the insights of geologists have remained crucial to archaeological understanding of early human ways of life and tolerances, and help demonstrate its relevance to present-day debates about how to meet the challenge of climate change (Stringer, 2006).

At the same time, archaeology has its own distinctive contribution to make within the broader field of Quaternary science. One goal for Palaeolithic archaeologists, just as for those interested in later periods, is to understand “social life in all its different forms” (Gamble, 1999, p. 6). The patterned residues of human action across time and space, at all scales from the sequence of flaking on an individual handaxe to the distribution of sites across a continent, are clues to understanding the social dimensions of how early humans lived. Gamble's (1999) important synthesis of Palaeolithic archaeology in Europe was written as a counterbalance to the standard approach of Quaternary science, in which the emphasis tended to be on a natural rather than a social prehistory, typically focussed on ecology and subsistence. Therefore, while archaeologists draw on the same data as Quaternary geologists and, crucially, investigate the same sites, they are engaged in a different kind of project, as befits a social science. The two disciplines are not so much supplementary to one another, combining to produce a single narrative of time past, but complementary, giving us stories from different perspectives aimed at different ends. This provides the basis for continuing collaboration in research. Indeed, studying the cultural and social world of early humans from the sparse remains they left behind is a challenge that puts ever more emphasis on a collaborative approach. At places like Boxgrove, where individual events in the lives of early human groups are preserved in situ, this requires information about very local environments; at other locations, interpreting hominin demography from aggregated stone-tool assemblages in gravels is fundamentally premised on unravelling the formation processes of those deposits.

However, clarifying the nature of the academic engagement between archaeology and geology is only part of the issue for Palaeolithic studies. The emphasis by Gamble and others on the need for a continuity of interpretative approach between the deep time of early prehistory and more recent periods is a riposte not to other Quaternary scientists but to archaeologists who have ingrained Bradley's (1984, p. 11) well-known caricature of the difference between earlier and later prehistory: that “farmers have social relations with one another, while hunter-gatherers have ecological relationships with hazelnuts”. The presumption which needs to be overcome, that Palaeolithic archaeology has objectives, approaches and data different from those of later periods, has also had an impact on the treatment of early prehistoric remains in terms of conservation (heritage protection and the planning process). We therefore wish to suggest that collaboration between archaeologists and Quaternary geologists

is just as necessary in the field of conservation as in academic research.

3. Archaeological and geological conservation: an introduction

At present there are a number of practical differences between archaeological and geological conservation in Britain, although the different measures that apply in each case are something of a historical and legislative happenstance. Geology was included within the brief of the Nature Conservancy and its successors (the Nature Conservancy Council, Natural England [formerly English Nature], Scottish Natural Heritage and Countryside Council for Wales) through the ‘National Parks and Access to the Countryside Act’ of 1949 and subsequent legislation for nature conservation (see Prosser, 2008; 2013). This was thanks largely to the influence of Stamp (1969), a member of the Committee on Land Utilisation in Rural Areas (chaired by Lord Justice Scott), who realised the importance of the varied geology of this island in generating its various natural habitats (Nature Conservancy Council, 1984; Prosser, 2008). Meanwhile, national geological mapping and recording is delivered by the British Geological Survey (BGS), which is charged with the task of documenting and researching the geology of Britain but dependent on public funding if this is to be undertaken systematically.

Archaeology, in contrast, has been included in the protection of the broader historic environment, under the auspices of English Heritage (technically the Historic Buildings and Monuments Commission for England) and equivalent organisations in Wales, Scotland and Northern Ireland. The idea of giving legal protection to the most significant sites and monuments can be traced back to the first Ancient Monuments Protection Act of 1882, though the vast majority of the archaeological resource is managed through the planning system at local authority level (see below). Academic archaeology and heritage protection may sometimes have different priorities in terms of whether particular sites should be researched or preserved (see Carver, 1996), but they share an interest in acquiring knowledge of (pre)historic objects, sites and landscapes. The heritage sector has repeatedly acknowledged this in statements such as “Before we do anything, we need knowledge” (English Heritage, 2000, p. 5) or “Sustainable management of a place begins with understanding and defining ... its significance” (English Heritage, 2008a, p. 14); thus research and conservation are not separate domains but linked processes (see below). Broader audiences and interests are also involved: just as nature conservation is now moving towards an ecosystems approach (see Prosser et al., 2011; Gray et al., 2013), so historic environment conservation principles set out a logical approach to making decisions and reconciling protection with people's needs and aspirations (English Heritage, 2008a).

The different histories of conservation approaches in the two disciplines are reflected in differences in ethos and practice, which we explore below. These relate to a number of factors including the nature of the resource, as well as legislation, resources, funding arrangements and methods. We also reflect on the differences between the treatment of Palaeolithic archaeology and that of later periods, and comment briefly on other aspects of the relationship between geoconservation and heritage protection. We start with the planning system, as this covers most archaeology, especially given the issues around designation of Palaeolithic sites discussed below, although geologists would perhaps see statutory notification as a more significant measure.

4. Quaternary and Palaeolithic heritage in the planning process

Both geoconservation and archaeological conservation are included in the planning system, but each has a slightly different

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