

Human environment at the Institute of Archaeology, 1964–1979

G. W. Dimbleby

Geoffrey Dimbleby succeeded Frederick Zeuner as the senior environmental archaeologist at the Institute in 1964, on his appointment to the newly named Chair of Human Environment. He retired in 1979, and here recalls how he first became involved in environmental archaeology and how research in the subject developed during his years at the Institute. (Fig. 1)

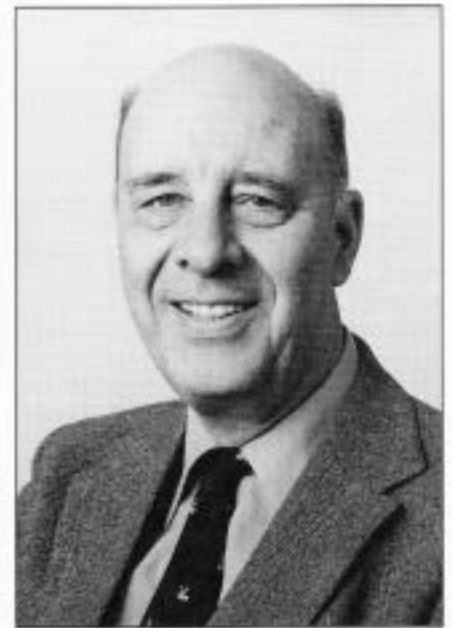


Figure 1 *Geoffrey Dimbleby (the photograph was taken soon after he joined the Institute in 1964).*

My introduction to environmental archaeology came in a dramatic way long before I came to the Institute. I was engaged in soil research on the North York Moors and was faced with an old unanswered question: had the soil here always been too poor for tree growth? It occurred to me that the many prehistoric round barrows (burial mounds) on the moor might be covering a soil of prehistoric age, so I cut a section in one from its present surface down to the old land surface beneath. The infertile moorland soil extended over the mound, but the old land surface carried a more fertile brown soil. The surface of this soil yielded pollen of deciduous trees and shrubs, as well as charcoal of the same species. It contained only a small amount of heather, and grasses were abundant, accompanied by the characteristic weeds of arable land. This discovery spurred me on to examine soils buried under earthworks of as wide a range of periods as I could find. It became clear that human activity had been a major factor in reducing once-fertile soils to what one eminent ecologist described as the productive equivalent of semi-desert.

I had published a first account of this work¹ before Frederick Zeuner, first Professor of Environmental Archaeology at the Institute,² suddenly died, bringing to a tragic end his pioneer work in this field of archaeology. His department in the Institute was very much his own creation and was unique in being specifically concerned with the environment. Eventually the post was advertised, but now the department had been given a new title – Human Environment. This did not specify any qualification in archaeology, so I applied and was appointed.

Although I had had regular contact with the department over the years, much of the syllabus was new to me and I had to run to keep up. There was little botanical content, either in the courses or in the research, and no pollen analysis. I was able to carry on my own work on soil pollen; buried land surfaces were often the most useful and they avoided the conflict that then raged over the scientific acceptability of soil-pollen analysis. Traditionally, pollen analysis was based only on stratified deposits,

because it required strict sequentiality of deposition. Soil pollen was taboo because of its lack of stratification resulting from soil movement, animal disturbance (e.g. earthworms and burrowing rodents) and, above all, downwash of water through the soil. However, soil-pollen analysis has different aims, so the specifications are different; in fact the very objections listed above turn out to be positive factors that can be used to advantage.³ Friction between soil pollen specialists and other palynologists still persists. On more than one occasion it has been brought to my notice that a pollen report of mine had been “sanitized” before publication by someone re-writing the text and removing my name from the report, although I was able to correct this before final publication.

Before I came to the Institute, it had been suggested to me by Edward Pyddoke, who was then Secretary of the Institute, that I should write a book on plants and archaeology, so as part of my archaeological self-education I did so.⁴ This led on to an academically exciting joint venture with Peter Ucko, who was then on the staff of the UCL Department of Anthropology. In the mid-1960s there was much research interest worldwide in plant and animal domestication and the origins of agriculture, so we organized an international seminar on the subject. This attracted all the key people from many relevant disciplines and resulted in a book⁵ that became the pattern for parallel ventures on similar multifaceted subjects, both in the Institute and farther afield.

Research in the Department of Human Environment itself underwent a slow metamorphosis.⁶ Previously the environmental element had been directed towards past human economy as revealed by the residual animal and plant remains of the resources exploited. For instance, the animal remains recovered from excavations were mainly those of large herbivores, the identity of which told us about the economy of the site and also in general terms about the landscape that was being exploited. However, large herbivores are not the most specific indicators of ecological conditions. Gradually it came to be appreciated that a site may contain small or microscopic remains that are equally or even more informative about the past

environment. These are not necessarily consciously brought onto the site by people in the course of their daily lives, but come in casually by one means or another. Pollen is the obvious example, and now it has become routine in bioarchaeology to extract small snails, insects, seeds, fungal spores, minute fragments of plant inflorescences, and phytoliths (microscopic silica bodies produced by plants) – all of which potentially represent some aspect of the ecology of the countryside surrounding the site.

With the sort of detail that such evidence can give, it is possible to create not only a static picture of the environment of a particular site but also to demonstrate the dynamic, usually detrimental, effect that humans may be exerting on their surroundings. Sometimes it is possible to infer the process of deterioration of the soil itself. I once visited a site where the soil profile showed that, in an early phase, flints had been buried to a depth of about 10 cm by the action of earthworms, which then died out as the soil became more acid. This was too much for the director of the excavation, who could not understand how earthworms, with their tiny mouths, could pull large flints down into the soil. On this point, our students would have been introduced to Darwin⁷ and, more recently, to Richard Atkinson.⁸

Extraction and analysis of microscopic evidence requires techniques not normally available to the archaeologist. The department therefore introduced instruction on the underlying theory, and also appropriate practical courses. This was a major part of the BSc in archaeology that was introduced in 1970. We were very gratified

when Professor Baudou of the Department of Archaeology of Umeå University in Sweden brought his whole class to London to attend this course. For a few years we ran a summer field course at various environmentally instructive venues (Fig. 2),⁹ but when the cost became prohibitive we had to substitute daytrips from the Institute. However, these were less practicable because, to reach suitable sites, too much time was spent travelling to them from central London.

Parallel developments in environmental science were, of course, going on in the 1960s and 1970s at other centres: in two or three British archaeology departments and also in other university departments, specialist institutes and museums, with most of which we had contacts. One outcome of such interdisciplinary liaison, in which the Department of Human Environment played a pivotal role, was the establishment of a new journal¹⁰ – the *Journal of Archaeological Science* – which has since become a regular outlet for major papers in environmental archaeology from all parts of the world. Another outcome was the formation, in 1978, of the Association for Environmental Archaeology. In this, the initiative was taken by my colleague, Don Brothwell, and other present and past members of the department, with the enthusiastic support of research workers in other centres.

In conjunction with my work in the Department of Human Environment I was very involved in the national nature conservation movement. At the Institute we marked the national campaign, "The Countryside in 1970", by putting on an exhibition illustrating "The Countryside in 1970 BC". It was a chance to show that many of the problems that beset us in the world today have their roots in prehistory.



Figure 2 A Department of Human Environment field course at Knap Hill, Wiltshire, in 1965. From left to right: Ian Cornwall, Geoffrey Dimpleby, Judy Phillips, Bassey Wai Ogosu (later Andah), Joan Sheldon (in foreground).

Notes

1. G. W. Dimpleby, "The historical status of moorland in north-east Yorkshire", *New Phytologist* **51**, 349–54, 1952.
2. Frederick Zeuner was appointed to a part-time Chair in Environmental Archaeology at the Institute in October 1945, having previously held the position there of Honorary Lecturer in Geochronology.
3. For a discussion of the principles and techniques of soil-pollen analysis, see pp. 1–29 in *The palynology of archaeological sites*, G. W. Dimpleby (London: Academic Press, 1985).
4. G. W. Dimpleby, *Plants and archaeology* (London: John Baker, 1967).
5. P. J. Ucko & G. W. Dimpleby (eds), *The domestication and exploitation of plants and animals* (London: Duckworth, 1969).
6. At the time of Zeuner's death in 1964, there was only one other academic member of staff in his department, Ian Cornwall, whose research focused on soils and sediments. During the 1960s, three others joined the academic staff in Human Environment: Don Brothwell and Ken Thomas, both of whom specialized in zooarchaeology, and Joan Sheldon, who had been Zeuner's assistant and who later developed expertise in the analysis of charcoal from archaeological sites.
7. C. Darwin, *The formation of vegetable mould, through the action of worms, with observations on their habits* (London: John Murray, 1881).
8. R. J. C. Atkinson, "Worms and weathering", *Antiquity* **31**, 219–33, 1957.
9. Bassey Wai-Ogosu came to the Institute from Nigeria in 1965 and took an MPhil degree. He later changed his name to Bassey Wai Andah and became Professor of Archaeology in the University of Ibadan in 1978, a position he still held at the time of his tragically early death in December 1997.
10. The founding editors of the *Journal of Archaeological Science*, the first volume of which appeared in 1974, were Geoffrey

Dimpleby, Don Brothwell, who was then on the staff of the British Museum (Natural History), and Harold Barker of the British Museum Research Laboratory.