

the search for the Sun's energy source. The third epoch, 1910–40, was not only the monitoring period during which the search for strong solar terrestrial relations bore limited fruit, but also the time during which the details of the solar composition and the nuclear energy generation process in the solar interior was placed on a firm footing. Huge advances in stellar and galactic astronomy, however, saw solar astrophysicists lose status amongst the astronomical élite.

Solar physics benefited greatly from the Second World War and between 1940 and the mid-1970s we saw the discovery of the effects of solar activity on radio transmission and also huge expenditure on rocket, satellite and ground-based solar instruments and the concomitant expansion of solar studies into the radio, X-ray, ultraviolet and neutrino fields. Since the mid-1970s Hufbauer notes that we have moved into the era of budgetary restrictions and this has led to the decline of the monitoring programmes.

In *Exploring the Sun* Hufbauer has concentrated on the breakthroughs in solar science and has maintained a swift narrative pace by playing down the less exciting spade-work that followed after the pioneering observations. He also enjoys placing the history of the subject into the larger philosophical, political, technical and socioeconomic arena. I found his two case studies – the discovery and investigation of the solar wind, and the space age quest to quantify the degree of variability in the Sun's radiation output – absolutely fascinating.

This is a well-written, well-illustrated and well-referenced book. The history of solar science is a huge subject and I congratulate Hufbauer on the way in which he has skilfully balanced the extremes of brief review and detailed investigation.

DAVID W. HUGHES
The University, Sheffield

VALERIE PINSKY and ALISON WYLIE (eds.). *Critical Traditions in Contemporary Archaeology: Essays in the Philosophy, History and Socio-Politics of Archaeology*. Cambridge: Cambridge University Press, 1990. Pp. ix + 160. ISBN 0-521-32109-3. £27.50, \$54.50.

It is only relatively recently that archaeologists have begun to develop a critically self-aware approach to their discipline. This book gives an excellent panorama of the issues, held together and placed in perspective by the section introductions and commentaries provided by the editors and two 'discussants'. The points raised are central ones, familiar from discussions in other social and historical disciplines: what is the status of our claims to knowledge and the methods we use? How do these relate to the social and political context of archaeology? Can archaeology be an 'emancipatory' discipline, and how should that be achieved? What is the role of disciplinary history?

The first section of the book, entitled *Philosophical Analysis*, is arguably the least interesting, perhaps because the issues with which it deals are no longer as topical as they once were. The tradition of critical introspection out of which this book has emerged began in the 1960s, with reactions of Kuhn on the one hand, and criticisms of existing standards of explanation within the discipline on the other, the latter leading, especially in North America, to a prescriptive insistence on the application of Hempel's covering-law model to explanation in archaeology. It is largely with the tail end of this debate, concerning the role of philosophy of science and philosophy generally in archaeology, that this first section of the book is concerned. Dunnell takes a negative view on this but Wylie, in an excellent article, shows why he is wrong in arguing for the deleterious effect of philosophy on archaeology by disentangling and illuminating a whole series of important issues surrounding the key research programmes of Lewis Binford and the assumptions behind them.

The study of the history of the discipline has a much longer pedigree in archaeology than a concern with the philosophy of science, but until recently the level of the contributions has been pretty uninspiring: a mixture of curious anecdotes

with the story of the progressive overcoming of naivety and ignorance. The second section of this book argues for the kind of contextual historiography which is now widespread in other subject areas and sees such work as going hand in hand with the development of critical self-consciousness, so that the history of archaeology is no longer a mere dispensable adjunct but becomes central to the definition of the subject's goals. All the papers are worth while but the most stimulating and provocative is Chippindale's review of the history of studies of Stonehenge. Here he argues, in many ways against the trend of the book, that the objects which archaeologists study have their own identity and set their own agenda: people have been asking the same questions about Stonehenge and applying similar methodologies to its interpretation ever since the monument was first mentioned in written sources in the medieval period; it is the nature of the answers which has changed.

One of the strengths of this collection of papers is that it combines detailed case studies, such as Chippindale's, with general theoretical discussions, and this mixture is continued into the third section of the book, dealing with the socio-political context of archaeology. Tilley's article is a polemic for an 'emancipatory' and 'empowering' archaeology which helps to undermine the assumptions and practices of the capitalist societies in which many if not most archaeologists work. Handsman and Leone attempt to put such ideas into practice with a detailed analysis of two museum exhibitions which proposes alternative presentations to those actually given. However, the paper which in many ways encapsulates the issues raised by the volume as a whole, and indeed the current dilemmas of archaeology generally, is that by Gero. This is a fascinating, perceptive and all too convincing account of the divisions between professional and lay archaeologists concerning the interpretation of certain stone structures found in New England: recent storehouses to the first group, evidence of ancient transatlantic colonists from the Old World to the second. The sheer difficulty of grounding archaeological claims to knowledge in certain circumstances is apparent, so too is the arrogance and remoteness

of the professionals and the emotion- and value-laden significance which archaeological remains have in many places for local people.

This volume captures much of the present state of archaeology, despite its long gestation. Nevertheless, it is a pity that it could not have included a discussion of the 1986 World Archaeological Congress, which had a major role in the development of critical self-consciousness in archaeology in the 1980s. All the signs are that archaeology has a stormy future ahead of it as it attempts to come to terms with its rapidly changing social context at a global scale.

STEPHEN J. SHENNAN
University of Southampton

LILLIANE BODSON and ROLAND LIBOIS (eds.). *Contributions à l'histoire des connaissances zoologiques. Colloques d'histoire des connaissances zoologiques, 2. Liège: Université de Liège, 1991. Pp. 123. 450FB.*

This little collection is a pretty mixed bag. The editors themselves admit that they had no framework for the second one-day meeting of the unentirely named 'Inter-university Group on the History of Zoology and the Relations between Man and Animals'. Nevertheless twenty-seven participants showed up on 17 March 1990, eight papers were read and discussed, of which five are reproduced here in full, while another is given in summary. An additional paper has been added which was not presented at the meeting.

Two contributors evidently failed to meet tough editorial deadlines. We are therefore deprived of the pleasure of learning about the harvesting of cast reindeer horns in prehistoric times or of looking at an analysis of medieval treatises on falconry as literary texts. What is printed seems to fall into much the same mould. There must be something here for someone.

The opening paper is on the excavation of bird bones from archaeological sites in Patagonia. These apparently reveal regional variations in the birds hunted for food. The patterns reflect both the varying ecology of the species and the cultural differences between the ethnic groups