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Finding time for the Old Stone Age – A History of Palaeolithic Archaeology and Quaternary Geology in Britain, 1860-1960, by Anne O'Connor, 2007. Oxford University Press, Oxford, United Kingdom. Hardback, xxxix + 423 pages, 2 maps, 78 illustrations. Price GBP 75.00. ISBN 978-0-19-921547-8.



Earth scientists become increasingly involved in environmental research and in the search for natural resources that are required for a variety of construction works (gravel, sand, clay, etc.). Quaternary geology therefore is a discipline that becomes more and more important, and many geologists working in Quaternary deposits become, often to their own surprise, confronted with traces of human activities in prehistoric times. I did so myself, and during the time that I carried out fieldwork in Quaternary sediments, I collected quite a number of prehistoric pottery pieces, but also of flint tools, partly from the Neolithic, partly from the Paleolithic. The latter are particularly intriguing, especially since it requires some knowledge of the techniques used for the fabrication of such tools to be able to distinguish them from flint pieces that have formed in a natural way. But once you have mastered at least the fundamental knowledge required for recognizing Paleolithic flint tools, you can very well understand why archeologists often speak with so much passion about their work.

Like each archeologist (or interested Quaternary geologist) now has to go through a process of learning, scientists had to find out all this themselves in the past. And just like we wonder how sailors centuries ago were capable to prepare maps of previously unknown coasts with quite good accuracy, in spite of the fact that estimating the velocity of the ship that they travelled on could be estimated only roughly, we should wonder how archeologists in the past unraveled the development of early Man, often only on the basis of flint tools.

This is exactly what the book by Anne O'Connor is about. It may be true that it deals only with the development of Paleolithic research in Britain, France and Belgium, but the history told seems to me fully representative of what happened elsewhere in Europe. In this context, O'Connor makes perfectly clear that the pioneers in Paleolithic research did not consider themselves as geologists or archeologists, but that many had another profession (medical doctor, diamond merchant, etc.) and were amateurs interested in the archeological finds and the underlying problems rather than what we now would call "professional scientists". The interesting 9-page (!) list of "dramatis personae" gives a good insight into this matter.

In the Introduction, O'Connor justifiably mentions how recent Paleolithic (and geological!) research is: "The human antiquity debates of the late 1850s and the geological sequences that were developed earlier in the nineteenth century" She also emphasizes the link between prehistory research and the early work on Quaternary sediments, including the originally strongly debated ideas (put forward by Agassiz) about an ice age, and the research on extinct faunas. It is interesting that, as O'Connor mentions, "a large number [of Paleolithic researchers] would have described themselves as "geologists" rather than as "archaeologists." The less loaded term "Palaeolithic researcher" is used here for those with a particular interest in the stone tools." Nowadays, we see – after a century of more and more specialization – that scientists try to bridge the distances that have developed between the various disciplines in the course of time, just

because it becomes increasingly apparent that innovative science is possible only through a multidisciplinary approach! This is, by the way, one of the reasons why I think this book such excellent reading for geologists.

The book is not meant to be a textbook dealing with Western European research in the Paleolithic. Rather it is a historical work, describing how progress was made in this type of research, which is quite complex, indeed. The descriptive character does not affect the readability of the book, however: it often is even amusing to find out about the numerous controversial insights, the – all to human – personal quarrels, and the satisfaction that the numerous “Paleolithic researchers” felt if another piece of the puzzle had fallen in the right place. The reader is taken by the hand by the author, and led along the successive phases of research.

The first chapter is devoted to the period “Before the Stone Age Existed” and deals mainly with the early 18th century, when the first more or less serious interest into prehistoric material arose. It describes, among other things, the early discussions on Diluvium and drift (two terms that, unfortunately, still are used in geological literature, often without stating clearly which of the numerous meanings that these terms may have, is meant). The (either or not correctly presumed) genetic relationship with icebergs and glaciers may help many Quaternary geologists to get a clearer picture of these features that are still often dealt with in a chaotic way. Stone tools are not the only traces left by Paleolithic Man, and the finds of shells and bones in this “pre-archeology” phase – and the way in which they were handled – also get due attention. The chapter finishes with the discovery of the famous cave near Brixham (Devonshire), known as the Windmill Hill Cavern, which yielded such a wealth of finds that their analysis can be considered as the moment that the era “Before the Stone Age Existed” came to an end.

Chapter 2 (Arguments over the Ice Age) will, for most Quaternary geologists, not open really new views. The development of the theory that land-ice masses must have covered large parts of Europe is detailed, with a lot of amusing details. The many phrases from private correspondence between the scientists involved give an excellent insight into the way how scientists thought and worked at the time, how jealousy hampered progress, and how difficult it is (as is clear also nowadays) that once-established ideas are difficult to change. But it also shows, fortunately, how science in the end triumphs. And I must admit that I found a lot of new facts in this chapter, even though I have worked in glacial geology for decades, and even though I lecture myself quite frequently on the development of the theory of the ice ages. Anne O’Connor is certainly to be congratulated with such a fine chapter!

The next chapter (Ancient Dwellers of the Thames Valley) will be found less interesting by most Quaternary geologists: they may think it too archeological. On the other hand, it details (both in the text and in – often amazing – old drawings) Paleolithic tools, which will certainly help to recognize them. And wouldn’t it be a shame if you find some of these old tools but throw them away, only because you think that they are just erratics?

More or less the same can be said about Chapter 4 (River-Drift Men and Cave Men). Again, the illustrations are impressive. Most amusing is the description of one of the points of disagreement between William Boyd Dawkins (a paleontologist who worked initially for the Geological Survey, and who later became Professor of Geology at Manchester) and the – more famous – James Geikie. Apart from their fundamentally different views regarding the stratigraphic succession of bones and of glaciations (which are dealt with elsewhere in the book), they disagreed strongly about the patterning of Paleolithic tools. This is great reading! It should be realized, however, that it was this type of personal disagreement that led to the more general discussions that eventually contributed to the establishment of chronological developments and of classifications of tools. Obviously, the insights have continued to change after the Dawkins/Geikie controversy, and this has certainly contributed to more precise correlations, classifications, etc. This does, however, certainly not imply that all problems have been solved now and that no different views exist anymore: the heated debates about the evolutionary development of Man himself, based not only on (commonly tiny, deformed and/or very incomplete) bone fragments, but also on stone tools, still go on!

The most intriguing chapter, as far as I am concerned, is Chapter 5 (Eoliths: An Earlier Phase of the Stone Age?). It is about eoliths, a name given to pieces of flint that were considered by

some as tools that are so primitive that they must even have preceded the Paleolithic. Others disagreed, and the same Dawkins mentioned above, who thought that they were the result of natural processes, very unscientifically told a fellow-researcher (de retired zoologist Lankester): “Unless you can show that these flints could not possibly be produced by natural agencies, I shall refuse to attribute them to man.” Such a proof can, obviously, never be given (one of the fundamental points of theory falsification!), and the result of this and similar discussions was a long-lasting debate about the genesis of eoliths, with even some satirical aspects; one of them was an “eolith” (it was obvious that it was a not seriously meant falsification) with an at first sight puzzling text with an inscription in present-day (!) letters sent by the fungus expert Worthington Smith to the shopkeeper Bajamin Harrison, who had discovered eoliths in Kent. Quite unfortunately, in my opinion, this (obvious) falsification has been chosen as the illustration on the book’s front cover. I’m afraid that it might give potential buyers the incorrect impression that this is not a scientifically sound book but a book of the Von Däniken type “The Gods were Astronauts.” It is almost disappointing to find out that archeologists now agree that the eoliths have a natural origin.

Chapter 6 (The Pre-Palaeolithic of East Anglia) is, like Chapters 3 and 4, devoted to “true” prehistory, and is, in my opinion, mostly of regional significance, in spite of the fact that it once more reveals how both controversies and cooperation ultimately seem required to get a good picture of the prehistoric inhabitants of East Anglia.

“Chronology of the Early Twentieth Century” (Chapter 7) provides an extensive overview of the almost countless attempts of “Paleolithic researchers” to establish a chronology, and to correlate the various cultures with the Pleistocene succession of glacials and interglacials. Remarkable is that the same culture (and specific prehistoric European cultures are now supposed to have occurred more or less at the same time everywhere in Europe) in the different correlation schemes may differ a complete glacial/interglacial cycle! Only very gradually some kind of a more or less generally accepted chronology was established. It may be true that, as a rule, direct dating of tools and other prehistoric material is impossible, but most archeologists now agree about quite a precise chronology, based on a fairly large number of datings (and correlations with dated phenomena). I therefore consider it the most serious shortcoming of the book that nowhere a chronology is presented with the “absolute” datings that now are available (and even Elsevier’s famous wall chart with the geological time table shows the archeological chronology!).

The following Chapter (8), “Swanscombe: A Standard Stone-Age Sequence for Britain?” is, like Chapter 6, mostly of regional archeological importance, although correlations with other regions give it a supra-regional value. It contains some data that are important as milestones, however, such as the sentences devoted to the 1920 Presidential Address of the geologist John Edward Marr to the Prehistoric Society of East Anglia, in which he stated that “whereas a few years ago it was universally maintained that man only appeared in post-glacial times, there are now few, if any, who would subscribe to this belief.” Archeologists had become convinced of the truly early occupation by Man of Britain (then connected to Europe’s mainland as the North Sea had fallen dry during the last glacial).

An interesting chapter (9) is about “The Advent of Abbé Breuill.” Henri Breuill (1877-1961) was described by Miles Burkitt (who would later become lecturer on prehistoric archeology at Cambridge) as “an electric, not to say impatient, temperament” who “smoked without ceasing and would only discuss prehistory.” He was well suited to cave-work, but also was able to overview difficult problems and to fit dates in a framework. As such he can be considered as a man who was at the cradle of modern archeology, and he was, justifiably, a most influential prehistorian.

Chapter 10 (Geological Re-shuffling and the Growth of Suspicion) once more mainly deals with chronological problems and correlations. The most interesting part of this chapter is the section devoted to “New Perspectives on the Palaeolithic from Africa and Asia”, proving that archeology had understood that research in a relatively restricted area would never be able to solve problems that involved much larger areas. This was an important step, as archeology had recognized that similar cultures in Europe had occurred more or less simultaneously. It came therefore as a surprise that the relationship between hand-axe and flake cultures in South Africa

seemed different from the European pattern. Whereas the initial chaos of European cultures had gradually changed in to a pattern that well fitted in a logical scheme, it now turned out that this pattern had no global value! Much more work had evidently to be done to create order in this newly discovered chaos. The development of new analytical techniques appeared a great help in doing so, but – like it had been the case before – controversies arose and the recognition of new factors (like climate change) only complicated the new attempts to fit developments in a worldwide framework.

The “normal” text of the book ends with a 15-page “Conclusion”. The length of this conclusion is best proof that there is no simple conclusion. But drawing archeological conclusions was not the objective of the author. As she states: “The aim of this book has not been to build general models of scientific knowledge or to judge researchers right or wrong; although these pages might, perhaps, offer case-study material for the theories of philosophers or sociologists of science, or contain information of interest to today’s archaeologists or geologists. Instead, these chapters have looked closer at some of the turbulent undercurrents of research, reviving the roles and lives of forgotten researchers through snatches of biography, exploring what they thought about the age and character of ancient stone tools, why they came to those conclusions, and why some were more successful in winning support than others.”

The above quotation would be the ideal end of this review, but I want to make a few last general remarks. One is that the book has been published well bound, with a font that makes reading easy, paper that allows perfect reproduction of figures, and a remarkable lack of typos (I found none!). It just underlines the high quality that many books of this publisher have. There are a few shortcomings, however. The glossary is perhaps a bit too short, and geologists will not always agree with the descriptions of geological phenomena, but this seems in this context of minor importance. The 45-page Bibliography, on the other hand, seems overdone for the readership that this book is aimed at. The 15-page index is not easily readable (but has the advance that many terms can be found in different ways).

Finally I want to state clearly that the author has, in my opinion, done an excellent job. She introduces the non-specialist into a world full of mysteries, intrigues and surprises, she has a vivid style of writing, and she has found a good balance between descriptive text parts and sentences of more human interest. It makes it a pleasure to read this book, which is not cheap but certainly gives more than enough value for money.

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