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D. A. E. Garrod

Excerpt

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## ENVIRONMENT, TOOLS & MAN

ONE of my predecessors in this Chair, Professor Churchill Babington, in an Introductory Lecture delivered before the University of Cambridge in 1865, said that 'Archaeology...concerns itself with every kind of monument which the ravages of time have spared', and he rejoiced that 'the Disney Professor's choice is as wide as the world itself, so far as it concerns its archaeology. There is no country, there is no period about which he may not lecture, if he feels himself qualified to do so.' Sir Ellis Minns, in his Inaugural Lecture of nineteen years ago, illustrated this by enumerating the holders of the Chair; first a classical scholar, appointed by John Disney himself, John Howard Marsden, then Churchill Babington, a classic by formation, but with the widest interests, then Percy Gardner, a distinguished classical archaeologist, finally William Ridgeway, again an eminent classical scholar, but of whom his successor said that 'he embraced not only the archaeology, but the

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anthropology of all ages and races'. To these names I may now add that of my predecessor Sir Ellis Minns himself, the learned and brilliant historian of Scythians and Greeks, an expert palaeographer, who adds to a mastery of Russian a working knowledge of many other languages which the Postal Censorship officially designates as 'uncommon'.

To one whose claim to be an archaeologist is founded mainly on a knowledge of the Old Stone Age, such a list cannot but cause misgiving. It is true that Babington includes in the field of the archaeologist the cave-dwellers of the Périgord, then recently discovered, and the flint implements of Abbeville and St Acheul, which he doubted not 'were anterior by many ages to the Roman Empire'. Nevertheless, since Babington's time Palaeolithic studies have become so specialised, and have been brought into so close a relationship with the natural sciences, that their claim to be a province of archaeology in the accepted sense is sometimes regarded with suspicion by workers in a later field.

This is a mistake, but it is a mistake for which we prehistorians ourselves are partly responsible, and I think the time has come to take stock of our position. It is true, indeed, that as soon as we cross the dividing line of the Neolithic revolution, and

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enter that vast span of time which leads back to Man's first appearance on earth, we do, to a considerable extent, leave behind us the standards and the point of view of the archaeologist in the strict sense of the word. The prehistory of the Old Stone Age is far more closely bound up with certain branches of natural science—geology, palaeontology, palaeobotany—and the formation of a prehistorian in this sense calls for a scientific discipline to which the student of the later stages of Man's story is not normally submitted.

It is noteworthy that among those who have built up the study of Early Man nearly all the outstanding names belong to men who have approached it from one or other of the natural sciences. This recruitment is to be expected in a subject which touches those sciences at so many points, and it has been of the highest value in the development and systematisation of human palaeontology in the widest sense. On the strictly archaeological side, however—that is, in the study of the artefacts of fossil man—it has had certain results which are perhaps not quite so happy. It is time, I think, that these tendencies should be critically examined, and that we should ask ourselves whether they are not in part responsible for the present divorce between

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the student of the Old Stone Age and the archaeologist in the popular sense of the word.

The geologist or palaeontologist, having studied the natural formations—river terraces, moraines, loess—in which primitive artefacts are found, together with their associated fossil fauna, then proceeds to examine the artefacts themselves, and almost inevitably tends to apply to their classification the ideas and the vocabulary of the science in which he was trained. In other words he regards an artefact as a fossil, and is apt to treat it as subject to the laws of natural evolution, like any other fossil. Hence we too often find in Palaeolithic studies an exaggerated insistence on typology, and the improper application to the industries of the Old Stone Age of such terms as genus, species, hybridisation, cross-mutation and so on. This tendency is encouraged by the fact that the relics of early man are necessarily reduced to the virtually imperishable elements of his culture—that is, for the most part, to the stone implements which can have formed only a small part of his total heritage. In these conditions it is almost possible to lose sight of the fact that the chipped stones which he has bequeathed to us are indeed Man's handiwork; the more so since they are often found dispersed in

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river gravels and silts, divorced from all human context.

As I have said, I do not deny that the strict scientific approach, and the pre-occupation with classification which results from it, have been necessary and valuable for the systematisation of pre-history on the archaeological side, but it remains a one-sided approach, and we have now advanced nearly as far as it is possible to go in that direction. Stone implements, I repeat, are *artefacts*, imagined and made by Man, and variable at his free will; to ignore this element of incalculability is to force prehistory into a strait-jacket. In discussing a similar tendency to regard written history as ‘a science and no more’, G. M. Trevelyan<sup>1</sup> has recently said, ‘The study of mankind does not resemble the study of the physical properties of atoms, or the life-history of animals. . . . Men are too complicated, too spiritual, too various, for scientific analysis.’ And he adds, ‘As Carlyle wrote long ago, “Every reunion of men, is it not a reunion of incalculable influences; every unit of it a microcosm of influences; of which how shall science calculate or prophesy?”’

The prehistorian would do well to ponder these

<sup>1</sup> *History and the Reader*, p. 12, Cambridge 1945.

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words, bearing in mind, however, that in the study of Early Man the natural sciences in their rightful place remain indispensable, and form part of the essential structure of the subject. For example, without the chronological framework which geology and palaeontology alone can supply, the archaeologist can draw no valid conclusions and the whole pattern of development falls to pieces. Again, in the excavation of prehistoric sites, only a rigorously scientific and objective method of digging and observing and recording is admissible. My concern is that the natural sciences should not go on to monopolise a field which does not strictly belong to them—the study of Man as reflected in the work of his brain and his hands. In other words we must distinguish more clearly the true rôle of the separate disciplines involved, and apply to the various aspects of the subject the methods proper to each. This truth was perhaps more clearly perceived by some of the pioneers than by their successors. Gabriel de Mortillet, to whom we owe the first serious classification of the industries of the Old Stone Age, was at the same time genuinely interested in the human and social sides of prehistory, and Sollas, in his famous book, *Ancient Hunters*, set an example in the right approach

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which has never seriously been followed up. At Oxford, indeed, a small flame was kept burning for many years, and no pupil of R. R. Marett (as I am proud to be) could ever wholly forget that Man as a human being, and not Man as a fossil, is the true subject of the prehistorian.

In the present generation, reaction against the over-emphasis on classification and typology has already set in, and some of my younger colleagues (in particular Grahame Clark,<sup>1</sup> Hallam Movius,<sup>2</sup> A. J. H. Goodwin<sup>3</sup> among others) are developing an approach which is at the same time more realistic and more imaginative. If I sometimes seem to repeat what they have already written, I feel that no apology is needed; it simply means that we have been thinking on the same lines.

Let us now examine what, in fact, the natural sciences can properly give to the prehistorian, and how this information can most fruitfully be used by him. I have already spoken of the geochronological framework, which is of primary importance. In this field, many problems are still unsolved, and for a long time to come it will continue to absorb

<sup>1</sup> *Man and Nature in Prehistory*. Conference on the Problems and Prospects of European Archaeology, London 1944.

<sup>2</sup> *Early Man and Pleistocene Stratigraphy in Southern and Eastern Asia*, Cambridge, Mass. 1944.

<sup>3</sup> *Method in Prehistory*, Cape Town 1945.

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a large part of the labour and interest devoted to Palaeolithic studies. Enough has been done, however, to provide the relative chronology which is indispensable to a study of the development of human cultures. Precisely the same evidence from geology and palaeontology which is utilised by the geochronologist gives us also the material for a reconstruction of Man's environment—geography, climate, the animal and to some extent the vegetable world—at any given stage of the Pleistocene, while the palaeontologist, in so far as the rather meagre skeletal material allows, can tell us what kind of human or near human being lived in that environment.

Having at his disposal the knowledge of which this is a brief summary, the prehistorian turns to the implements of stone and bone which in most cases form the only record of Man's presence on earth at any particular moment of the remote past. How much information, and what kind of information, can they be made to yield? Too often, as I have already suggested, it is thought sufficient to carry out a typological classification, sometimes very detailed, to relate the industry so studied to others already known, and to put a name to it—either an existing one, or newly coined, as need



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may be. If the material is sufficiently abundant, tables and graphs may be prepared, based on measurements of flaking-angles, depth of bulb of percussion, and so on. A minutely descriptive study of this kind can be a very imposing document, and is not without value, but a critical examination will show that it avoids the real issue; it is, fundamentally, a 'confession of defeat in face of the enormous gaps in our knowledge of Early Man. Of course, I have taken an extreme example, but we prehistorians are all more or less tarred with the same brush. I do not mean to suggest that we overlook entirely the sources we possess for a more complete approach to the subject, but I think it is fair to say that we practically never utilise them to the full. To establish a truly significant relation between the environment of Early Man and that small proportion of his handiwork which remains to us, requires a genuinely creative effort of thought and imagination; an effort difficult to make and all too easy to shirk.

Admitting that a typological classification of implements is a necessary preliminary to the study of any Stone Age culture, if only in order that those who have not direct access to it may use the material for comparison and interpretation, it remains then

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a part only of what must be attempted. So I repeat the question, how much information, and what kind of information, can these artefacts be made to yield? In the case of a late Palaeolithic culture like the Magdalenian, with its many weapons and chattels carved from bone and reindeer antler, and its marvellous cave art, the material relics alone can tell us a great deal about the men who made them, but the more ancient industries, which survive merely as a collection of chipped stones found dispersed in river sands and gravels, set a much more difficult problem. Here, the artefacts taken by themselves can, in fact, tell nothing but that they were made by man, and made in a certain fashion—in other words, as long as they are considered in isolation, the typological approach alone is possible. Our first effort then must be to reconstruct as completely as we can the physical environment of their makers. The world of Early Man has long since disappeared, its contours destroyed by erosion or buried in sand and silt, its animals vanished or transformed. It is our task, by a combined operation of knowledge and imagination, to make that world live again before our own eyes, and through it to interpret the tools which are the instruments of Man's response to his