

*By the Same Author*

THE DAWN OF EUROPEAN CIVILIZATION  
NEW LIGHT ON THE MOST ANCIENT EAST

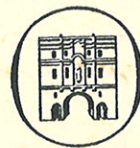
# *Piecing Together the Past*

THE INTERPRETATION OF  
ARCHÆOLOGICAL DATA

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## Preface

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ARCHÆOLOGICAL technique has been expounded lucidly and even vividly in several recent manuals. Atkinson, Cookson and Kenyon, Crawford and Wheeler have admirably explained how archæologists can identify, recover, record and conserve data for history. The methods and theories used in classifying such data and in extracting history from them have not been so comprehensively and systematically explained in any modern English book. Yet to interpret and even to recognize their proper data archæologists are forced to make certain peculiar assumptions though these be seldom formulated explicitly; they have elaborated distinctive categories for their classification; they in fact employ—not always consistently—a whole assemblage of common words in highly uncommon specialized senses. Since 1946 I have been accustomed every alternate year to devote a course of lectures to the principles of archæological classification, the current terminology and the implicit interpretative concepts. The present book is based upon these lectures.

Its aim is to explain the words to which professional archæologists, like myself, do give technical meanings, the methodological hypotheses we invoke and the

## PREFACE

postulates underlying our procedures. The exposition cannot avoid being critical; inconsistencies of nomenclature and practice are too glaring and too confusing to be ignored. I have ventured to suggest a few emendations, but I have no intention of adopting them myself and no expectation that my colleagues will. So I have refrained from proposing any ideally logical system of classification and terminology. Once the reader understands what current terms really mean, he will recognize how confusing and ambiguous they may be and should be able to discount consequential errors.

I have taken my examples almost entirely from prehistoric archæology, archæology unaided by texts, because the most distinctively archæological concepts and methods were devised just for this branch. But these concepts and methods can be applied—and profitably applied—to all branches of archæology. Those of my colleagues who deal with inscribed documents and with data described in written texts, can often short-circuit the laborious procedures alone available to the prehistorian. Still, till the sixteenth century the history of applied science has to be based almost exclusively on archæological data, and for the recognition and classification of processes and implements, such as screws and braces, the prehistorians' techniques must often be invoked. If Romanists and medievalists could be persuaded to adopt the techniques and the categories elaborated for older periods, many problems in history might be resolved. Archæology is one. The concepts discussed here are applicable to all its branches.

V. GORDON CHILDE

*March 1955*

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## CHAPTER ONE

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### *What is Archæology About?*

ARCHÆOLOGY studies all changes in the material world that are due to human action—naturally in so far as they survive. The archæological record is constituted of the fossilized results of human behaviour, and it is the archæologist's business to reconstitute that behaviour as far as he can and so to recapture the thoughts that behaviour expressed. In so far as he can do that, he becomes an historian. The aim of this book is therefore to explain how archæologists order their data to form a record and how they may try to interpret them as concrete embodiments of thoughts.

The most familiar surviving results of behaviour are of course the things men have made or unmade which may be called artifacts. These include on the one hand tools, weapons, personal ornaments, charms, statuettes, and on the other farm-houses, temples, castles, canals, mineshafts, graves. It is convenient to divide artifacts into two classes—relics and monuments. The former are portable and can be removed to a museum or laboratory for study. Monuments are either earth-fast or too massive to remove and have to be studied on the spot.

## WHAT IS ARCHÆOLOGY ABOUT?

But not all archæological data belong to one or other of these classes, nor can be called artifacts at all. A Mediterranean shell found in a reindeer hunter's cave in Central France is not an artifact, not having itself been altered by man. But its presence in Central France several hundred miles from its nearest natural habitat is a result of human action and as such an archæological datum; for shells do not fly and no known natural agency would carry the cowrie shell from the Gulf of Lions to the valley of the Vezère that flows into the Bay of Biscay. So its transport is a very significant archæological phenomenon.

Again the interment of a body, crouched on its left side facing south, is the result of human action, but cannot be called an artifact. One house in the Late Bronze Age village of Buchau was twice as big as all the rest and more elaborate in construction. Such relations between monuments or relics are very significant archæological phenomena from which historical inferences can be drawn, but are themselves neither monuments nor relics. The relations of monuments and relics to the non-human environment too may be archæological data. The location of settlements in relation to good fishing grounds, to easily cultivable soil or to sheltered harbours may give a decisive clue as to the activities and economy of the settlers. The natural environment is at once an incentive and a limit to human action. At the same time man's intervention may itself profoundly affect the environment, exterminating some animals and introducing others, clearing forests and turning grassy steppes into dust-bowls. These changes are strictly the result of human action, but cannot usually be defined by normal archæological techniques, but only with the aid of

## RANGE OF ARCHÆOLOGY

methods devised by the natural sciences—botany, zoology, climatology and geology. And their aid must be invoked too in determining the unmodified environment which, quite apart from human intervention, has undergone vast changes during the period of man's existence on the earth. The importance for archæology of these phenomena that must be studied by other disciplines has been recognized in the University of London by the creation of a Department of Environmental Archæology—a precedent followed by other universities in Britain and on the Continent.

Nor should the purview of the archæologist be more limited in time. The loose nut that dropped off my car on Haverstock Hill this morning, the sardine tin I neatly buried after lunch on Esher Common and the crater left by a misdirected German bomb are archæological data just as much as the laurel leaf blade broken and thrown away by a Solutrean reindeer hunter, the Flodden Wall round Edinburgh or the Ramasseum at Karnak. Much of the archæologist's material is horribly like the first three examples. If we do not study such things yet, it is because we have more complete sources of information in eye-witnesses' reports or printed accounts. In the light of these not all the events I mention would seem worthy of inclusion in serious history. But when a rain of hydrogen bombs have destroyed the written records of Europe and North America, a Fuegian archæologist in 5555 may be reduced to precisely this sort of junk in reconstructing the history of what is now called England. Of course he will not be able to identify Professor Childe as the driver of the car whose nut became embedded in the roadway of Haverstock Hill nor as the burier of a sardine tin on Esher Common.

## WHAT IS ARCHÆOLOGY ABOUT?

In fact archæologists as such deal, and must deal, only with abstractions, what we call *types*. We may admit as a 'type', not just 'nuts', but only 'hexagonal  $\frac{1}{2}$  in. . . . nuts'. But for us all nuts answering to this specification are the same, are instances of the type. Archæologists as such are not the least interested in differences between individual nuts of the specified type—nor is the reader. By themselves the scraps just mentioned would mean no more to a student in the sixth millennium than to one of the second. In conjunction with other scraps of the same order they may acquire significance. With no better techniques than my contemporaries possess, the archæologist of the sixth millennium could read these scraps as documents illustrative of the sort of vehicle used on roads round a vast city, the tidy habits of some of its citizens and the objectives of nameless enemies.

These are the sort of things in which archæologists, like historians—nay, as historians—are interested—human actions and thoughts. It is only because they are results of human behaviour, and therefore express human thinking, that archæologists eagerly collect, scrupulously measure and record and systematically classify bits of junk and holes in the ground. This at once distinguishes archæology from philately, the collection of relics from the collection of snuff-boxes. Collectors of stamps or snuff-boxes may be just as keen in accumulating items, just as minute in their description and just as scientific in their classification. But the contents of their collections are valued primarily for themselves; their worth is determined by their intrinsic qualities, primarily scarcity. The archæologist's quarry is valued only as a clue to something else—the activity and mentality of their makers and users.

## CONTRAST WITH ART-HISTORY

In much the same way the archæologist's approach might be contrasted to that of the connoisseur and art-historian. The latter's objects are of course archæological data, being expressions of human thought. But they are judged primarily by their intrinsic beauty. Secondly a work of art—painting, statue or building—just because it is of value in itself, is prized irrespective of the context in which it is found. Indeed we tear down the frieze from a temple in a sunny clime and set it at eye-level in a room in murky London to appreciate its beauty! On the other hand the value of an archæological object, the extent to which it can answer historical questions, depends mainly on its context. An isolated nut is not a thing of beauty and hardly a rarity. Only because it was found embedded in a particular layer of tarmac and because similar nuts of the same type are to be found in still more significant contexts—even holding together bits of cars—can it reveal human purposes. Few archæological documents are in themselves beautiful or even informative. But most belong to types instances of which have been found in contexts—with, or in, or containing, other objects—which give a clue as to their function, to their meaning to their makers and users.

Finally an object of art is individual and unique; archæological data are abstract types. Of course any product of man's handiwork is really unique. Obviously no two Gothic churches or Norman castles are identical and a little closer inspection would reveal comparable though less conspicuous differences between two horseshoes forged in Little Puddleton in 1863 or two tanged-and-barbed arrow-heads from the Beaker layer at Maiden Castle. Still, the individual members of each of these four pairs exhibit certain

## WHAT IS ARCHÆOLOGY ABOUT?

common features, repeated in both of them and indeed in all members of the class that is the denotation of the common designation. Archæologists consider phenomena almost exclusively as members of a class or, as they say, instances of a type. They ignore that it is the particular peculiarities, accidental or intentional, that in fact distinguish each specimen.

Archæologists, it is true, go on refining distinctions and sharpening discrimination so that things once lumped together as a group representing a single type are broken up between a growing number of types. As the number of types discriminated grows, each becomes more concrete, defined by more and more distinctive characters. But an archæological datum as such must remain an abstraction, an instance of a type. It can never attain the full concreteness of individuality and remain an object for archæological study. A really unique creation, the result of an act never repeated nor imitated, would slip through the archæologist's classificatory net and thus elude his interpretation unless it were helped out by some extraneous circumstance—a contemporary written description or an explanatory inscription. It might become an *objet d'art*; art critics deal with the unique creations of genius—they deal therefore with individual sculptors, painters, engravers and architects whose names are generally known from written sources or whose personalities at least are reputedly expressed in their creations. Like the political, military or ecclesiastical historian, the art-historian aims at recovering the thoughts and actions of individual personal agents.

An archæologist, as such, cannot hope to compete with him. As an archæologist he is confined to a world of abstractions, and his agents must be abstractions

## BEHAVIOUR SOCIALLY DETERMINED

too. Yet, it must be insisted, archæology deals with the results of human actions, the embodiments of human thoughts and purposes. Whose? Who are the actors? Of course 'societies'—groups of individuals inspired by common purposes and needs and guided by a common tradition to their satisfaction.

Archæology studies indeed the results of human behaviour, but not so much the instinctive behaviour, specific to *Homo sapiens*—that would be a subject for zoology—but the patterns of behaviour learned from, and distinctive of, human societies. As animals, men seem to be omnivorous; what any individual man can enjoy and even digest is restricted to a remarkable extent by tastes and prejudices acquired from his society—his elders and fellows. The responses to other bodily impulses, such as defecation, are even more strictly regulated by social conventions. Distinctively human behaviour is still more patently social. To quote Emile Durkheim,<sup>1</sup> 'the system of signs I use to express my thoughts, the monetary system with which I pay my debts, the tools and the practices of my trade operate quite independently of any use I make of them. . . . We can choose the form of our houses no more than the cut of our clothes; the one is imposed on us to the same degree as the other' by social usage.

In particular men are born into this world equipped neither with bodily organs for securing food, avoiding danger and maintaining body temperature, nor with any specific instinct enabling them to remedy automatically these deficiencies. Man's biological success in the struggle for survival has been achieved by his capacity to make tools, clothes, houses, and in brief the whole contents of the archæological record. This

<sup>1</sup> E. Durkheim, *Les Règles de la méthode sociologique*, p. 6.

## WHAT IS ARCHÆOLOGY ABOUT?

capacity has been learned, learned in the last resort by trial and error, but in almost every actual case from society through a cumulative social tradition. Mankind's technological progress and biological success would be inconceivable if each generation had had to find out for itself how to behave in the circumstances—the overwhelming majority—where innate instinct gave no precise guidance. Thanks to distinctively human means of communication with the aid of conventional symbols, each generation has been able to profit by the experience of previous generations, each individual from that of all members of his society, past and present.

A human child does not know instinctively how to use or make a tool as a caterpillar knows how to spin a cocoon; it has to be taught by its parents and elders, by the society into which it has been born. From the first standardized Abbevillian hand-axe half a million years ago, societies have been prescribing what tool to make, how to make it and the best material to make it of. Generation after generation has followed society's prescription and reproduced in thousands of instances the socially approved standard type. An archæological type is just that. Archæological phenomena can be grouped together as types just because results of private experience, of individual trial and error, have been communicated to other members of a society and adopted and replicated by them.

Of course each type began in the creative act of an individual, as the result of a unique discovery or invention. It became an archæological datum because, and only because, the discovery or invention was adopted and imitated by some society. An invention, however brilliant, that was never thus accepted and

## INVENTOR AND SOCIETY

replicated would neither be recognizable by the archæologist nor for that matter of interest to the historian. On the other hand the most striking invention of a Watt or Edison is after all only a relatively trifling improvement on a complex of cognate inventions adopted and accumulated through social tradition over countless generations. To the steam-engine Watt added the slide-valve and the eccentric; he inherited from his own and earlier societies not only the Newcomen engine, but also precision lathes, steel, cast iron, an immense series of discoveries and inventions each in its time just as dramatic and revolutionary as his own contribution. At the same time he found at hand a body of skilled mechanics and artisans to execute his designs, a distributional system for assembling the requisite raw materials and parts and an assured market for his engines, in a word the social preconditions for the realization of his idea. Similarly an innovator in religion starts from a body of dogma and ritual, elaborated over many generations, as Buddha started from the Hinduism of the Brahmanas, and founds a new cult only if his innovations are espoused by a sufficiency of disciples.

The archæologist's restriction to abstract types is therefore after all not so serious a handicap as might appear. For types are just creations of individuals that have been approved, adopted and objectified by some society. The archæologist is then an historian, but an historian of culture. His agents are not concrete individuals, but abstract groups of persons who share a tradition to which each individual contributed. Community of tradition imposes on all members of the society in question a common pattern of behaviour. This must result in the production of standard types



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which, if they be artifacts, burial rites or remains of repasts, archæology can identify.

Indeed an archæological datum is a type just because it results from the behaviour pattern of a single society. It is a type too because it is an instance of an universal, the concrete expression and embodiment of a concept. This concept is—or was—objective in as much as it exists—or did exist—not in the maker's head alone, but in the heads of a society that transcended and outlasted each and all its members. In identifying types then the archæologist is really 're-enacting in his own mind' the thought of the agent (as Collingwood urged an historian must)—but not the subjective thought of an individual that might be distorted in its expression by incompetence or carelessness; what is thus recaptured and re-enacted is the objective thought entertained and realized by a society of persons.

The gravest defect of the archæological record is that so many of the types thus produced do not survive. It is indeed not quite true to say that behaviour does not fossilize. A great deal of learned human behaviour is expressed in actions that directly or indirectly leave a durable mark on the material world, as susceptible to scientific study and interpretation as the bony frames of extinct organisms. But just as the flesh, blood and sinews of the latter have failed to fossilize, so a still greater part of human behaviour has irrevocably vanished from the archæological record. Though certainly changes in the material world, the sound waves set up by human speaking by which information is conveyed and co-operative action organized, like the equally symbolic gestures and bodily movements, are wholly ephemeral. Many actions leading to more durable results have become quickly

## GAPS IN THE ARCHÆOLOGICAL RECORD

obliterated owing to the perishable material in which they were expressed. Save in very exceptional circumstances, all organic materials will completely decay in a few centuries. Bone, ivory, antler and shell may indeed last longer, and may even become fossilized and almost imperishable. Yet even bone in acid soils may be completely dissolved in fifty years unless it has been previously calcined—a process that, while preserving the substance, distorts or destroys its form.

Other materials—flesh, sinew, hide, wood and plant or animal fibres—hardly ever survive at all; nearly all objects made of these materials have perished. Thus scarcely any textile fabrics have survived. Not only wooden buildings and roofs of thatch or bark, but also the wooden vessels that furnished an early English farmhouse, geared machines, made wholly of timber in the late Middle Ages, and boats, vehicles and ploughs, still earlier made entirely of that material, are known from an infinitesimal number of actual specimens or deduced from indirect sources including pictures and written descriptions. A quite cursory glance at any ethnographic collection from the Polar regions, from North America, from the Pacific Islands, or from tropical Africa will disclose at once the frightful gap in the record thus caused. Not only food-stuffs, articles of clothing, houses and practical equipment, but also expressions of art and ritual have simply dropped out.

In exceptional circumstances, preserved on ice under barrows in the High Altai, in the wet mud of Alpine lakes, in the peat of North European bogs, in the sterile sands of the Egyptian desert or the Tarim basin, or in an old well that never dried up, intact leather articles like shoes, carpets and other textiles, complete carts

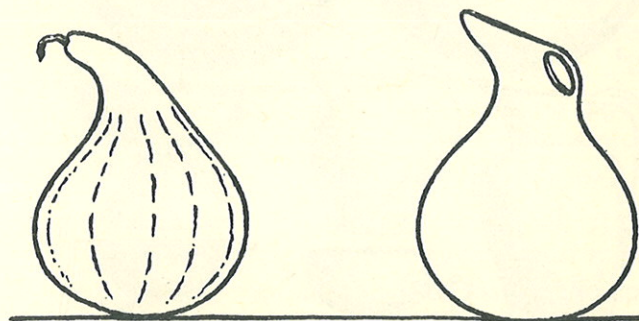
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and other products of carpentry and joinery, serve as a measure of our loss, but also help to fill the gap; for with due precautions the lesson of such finds can be generalized and used to complete the picture from other sites where similar types in durable materials alone survive. So too can less exceptional cases where for instance some textile fabric, impregnated with copper or iron salts, has been preserved on an axe-head or dagger-blade. Woodwork, though perished, often leaves observable traces. Refined excavation technique can recover the holes in the ground where posts once stood, and even the imprint of sleeper beams, and so recover the plan at least of a wooden building though no timber survives. Then, though the substance of wood, buried in the ground, may decay, the soil that replaces it will often differ in colour from the surrounding earth. By observing such differences Watelin and Woolley were enabled to trace the solid wheels and much of the structure of the hearses that conveyed to the tomb the early kings of Kish and Ur. By a further refinement Chinese excavators in 1951 succeeded in recovering the outlines of chariots with many-spoked wheels of the fourth or third century B.C.!

Apart from these exceptional cases, however, the archæological record consists all too often of battered pieces of stone, lumps of corroded metal, fragments of indestructible pottery, shapeless banks of earth and amorphous hollows in the ground—axe-heads without handles, whorls without spindles, hinges without doors and unfurnished rooms. But with proper precautions these gaps may partially be filled in by deductions from comparative ethnography as well as by the lucky finds mentioned above.

## SKEUOMORPHS

Finally objects normally fashioned of wood and given shapes proper to wood-carving may be copied in pottery or metal and then the copies disclose what the wood-carver could do. Thus the late Sir Ellis Minns could recognize the wood-work inspiration of the Scythian Beast Style even before the frozen wood from Pazyryk documented the models. Similar imitations of leather and textiles are recognizable. Sir John Myres has called '*skeuomorphs*' all objects, aping in one medium shapes proper to another. Often the ornamentation on a pot seems designed to enhance its



Gourd and pottery skeuomorph.

resemblance to a gourd in a string sling, to a stitched leather bottle or some other kind of container. Such patterns may be termed *skeuomorphic*. Skeuomorphism often gives us a glimpse into productive activities and artistic media of which no direct evidence survives.

Within the drastic limitations just indicated archæologists from observations on the external world try to decipher the standard behaviour patterns approved by past societies and to discover something of the fortunes of those societies and in particular their contributions to the pooled cultural tradition that we inherit. Though their aim is thus humanistic and historical,

## WHAT IS ARCHÆOLOGY ABOUT?

their data are more comparable to those studied by such natural sciences as zoology and botany. So archæological methods will approximate to those of the natural and inductive sciences. In the first place, the data must be classified. Archæological classification rests on three distinct bases; we might say that it



Bronze Vessels (1, 3, 5, 7) and clay copies (2, 4, 6, 8).

is three-dimensional, so that any archæological phenomenon could be located by three co-ordinates.

The first basis of classification is *functional*: what was the purpose of the act that produced the datum or the use of the latter? In practice this should generally mean 'What was the object for?' We accordingly sort out our data into functional groups; we put together for instance all adzes, daggers, razors, earrings, fields, dwelling-houses, granaries, castles, tombs, and so on. Then in each functional group we still recognize a vast

## BASES OF CLASSIFICATION

number of different types. One reason for the observed differences may be age. Tools and weapons normally become more efficient as experience is gradually accumulated; the repetition of a traditional pattern by artists who have forgotten its meaning and lost the original inspiration results in progressive degeneration or distortion; notoriously fashions change with time. So we rearrange all our collections and inventory cards on a *chronological* basis. All adzes, attributable to one archæological period, will now be grouped with the daggers, razors, dwellings, tombs, etc., assigned to the same period. But within each chronological group thus formed we may still be faced with several different types of adze, dagger, razor, dwelling, grave. . . . We shall then observe on consulting the excavation reports that a given type of adze is often found with a given type of razor or dagger in a given type of tomb or dwelling, a second type of adze with a second type of dagger or razor in a second type of grave and so on. In the light of these *associations* we reclassify the contents of our chronological groups on a *chorological* basis.<sup>1</sup> And we remember from observations in the Balkans or other less industrialized parts of Europe, to say nothing of the unindustrialized regions of Africa or the Pacific, how fashions in dress and domestic architecture, burial rites and religious observances, even methods of wood-working or fighting diverge between different peoples, between, that is, groups united by common traditions but similarly distinguished from contemporary and neighbouring communities.

The methods adopted for ascertaining each of

<sup>1</sup> I have taken this rather ugly word from the Austrian; cf. O. Menghin, *Weltgeschichte der Steinzeit*, Vienna, 1931. I have not seen it previously used in English, but know no better equivalent.

## WHAT IS ARCHÆOLOGY ABOUT?

the three co-ordinates—functional, chronological and chorological—will be discussed in separate chapters. But it is convenient to anticipate one common point. In practice it turns out that particular types of adze, dagger, razor and personal ornament are repeatedly found together in a particular type of grave and dwelling house under conditions implying simultaneous use.

Such a recurrent assemblage of archæological types is technically termed a *culture* while being found together with, in, or containing, is termed '*association*'. An obvious condition for the association of types is that they shall be in use or occupation at the same time. All types thus associated should then have the same chronological co-ordinate. But repeated association requires no less that they shall be used by the same society, that is by persons inspired by the same common tradition of wood-working, fighting, dress, domestic architecture and burial rites. That must be why all constituent items of a culture bear the same chorological co-ordinate. In fact it appears today that it is cultures, i.e. recurrent assemblages of types, and not isolated types, that have to be classified chronologically and studied. But this point has only been realized within the last quarter of the century.

## CHAPTER TWO

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### *How Young is Archæology?*

A GLANCE at the story of archæology's beginnings and development will help the reader to understand concepts already mentioned. Indeed the terminology and some of the interpretative methods still normally employed must seem unbelievably inept unless one appreciates the historical conjunctures that evoked them. In fact archæology is a recent and still raw recruit to the ranks of the scientific disciplines. It is rather a hybrid, uneasily straddling the unstable frontier between natural sciences and humanities. Actually it has two roots: one goes back to the precursors of Natural History, the other to the classical humanism of the Renaissance.<sup>1</sup>

Objects now recognized as human products were first studied by naturalists along with other phenomena of the non-human environment. Thus stone celts, so enormously common throughout North-western Europe, have been traditionally regarded as

<sup>1</sup> This chapter is a summary of my contribution to *Science, Medicine and History*, ed. E. Ashworth Underwood, London, 1952, where references are given. For further details, see also Glynn E. Daniel, *A Hundred Years of Archaeology*, London, 1950.