

*PART ONE*

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The scope of maritime archaeology

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## Introducing maritime archaeology

### **I.1 General introduction and definitions**

In any pre-industrial society, from the upper palaeolithic to the nineteenth century A.D., a boat or (later) a ship was the largest and most complex machine produced. At Star Carr, the mesolithic site in Yorkshire excavated by Professor Grahame Clark, none of the artefacts discussed in the report would have rivalled in terms of size, variety of materials, or construction time the skin-craft whose existence the excavator has postulated (Clark 1954, 23). At the other end of that timespan, the eighteenth-century First-Rate naval ship, with its hundred-plus guns and crew of over 800, exceeded several times over, in numbers of constituent artefacts and in quantity of power harnessed, the largest machines used on land for transport, manufacture, or mining. Even the Roman Empire, with its development of large-scale systems in military, mining, and food-processing technology is not exempt, since these operations were paralleled by a gigantism in shipbuilding which reached its peak with the grain ships running between Egypt and Rome (Casson 1971, 184–9). But such a dominating position for maritime activities has not been limited to the technical sphere; in many societies it has pervaded every aspect of social organisation. The political importance of these same grain ships, in giving the ruling Emperor the whip-hand over the Roman populace, constituted an important part of his power-base (Lewis & Reinhold 1955, 138–42). In fifth-century B.C. Athens, the political power of the *Demos* owed a great deal to its role as the motive force for the Athenian galleys, on which in turn the security of the state was thought to depend (Ehrenberg 1967, 216). And in eighteenth-century England, the Admiralty was the biggest single employer of labour in manufacturing, and played no small role in determining the level of economic activity, and stimulating industrial innovation. At a different level, in many societies past and present, seafaring and fishing folk have formed a distinct sub-culture, alongside the more generally recognised urban and rural groups (Haslöf 1972, 15–17). In these ways, and countless others besides, the course of human history has owed not a little to maritime activities, and their study must constitute an important element in the search for a greater understanding of man's past.

When considering any aspect of the past, there are several different approaches which may be used, the principal distinction between them being the type of evidence they are designed to utilise. The longest established and most highly developed of these disciplines, in the study of seafaring as in the study of most other activities, is the historical one, in which the primary concern is with the uncovering and interpretation of surviving documentary evidence for past events, and by which the researcher seeks to understand not only the precise course of events but also the reasons, causes, or motives behind them. Another approach, the development of which has proceeded furthest in the Scandinavian countries, is ethnological – the systematic study of surviving indigenous practices, traditions, and customs, in this case within specialised fishing and seafaring communities. Finally, one can study the objects which have survived from past activities on and around the sea, and from them derive insights into the men and societies which produced them; this is essentially an archaeological study. The information and ideas contributed by these various approaches sometimes duplicate and sometimes contradict each other, but above all they should be viewed as complementary in the overall field of maritime studies. In the present work, attention is focussed on the special characteristics of the last of these, maritime archaeology, which can be defined as ‘the scientific study of the material remains of man and his activities on the sea’.

Some of the ideas implicit within this statement are worth elaborating. Above all, it should be noted that the primary object of study is man, as asserted in the first half of the formula, and not the ships, cargoes, fittings, or instruments with which the researcher is immediately confronted. Archaeology is not the study of objects simply for themselves, but rather for the insight they give into the people who made or used them, a sentiment summed up in Sir Mortimer Wheeler’s trenchant dictum ‘the archaeologist is digging up, not things, but people’ (Wheeler 1954a, 13). Thus the first part of this definition simply defines archaeology, while the second part accounts for the qualification ‘maritime’. With respect to this latter phrase, it is worth noting that there is no mention of boats or ships, but rather of everything that is connected with seafaring in its broadest sense. As considered in this book, maritime archaeology is concerned with all aspects of maritime culture; not just technical matters, but also social, economic, political, religious, and a host of other aspects. It is this fact which distinguishes the sub-discipline from the closely allied subject of nautical archaeology, which is here taken to mean the specialised study of maritime technology – in other words, ships, boats, and other craft, together with the ancilliary equipment necessary to operate them. It is thus a speciality within maritime archaeology, in just the same way as, for example, the study of town-houses can be regarded as a speciality within urban archaeology.

The adjective 'scientific' has been inserted at the start of the definition to show that this study is aimed at generating new insights and ideas through systematic research, and not as a tendentious contribution to the worn-out debate as to whether archaeology is a science or not. The reference here is to science in its widest sense, the disciplined search for knowledge (cf. latin *scire*: 'to know') as opposed to the aimless delight in 'curiosities'. It carries with it the implication that archaeological research in any field must be problem orientated; in other words, to ensure the maximum return from the available material, the researcher must always have in mind the questions outstanding in the current state of his discipline towards which that evidence might be expected to contribute some of the answers. It is only by this steady accretion of data within a systematic framework that any real advances in knowledge or understanding can be made; without it, each worker is essentially starting from scratch, and it is as if all previous workers had not existed, the same basic questions being considered over and over again. It can thus truly be said that the sign of a really successful piece of research in any discipline is a statement in the worker's conclusions to the effect that his studies 'have raised more questions than they have solved'. Real progress has been made, since his successors can study new material from a more advanced viewpoint. From this approach flows the implication that a discipline can be most effectively described by considering the problems towards which research is currently directed, the specific questions being raised, and the ways in which workers are seeking to answer them. Hence the main body of this book is concerned with problems rather than with artefacts, with questions rather than with treasure.

Turning now to what this definition does not say, some of the principal implications of this 'scientific' approach will be made explicit. Some readers will be surprised that it gives no time limits either before or after which the study of the material remains ceases to be archaeology. In fact, the requirement that the principal concern of any study must be man effectively defines a starting date, at the point at which the first hominids can be recognised. However, no terminal date is specified, even by implication, and none is intended. It is necessary though that scientific research should be contributing new knowledge, so that there is an effective closing date at the moment when other sources of information give the required data more readily and directly than an archaeological approach. This date will vary according to the question concerned, and for certain topics may be only a few years ago, while for others it may be several thousand of years back; any attempt to name a general closing date for the whole of maritime archaeology would thus be impossible, and contrary to its scientific nature.

The other outstanding omission from the above definition is the fact

that it does not include the further phrase 'together with related objects on shore'. Concern with coastal communities which derive their livelihoods predominantly from the sea is excluded since, being primarily terrestrial settlements, they will be more closely related to surrounding communities in their material culture, and will display their maritime connections only marginally. Many of the objects used in seafaring are rarely brought ashore, and any artefact collection made there will represent very poorly the seafaring community itself. This exclusion is made in full consciousness that maritime ethnologists and anthropologists have included such communities in their brief; their case is somewhat different since they rely very heavily on such communities for their material, and can readily sort it into maritime and regionally orientated elements, according to the contexts within which it was gathered. With excavated finds, the distinction is often less clear and there will always be a grey area of uncertainty, defeating any attempt to separate out the two elements. Where there is no doubt, as with installations directly servicing ships and seafarers, such as harbours or wharves, then their study can properly be said to come within the scope of this sub-discipline. To sum up, therefore, maritime archaeology is the scientific study, through the surviving material evidence, of all aspects of seafaring: ships, boats, and their equipment; cargoes, catches, or passengers carried on them, and the economic systems within which they were operating; their officers and crew, especially utensils and other possessions reflecting their specialised lifestyle. Reference to current work in maritime history will show that this definition of the field of research mirrors the concerns of that discipline as well; only the sources of information tapped are different.

The relationship between these two disciplines, the historical and the archaeological, is a complex one, and must be explored a little further. 'Archaeology, is archaeology, is archaeology', wrote Dr David Clarke (1968, 13), and this applies in the present field as in any other; the aim is not simply to produce 'counterfeit' maritime history. The danger of accepting a role little better than that of an academic maid-servant, collecting interesting facts for historians to interpret, is a particularly insidious one, since it has the superficial attraction of association with an established and reputable discipline. As indicated above, both specialists have their own sets of evidence, and their own questions to answer, and with both disciplines becoming ever more sophisticated and specialised, it is increasingly difficult for one man to be an expert in both of them. He will either be a good historian and a bad archaeologist, or vice-versa. This is not to say, of course, that either should ignore the results of the other's work, where it contributes towards a topic under discussion, but rather that each should consider critically the conclusions of the other's work, integrate them within their own conclusions

where possible, and indicate to their colleagues where a dichotomy exists. Thus problems can be tossed backwards and forwards between specialists in different disciplines to their mutual advantage, without any one of them asserting a general primacy. Unfortunately, because of the way academic research has developed in recent centuries, there is still a general tendency to assume a priority for the results of historical studies where conclusions conflict; this is certainly true at present with maritime history, and will probably continue to be so until maritime archaeology can evolve an ordered and coherent structure.

There is a similar confusion of aims and ideas between this subject and maritime ethnology, based on the fact that both proceed, at least in part, by the investigation of material evidence. However, the essence of ethnology is to view this evidence in the context of social forms, economic systems, etc., which themselves can also be recorded, while archaeology has only the material evidence to study. Thus, from the point of view of the archaeologist, ethnological studies are just a part of the wide range of sources from which inferences and parallels can be gathered when seeking to interpret the remains on a par with historical evidence, the results of experimental archaeology, or theories produced by logical processes. For various reasons to be considered further in Part Two, resort to ethnological parallels has been more popular in maritime archaeology than in almost any other archaeological sub-discipline, with many exceedingly fruitful results. However, the point to be emphasised at present is that, despite this close relationship, the two disciplines are essentially distinct, and any fudging of the boundary between them can only lead to both bad ethnology and bad archaeology.

So far, the subject has been defined in terms of the problems to be investigated, and the types of evidence used, thus distinguishing it from other branches of archaeology or allied specialities. However, it possesses one further attribute which fundamentally affects the procedures used, and which separates it markedly from all other archaeological sub-disciplines – almost all the fieldwork in maritime archaeology is carried out under water. Since this is a direct consequence of the type of material studied, it is not properly part of the definition of the subject; nevertheless, it is probably its most striking characteristic. A ship undertaking a voyage leaves absolutely no imprint on the archaeological record, and, if all goes well, the evidence will be effectively dispersed at the end of the voyage, when the cargo is sold, the crew go to their homes, and the ship is taken on for a new enterprise or broken up. It is only if disaster strikes during the voyage, and the whole unit – ship, cargo, and shipboard community – is deposited on the sea-bed, that there is any chance of a permanent material record which is archaeologically recoverable. The actual quality of the remains will, of course, depend on a number of factors, such as the manner in which the vessel was

wrecked, or the nature of the sea-bed on which it landed. Thus the scope of this sub-discipline as actually practised is largely determined by the potential and limitations of the underwater environment, both as a medium for the preservation of remains, and as the situation in which fieldwork has to be undertaken. Similarly, the modes of analysis appropriate to the material evidence are closely associated with an understanding of the process of a shipwreck.

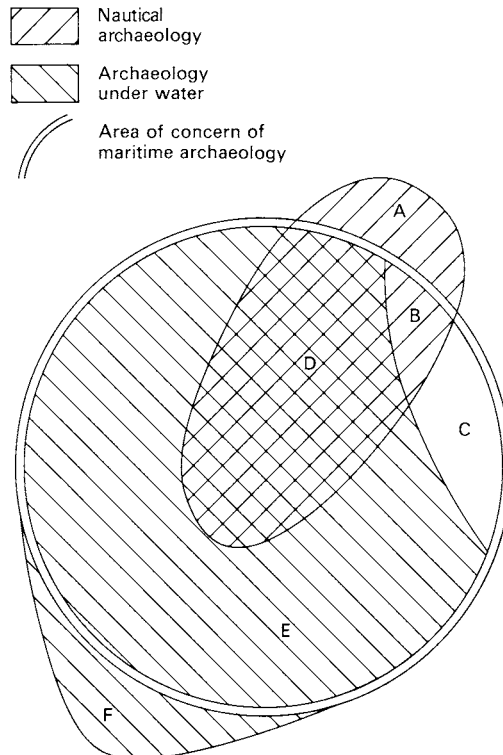
An objection to this assertion of the dominance of underwater remains in these studies might be raised on the grounds that a considerable number of boats and ships have been excavated above water, ranging in date from the Ferriby boats (*c.* 2000 B.C.) through the Nydam boat (fourth century A.D.) or the Graveney boat (ninth century A.D.) to the *Amsterdam* (1749). However, while not denying the value or validity of the evidence gleaned from these sources, it should be recognised that they all represent special cases. Probably the largest group among these terrestrial finds consists of maritime equipment, above all boats, which has been deposited in graves; for example, Herr Müller-Wille has identified over 420 boat-burials of the Iron Age and early medieval period in Northern Europe (Müller-Wille 1974). At the moment of deposition these craft were not engaged in maritime activities; they were usually stripped of their sailing gear, and often otherwise structurally modified. For example, the Sutton Hoo boat (sixth century A.D.) had a substantial wooden chamber erected amidships to house the grave treasure (Bruce-Mitford 1975, 176–80). While such finds can obviously contribute considerable evidence, their total interpretation involves many considerations apart from the purely maritime; so these sites must be regarded as peripheral in the present context, and their special demands and features will not be considered further. Another terrestrial group is the remains of craft which have been deliberately beached and abandoned, usually after everything useful had been stripped from them; notable examples of this situation include the Graveney boat (Fenwick 1972) and the Bursledon ship (fifteenth century A.D.; Prynne 1968). Whilst undoubtedly falling in the mainstream of this sub-discipline, these remains are a special category because they too have been preserved at a time when not involved in a maritime activity, so that they betray little concerning their original economic and social roles. Finally, a substantial group within this category is in fact only terrestrial in a limited sense; it comprises sites originally under water which have been artificially drained, or otherwise removed from a marine environment. Occasionally, this removal has been at the instance of the archaeologists, as with the Roskilde Viking boats (Olsen & Crumlin-Pedersen 1967), but more usually it is the consequence of some other human activity, as with the Blackfriars Roman boat (Marsden 1966) or the hundreds of vessels discovered on the reclaimed



lands of the Zuider Zee (van der Heide 1976). In these instances, a considerable number of the special considerations imposed by the underwater environment still apply, and it is principally in the techniques of fieldwork that distinctions must be made. Ultimately, it is only at sea that seafaring disasters can occur, so that it is under the surface of the sea that the bulk of the evidence must lie.

To clarify and summarise the import of this discussion, the relationship between maritime archaeology and the two allied topics of nautical archaeology and archaeology under water is represented diagrammatically in fig. 1.1. The area of concern in this book is outlined by the double circle, and thus excludes small sections of each of the other topics. In the case of nautical archaeology it is those boat and ship finds which are in a totally non-maritime context, notably grave finds (area A). In the case of archaeology under water, it is those sites which are not concerned directly with maritime activities, notably submerged ancient land surfaces (area F). But this covers only a very small section of underwater work; the bulk of it is concerned with maritime affairs, being relevant both to the study of maritime technology (area D) and to the many other aspects of seafaring (area E). In addition to these, however, maritime archaeology involves those sites which are not submerged and which contain evidence either about ancient shipping alone, e.g. beached craft

Fig. 1.1 A diagram illustrating the scope of maritime archaeology and its relationship to the allied topics of nautical archaeology and archaeology under water.





(area B), or about the whole range of past maritime activities, e.g. drained sites (areas B and C). But since these last were originally under water, it remains true to say that nearly all the evidence must come from submerged sites, so that the constraints of the underwater environment can reasonably be said to be one of the main characteristics of this sub-discipline.

Another outstanding feature, as things stand in the late 1970s, is a remarkable lack of development or systematisation, when compared with most other archaeological sub-disciplines. This arises directly from the fact that it is a relatively new study, and is only now reaching the position where the data-base is sufficiently extensive to allow some tentative steps in defining the discipline. In order to understand this academic immaturity, it is necessary to have a brief look at the history of the subject, an exercise which will also place in context the specific examples of research problems which are described later in this book.

### **1.2 The development of maritime archaeology**

Ever since ships first voyaged on the sea, there have been shipwrecks, and these in turn have always attracted the attentions of potential salvors; only wrecks in deep water or off totally uninhabited coasts will have completely escaped salvage. On many of the more accessible or valuable sites, this work has continued intermittently through the centuries until the present, in some instances accompanied by increasing antiquarian curiosity, and sometimes merging in the recent past with genuine archaeological investigations. For many thousands of years, the only tools available for such work were nets, grabs, or grappling hooks, aided in warmer, clearer waters by the services of free divers. In recent centuries, these operations have been made more efficient by the development of means of getting men onto the sea-floor: first in bells (seventeenth century), then in enclosed barrels (eighteenth century), later with 'hard-hat' standard diving gear (nineteenth century), and finally in the past thirty years with self-contained breathing apparatus (Davis 1955). Over the same period, archaeology has emerged from the unrestrained speculations of antiquarians into a systematic and disciplined study, with the aims and objectives indicated above. However, in relation to many other sciences, archaeology was a late developer, and can be recognised in its modern form only in the later nineteenth century, with the work of such pioneers as C. J. Thomson (1788–1865), O. Montelius (1843–1921), and General Pitt-Rivers (1827–1900) (Daniel 1967; Clarke 1968, 4–11). It is thus not surprising that little in the way of maritime archaeology can be detected before the opening years of the present century.

Glancing at these earlier times, one can see some enquiring minds which were fascinated by the possibilities of such remains. An early

reference to such interest comes from the eleventh century A.D., when Abbot Ealdred of St Albans sent his men to the ruins of Roman Verulamium to collect stones for his new abbey, during which operations they found 'oak timbers with nails sticking inside and smeared with naval pitch', an event deemed worthy of note in his *Life* (Ellmers 1973). A few centuries later, as a result of the interest of Cardinal Colonna in the tradition of large Roman ships said to lie within Lake Nemi in Italy, an attempt was made to salvage one by the architect Leon Battista Alberti (1446). Continued interest in this site led, a century later, to one of the earliest recorded examples of diving, when a crude suit was used in a reconnaissance by a certain Franchesco Demarchi (1535). Moving on several centuries, and into colder waters, it was still antiquarian curiosity which inspired the fine watercolours made for the Deane Brothers of finds recovered by them from various historic wreck-sites around Britain. At about the same time, the first really scientific consideration of the potential for the preservation of human artefacts within marine sediments was published, although by one of the pioneers of geology, Charles Lyell, in his *Principles of geology* (1st edition, 1832). Chapter 16 of volume 2 is headed 'On the imbedding of the remains of man and his works in subaqueous strata', and includes a summary of recent shipping losses to show the extent of the material being deposited, as well as accounts of contemporary submarine finds which exhibit high degrees of preservation. He concluded that 'it is probable that a greater number of monuments of the skill and industry of man will in the course of ages be collected together in the bed of the ocean, than will exist at any one time on the surface of the Continents' (*ibid.*, 258). However, more general nineteenth-century attitudes to such antiquities are nicely illustrated by the case of an old boat found at Rye (Sussex) in 1822, which was put on display in London for a time, but broken up when public interest flagged (Rice 1824).

Naturally, the earliest archaeological studies in this subject resulted from boat finds on land, beginning with the great series of early medieval craft found in Scandinavia, the first systematic excavation being that in 1863 by Conrad Engelhardt of the fourth-century A.D. boat from Nydam (Denmark). However, while modern archaeology was developing on land, there seemed to be no archaeologists adventurous enough to go under water in the standard diving equipment of the day. Even in 1907, when the Society of Antiquaries of London wished to investigate a site from which much Roman pottery had been dredged up north of Herne Bay in Kent, they employed a 'Certificated Diver', Mr Hugh Pollard, to go and have a look (Smith 1909). However, a year later an amateur archaeologist took the plunge, in the unlikely person of a Benedictine priest, the Reverend Odo Blundell, of Fort Augustus in Scotland. He was interested in the history and construction of a crannog