

THE MEDITERRANEAN

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Summary

The Mediterranean is a region united by its physical features, among which the sea—famously described as a “peninsula in reverse”—surely takes precedence. Although the human presence in the region overall dates back much earlier than the late Upper Palaeolithic, the Mediterranean islands were only reached by hunter-gatherers at that time. Permanent settlement on the islands was essentially a phenomenon of the Neolithic period, when people had begun to grow their own crops, to herd domesticated animals, to produce pottery, and to adopt more sedentary ways. These elements went hand-in-hand in the eastern Mediterranean, but their adoption by the inhabitants of the western basin was a more complicated process. The ensuing Copper Age (Chalcolithic)

is distinguished not only by intensified agrarian practices and the beginning of metallurgy but perhaps more importantly by a rapid expansion in ritual and cultural complexity. Especially on some of the western Mediterranean islands these developments took a peculiar and highly spectacular course. Gradual, continuous development and intensification of economic production and social inequality essentially characterize the Bronze Age. While the eastern Mediterranean took these developments to remarkable heights at a rather early stage, the western regions underwent more gradual growth on the mainland and monumental elaboration on the islands.

1. Introduction

1.1 Environment

The Mediterranean is the world’s largest inland sea, with an area of approximately 2.5 million square kilometers. Over the past 150 million years, its shape and contour have varied widely, but about five million years ago the Atlantic Ocean spilled over the land barrier that connects modern-day Morocco and Spain once and for all. Thus was (re-) born the Mediterranean Sea as we know it—an immense body of water almost entirely surrounded by land, a “peninsula in reverse.” A moderate climate, along with an abundance and variety of mineral, plant, and animal resources made the Mediterranean world very attractive for human settlement. Recent archaeological and palaeontological data from Sardinia, Sicily, and Cyprus indicate that humans reached the Mediterranean islands as early as 12 000 years ago. In so doing, they ultimately drove to extinction some of the unusual island “mini-mega fauna.” Permanent human occupation of these islands probably occurred about 8000 to 9000 years ago. The surrounding mainland coasts of the Mediterranean were inhabited much earlier; in North Africa and the eastern Mediterranean, some of the earliest-known “modern” humans had settled over 100 000 years ago.

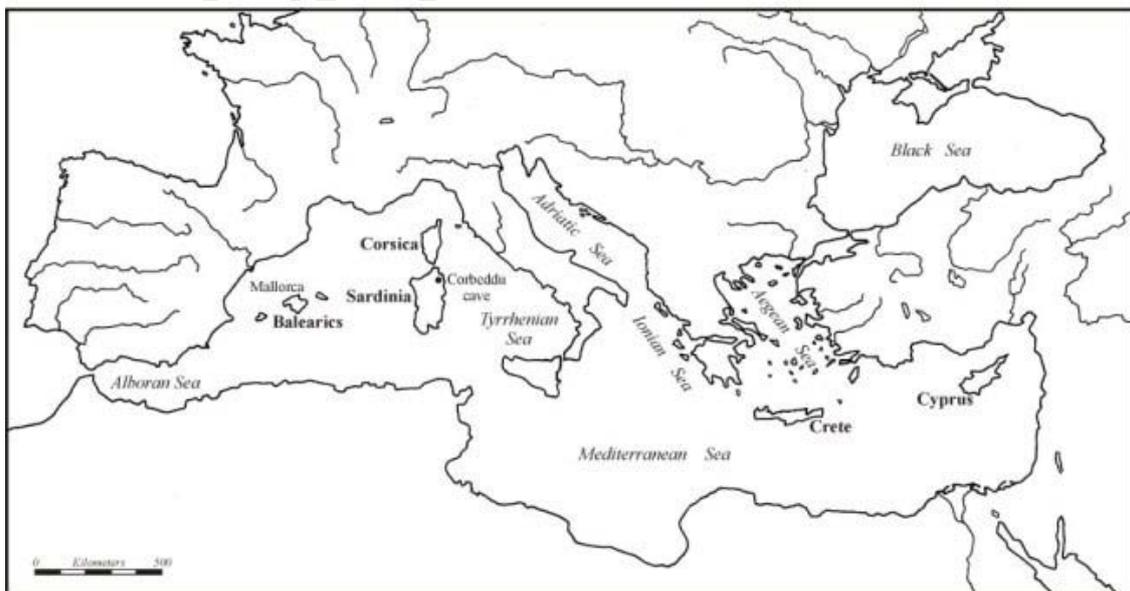


Figure 1. Map of entire Mediterranean, showing main subdivisions

Renowned French (*Annales*) historian Fernand Braudel described the Mediterranean landscape as a series of compact mountainous peninsulas interspersed with fertile plains, the seascape as a fragmented complex of 'seas' (the Aegean, Ionian, Adriatic, Tyrrhenian, and Alboran Seas). *Limestone* dominates the geology of the Mediterranean, even though significant outcrops of *igneous rock* occur in the central Mediterranean on Sicily, Sardinia, and peninsular Italy as well as on Cyprus. Coastal plains are rare and characteristically narrow, with mountains rising directly from the sea. The *semi-arid climate* of the Mediterranean—summer drought, winter rains, mean annual temperature of 15 ± 5 degrees Celsius—supports a broadly comparable plant regime throughout the region, notably drought-resistant flora such as summer-only evergreens, scrub, or dry heath. Light woodlands once typified the Mediterranean region, but once they were cleared, *maquis* often took over. Typical trees today include evergreen oak, pistachio, carob, olive, and occasionally the date palm. Soils tend to be very thin and quite acid; often they are lacking in groundwater. An archetypal Mediterranean physical landscape consists of *terra rossa* (deep red) soils contrasting with the light-colored limestone hills and the deep blue sea.

Despite a wealth of historical documentation that refers to mining, deforestation, overgrazing, manuring, and intensive agricultural practices, we still understand very little about the complex relationships between land use, resource exploitation, and landscape change in the Mediterranean basin. For example, we consider spatial variation in the landscape as the inevitable outcome of population growth or surplus production, when it could just as easily result from changing agricultural strategies dictated by nucleated or dispersed settlement.

Clearly, however, the stark physical landscapes that characterize most Mediterranean countries today result from long-term human settlement and the attendant, intensive practices of stock-grazing and plant cultivation. Mediterranean ecosystems have always been highly susceptible to human impact and exploitation, not least because of natural factors such as steep mountain slopes, thin soils, fire-prone vegetation, and heavy and/or unpredictable seasonal rainfall. The dynamics of such environmental-cultural interrelations had produced a recognizable Mediterranean landscape as early as the beginning of the *Bronze Age*—between about 3000 and 2500 BC in most places. About the same time, as complex societies emerged in the Mediterranean, people began to tap metal resources (silver, copper, tin) and intensify their agricultural practices in the wake of the “secondary products revolution,” which in turn led to extensive vegetation disturbance (witnessed in *pollen diagrams*). Throughout the Mediterranean, people were cultivating wheat, lentils, olives, and perhaps carobs, and exploiting fruits (figs, grapes) and nuts (almonds, pistachios), while mixed stock keeping—cattle, sheep and goats—remained a prominent economic activity in the western Mediterranean. Even so, the *mixed farming* system (combining plant and animal husbandry) typical of the Bronze Age Mediterranean remained small in scale, relatively constant in growth, and underdeveloped compared to ancient western Asian systems. And, at least from the Late Bronze Age onward, the terracing of vineyards and olive groves helped to conserve soil and forestall habitat degradation.

The impact of the Mediterranean Sea on people and human culture seems wildly unpredictable: at different periods and in different places, the Mediterranean might

facilitate or impede the movement of people, of traded goods and products, even of ideas. The lands surrounding the Mediterranean, especially the coastal strips and the islands, supported human settlement and subsistence, enabled certain types of economic or social development, and facilitated the emergence of complex polities. Although the natural environment, both land and sea, thus affected Mediterranean cultures, archaeologists today are more concerned with the social, material, and economic aspects of Mediterranean prehistory. In particular, they consider how material culture—stone tools, metals, pottery and architecture—plays an active role in cultural process and social change.

The social archaeology of the Mediterranean focuses on human settlements, from individuals and households to the wider socio-cultural landscape. People use various aspects of the landscape—fields, forests, rivers and streams, hills, and the sea—to produce food, to make social statements, to express symbolism and design, to live their lives, and to bury their dead. As archaeologists, we seek to understand the meanings, memories, and legacies of individual landscapes. This is the study of social meaning in past landscapes. Landscapes exist only when they are perceived and experienced by people. In other words, we contend that the study of people cannot be separated from the study of their environment and, conversely, that the environment will alter as people alter their social lives.

1.2 Archaeology in the Mediterranean

How do archaeological approaches differ in various areas of the Mediterranean? From Italy in the west to the Levant in the east, and south to Egypt's Nile Delta, archaeology has long been intimately associated with the fine arts (statuary, vase-painting, bronzes), architecture, even ancient written evidence of various sorts (cuneiform and hieroglyphic scripts, Linear A and B, Greek and Latin, Hebrew and Phoenician).

Nineteenth-century antiquarian interests crystallized into an approach that focused on extensive excavation and elaborate description of monumental architecture, fine statuary, and pottery. In the eastern Mediterranean, this focus directed attention primarily towards the late prehistoric and early classical periods (Minoans, Mycenaean, Greeks), while in the western regions, including the North African shores, the much later monumental remains of the Roman Empire attracted most attention. In Italy, the late prehistoric painted chamber tombs of the Etruscans and the city of Rome constituted additional focal points.

This predilection for specific regions and periods, moreover, was promoted by nineteenth century romantic ideals about the superiority of Greek and Roman civilizations and was facilitated by modern political developments. Precisely because of the establishment of British and French colonial authority or influence, European and American archaeologists dominated Greece, Crete, Cyprus, and the Levantine and North African coasts, while local researchers were more active in Spain, Italy and the south of France. Although this situation may now be changing, Mediterranean archaeology has yet to conceive of the region delimited by the Mediterranean as an archaeological and spatial entity in its own right, let alone a cultural one.

And yet over 100 years of excavation in the wider Mediterranean world have produced a broad and representative database of prehistoric material, virtually unparalleled elsewhere. The geographic diversity of all this material, its detailed publication (elaborate descriptions and classifications), coupled with the full and final publication of many archaeological sites, are exemplary by any standards of contemporary archaeology in the world and provide the basic data critical for any kind of serious academic study. From the 1960s to the 1980s, Mediterranean archaeologists adopted an evolutionary approach in studying their data and focused on the understanding of cultural process and cultural change. In addition, an interdisciplinary strategy established close methodological and theoretical links with the biological, physical, and social sciences. Today, these approaches have been richly supplemented by assigning a more active role to people and material culture alike.

1.3 Themes in the Study of Mediterranean Archaeology

Certain elements have tended to unite the field of Mediterranean archaeology; for example: maritime interaction and trade, island cultures and insularity, the spread of farming, and copper and bronze metallurgy. The study of coastal regions or islands predominates, which means that inland areas—for example, the Spanish Mesetas, mountainous parts of Italy and Greece, the Balkan Peninsula—tend to be overlooked. The diversity of cultures and peoples and space, as well as the time span covered, means that some regions and some time periods will receive less attention than others in this chapter.

Amongst the broader archaeological and interdisciplinary issues that characterize the circum-Mediterranean region—local vs regional production, development, interaction, and change—here we consider only those of relevance to the themes of this publication. They include the history of human life support systems (landscapes and subsistence, technology, social life and ideologies) and the documentation and preservation of the Mediterranean cultural heritage. This is accomplished by looking at diverse and informative archaeological sites and archaeological issues in both the eastern and western Mediterranean, where our own fieldwork and research has been and continue to be conducted.

2. Island Colonization

2.1 Island Developments

Given the large number of islands in the Mediterranean (about 115), the rarity of human settlement on them before 10 000 years ago may seem remarkable. Although humans during the Upper Palaeolithic visited a few of these islands, using reed/skin/log boats for travel, permanent settlement only began in the Neolithic. This relatively “late” settlement of the larger Mediterranean islands was not the result of ignorance or incapability but rather a matter of choice. Earlier opinion that people were not capable of putting to sea on primitive rafts or boats before 12 000 years ago is simply a case of temporal chauvinism (the idea that the nearer we get to the first century AD, the more capable humans become.)

When people finally came to settle on islands, they came into contact with animals that had previously lacked predators—and the new arrivals often had a devastating impact on the native fauna. There are kill-sites on Cyprus and Mallorca (Balearics) that provide graphic evidence that humans were directly involved in the eradication of island fauna: pygmy hippo and elephant on Cyprus; *Myotragus balearicus* (antelope-like ruminant) on Mallorca. These extinctions, however, did not happen overnight: on Mallorca people and fauna overlapped for almost 3000 years. Still, in the controversial debate over the extinction of Pleistocene island fauna, humans are now widely regarded as culpable. In slaughtering these animals, people exercised little foresight: the disappearance of such an abundant food resource often meant that the human groups went into decline as well, and as a result the earliest attempts to settle on many islands seem to have been doomed to failure. Generally speaking, it was only when people brought already domesticated plants and animals to the islands with them that they were able to survive there.

How and why did people come to the Mediterranean islands in the first place? *Island biogeographers* have suggested that two variables—the size of an island (“area effect”) and its distance from the nearest mainland (“distance effect”)—are the most useful in predicting the relative date of an island’s first colonization. Increasingly, however, as we consider such “natural” factors in the light of “cultural” developments, it has become clear that other factors are also involved. For example, the “relief” area of an island (height and visibility), its mountains or the clouds that gather round them, its birds, plants, and animals, all affect the number of creatures that make their way to an island and impact how “risky” it is to live there. The visibility of an island also involves more discreet factors that potential colonists will have learned in sailing the seas, like the flight patterns of seabirds and even smells associated with land instead of the sea.

Like area, distance too is a complex variable. The critical factor even in reaching, much less settling, on an island is often the widest water barrier between an island and the nearest landfall, whether a mainland region, or another *stepping-stone island*. During periods when much of the world’s waters were taken up in glaciers, this distance would have been much less than it is today. The fall or rise in sea level that accompanied glaciation cycles also affected ancient shorelines—any extension to these shores will have made the distance to islands much shorter than it now appears to be. For example, the distances among Sicily, Malta, and Tunisia were much less dramatic, and Sicily itself was attached to the Italian mainland.

2.2 Colonization of the Mediterranean Islands

On Cyprus, a pre-Neolithic site, Akrotiri *Aetokremnos*, offers the first tangible evidence that people made their way to Cyprus almost 11 000 years ago; it also demonstrates a human presence on the island at least 1000 years earlier than the establishment of sedentary farming villages. *Aetokremnos* was certainly not a permanent colonization, but the nature of the site is still disputed. Excavations at this collapsed rock-shelter revealed a huge bone *midden* with stone tools (numerous “thumb-nail scrapers”) and shell artifacts, as well as concentrations of ash identified as hearths. The faunal remains included a dense concentration of some 300 pygmy hippos and some pygmy elephants (plus various birds and marine invertebrates). The entire deposit was sealed when the overhang of the shelter caved in.

What sort of people were involved in the activities represented by the remains at *Aetokremnos*? If they were food producers, we would expect them to have adopted a hunting strategy to suit local conditions. Clearly they did not, since they wiped out all of the native fauna. Consequently we should probably regard *Aetokremnos* as a specialized processing site (a kill site) belonging to a pre-Neolithic human presence on the island.

What are the implications of this site for studying island colonization? First of all, Cyprus is an “oceanic” island (never connected to mainland), which has a very limited number of species and a high degree of *endemism*. Thus even under optimal low sea-level conditions, water gaps kept out many species that existed on the surrounding mainland. Even during the last glacial maximum (from 20 to 30 kya), when sea level dropped up to 120m and thus reduced the shortest distance between the island and Anatolia to about 40 km, Cyprus was so remote that it received only two large terrestrial mammals—the elephant and the hippopotamus. Both, isolated from their parent gene pool, evolved into dwarfed forms (*Elephas cypriotes* and *Phanourios minutus*). These mini-megafauna lived in a forested but very dry environment with a poor and highly unbalanced land fauna and a permanently low level of marine biodiversity in the surrounding waters. This situation probably made it very difficult for hunters and gatherers to subsist: thus one could speculate that a sedentary, agricultural way of life was almost a prerequisite to living on Cyprus.

On Sardinia, the site of Corbeddu Cave is critical for understanding the relationship between the earliest humans on that island and the demise of the endemic fauna. Of the three archaeological levels at this site, the earliest is the most relevant, but its date and the human presence there are still disputed (there is no doubt that two later levels contain evidence of human activity). Dated to about 13 000 BP, the main faunal remains (there are no human remains) are those of a continental-size deer named *Megaceros cazioti*, which the excavators argue exhibit butchering marks. Others insist that these marks are simply traces of gnawing by other animals. Unlike the more recent but still pre-Neolithic level (dated about 9000 BP), there is no further evidence of human activity: no hearths, no charcoal, no tools of any sort.

On nearby Corsica, which at this period was connected to Sardinia, an Upper Palaeolithic human presence is well documented. The people involved, however, were concentrated in the eastern part of Corsica, where a series of minor islands could be used as stepping stones in crossing the Tyrrhenian Sea from mainland Italy (Tuscany). The Sardinian evidence, accordingly, might point to small bands of hunter-gatherers sporadically venturing southward from Corsica, but they were too few in number and their visits too infrequent to make an impact on the Sardinian fauna or to leave a substantial archaeological record. While human activity in Sardinia during a very late stage of the Upper Palaeolithic period is therefore not inconceivable—and perhaps even quite likely—such an early human presence on the island remains unproven.

In the above discussion of the human colonization of Mediterranean islands and the issue of megafaunal extinction, archaeological data from Mallorca, Sardinia, Corsica, and Cyprus have been mentioned. These situations are similar in some ways, but contrasting in others (like the distinctiveness of each island’s animals). Given that all these endemic, vegetarian mammals had evolved in the absence of any real predators, it

is not difficult to reason that the presence of humans was catastrophic in each case. Yet only on Cyprus—where the pygmy hippos and elephants were unable to breed quickly enough to replace the individuals lost to human predation—is this demonstrably the case. On Sardinia, the *Prolagus sardus* (“rabbit-rat”) would have been spared a similar fate because of its high reproduction rate, and in any case both the “rabbit” and the “deer” (*Megaceros cazioti*) seem to have co-existed with humans for a fairly long period: up to 4000 years. On Mallorca, the *Myotragus balearicus* (antelope-like caprine) may actually have been herded by humans and, in any case, co-existed with humans for over 2000 years. Thus it may be that the initial impact of hunter-gatherers or early farmers was not so devastating as the later impact of fully developed farming communities.

The evidence from Cyprus, Sardinia, and Mallorca cannot be applied as common to all Mediterranean islands, but we know from a detailed biogeographic history of Corsica’s land mammals that the entire current mammalian fauna of the island has been introduced, intentionally or otherwise, by people (beginning in the Neolithic). Conversely, the entire Pleistocene mammalian fauna of Corsica was wiped out by direct or indirect human actions, albeit after a considerable period of co-existence (up to 7000 years in the case of smaller species).

The circumstances of island life are often more difficult and restricted than on larger landmasses, and there is good evidence that some of these strange island fauna were suffering from a lack of nourishment and from the absence of further in-migration of their species. Many had evolved into something unique, which most likely could only survive in very specialized ecological niches. The lack of in-migration also led to problems associated with in-breeding. Accordingly, there seem to be at least three possible causes for the demise of the Mediterranean mini-mega fauna:

- (i) direct result of overkill by humans;
- (ii) the introduction by humans of new species that competed with “endemic” fauna, perhaps already weakened by other factors, for ecological niches, nourishment, etc; or
- (iii) indirect consequence of wider modification of the landscape by both post-glacial climate changes and by human interference (agricultural, pastoral).

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Bibliography

Very few works, general or specialized, treat the Mediterranean Sea and the Mediterranean islands as a cultural, or even geographic, unit. Among those that succeed to varying extents are:

Attenborough D. (1987). *The First Eden: The Mediterranean World and Man*, 240 pp. London: W. M. Collins Sons and Co. [A book that richly portrays the natural history of the Mediterranean.]

Balmuth M., Gilman A., and Prados-Torreira L., eds. (1997). *Encounters and Transformations: The Archaeology of Iberia in Transition*, 170 pp. Monographs in Mediterranean Archaeology 7. Sheffield: Sheffield Academic Press. [The papers included in this volume cover the Iberian peninsula and the Balearic islands from the Neolithic through the historical periods, providing a good overview of current debates in (western) Mediterranean archaeology.]

Barker G. (1981). *Landscape and Society: Prehistoric Central Italy* (Studies in Archaeology), 281 pp. London: Academic Press. [This study presents an excellent overview of Italian prehistory with particular attention to matters of subsistence and to settlement in its physical landscape context.]

Braudel, F. (1972). *The Mediterranean and the Mediterranean World in the Age of Philip II*, 2 vols., 642 pp. New York: Harper and Row. [Perhaps the richest socio-geographic volumes ever written on the Mediterranean. Volume 1 contains eloquent descriptions and discussion of the Mediterranean environment, climate, topography, demography, and economics, whilst Volume 2 is more concerned with the historical sequences.]

Broodbank, C. (2000). *An Island Archaeology of the Early Cyclades*, 352 pp. Cambridge: Cambridge University Press. [Comprehensive, dynamic and key new study on island archaeology throughout the Mediterranean, with more specific emphases on the Cyclades.]

Chapman R. (1990). *Emerging Complexity: The Later Prehistory of South-East Spain, Iberia and the West Mediterranean* (New Studies in Archaeology), 304 pp. Cambridge: Cambridge University Press. [This study focuses on southeast Spain in the Copper and Bronze Ages with special emphasis on the emergence of social inequality; it also discusses the wider western Mediterranean to provide comparative evidence.]

Cherry J. F. (1981). Pattern and process in the earliest colonization of the Mediterranean islands. *Proceedings of the Prehistoric Society* **47**, 41–68.

Cherry J. F. (1990). The first colonization of the Mediterranean islands: a review of recent research. *Journal of Mediterranean Archaeology* **3**, 145–221. [Two specialized articles (see item above) that deal exhaustively and definitively with the earliest exploitations, settlement, and colonization of the Mediterranean islands.]

Horde, P. and Purcell, N. (2000). *The Corrupting Sea: A Study of Mediterranean History*, 761 pp. Oxford: Blackwell. [An exhaustive new study of Mediterranean ecological history, with relevance for all time periods although focused on Iron Age-Medieval.]

Mathers C. and Stoddart S., eds. (1994). *Development and Decline in the Bronze Age Mediterranean*, 367 pp. Sheffield: Sheffield Academic Press. [This volume goes far towards filling the need for a specialized, Mediterranean-wide synthesis of Bronze Age archaeology.]

Renfrew C. (1972). *The Emergence of Civilization: The Cyclades and the Aegean in the Third Millennium B.C.* Cambridge: Cambridge University Press. [The best known and still one of the most dynamic studies of the Bronze Age Aegean and Cyclades.]

Sherratt A. G. and Sherratt E. S. (1991). From luxuries to commodities: the nature of Mediterranean Bronze Age trading systems. In N. H. Gale, ed. *Bronze Age Trade in the Mediterranean. Studies in Mediterranean Archaeology* **90**, 351–386. Göteborg: P. Åström's Förlag. [Detailed empirical and theoretical attempt to model the nature of Mediterranean Bronze Age trade. Emphasis is placed on “conspicuous consumption” and exchange rather than on staples and agrarian production.]

Webster G. (1996). *A Prehistory of Sardinia 2300–500 BC*. (Monographs in Mediterranean Archaeology 5), 224 pp. Sheffield: Sheffield Academic Press. [This is the only English-language monograph on Sardinian prehistory. It focuses on the monumental achievements of the Bronze Age, paying ample attention to issues of settlement and subsistence.]

Biographical Sketches

A. Bernard Knapp is Professor of Mediterranean Archaeology in the Department of Archaeology, University of Glasgow. He received his Ph.D. in Mediterranean Archaeology from the University of

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Peter van Dommelen studied archaeology and classics at Leiden University (The Netherlands), where he also carried out Ph.D. research. He is currently lecturer in the Department of Archaeology at Glasgow University. Between 1991 and 1999 he co-directed the Riu Mannu regional survey project in Sardinia, which has been a joint project of Leiden and Glasgow universities since 1997. He is also co-editor of *Archaeological Dialogues*. His research interests regard postcolonial approaches to ancient and (early) modern colonialism as well as settlement and survey archaeology in the late prehistoric and early historical western Mediterranean, in particular Sardinia and central Italy..