

EDITED BY

HARRY  
FOKKENS

ANTHONY  
HARDING



≡ The Oxford Handbook of  
**EUROPEAN  
BRONZE AGE**

THE OXFORD HANDBOOK OF  
**THE EUROPEAN  
BRONZE AGE**

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THE OXFORD HANDBOOK OF

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BRONZE AGE

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*Edited by*

HARRY FOKKENS

*and*

ANTHONY HARDING

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## PREFACE

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THIS Handbook in the Oxford series covers an area and period that have produced much spectacular new evidence in recent years. The enormous volume of new publications in all parts of Europe makes it ever harder to keep up with the progress of research, in the Bronze Age as in so many other periods. The authors in this volume, all experts in their field, have provided overviews of the topics assigned them which, it is hoped, will go some way to make it easier for students, specialists, and the interested layperson to get up to date with the latest information in the field.

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Anthony Harding and Harry Fokkens

May 2012

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## CHAPTER 1

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# INTRODUCTION: THE BRONZE AGE OF EUROPE

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HARRY FOKKENS AND ANTHONY HARDING

WHY a new book on the Bronze Age? When we were invited by Oxford University Press to compile one of their handbooks, covering the Bronze Age of Europe, our first question was: in what ways does this represent a challenge to provide something new? So many books have been written about the prehistory of Europe that we wondered what we could add. In the end it seemed that the challenge lay in producing a book that—while individual elements might not necessarily represent an advance in knowledge—was different in enough respects that it would add significant information to the range of books on the Bronze Age already available.

One of these was Coles and Harding's *The Bronze Age in Europe*, written in the 1970s (Coles and Harding 1979). This has been the textbook for generations of students all over Europe. It summarized the data from all regions and also combined it with the first comprehensive compilation of radiocarbon data. Its approach was above all geographical, treating the data in five separate sections for central, eastern, southern, western, and northern Europe, in two chronological divisions (earlier and later Bronze Age). There was no overarching view of 'the European Bronze Age', merely a short set of concluding remarks that drew out some of the main themes.

A few years earlier Jacques Briard had written a short French-language volume: *L'Age du Bronze en Europe barbare*, in 1979 translated as *The Bronze Age in Barbarian Europe* (a reworked version appeared under a slightly different title in 1997: Briard 1976; 1997). It had a comparable goal: to present a picture of the period to the growing number of students. Briard used a different approach, however. He provided much less data, but described it from a thematic point of view. His chapters have titles like 'Le beau bronze des pays de l'ambre' or 'Les îles cassiterides'. They revealed the European Bronze Age as a wonderful world with many marvels, but there was no coherent view on social processes or processes of change.

These two books held the field for some twenty years. In that period, between 1980 and 2000, the archaeological world changed fundamentally, both through an increase in data and through a new interpretative paradigm. The fall of the Iron Curtain meant that the

amount of data accessible on central and eastern Europe grew substantially; and former Eastern bloc scholars started to publish regularly in English and German, which made their work more accessible to other European archaeologists. Another factor that created an increase in data was the beginning of developer-funded archaeology in the latter years of the twentieth century. This was accompanied by a move towards not merely describing the material recovered, but using it to illustrate new models of the past. Especially burial data and the monumental landscapes of (for instance) southern England have been used to illustrate how Bronze Age society became a complex society ruled by elites and chiefs. Perspectives on the past involving the role of material culture in developing power relations, sometimes within a Marxist framework, were especially a hallmark of the work of Kristian Kristiansen (e.g. Kristiansen 1984), while alternative perspectives were provided by authors such as Timothy Earle and Andrew Sherratt (Earle 1987; 1991; Sherratt 1994). Kristiansen stated in 1998 that he was following a modified 'processualist' approach (Kristiansen 1998: 40), but this is mainly evident in his extensive use of models to explain and describe the period. In fact, the theoretical position for which he has become best known, following the seminal work of Friedman and Rowlands (1977), is as an advocate of World Systems and core-periphery thinking (see below), and of the associated search for political institutions, elites, power, and prestige in archaeological data. This was also a major preoccupation of Andrew Sherratt (e.g. Sherratt 1993). Their articles have profoundly changed the way fellow archaeologists view the Bronze Age.

These new interpretations of the past have also led to new kinds of synthesis. In 2000 Harding discarded the format he and John Coles had used twenty years earlier, and wrote a thematic account of the European Bronze Age in *European Societies in the Bronze Age* (Harding 2000). No longer was the geographical approach central, but rather the connections between societies and the way they used material culture. It clearly opposed the World Systems approach that Kristiansen had adopted in his various writings in the 1980s and 1990s, and most recently in *The Rise of Bronze Age Society*, with Thomas Larsson (2005). In the latter book a 'Grand Narrative' of the European Bronze Age has taken shape in a form that is both appealing and controversial. Appealing, because it connects all kinds of developments all over Europe with each other in an intriguing and inspiring manner; controversial, because it follows only one theoretical approach and uses the data in a highly selective manner to accommodate the narrative.

What is interesting in all of these books that summarize the data on a European scale is that in general one or two authors do all the description and synthesizing. That has its advantages and disadvantages. The advantage is that there is one coherent and uniform treatment of the data. The disadvantage, however, is that regional archaeologists tend to shake their heads about (mis)reading or over-interpretation of *their* data. Moreover, most syntheses are viewed from an Anglo-Saxon perspective. That need not in itself be a problem, but on the other hand it is not necessarily how 'continental' and regional archaeologists interpret their data. Here we take a different approach. We have divided the book into two parts: the first written by specialists on various themes and topics (the thematic approach); the second by regional scholars about their particular area of Europe (the geographical approach). We also decided to leave out grand narratives, the World Systems approach, or any other overarching interpretative scheme, but present the data as it is experienced by those who work on particular themes and in particular regions. That may of course be seen as a regrettable omission, but on the other hand this aspect has already received so much attention from the work of

Kristiansen and Larsson that a summary hardly seems necessary. Some chapters do in fact deal with these theoretical issues (power, identity, gender, complexity).

Leading scholars were therefore invited to write a chapter on their topic or region, as they see it. We consider ourselves fortunate in having been able to attract so many of the top scholars in their field to contribute to the volume; and in having (with only a couple of exceptions) used the scholars of the relevant regions to write about their areas, avoiding the common pitfall of inviting a few Anglo-Saxon scholars who could write an acceptable chapter but who would not command the respect of those from the regions in question. Of course, as one will quickly see on reading the book, this leads to very different visions of the past. It also lays bare how different our scholarly traditions are. For instance, typology, chronology, and myriad archaeological cultures are still very much a feature of central and eastern European archaeology. By contrast, in north-western Europe large-scale settlement excavations and surface surveys dominate the record, especially since the introduction of the Valletta Convention and the principle that the developer pays for archaeological fieldwork in advance of construction.

This volume covers Europe outside the Aegean area. The Aegean is not covered because a companion volume in the same series has already appeared; and because for the most part the developments in Bronze Age Greece were on a different level to those in the rest of Europe. Inevitably, of course, it has been necessary to refer to Aegean and east Mediterranean matters in some chapters: in those on trade, for instance (Chapter 20), or on Italy, Sicily, and Sardinia (Chapters 35–7); to some extent also in the discussion of the Copper Age background to the Bronze Age world (Chapter 3). This serves to reinforce the fact that in the Bronze Age there was no barrier to communication between the central and eastern Mediterranean, nor between the Aegean and the rest of the Balkans (or indeed further afield). Greece is part of Europe, but its Bronze Age development was significantly different from that elsewhere: it was much more attuned to developments in the eastern Mediterranean, with which it shares many features.

Not every topic or country receives a chapter to itself, and our authors have interpreted their briefs in somewhat different ways. While we have attempted to provide at least some coverage of all parts of Europe, inevitably there are some areas (e.g. the eastern Baltic, Belarus, Albania, Iceland) that receive little or no attention, whereas others (e.g. Italy) are extensively covered.

In this volume a separate chapter (Chapter 2) is devoted to the chronology of western Europe (Britain and Ireland, France, and Spain); other areas present their own chronological schemes in Part II of the book. A companion chapter to Chapter 2, devoted to central and eastern Europe, was commissioned but unfortunately was not forthcoming. The reader is referred instead to the introductory remarks on chronology in the relevant chapters.

## SOURCES OF INFORMATION

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The sources of information for the Bronze Age are in several ways more informative than those for earlier periods. This implies not only different object types, new materials (metal) and classes of sites (hoards, settlements with farmsteads), but also different traditions of deposition. For instance, the frequent deposition of varied grave goods has enabled

archaeologists to make inferences about the status of individuals and the organization of communities in a much more informed manner than was possible in most regions for the Neolithic. The evidence from settlements and farmsteads is also—especially for the Middle Bronze Age onwards—much more extensive and informative than before.

Not only do we have different sources of evidence for the Bronze Age: this book also shows that we have started to use in new ways categories of evidence that have long existed but were previously neglected. Biographies of objects, and their context of use and discard, are now being studied; skeletal material is now analysed for stable isotopes; DNA studies have become possible. The context and meaning of metal deposition is much more a subject of study than previously. These new avenues are partly due to new theoretical approaches to data, but partly too to new methods that are derived from other fields of study. Archaeology has become increasingly a mix of ‘alpha’ (humanities), ‘beta’ (physical sciences), and ‘gamma’ (social sciences) studies (the terminology used in the Netherlands).

One of the most significant sources for Bronze Age archaeology traditionally is represented by the enormous number of copper alloy (hereafter bronze) objects that populate its centuries. These artefacts represent both a challenge and an opportunity: a challenge, because so many thousands of objects, often repetitious in character, can seem to stifle the imagination when it comes to interpretation; an opportunity, because each one of these objects represents a triumph of the craftsman’s art, representing decades or centuries of built-up knowledge, and hours of work at extracting the ore, producing the metal, and turning the metal into a finished object. In this sense, every bronze artefact possesses information that could be used to help us interpret the period from which it emanates; the challenge is to work out how to unlock that information.

Traditionally the favoured approach has been to sort these objects into groups (types), based primarily on external appearance (form), aided where possible by contextual information (e.g. stratigraphical position). This was the approach adopted by the great typologists of the nineteenth century, most notably Oscar Montelius and Paul Reinecke, whose studies embraced much of Europe and not only their own home areas. The method was to study closed-find groups (i.e. groups of artefacts that come from the same findspot and are presumed to have been deposited at the same time) and identify which objects occur together within those groups, and which objects occur with more than one set of accompanying artefacts, thus giving the possibility of identifying change through time, both of individual objects and of whole groups of objects (Fig. 1.1). The primary intention was to identify chronological aspects of Bronze Age cultures rather than anything else (e.g. technological, functional), though these other aspects also played a part in some discussions.

The types and sequences identified by these early scholars have stood the test of time remarkably well, even if in some cases they have been extensively modified. Thus we still use a division into Periods I to VI when discussing the Nordic Bronze Age, and on the whole the artefactual contents of each Period are as Montelius suggested. We still divide the south German Bronze Age into a *Bronzezeit* (Bz) with periods A to D and a *Hallstattzeit* (Ha) also with phases A to D, of which the first two (Ha A and B) are recognized as belonging to the Bronze Age whereas the second two (Ha C and D) we now identify as part of the Iron Age; and in both cases, these divisions have been applied to areas far from those where they were initially identified—over most of continental Europe, in fact.

This is not to say, however, that there are no problems arising from this usage. Over the decades, different scholars have interpreted the data originally presented by Reinecke in different

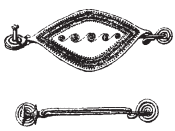
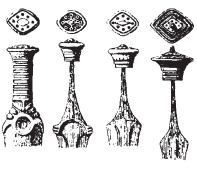




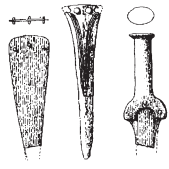

	FIBULAE	SWORDS AND DAGGERS	AXES
Period III			
Period II			
Period I			

FIG. 1.1 Type table as devised by Oscar Montelius.

Source: adapted from Montelius (1886).

ways, or sorted the objects into different groups or subgroups. Almost all the Reinecke phases have been subdivided, and the existence of some subdivisions has become the subject of controversy (most notably Ha B2, but also within Bz A (e.g. Bz Ao and A3) and Bz B and C.

The source of these disagreements lies in the fact that archaeological depositions did not necessarily follow what we might consider a logical or consistent pattern. Objects of varying date might be collected up and deposited at one time—though this would usually mean that the latest object gave the date of deposition. More difficult is the fact that objects of different function might have been treated differently, so that (for instance) those created specifically for burial with the dead do not occur on settlement sites or in hoards, and vice versa. Such diversity in practice can and does lead to many apparent discrepancies in chronological terms.

Yet another, and more important, reason why chronologies based on metalwork have become of less interest is that the more that becomes known about other classes of data, especially settlements, the more it becomes clear that metal typology is almost useless for types of data other than hoards and burials. Moreover, its value for making inferences about 'normal' social life appears to be limited, or at least one-dimensional. This is also one of the reasons why there is now waning interest in, and increasing criticism of, what was once one of the great and much-praised projects of Bronze Age archaeology: the series of corpora *Prähistorische Bronzefunde* (PBF) that has come to typify the typological approach to artefacts. It was the successor to an altogether more ambitious, if less focused, project, *Inventaria Archaeologica*, a set of cards published by the Union Internationale des Sciences Pré- et Protohistoriques (UISPP), whose stated aim was to publish as many categories of artefacts as

possible, of as many periods as possible; perhaps inevitably, funding difficulties and differing national priorities and perceptions have resulted in a very patchy distribution of published card sets, to the extent that they can be used effectively for very few areas and periods. PBF is not the only Bronze Age corpus—another is Aner and Kersten's *Die Funde der älteren Bronzezeit* (Aner and Kersten 1973–2011); nor are such collections confined to the Bronze Age, though inevitably they concentrate in those areas with large numbers of well-preserved objects.

*Prähistorische Bronzefunde* was conceived during the 1960s, the brainchild of Hermann Müller-Karpe, then at the University of Frankfurt am Main; the first volumes appeared in 1969 (Harbison 1969a, b) and were rapidly followed by a succession of others. Organized into twenty-one 'series' (*Reihe*) according to artefact category (axe, spearhead, sword, etcetera, with two series devoted to specific cultural groups or periods), to date some 165 volumes have been published, and more are in preparation. While the quality of the volumes is variable, the aim of the contributors is always to collect all examples of a given category in a defined geographical area—usually, but not always, a modern country—giving details of each object (dimensions, find context and associations, present location, previous publication details, function, and date) along with a drawing (redrawn to the PBF standard) and distribution maps by type, a chronological chart of the form's development in the area studied, and in some cases drawings of the associated material.

This approach has both benefits and drawbacks. The principal benefit is that all available examples of a given artefact form are presented in visual form with description, along with an indication of their geographical occurrence; thus one can quickly discover what forms occur where and when. This can be particularly useful for tracing the appearance of particular types that may have supra-regional significance or be important in other ways. The principal drawback is that most finds are presented without their associated material, as if they were isolated, individual objects, when in fact the importance of many of them lies in their associations and not simply in their outward appearance.

While some of these objections are serious, we can still agree that the PBF series is immensely valuable as a set of source materials. Some may believe that this type of research—stylistic and oriented towards the individual artefact—has had its day, but this does not mean that what has been done is outdated and useless. It will keep its value, and would become even more valuable if all of the information gathered so far could be made available on the Internet for everyone to use.

New approaches to metals and material culture have now started to produce results. One involves the concept of the biography of objects, as discussed for instance by Kopytoff (1986) and Hoskins (1998). These authors show that objects are not just things, but are often closely interwoven with culturally specific meanings and values (Kopytoff 1986: 68). Objects can be closely tied to persons, become part of their personhood as members of society (Hoskins 1998: 9), especially those objects that were exchanged between official or supernatural entities and persons. David Fontijn (2002), for instance, has shown how the contexts in which objects are discarded or disposed of, and their use, can reveal much about meaning in society (see also Van Gijn 2010) (see Chapter 11). In a different way, the seminal ethnographic work of Olivier Gosselain (2000) and others, on the *chaînes opératoires* of the making of objects, is becoming more and more important because it discusses how apparently self-evident technical procedures are to a large extent culture-specific. This research has also had its impact on pottery analysis, as for instance in the work of Sébastien Manem (2008). This type

of work not only tells us about the choices that craftsmen made, but can also provide valuable information about regional styles and identities and about the geographical distribution of style zones. In that respect it is an important new line of study complementing traditional studies.

Distribution maps have always formed the heart of archaeological studies in any period, but especially for the Bronze Age. They used to be an important source for inferences about the distribution of archaeological cultures and the movement of peoples, in the sense in which Gordon Childe used the term. This approach has not yet lost its value in several regions, especially in eastern Europe—as you can read in this book. But the use of maps has changed. Especially for Bronze Age Europe the distribution of specific types of artefacts, in particular bronze artefacts, is of great importance because it shows networks of trade and exchange (Chapter 20). Better than anything else, a distribution map of specific objects or decorative symbols appears to demonstrate contacts between groups of people. A problem, however, is that we are still not very well informed about mechanisms of transport and exchange in Europe. In technological terms these matters are becoming increasingly clear (see Chapters 21–2), but as a social mechanism much remains to be done. The general assumption is that exchange between elites is one of the main mechanisms for the movement of bronzes, but that cannot account for all the metal that was distributed. Moreover, the context of bronze deposition shows that in many cases there is much more symbolism involved than just prestige and status (see Chapter 7). The assumption of a political economy (Earle 2002) as the model for the whole of Bronze Age Europe is also disputed by many scholars (see Chapter 11).

## DEBATES IN BRONZE AGE ARCHAEOLOGY

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### Chronology

Traditionally the study of Bronze Age archaeology has revolved predominantly around artefacts, mainly pottery and bronzes. The situation varies in different parts of Europe. Where long stratified sequences are available, mainly in the eastern half of the continent (such as tells, or settlement mounds, in Hungary and Bulgaria, or stratified sites in Moldavia), there has been a long-standing tradition of conducting research through the detailed comparison of the contents of the layers of different sites. With bronze artefacts, since the days of Montelius and Reinecke it has been the custom to create chronologies by setting up type sequences and association tables, so that the development of artefacts through time can be charted. One problem has always been that pottery on settlement sites is not often clearly associated with characteristic bronze types, so that two (or more, in the case of funerary assemblages) chronologies have developed side by side. Usually the best way of resolving that issue has been through the use of grave assemblages, since grave goods might include both pots and bronzes. Even here difficulties can arise, though, since the pots put into graves were not necessarily the pots used in domestic life.

In recent decades these preoccupations have become less critical in importance, at least in those parts of Europe where radiocarbon dating is commonly available. It would be wrong to conclude that all chronological problems have been solved, of course. But the way was shown

in 1997 when Stuart Needham and colleagues carried out a dating programme on organic material surviving in the sockets of, or otherwise adhering to, bronze implements (Needham et al. 1997). This, for the first time, gave a credible absolute dating sequence for British Bronze Age bronzes—while incidentally confirming the relative sequence, and in outline the previously obtained absolute chronology. Since that time, much has been done to refine the British chronology and bring it into line with those of adjacent countries (Chapter 2).

At around the same time the results of the programme of dendro-dating on oak coffins of the Nordic Bronze Age came to fruition (later summarized in Randsborg and Christensen 2006). This gave a clear indication of the timespan within which graves of Periods II and III fell—again more or less in accordance with predictions based on cross-dating. The particular preservation characteristics of the Nordic coffin graves allowed this development to happen. The other area where an extended dendro sequence has become available is the Alpine zone, mainly Germany and Switzerland. Here, large numbers of excavated sites in wet conditions have produced wood, much of which has been dendro-dated. This remarkable corpus of material suffers only from the disadvantage that there are gaps in occupation: thus there are many sites producing wood from the Early Bronze Age, a number from the earlier Urnfield period, and a large number again from the late Urnfield period. Few sites are dated to the Middle Bronze Age or to the middle part of the Urnfield period.

Most recently a radiocarbon dating programme has been carried out on cremated bone in Nordic burials—which has the advantage that it extends the scope of absolute dating beyond the Nordic Early Bronze Age, when inhumation was the norm, into the Late Bronze Age, when cremation became universal (Olsen et al. 2011). These dating techniques have the potential to put the chronological framework of the Bronze Age beyond doubt (and therefore dispute). Questions of contemporaneity, for instance between objects or motifs apparently of Mycenaean inspiration found in continental Europe, can now be resolved, at least within acceptable limits. Long-standing debates such as the relative chronological positions of the Early Bronze Age of north-west Europe and the Aegean area ('Wessex without Mycenaean': Renfrew 1968) can finally be laid to rest. In almost all countries of central and western Europe this is now the case, though some countries in eastern and south-eastern Europe lag behind, partly for resourcing reasons, but partly also through ignorance or scepticism. We can thus look forward to a future where debates over chronology can be set aside, enabling us to consider the implications of the synchronisms defined in social and economic terms.

## World Systems

Linked to the question of chronology is that of interconnectedness. How far were different parts of the Bronze Age world linked together, and how far were they separate, like islands in a sea of uninhabited terrain? This is a question that has vexed scholars for many years, with a range of positions being adopted, often increasingly polarized.

In large measure this stems from a debate concerning the extent to which the advanced civilizations of the east Mediterranean were in contact with, or influenced, cultures in the 'barbarian' world. We can trace this debate back as far as Montelius, though it was mainly German scholars in the mid-twentieth century who pointed to the main pieces of evidence, followed in the 1960s by Stuart Piggott and Jan Bouzek. Through the 1970s and 1980s different opinions were expressed, some favouring an extensive range of contacts between the two

areas, others adopting a more sceptical position (notably Harding 1984; Bouzek 1985). The publication of parts of a conference held in Aarhus, Denmark, in 1980, at which World Systems Theory (later called core-periphery theory, or similar formulations such as Centre-Periphery relations) was first broached in an archaeological context, was the first major outcome of this approach (Rowlands, Larsen, and Kristiansen 1987); it was followed by the publication of a colloquium held in Mainz, Germany, in 1985, which illustrated more starkly the difference in the positions held (Schauer 1990); here the ‘maximalist’ position of mainly Danish scholars was clearly articulated. In the following years, it was especially the publications of Kristian Kristiansen that dominated the field, in a series of articles and in two books (Kristiansen 1998; Kristiansen and Larsson 2005). Kristiansen’s position is that: a) one can discern a wide range of sites and artefacts in Europe which indicate extensive connections with the Mediterranean world in the Bronze Age, notably though not exclusively Mycenaean Greece; and b) these connections are best viewed within a core-periphery framework, the core drawing in especially raw materials from its periphery and the periphery receiving in return cultural influences that led to technological and social developments, as well as manufactured goods.

In their 2005 work Kristiansen and Larsson went further. While the core-periphery framework remains, they envisaged Europe as a world where travellers moved widely across the continent, bringing with them not only tangible goods (artefacts) but also the more intangible expressions of exotic knowledge, concepts, practices, ideologies, religious symbols, and the like. The authors coupled this with a harsh critique of older artefact-based ideas of ‘merely’ assessing similarities in material culture, which had led to much of the scepticism expressed by those holding different views. In this manner they built up a narrative in which Europe became a continent linked as much by mental constructs as by material culture.

This is not the place to undertake a full critique of that narrative here, though several have been expressed (e.g. Nordquist and Whittaker 2007), which point out the selective nature of the sources used or even outmoded or erroneous use of factual data. In spite of these criticisms, the book continues to be extensively cited, generally with approval—also by several authors in this volume. Some like the approach based on a ‘Grand Narrative’; others prefer to view the Bronze Age through the prism of the detailed analysis of field and artefact data.

The most powerful objection to a World Systems approach for an understanding of the prehistoric past is that it removes much of the autonomy of action of the ‘peripheral’ societies, who become pawns in the power play of the core. Originally devised by Immanuel Wallerstein as a way of understanding the rise of the capitalist system in the early modern period (Wallerstein 1974), its application to the remote past has always brought with it the danger that we view peripheral societies through the lens of the core. It assigns particular force to notions of power, the supremacy of technological innovation, and the idea that what happened in the core was automatically desirable to those on the periphery—who would then be exploited for their resources (raw materials such as metals), which were crucial to the continuance of the developed societies in the centre. The overtones of modern economic history could not be plainer.

An alternative view would stress the way that local developments in every area proceeded, making use of local power structures and local economic forces. In such a model, it is regional economic systems that are important for the development of such power structures. We have a good idea of how settlement systems worked in several parts of the Bronze Age world (for instance the Low Countries and Scandinavia: Chapters 31 and 41). In some cases there is

abundant data on economic life, now subject to sophisticated analyses. We would certainly accept that there was much movement of goods and people across Europe in the Bronze Age, sometimes over long distances, and that an inhabitant of, for example, Britain, could say, like Shelley in his poem 'Ozymandias', 'I met a traveller from an antique land...' who told of wonderful things he had seen.

## THE WAY AHEAD

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Bronze Age research has a long history of studying metals and metal artefacts. However, as we have seen, much of that research so far has been dedicated to typology/chronology and stylistic comparisons. Metal analysis was important in the 1960s and 1970s with the work of Junghans, Sangmeister, and Schröder, but became less important when it became clear that the more samples were taken, the less clear the provenance of bronzes was in terms of ore sources, especially since bronze tended to be recycled. That does not mean we should belittle these efforts, nor stop doing analyses altogether; lead isotope analysis in particular has proved very useful, if sometimes controversial. Especially in combination with metallurgical research, such analyses can be very informative, as for instance demonstrated in the work of scholars such as Barbara Ottaway, Ernst Pernicka, and Tobias Kienlin (Kienlin and Roberts 2009) (see Chapter 23).

In the future non-destructive analyses will become increasingly important because the rules and scientific ethics for handling metal objects have changed considerably. X-ray fluorescence (XRF) and other methods for studying the composition of metal objects will increase in importance. Here too the biography of artefacts (manufacture—use—discard) will become more important as a line of analysis, as is demonstrated in various articles in Kienlin and Roberts (2009). If we treat the working of metals in the past less as an industrial or a given process and more as a social one, much can be learnt about its embedding in society and the place of the smith in Bronze Age communities. In that respect not much progress has been made since the summarizing work of Michael Rowlands forty years ago (Rowlands 1971). Here much may be gained by recognizing that metal production could have been firmly embedded in local communities and was less connected to elites than is currently assumed. One should also take into account regional and temporal differences, because in the Late Bronze Age the production of weapons, complex ornaments, and other objects was probably organized in a very different way from that in the Early Bronze Age.

Important new sources of information are provided by organic chemistry and biomolecular archaeology. The work of Richard Evershed in Bristol (UK) and Douglas Price in Madison (US) and Edinburgh (UK) especially has shifted the parameters of research. Isotope and lipid analysis are producing new results about mobility and diet on an almost daily basis. While strontium isotopes were at first used only for dietary studies, now mobility of groups of people is measured, or in the case of wool, of sheep or the wool itself (Frei et al. 2009). By measuring the signal in the bones with a control sample, it can be established whether a person or animal was raised locally or somewhere else. Where that somewhere was is generally hard to define, but at least one knows whether or not mobility was an issue. Large projects for determining mobility have now started (see Chapter 10) and we will probably soon see more of this type of research. When data not only about humans but also about animals starts to

become more widely available, we will see new levels of interpretation of how the different regions in Bronze Age Europe were connected: proof positive of the Kristiansen hypothesis?

The interpretation of the results, however, is by no means simple. As with the Amesbury Archer (who came from the Alpine region according to oxygen isotope studies: Fitzpatrick 2003), the results may be accepted too fast and too uncritically by archaeologists. We have to be careful that the same does not happen as in the early days of radiocarbon dating: over-enthusiastic and uncritical use which led to misreadings of the data. Moreover, interpretation of the results in social terms is not straightforward. We have previously thought of the Bronze Age as a fairly stable society with small-scale communities, some raiding and warfare, and increasingly broad exchange networks. But now it seems people moved all over Europe and settled all parts of it. New migrationist tales are emerging, for instance on continental Bell Beaker prospectors settling in Wessex or Scotland (see Chapter 24). Though this may be part of the explanation, we should not *assume* the social processes without reference to how they work in traditional societies. Isotope studies need a much more careful discussion of Bronze Age mobility and the way it was embedded in society than has happened so far.

The use of mass spectrometers, and especially the laser-induced variants, are now turning out results in other fields of research, notably lipid analysis and phosphate analysis. In Britain experiments have been carried out with intra-site analysis of lipids on pottery (Copley et al. 2005). A great range of comparative research studies can be imagined on the use of pottery and other materials within sites, but also between regions and in different contexts of deposition. Phosphate analyses can be used to study patterns of movement in settlements or cemeteries, if we are able to take and analyse suitable soil samples. DNA studies can also provide many new results, not only from the study of bones but also from soil samples. Careful analysis of soil samples with the aid of these new methods from graves might provide information about the presence of materials that have long decayed.

## CONCLUSION

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There are many possible approaches to the Bronze Age, and this volume indicates just some of them. A disjunction between a 'culture'-based approach and one based simply on the available field and laboratory evidence without imposing a mental superstructure onto it is only too apparent; this reflects the research traditions in the different parts of Europe. New approaches are covered in some chapters, as are new interpretations of old material; equally, 'traditional' material is covered to a greater or lesser extent in the regional chapters. We have indicated here some of the ways we expect the subject to develop. While we do not downplay the importance of the culture-based approach, which will always be relevant for setting a framework for study, we expect breakthroughs in understanding in Bronze Age studies to occur mainly with the new analytical and interpretative techniques that have been developed in recent years. Perhaps for resource reasons, these have mostly been applied in the western countries of Europe so far; one challenge will be to enable colleagues in more easterly countries to take part in these developments.

In 1994 the Council of Europe launched its 'European Campaign for Archaeology', with a specific focus on the Bronze Age: 'The first golden age of Europe', encompassing conferences, workshops, and a magnificent closing exhibition that toured several European capitals in

1998–9. More than a decade later, this volume attempts to set out the basis for study to take us into the next period. We hope and believe that what you can read here will set out the framework within which Bronze Age studies will progress in the decades to come.

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PART I

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THEMES IN  
BRONZE AGE  
ARCHAEOLOGY

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## CHAPTER 2

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# OLD FATHER TIME: THE BRONZE AGE CHRONOLOGY OF WESTERN EUROPE

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BENJAMIN W. ROBERTS, MARION UCKELMANN,  
AND DIRK BRANDHERM

## INTRODUCTION

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The creation of a chronology that spans the mid third millennium BC to the early first millennium BC and encompasses western Europe—defined here as the modern countries of Spain, Portugal, France, Ireland, Britain, Belgium, and the Netherlands—remains a work in progress rather than a finished product. The absence of any written records has meant that scholars have always had to rely upon distinguishing distinct material or architectural phases at relatively well-excavated and published sites. These sites are then used to build chronological schemes which they would subsequently apply across broader, and less well-studied, regions. The influence of any chronological scheme from the original proposal of a Bronze Age, as distinct from a preceding Stone Age and a subsequent Iron Age, at the Royal Museum of Nordic Antiquities in Denmark by C. J. Thomsen in 1817 (subsequently published in 1836; Rowley-Conwy 2007) onwards has depended on a number of interrelated factors. Any chronology has needed to be at least reasonably reliable and adaptable beyond its original archaeological foundations. Before the advent of radiocarbon dating in the 1950s, this ideally meant developing relative typological chronologies or typo-chronologies based on widely used objects made from ubiquitous and frequently altered materials that survive in the archaeological record, and had been excavated from secure contexts such as graves, settlement layers, and pits. Estimates of calendar date ranges roughly based on written dates from literate states in the eastern Mediterranean would then be applied to each typological phase. However, as the current patchwork of Bronze Age typo-chronological schemes for western Europe, even in the era of radiocarbon dating, currently testifies (Fig. 2.1), reliability and



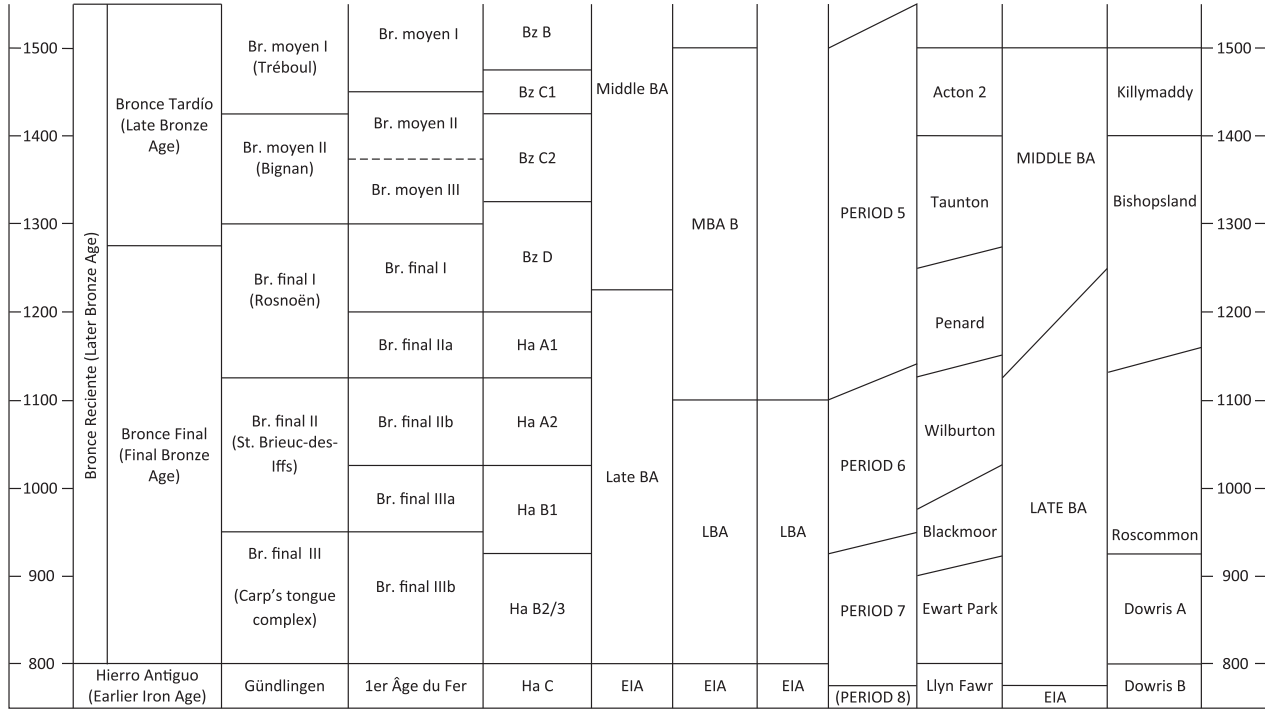


FIG. 2.1 Synchronized version of the relevant chronological systems for Western Europe. – E/M/LBA = Early/Middle/Late Bronze Age; e. = early; l. = late; MS = Metalwork Stage (after Burgess); Metalwork Assemblage (after Needham). – After: Burgess 1979, 1980, 1988; Needham 1996, Needham et al. 1997, 2010; Lanting/van der Plicht 2001/2002, Gerloff 2007, 2010; Eogan 1984; Waddell 1998; Brindley 2007; Louwe Kooijmans et al. 2005; Arnoldussen/Fontijn 2006; Bourgois/Talon 2009; Carozza/Marcigny/ Talon 2009; De Laet 1982.

adaptability were not always enough to secure widespread adoption. The reputation and position of the individual scholar, and the language and country in which they published, could be just as crucial.

The definition of a Bronze Age in western Europe, since its Scandinavian inception in the early nineteenth century and widespread adoption during the mid–late nineteenth century, has rarely experienced consensus or uniform progress, even on apparently fundamental issues. For instance, the recognition of archaeological sites during the mid–late nineteenth century possessing copper but not bronze objects provided a challenge to the Stone Age–Bronze Age continuum. It led to proposals of a distinct Copper, Eneolithic, or Chalcolithic Age, which was adopted in Iberia and southern France but did not find favour in north-west Europe, and still even today continues to be a source of debate (Lichardus 1991; Roberts and Frieman 2012). Inevitably, bronze tools, weapons, and ornaments as well as ceramic vessels were exploited as chronological markers rather than objects in flint and stone, which survived less frequently—and wood, which rarely survived. But it was bronze rather than ceramics that, from the nineteenth century onwards, has tended to be employed in the creation of pan-regional relative chronologies, perhaps due to their often wider distribution as well as the far higher contemporary value placed on metal objects and technology by scholars and collectors. In contrast, relative ceramic chronologies have tended either to be purely regional in scope or, from the early twentieth century, been elevated as fundamental object types within archaeological cultures. These broader temporal and spatial groupings were defined by scholars seeking similarities and differences in the settlement and monument architecture and/or funerary practices. The application of radiocarbon dating has similarly done little to diminish the use of archaeological cultures in chronological schemes where they frequently complement the finer and more specific object typo-chronologies (Roberts and Vander Linden 2012).

The question of how the Bronze Age should be divided has resulted in confusion rather than clarity, perhaps due to the enduring strength of traditional chronological frameworks. Pioneering scholars such as Evans (1881) classified the bronze objects into differing temporal stages, and Fox (1923) in his study on Cambridgeshire introduced the Early–Middle–Late tripartite division for the Bronze Age subsequently institutionalized for Britain and Ireland (Kendrick and Hawkes 1932). Meanwhile, Montelius (1903) in northern Europe and Reinecke (1965) in central Europe developed a more complex system of six phases—Periods I–VI and Bronze A–D and Hallstatt A/B respectively. These typo-chronological schemes, all of which were based on the nineteenth century discoveries of copper and bronze objects, have provided the foundations for *all* subsequent chronological revisions throughout western Europe (see Gerloff 2007 for details of the central European chronology which is referred to in Figs. 2.1, 2.3, and 2.4). The impact of radiocarbon dating in the 1950s and its subsequent calibration in the early 1970s did not, as enthusiastically predicted by several archaeologists, lead to the dismissal of relative chronological frameworks such as typologies or archaeological cultures in favour of absolute dating, free from any baggage accumulated by earlier scholarship. Radiocarbon dating, especially following the calibration by dendrochronology, that corrected artificially younger dates, provided the Bronze Age in western Europe with its first independent and absolute dates (Taylor 1997). Archaeological phases, features, objects, and individuals with sufficient organic remains could now be dated to a calendar year, albeit usually to within a span of 100–250 years. The revisions to

previous calendar estimates and relative relationships could be spectacular—the lavish Early Bronze Age burials in Wessex, southern England, and Armorica, north-western France, were traditionally thought to be influenced by earlier graves at Mycenae (e.g. Piggott 1966), but the new radiocarbon dates demonstrated that the Wessex graves were actually several centuries earlier (Needham 2000a). Throughout western Europe, it pushed back the accepted beginning of the Bronze Age from the estimated early–mid second millennium BC to the late third millennium BC, and its end to from the mid to the early first millennium BC (Jacob-Friesen 1981: 641). The new ability to date archaeological sites that did not require any associated metalwork or pottery meant that multi-phase monuments, settlements, and field systems which lacked diagnostic finds could now be dated with far greater precision. In addition, the development of AMS radiocarbon dating during the late 1970s, requiring much smaller samples, allowed archaeologists a far wider choice in their selection of datable material (Taylor 1997). This technique has been especially effective when applied to the dating of cremated bones (Lanting, Aerts-Bijma, and Van der Plicht 2001), which has enabled a much greater resolution as shown in Belgium and north-eastern France during the late second–early first millennium BC (e.g. Peake and Delattre 2005; De Mulder et al. 2007), and Scotland and Ireland during the late third–mid second millennium BC (e.g. Sheridan 2003; 2004; 2007; Brindley 2007).

While this certainly encouraged a shift away from object-based to landscape-based Bronze Age research, a trend that has been most pronounced in Britain and Iberia (e.g. Bradley 2007), it has also complemented and strengthened traditional typo-chronologies as tested and validated using radiocarbon dates (e.g. Needham et al. 1997). The use of dendrochronology in the western European Bronze Age, beyond the calibration of radiocarbon dates, has naturally been restricted to those relatively few sites, usually in wetlands, lakes, or rivers, where sufficient wooden remains have survived (Baillie 1995). It has meant that extremely precise dating can be determined for specific sites, phases, and events, such as the building of the timber circle at Holme-next-the-Sea, Norfolk, eastern England, in spring/early summer 2049 BC (Brennand and Taylor 2003), but it remains difficult to relate these to other activities and finds, even within the same region, which can at best be placed within a given century (Taylor 1997). The application of the Bayesian statistical approach to radiocarbon dates in the last two decades (Bayliss and Bronk Ramsey 2004) has enabled a finer chronological perspective. However, despite being employed relatively widely such as in the Neolithic in southern Britain (e.g. Bayliss et al. 2007), Bayesian statistical methods or alternative approaches such as wiggle matching have only been applied to a few sites and sequences in the western European Bronze Age, such as Early Bronze Age pottery in Ireland (see Brindley 2007; Sheridan and Bayliss 2008).

The current chronologies for the western European Bronze Age (see Fig. 2.1) are therefore a product of over a century of scholarship where frameworks based on relative and absolute dating techniques, frequently relying on different materials and sites, have accumulated but have not always been integrated. Each country has distinct histories and traditions of archaeological research, contrasting archaeological remains, differing regional and national chronological schemes, and a varying enthusiasm for revising or redefining chronologies. For instance, there are relatively frequent chronological revisions on a national scale in the Netherlands (e.g. Lanting and Van der Plicht 2001–2) and Britain (Needham 1996; Needham et al. 1997), but only infrequent proposals in Iberia, and then only at a regional scale (e.g. Castro

Martínez, Lull, and Micó 1996). In devising chronologies that span regional and national boundaries, scholars have tended to address Atlantic Europe, northern Europe, or the western Mediterranean far more than they have synthesized western Europe as defined for the purposes of this paper.

It is therefore only possible to provide an introduction and overview of the current state of knowledge of the Bronze Age in western Europe (see Fig. 2.1). For the purposes of simplicity and space, the chronological framework of each country will be outlined in one of three groups according to proximity and similarity in dating sequences: Britain and Ireland (see Fig. 2.2); Netherlands, Belgium, and France (see Figs. 2.3 and 2.4); and Iberia (see Fig. 2.5). The temporal stages outlined for each group in the text and the figures should not be seen as rigid entities with concrete boundaries. This is not only because there is neither a purely absolute nor a purely relative dating framework, but also because of the many regional variations (Ruiz-Gálvez Priego 1998; Harding 2000) and the potential long-term circulation and duration of objects (e.g. Woodward 2002). The widespread adoption of tin-bronze alloying is not a reliable indicator for the Bronze Age, occurring in Britain and Ireland c.2200–2100 BC but only at c.1500–1300 BC in southern Iberia (Pare 2000; Ottaway and Roberts 2007); the departure point is taken as the Bell Beaker culture (Vander Linden 2006) from the mid third millennium BC, common to all the countries under consideration and pre-dating the earliest bronze in any of them. Similarly, the earliest presence of ironworking in western Europe during the late second millennium BC (Collard, Darvill, and Watts 2006) does not signify the end of the Bronze Age as bronze was still being widely produced, circulated, and used. Though there is not an entirely uniform collapse of bronze across each country, there is certainly a substantial decrease during the early–mid first millennium BC where the Iron Age is traditionally situated, making the early first millennium BC a relatively natural ending to the Bronze Age in our area.

## BRITAIN AND IRELAND

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The Bronze Age in Ireland and Britain conventionally spans 2150–800 BC and remains subdivided into Early (2150–1600 BC), Middle (1600–1150 BC), and Late (1150–800/600 BC) periods, following Evans (1881) and Fox (1923) despite a highly prescient proposed scheme by Montelius (1909), which was subsequently influentially rejected (e.g. Abercromby 1912) though not by everyone (e.g. Coffey 1913). However, recent syntheses have preferred to group the Early Bronze Age with the preceding copper-using Late Neolithic/Chalcolithic (2500–2150 BC) and/or integrate the Middle and Late Bronze Age, reflecting continuities in the monument, burial, settlement, and ceramic evidence (e.g. Gibson 2002; Bradley 2007). Though the extensive use of radiocarbon dating on hundreds of new sites and objects throughout Britain and Ireland has contributed immensely to our understanding of the Bronze Age, it has not yet yielded a typo-chronological framework in landscape phenomena equivalent to the pre-existing schemes in ceramics, flint, and gold, and particularly in bronze. Modern excavation techniques together with targeted radiocarbon dating have been very effective at revealing the multi-phase and multi-period nature of the Bronze Age built environment, such as burial mounds (e.g. Woodward and Woodward 2000), field systems (e.g. Johnston 2005), and stone circles (e.g. Sheridan and Bradley 2005), which has strongly discouraged the construction of any general typo-chronologies.

Date BC	Britain				Ireland (Eogan)	Date BC	
	Metalwork	Pottery	(Hawkes/Burgess/Gerloff [O'Connor])	(Needham)			
2500	Use of copper and gold	Beaker	(MS I/II)	Late Neolithic	Late Neolithic	2500	
2400						2400	
2300	Full tin-bronze working	Collared Urns	Frankford (MS III)	PERIOD 1	MA I / II	Metal Using Neolithic (Chalcolithic)	2300
2200							2200
2100							2100
2000	Armorico-British daggers A/B	Collared Urns	Migdale/Butterwick (MS IV)	EBA 1	MA III Migdale	EARLY BA	2000
1900							1900
1800	Armorico-British daggers C Arreton flanged axes Earliest palstaves	End Food Vessel Biconical Urns End Beaker	Aylesford (MS V) Bush Barrow Willerby (MS VI)	EBA 2	MA IV Aylesford	EARLY BA	1800
1700							1700
1600			Camerton Snowhill Arreton (MS VII)	EBA 3	MA V Willerby		1600
				PERIOD 3 (Wessex I)	MA VI Arreton		
				PERIOD 4 (Wessex II)			

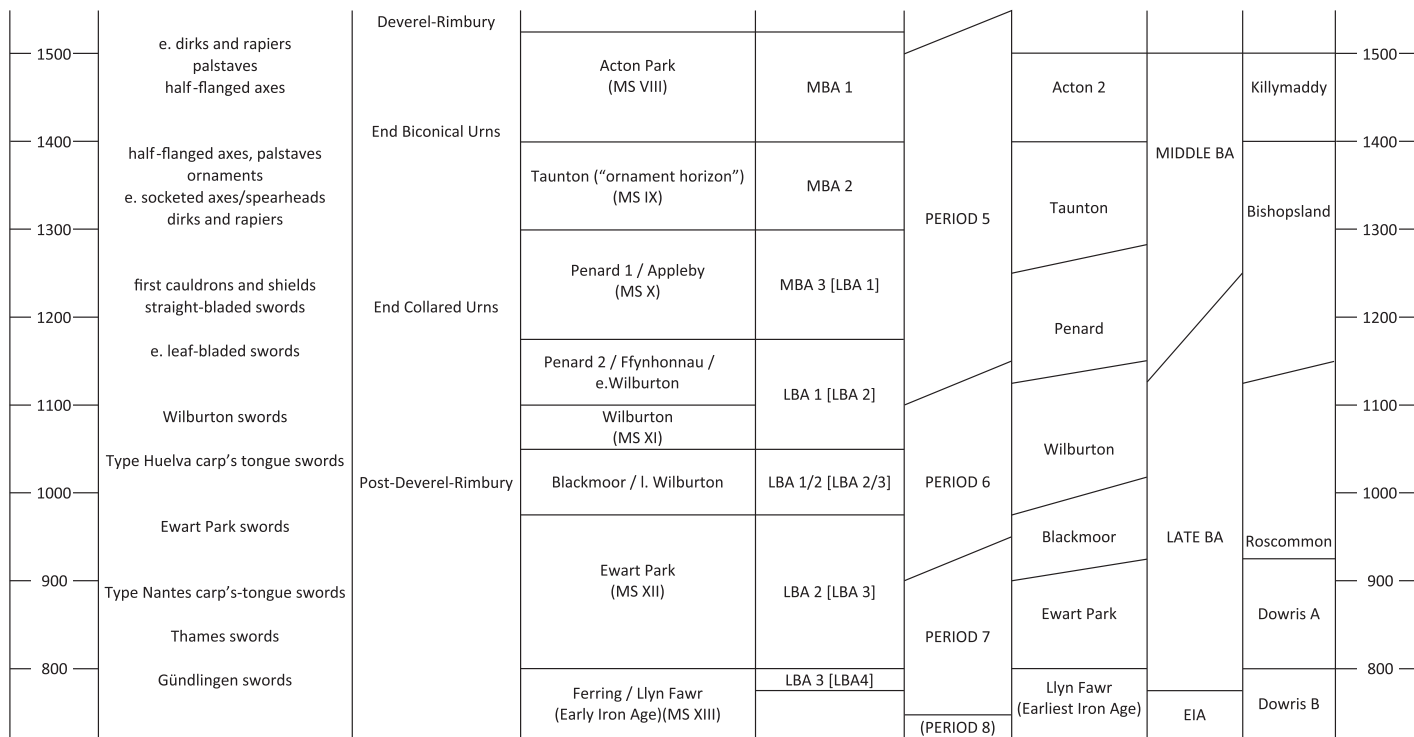


FIG. 2.2 Synchronized version of the relevant chronological systems for Great Britain and Ireland. – E/M/LBA = Early/Middle/Late Bronze Age; e. = early; l. = late; MS = Metalwork Stage (after Burgess); Metalwork Assemblage (after Needham). – After: Burgess 1979, 1980, 1988; Needham 1996, Needham et al. 1997, 2010; Lanting/van der Plicht 2001/2002, Gerloff 2007, 2010; Eogan 1984; Waddell 1998; Brindley 2007.

The virtual abandonment of archaeological cultures as valid groupings within Anglo-Irish scholarship has meant that there has been no directed dating programme towards any specific ‘culture’, with the notable exception of the Bell Beaker culture (c.2500–1700 BC) (Needham 2005; Vander Linden 2006; and papers in Allen, Gardiner, and Sheridan 2012), and to a smaller extent the so-called Wessex culture (Needham 2000a; Needham et al. 2010). It has meant that the establishment of fine chronologies has either been achieved only at a level of the individual site or, on a larger scale, through programmes evaluating and refining several ceramic and metalwork typo-chronologies such as bronze in Britain (Needham et al. 1997) and Early Bronze Age pottery in Scotland (Sheridan 2003; 2004; 2007) and Ireland (Brindley 2007). These complement recently revised typo-chronologies in gold (Eogan 1994; Needham 2000b) and pottery (Gibson 2002), as well as on specific object types such as shields (Uckelmann forthcoming), cauldrons (Gerloff 2010), and spears (Davis 2006), which have incorporated new dates. This has meant that metalwork has provided the finest broad divisions during the Bronze Age in Ireland and particularly Britain which are presented in Figure 2.2, following Burgess (1974; 1980), Eogan (1983), Brindley (1995), Needham (1996), Needham et al. (1997), with slight revisions by Lanting and Van der Plicht (2001–2; see also Brindley 2007: 375–80), O’Connor (2007), and Needham et al. (2010).

The typo-chronological framework for Britain constructed by Hawkes (1960) and Burgess (1974; 1980) comprised *Metalwork Stages* I–XIII as well as sixteen phases named after important sites and hoards. The subsequent revision by Needham (1996) and Needham et al. (1997) used new radiocarbon dates to reorganize this traditional framework into Periods 1–8 spanning c.2500–450 BC including the Early Iron Age (c.750–450 BC). Supplementing these Periods, Needham proposed a new scheme of thirteen *Metalwork Assemblages* instead of *Stages*. These *Assemblages* were based on the interlinked association of certain object groups rather than on rigid temporal sequences (Needham 1996: 123). In Ireland the typo-chronological framework is broadly comparable to that in Britain with variation in specific object types. While the names and date ranges of the eight metalwork stages are different, there has been no programme of systematic evaluation using radiocarbon dates (e.g. Eogan 1983; 1994; Waddell 2000: 2, 124, 180) (see Fig. 2.2). Recent research has produced typo-chronologies in Early Bronze Age ceramics (e.g. Brindley 2007) as well as new dates for monuments and settlements (Brindley 1995; Waddell 2000). The extensive dating programme in Scotland has revealed a significant degree of regional variation, especially when compared to the chronologies that are primarily orientated towards southern England (e.g. Sheridan 2003; 2004; 2007), whilst continental interrelationships continue to stimulate further revisions and refinements (e.g. Gerloff 2007; 2010).

## THE NETHERLANDS, FRANCE, AND BELGIUM

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### The Netherlands

The Bronze Age in the Netherlands (see Figs. 2.3 and 2.4) conventionally spans c.2000–800 BC with a transitional phase termed Late Neolithic B (c.2500–2025 BC) associated with the Beaker culture (Vander Linden 2006). The first periodization devised specifically for the



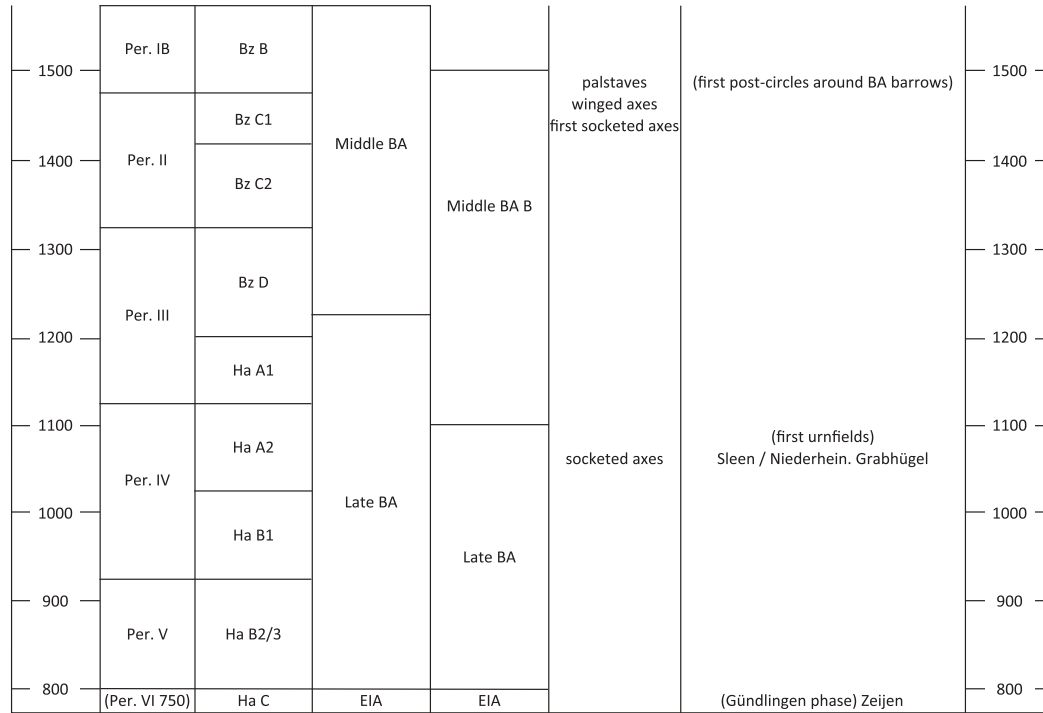


FIG. 2.3 (opposite) Synchronized version of the relevant chronological systems for the Netherlands. All stages are C14 revised (Lanting/van der Plicht 2001/2002. After: Lanting/van der Plicht 2001/2002; (PoNL =) Louwe Kooijmans et al. 2005; Arnoldussen/Fontijn 2006.

Date BC	France			Central Europe (Reinecke et al)	NL (C14) (Lanting / van der Plicht)	NL (trad.) (PoNL)	Belgium (De Laet)	Date BC
	Northwest / Atlantic (Briard)	Central / Eastern (Hatt)	(Carozza/ Marcigny/Talon)					
2400	Neolithique final/ Chalcolithique	Neolithique final/ Chalcolithique	Neolithique final	Late Neolithic	Late Neolithic B	Late Neolithic B	Late Neolithic	2400
2300			2300					
2200								2200
2100		Br. ancien I	Br. ancien I	Bz A1				2100
2000								2000
1900	Br. ancien I	Br. ancien II	Br. ancien II	Bz A2	Early BA	EBA	EBA	1900
1800								1800
1700		Br. ancien III				MBA A	MBA	1700
1600								1600
1500	Br. moyen I (Tréboul)	Br. moyen I	Br. moyen I	Bz B	Middle BA			1500

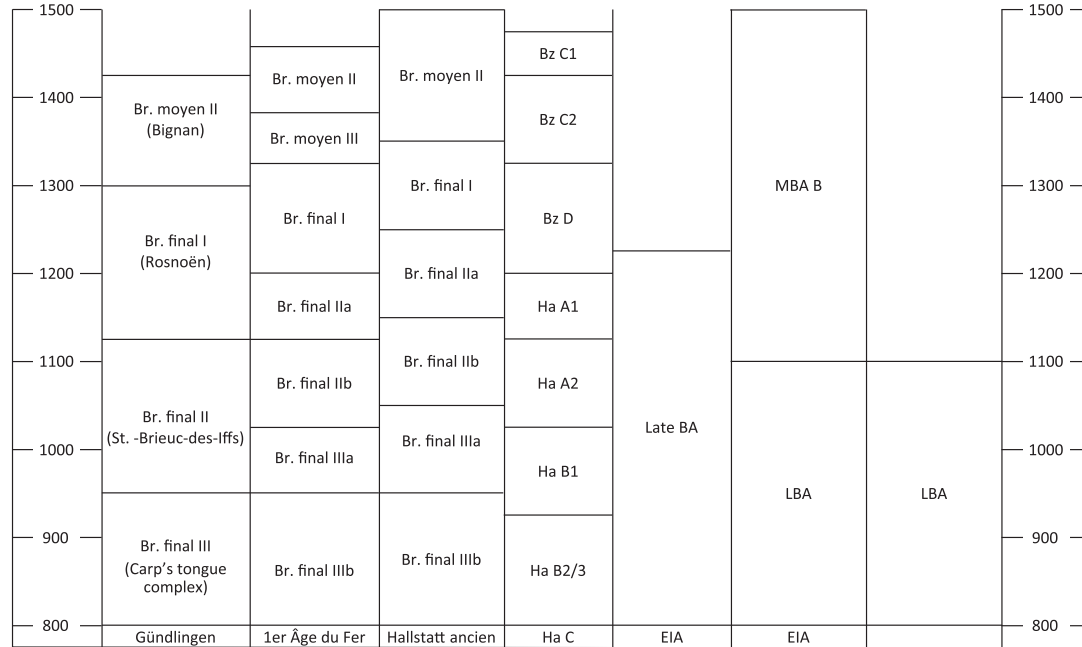


FIG. 2.4 (opposite) Synchronized version of the relevant chronological systems for France, Belgium, and the Netherlands. All stages are C14 revised. – e. = early; l. = late. – After Lanting/van der Plicht 2001/2002; (PoNL=) Louwe Kooijmans et al. 2005; Arnoldussen/Fontijn 2006; Bourgois/Talon 2009; Carozza/Marcigny/ Talon 2009; De Laet 1982.

Bronze Age in the Netherlands was based on a symposium in 1965 (Anonymous 1967), and was subsequently modified by Lanting and Mook (1977; discussion in Fokkens 2001) using the new radiocarbon dates. The divisions followed *Vroege* (Early), *Midden* (Middle) A and B, and *Late* (Late) *Bronstijd* (Bronze Age), though the transitions between these periods often blended into each other with insufficient dates to provide a finer framework, and mainly marking major changes in the material culture, such as pottery or cultural practices, for example at funerary sites. More radiocarbon dates, as well as dendrochronological dating, did not resolve the confusion, though an absolute periodization of the traditional framework was proposed by the National Service for Archaeology in 1992 (see Fokkens 2001), and also used in the *Prehistory of the Netherlands* (Louwe Kooijmans et al. 2005). It is this framework that is widely accepted, and is designed to give a broad outline as to when cultural phenomena appeared, as demonstrated by the extensive continuities between Late Neolithic B and Early Bronze Age. Fokkens (2001) argues that the absence of changes is significant enough to delay the start of a distinctive Bronze Age until c.1800 BC, when alterations in settlement, land use, and object deposition mark a genuine shift in practices, and the earliest evidence for Hilversum pottery can be identified. The intensive investigation and dating of recently excavated settlements in the Netherlands has demonstrated unexpected levels of complexity involved in definition, and especially dating, challenging long-held assumptions of contemporaneity and conventional typological frameworks (Arnoldussen and Fokkens 2008). The consequence is that the majority of researchers tend to favour the broader Early-Middle-Late Bronze Age scheme and despite the substantial increase and intensive use of radiocarbon dating, few are proposing finer chronologies beyond metalwork.

However, in a substantial paper Lanting and Van der Plicht (2001–2) have reviewed the impact of new radiocarbon dates on the Bronze Age chronologies of the Netherlands and correlated their results with the neighbouring regional chronologies. They argue that the current framework for the Netherlands is not detailed enough due to the absence of sharp definitions between periods. This is caused by the insufficient dating of transitional sites as well as the inability to relate the chronologies of sites and objects, such as metalwork, to settlement typology. They propose instead that, in the current absence of a better option, the Montelius periods should be used for the northern Netherlands, whereas the Reinecke phases should be used for the southern Netherlands, naturally incorporating all later revisions by dendrochronological and radiocarbon dating (Lanting and Van der Plicht 2001–2: 174). The chronological table (see Fig. 2.4) for the Netherlands shows both approaches, and combines them with some of the main material remains (after Louwe Kooijmans et al. 2005).

## Belgium

The Bronze Age in Belgium, as in the Netherlands, spans c.2000–800 BC together with a transitional Late Neolithic phase (c.2500–2000 BC) which incorporates the Beaker culture (Vander Linden and Salanova 2004). The relatively rare discoveries of bronze objects on land, as opposed to in rivers (see Verlaeckt 1996), created an obstacle to either the complete adoption of the chronological schemes devised by Montelius or Reinecke or the development of a comparable national bronze typo-chronology. Hence, Belgian scholars have

tended to employ broad Early, Middle, and Late Bronze Age divisions as well as drawing on the finer Reinecke chronology system because of the relative similarity of finds with those in central Europe (see Fig. 2.3). De Laet (1982) then synchronized each broad division with archaeological cultures in central Europe: thus the Early Bronze Age was linked to the Únětice culture, the Middle Bronze Age with the *Hügelgräberkultur*, or Tumulus culture, and the Late Bronze Age with the Urnfield cultures (De Laet 1982: 414). More recent cultural perspectives have been less clear-cut. For instance, programmes of aerial photography have, in recent decades, revealed a large number of ring ditches throughout northern France, Belgium, and the Netherlands, though few of these have been dated or indeed contain datable material (Bourgeois and Cherretté 2005: 48). It is therefore still difficult to relate the dating of ring ditches, thought to belong to the Early or Middle Bronze Age, to contemporary settlements, which are rarely found, or to the typo-chronological schemes in metalwork or ceramics which are rarely associated with either (Warmenbol 2001). However, more promisingly, for the Late Bronze Age, there have been several programmes dating the cremated bone and associated pottery of the Urnfield burials, which have provided a far finer chronology that can be related to the broader *groupe Rhin-Suisse-France orientale* (western Rhine-Swiss-French group within the Urnfield culture) (De Mulder et al. 2007). As most of the identifiable metalwork that is widespread from the mid second millennium BC comes from rivers rather than burials, the chronology for bronze objects relies instead on inter-regional typologies (Warmenbol 2001). This reflects Belgium's position as bound closely to a network of cultural practices in the surrounding regions, ensuring that any independent chronology for Belgium needs to be coordinated at an international level, whether orientated towards the Atlantic facade or towards central Europe (Bourgeois, Verlaeck, and Van Strydonck 1996; Bourgeois and Cherretté 2005).

## France

The Bronze Age in France conventionally spans 2300/2200–800/750 BC and is preceded by a Chalcolithic in southern and central France and a Late Neolithic in northern France (Carozza and Marcigny 2007; Carozza, Marcigny, and Talon 2009). This difference in terminology and chronology reflects the regional, rather than the national, orientation of both the Bronze Age archaeology and the history of research in France. Chantre's (1873) original three-phase model for the Bronze Age in Burgundy never met with general acceptance in other parts of the country, and it was de Mortillet's coarser twofold distinction between an earlier 'Morgien' and a later 'Larnaudien' that came to provide the chronological framework for French Bronze Age studies during the last quarter of the nineteenth century (see Cartailhac 1875: 374). This simple twofold distinction, however, became obsolete when Montelius (1901), following his seminal work on Nordic Bronze Age chronology, turned his attention to the Bronze Age of France, formulating a model of five distinct periods, based on typologies, primarily of metal objects and funerary sites. It was this model that Déchelette (1910) adapted for use in his influential *Manuel*, reducing by one the number of periods originally proposed by the Swedish scholar.

For the following decades, it was exclusively Déchelette's Periods I–IV that were used to establish temporal coordinates in French Bronze Age studies, and not until the mid twentieth century were any subsequent influential typo-chronologies published. These involved

German scholars such as Kimmig (1951; 1952; 1954) and Müller-Karpe (1959) who, rather than using Déchelette's periodization, extended and revised the Reinecke system; while Sandars (1957) sought to integrate Reinecke, Montelius, and Déchelette and proposed another new scheme of Periods I–V. The French response by Hatt (1958) and Millotte (1970) consolidated the Bronze Age into *ancien* (Early), *moyen* (Middle), and *final* (Late) periods, each subdivided into I–III (see Guilaine 1976 for the contemporary synthesis). Less commonly employed is the concept of a *Bronze récente*, which refers to the earlier part of the *Bronze final*, sometimes including also material from the latest phase of the *Bronze moyen*.

Particularly influential was Hatt's (1961) adaptation of Müller-Karpe's (1959) Urnfield chronology, further subdividing the French *Bronze final* to match the phases established by Müller-Karpe for southern Germany (BF I = Bz D; BF IIa = Ha A1; BF IIb = Ha A2; BF IIIa = Ha B1; BF IIIb = Ha B3), omitting only Müller-Karpe's controversial phase Ha B2. As synchronization between these systems was initially based mainly on bronze types, but definition of the respective phases since then has increasingly come to rely on regional pottery typologies, perception of chronological divides between phases has developed differently in both systems, so that in some cases the corresponding phases can strictly speaking no longer be treated as chronological equivalents.

Further problems have arisen from Briard's (1965) attempt to adapt Hatt's chronology of the central and eastern French *Bronze final*—essentially based on Urnfield grave assemblages—to the Atlantic hoards of Brittany (see Gomez de Soto 1991 for a full discussion), and from the subsequent application of Briard's scheme to other parts of the Atlantic facade. While the Breton hoard chronology can be applied with only minor adjustments to most of Atlantic France north of the Loire, further south matters get considerably more complicated, and the unreflective use of this chronological framework for south-western France and even Iberia is more than likely to mask a number of significant temporal offsets between regional assemblages (see e.g. Coffyn 1985).

Southern France also has its own distinct Urnfield group—crossing the border into north-eastern Spain—to which Hatt's chronology is not easily applied, although the same terminology of different *Bronze final* phases is frequently used (Taffanel, Taffanel, and Janin 1998; Giraud et al. 2003). Here also, differences between the material assemblages of distinct cultures and the resulting offsets between chronological divides are masked by uniform terminology, adding another pitfall for the uninitiated.

A radical departure from the established system for subdividing the *Bronze final* was advocated by Brun (1986), who argued that caesuras between BF IIa and IIb as well as between BF IIIa and IIIb in the western Urnfield sphere were much more pronounced than those between the main phases BF I, BF II, BF III, and the following Early Iron Age respectively. He thus proposed an alternative model of three *étapes*, which has found some following but has not met with general acceptance among French Bronze Age specialists (*étape 1* = BF I + IIa; *étape 2* = BF IIb + IIIa; *étape 3* = BF IIIb + *Hallstatt ancien*). Occasionally, the last of those three *étapes* is referred to as *Bronze tardif*, rather than including it with the *Bronze final*. Some authors, despite the plethora of problems that inevitably come with such an exercise, have not been deterred from trying to apply this chronology also to Atlantic Late Bronze Age hoards (e.g. Quilliec 2007).

If a better understanding of Late Bronze Age chronology in France has thus suffered from repeated attempts to apply a uniform system of rather detailed phases to different cultural

domains (Müller-Karpe 1974; 1975 for a general discussion), the same does not necessarily hold true for earlier periods, where differences in Bronze Age archaeology throughout France have encouraged scholars to propose cultural and chronological groupings at a regional, rather than national, scale. In north, north-east, and western France, archaeological cultures are interpreted within an Atlantic Bronze Age, and distinct chronologies have been developed for individual regions, for example Brittany (Gallay 1981; Briard and Onnée 1984). In eastern and central France, archaeological cultures are seen as closely connected to central Europe; and in Mediterranean France, archaeological cultures are discussed in relation to western Switzerland and north-west Italy (e.g. Guilaine and Gascó 1987; Gascó 1990; David-Elbiali 2009). At a more detailed level, a recent study revealed that much of south-east France, including the Early and early Middle Bronze Age, belonged to a north-west Alpine cultural formation, its Danubian and north Italian connections notwithstanding. The authors in this instance used a modified Reinecke system for describing the phases in correlation to the French system (David-Elbiali and David 2009).

With regard to absolute chronology, the initial resistance among French scholars to radiocarbon dating due to its alleged imprecision (Millotte 1970) was eventually abandoned, and over the last few decades an increasing number of chronologies based on radiocarbon dates on objects and sites in France, as well as on typo-chronological links to neighbouring chronologies, have been developed (e.g. Gascó et al. 1996; Lanting and Van der Plicht 2001–2). The current framework for the Bronze Age in France would place the *Bronze ancien* c.2300/1950–1600/1550 BC, the *Bronze moyen* c.1600/1550–1350/1300 BC and the *Bronze final* c.1350/1300–800 BC. The exact dates of these periods as well as those of their various subdivisions can vary slightly with region, as for instance in the Atlantic facade (e.g. Gascó et al. 1996: 235, fig. 8; Lanting and Van der Plicht 2001–2; Carozza, Marcigny, and Talon 2009: 26, fig. 2). For south-eastern France, to name another example, the recent study by David-Elbiali and David (2009) placed the beginning of the Bronze Age (*Bronze ancien* I) at c.2200 BC and the beginning of the Middle Bronze Age (*Bronze moyen* I) at c.1530 BC.

## IBERIA

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The Bronze Age in the Iberian Peninsula conventionally spans c.2250/2150–850/800 BC and is preceded by a Chalcolithic (c.3200–2200 BC), which from c.2600/2500 BC in most regions is generally associated with the Bell Beaker phenomenon. The earliest attempts at devising a basic chronology for the Iberian Copper and Bronze Ages go back to Simões (1878) and the Siret brothers (1887). While these were mainly concerned with the evidence for defining an Age of Copper in its own right, as distinct from an Age of Bronze, the beginning of the twentieth century saw a number of studies aiming for a definition of more detailed chronological sequences by such prominent scholars as Déchelette (1908; 1909), Schmidt (1909; 1915), and L. Siret (1913). Among those, it was certainly Schmidt's work which, through the influence it exerted on his student Bosch-Gimpera, had the most lasting effects on the development of chronological concepts for Bronze Age Iberia (see Almagro Basch 1959: 163). However, when in the wake of the Spanish Civil War Bosch-Gimpera was exiled, use of his four-phase model for the El Argar culture (Bosch-Gimpera 1944: 101–2) was no longer deemed acceptable within official Spanish archaeology.

Date BC	Iberia							Date BC
	North-west	South-west	Mesetas	South-east	North-east	Metalwork depositions	General	
2500	Bell Beakers/ Penha ware	Vila Nova de São Pedro (Monte da Tumba/ Santa Justa)	Bell Beakers	Los Millares	Bell Beakers		Calcolítico/ Eneolítico (Chalcolithic)	2500
2400								2400
2300	Vilavella-Atios	Bronze del Sudoeste A (Ferradeira)	Ciempozuelos/ Los Pasos/ Dornajos	Bronze del Sudeste A (El Argar A)	Arbolí	Finca de la Paloma	Bronze Inicial (Early Bronze Age)	2300
2200								2200
2100	Caldas de Reyes	Bronze del Sudoeste B/ Bronze do Sudoeste I (Atalaia)	Cogeces (Proto-Cogotas I)/ Manzanares ware	Bronze del Sudeste B (El Argar B)		Roufeiro	Bronze Medio (Middle Bronze Age)	2100
2000								2000
1900						Cuevallusa		1900
1800								1800
1700								1700
1600								1600

Bronze Antigo (Earlier Bronze Age)



Instead, it was Martínez Santa-Olalla's (1941: 152–7) formulation of a chronological system based on the definition of four distinct periods which over the following decades was to become the most influential in Iberian Bronze Age studies. His *Bronce I* effectively equals the Chalcolithic of current terminology, while his *Bronce II* corresponds to the El Argar culture, his *Bronce III* covers the Atlantic Late Bronze Age, whereas his *Bronce IV* included everything perceived as Tumulus culture and Urnfield elements. While this may be viewed as a bold first attempt to accommodate remains from all of Iberia and from the entire Bronze Age in one coherent chronological system, even if we are lenient with the very broad brush approach it was hardly based on adequate evidence from stratigraphy or the seriation of closed assemblages. By the early 1970s, even before the impact of radiocarbon dating made itself fully felt, it had become increasingly clear that this system could no longer provide a useful framework for establishing the relative, let alone the absolute, chronology of the Bronze Age south of the Pyrenees. In consequence, relevant data from new fieldwork was mostly cast into regional typo-chronologies, with little attempt made to incorporate these into a larger framework. This seems hardly surprising, given the huge variation in material culture assemblages between the Atlantic and Mediterranean sectors of the Iberian Peninsula.

The ensuing difficulties in building supra-regional chronologies are compounded by a general lack of individual burials and corresponding closed grave assemblages, especially during the later part of the Bronze Age. Furthermore, the burial record from the Earlier Bronze Age remains scanty in many regions, particularly those outside the distribution area of the El Argar culture. Hoards, on the other hand, are almost entirely confined to the western and northern parts of Iberia. As a result, there are considerable uncertainties as to which differences between the two categories of sources have their origin in geographical rather than in temporal distance, making any attempt to align hoard and burial chronologies an even more difficult task. Some well-documented, stratified settlement deposits exist, but the geographical and chronological scope of the respective sequences remains limited, and matching burial, hoard, and settlement chronologies across the Iberian Peninsula continues to be a major challenge. Only very few index fossils straddle the various divides between regions and different categories of context. Diagnostic types of metal objects that occur throughout Iberia and which could provide chronologically sensitive markers remain the exception rather than the rule throughout the Bronze Age. At its very beginning, Beaker pottery provides a meaningful chronological marker for both burial and settlement contexts (Harrison 1988). Later on, some other diagnostic pottery styles such as Cogeces and Cogotas I constitute useful index fossils with a supra-regional distribution, but the chronological intervals defined by these tend to span various centuries and—contrary to the situation in many other parts of Europe—the chronological resolution they offer is more often than not notably lower than that of most science-based dating methods (Galán Saulnier 1998). This state of affairs has contributed to widespread frustration with relative chronologies among Iberian Bronze Age specialists, if not always to the point of advocating their wholesale abandonment in favour of scientific methods of absolute dating (see Castro Martínez et al. 1993–4: 77–84; Castro Martínez, Lull, and Micó 1996: 10–17).

One notable attempt to draw together the various regional chronologies in one overarching framework has been made by Almagro Gorbea (1997), although the absolute dates he

uses would now appear rather too low (see Castro Martínez, Lull, and Micó 1996). A somewhat simplified version of his scheme with an updated absolute chronology was introduced by Pingel (2001: table 2). Here we present a slightly revised version of the latter (see Fig. 2.5), incorporating some more regional detail, but maintaining the basic fourfold division into *Bronce Inicial* (Early Bronze Age), *Bronce Medio* (Middle Bronze Age), *Bronce Tardío* (Late Bronze Age), and *Bronce Final* (Final Bronze Age), with an alternative and somewhat coarser twofold distinction between *Bronce Antiguo* (Earlier Bronze Age) and *Bronce Reciente* (Later Bronze Age). It must be pointed out, though, that this terminology was initially developed mostly for the southern half of the Iberian Peninsula, based on specific regional sequences (Schubart 1975: 163–71; Schubart and Arteaga 1978: 36–50; Molina González 1978). Thus, with a number of other regional chronologies, the same terms are occasionally applied to different periods, sometimes based on a threefold division into *Bronce Antiguo*, *Bronce Medio* (equalling the *Bronce Tardío* as defined here, rather than used to designate the later part of the *Bronce Antiguo*), and *Bronce Final*. Particularly with regard to north-eastern Iberia, the term *Bronce Reciente* frequently is also used to identify an initial phase of the *Bronce Final*, supposedly equivalent to the Italian *Bronzo recente*, but much less well defined. Among different authors, however, there is little consistency in this. A lack of consistency also plagues the use of the terms *Bronce Inicial* and *Bronce Antiguo*, which are sometimes employed interchangeably, causing no little confusion among non-specialists and sometimes even within the ranks of specialists as well. For some authors, the easy way out has been to apply the blanket term *Bronce Pleno* (‘fully developed Bronze Age’) to everything post-Beaker and pre-*Bronce Final*. While this may be perfectly acceptable for regions still lacking data which could provide a better chronological resolution, it hardly offers an adequate solution for the problems at hand.

While limitations of space do not permit us to explore regional terminologies in any greater detail, a few alternative proposals for chronological schemes at a supra-regional scale must briefly be mentioned, even though they no longer enjoy any widespread support or have met with general acceptance in the first place. This has particularly been the case with any attempts at aligning Iberian terminology to that employed in the eastern Mediterranean and the Aegean, either by including the Bell Beaker period in the *Bronce Inicial/Bronce Antiguo* (Maluquer 1949; Brandherm 2003: 32–7), thus having the Bronze Age start in the first half of the third millennium BC, or by abandoning the concept of a *Bronce Tardío* in favour of an extended *Bronce Final* beginning in the sixteenth or even seventeenth century cal BC (Mederos 1997; 2008: 37–41).

With regard to the El Argar culture, another proposal to establish chronological subdivisions must be mentioned here. Drawing on the relative frequencies of radiocarbon dates from building timbers, as well as from short-lived organic samples, and based on the assumption that these relate to episodes of building activity and destruction layers respectively, a fivefold subdivision of the Earlier Bronze Age in south-east Spain has been suggested (Castro Martínez, Lull, and Micó 1996: 120–8). While this five-phase model is occasionally employed as a reference framework by other authors, the nature of both the overall sample and of the respective frequency distribution raises concerns about its validity. In any case, no systematic attempt has been made so far to relate any of these phases to a specific range of material culture, which severely limits its usefulness for most conventional purposes.

In practice, at present it is only through an explicit combination of both relative and absolute dating methods that one can hope to achieve a better understanding of synchronicities and asynchronicities in the development of Iberian Bronze Age societies. A number of well-founded relative-chronological sequences exist at the regional level, based mostly on the stratigraphy from key sites, and it is largely the widespread abandonment of systematic typo-chronological studies on the one hand, and a lack of methodologically sound attempts to draw the existing evidence together at a supra-regional scale on the other, that currently hamper further advances in this field. Even more so than with most other parts of western Europe, the scheme presented here thus very much represents a provisional state of work in progress.

## CONCLUSION

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The Bronze Age in western Europe is generally considered in terms of an interconnected Atlantic facade (e.g. Coffyn 1985; Ruiz-Gálvez Priego 1998). The appearance of Bell Beaker material culture and burial practices throughout western Europe during the mid third millennium BC would appear to represent these Atlantic networks, yet this would be to ignore the close relationships with central and northern Europe. Furthermore, when investigated in more detail, the apparent pan-European coherency of the Bell Beaker culture begins to resemble a more regionally orientated phenomenon (Vander Linden 2006). The definition of the Bronze Age in western Europe from the late third millennium BC therefore lies against a background of long-distance communication but also of pronounced regionality. This fundamental pattern defines the archaeological record during the subsequent one and a half millennia until the identification of an Iron Age in the early first millennium BC. This is perhaps most clearly expressed in the definitive material of the Bronze Age—bronze, the alloy of copper and tin. Given the relatively limited sources of tin in western Europe, which beyond the Erzgebirge mountains in central Europe consisted primarily of western Iberia (Meredith 1998) and south-west England (Penhallurick 1986), pan-regional connections would have been required to ensure regular access to tin ore or bronze objects. It might therefore be assumed that this frequent pan-regional interaction would lead to a strong coherency in the technology and form of the bronze objects being used throughout western Europe. Yet the metalwork evidence demonstrates the existence of certain broad patterns, for instance during the late third–early second millennium BC in halberds (e.g. Schuhmacher 2002; Brandherm 2004) or during the late second–early first millennium BC in carp’s-tongue swords (e.g. Brandherm and Burgess 2008). It also demonstrates that pan-regional bronze technologies and forms such as palstave axes during the mid second millennium BC or socketed axes during the late first millennium BC would inevitably also be adapted to local and regional traditions (e.g. O’Connor 1980). It is therefore unsurprising that the Bronze Age communities, whether in settlement architecture and patterns, burial practices, or craft-working, exhibit too much variation to be fitted into one straightforward archaeological scheme or narrative. Nevertheless, there are underlying trends which, with exceptions, can be seen in the evidence. The population of western Europe between the mid third–early first millennium BC relied primarily on arable and pastoral farming. They lived in relatively small settlements in what would be classified today as hamlets or villages in a community of tens and low hun-

dreds rather than thousands. Their material culture, most obviously evidenced in metals, ceramics, and stone, but also in wood and textiles, indicates high levels of sophistication and widespread inter-regional contacts. The increasing diversity and quantity of material culture throughout the period is indicative of greater intensity and complexity of production and consumption, and potentially a larger population underlying this trend (Harding 2000; Bartelheim and Stäuble 2009).

The chronology of the Bronze Age in western Europe remains a patchwork of relative metalwork phases, ceramic traditions, and archaeological cultures whose absolute ranges have been evaluated through radiocarbon and dendrochronological dating. It continues to be a significant challenge merely to understand the different terminologies and sequences and how they relate to one another. This complexity in dating the Bronze Age is due to the historical development stretching over a century of scholarship and debate. It means that the revision of chronology is conducted by relatively few specialists, and their discussions of when can easily overwhelm other fundamental investigations into Bronze Age communities. Ideally, there would be no more relative chronologies encompassing sites and objects throughout western Europe, and researchers would discuss only absolute calendar dates allowing a transparency enjoyed by modern historians, albeit with a resolution of decades rather than days. However, the majority of published objects and sites lack radiocarbon or dendrochronological dates, with the consequence that the best possible dating is an integration of the relative and absolute, especially when attempting to relate broad patterns in objects or sites. This is not an argument for the maintenance of the current situation, as far more typological and scientific dating programmes are required in most regions of western Europe.

It is perhaps time to concentrate on the creation of a comprehensive, coherent, and transparent chronological framework for western Europe that involves using *and* discussing absolute as well as relative dates. This can only be achieved through international collaboration as occurs in the Neolithic (e.g. Arias et al. 2003), easy access to the radiocarbon dates, and dedicated conferences (the last being in 1994—see papers in Randsborg 1996). There would need to be a greater willingness to work across national and regional borders, exploiting the flexibility that accompanies absolute dates in debate, the rapid publication of databases containing dates, and a systematic evaluation of chronological problems and potentials in each region of western Europe. This would need to be integrated closely with material science and material culture theory, discussing how the way objects were used can influence their dating, especially with regards to practices such as curation and recycling. In building on and connecting fine regional chronologies (which remain essential), it would be possible for researchers to devote far more time to understanding the dynamics of Bronze Age material culture and societies at all scales. This would allow more frequent challenges to established interpretations, especially of inter-regional connections and causation, just as in the 1960s and 1970s radiocarbon dating destroyed the prevailing *ex oriente lux* perspective. It would encourage exploration beyond well-worn typo-chronological relationships where they are expected. The means of dating the Bronze Age have yet to be fully exploited—whether the interlinking of environmental and archaeological sequences (e.g. Richard, Magny, and Mordant 2007) or the evaluation of relative object typologies using targeted AMS radiocarbon dating and Bayesian statistics (e.g. Sheridan and Bayliss 2008), which remain relatively rare despite their potential. The divide between object and site chronologies remains substantial, leading to the absurd situation where two or more timelines for the Bronze Age have an uneasy coexistence in every region of western Europe.

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## CHAPTER 3

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# EUROPE 2500 TO 2200 BC: BETWEEN EXPIRING IDEOLOGIES AND EMERGING COMPLEXITY

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VOLKER HEYD

### EUROPE AT C.2500 BC

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Europe at around 2500 BC can best be described as a chessboard of archaeological entities in different cultural traditions. These traditions can easily be categorized into two blocks: on the one hand there are regionally dispersed archaeological cultures and groups, mostly defined by their respective pottery. These stretch geographically like a belt from the Balkans in the east, over the Carpathian Basin, to Italy and France, including probably also parts of Spain and Portugal in the west. On the other hand there are the supra-regional, expansionistic cultural phenomena, covering wide parts of the continent and connecting, through their respective social, economic, ideological, and material features, regions and landscapes that were previously culturally separated.

During the first half of the third millennium BC, the most prominent of these phenomena is the Corded Ware complex. With all its different regional groupings it stretches from the middle Volga in the east to the Rhine in the west, covering also much of Scandinavia to the north. With the slightly earlier but structurally related Yamnaya (Pit Grave culture) of the north Pontic steppe belt, also including lowland regions west of the Black Sea in their distribution area for a few centuries, much of the continent is covered. But by 2500 BC the Corded Ware has already overcome its peak, and the Yamnaya is on the decline and gradually transforming into the Katakombnaya (Catacomb Grave culture), while retreating to its north Pontic core zone. Also, the regionally dispersed picture of different archaeological cultures and groups in the Balkans and the Carpathian Basin is due to the same process of incorporation into supra-regional cultural phenomena, but a millennium earlier in the form of the Cernavodă III-Boleráz and, from c.3350 BC, the following Baden-Coțofeni complex. In the first half of the third millennium this system has already disintegrated, being transformed through interactions following the Yamnaya infiltration, and more regional aspects

prevail, particularly in the pottery. The most up-to-date research into many cultures and groups reflects the situation as it existed in 2500 cal BC.

But Europe at 2500 BC would not be complete without two other cultural developments that are at that time about to dominate the record in Europe for the next centuries: expanding from the west, the Iberian Peninsula, is the Bell Beaker culture as the climax of these ideologically driven cultural phenomena; and from the south-east, the circum-Aegean region, the Early Bronze Age.

## THE PERIOD OF THE 'INTERNATIONAL SPIRIT' IN THE AEGEAN

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The starting point for all discussion of the Early Bronze Age is Mesopotamia. From the first centuries of the third millennium BC we see the development of new networks of exchange and trade, reaching its peak in the Sumerian Early Dynastic III and Akkadian periods (Matthews 2003). The centre of this development was in southern Mesopotamia, already urbanized since the fourth millennium BC and by then the most developed region worldwide. However, exchange and trade went far beyond this political and demographic core and, inducing a network structure with regional nuclei, reached as far as central Asia and the Harappa culture of the Indus Valley and north-western India. A new 'Early Dynastic World System', so to speak, arises (e.g. Rahmstorf 2010). On its other north-western side, the Levantine-eastern Mediterranean and Anatolian regions, considered previously as being on the fringe of civilization ('gateway communities'), were also now integrated into this highly complex system of exchange and trade (Primas 2007: 6–7). Here early urban nuclei develop as well, subsequently forming further independent networks and developing their own peripheries. Last to be absorbed was the area around the Aegean of present-day western Turkey and Greece, which was gradually incorporated into this system from c.2700 BC, developing a western nucleus of exchange and trade in the third quarter of the millennium.

Four decades have passed since the discovery of the social, economic, and technical achievements, and the results of wide-ranging communication, exchange, and trade that appear as patterns in the archaeological record of these few centuries, in which the Aegean (and particularly the Cyclades and south and central Greece) was completely incorporated. Colin Renfrew (1972) described the situation very aptly with the term 'International Spirit'. He rightly saw in this concept the origin of a first European 'Civilization'. Since then many new discoveries have been made and insights gained, so that this very period of time—the Early Helladic-Cycladic-Minoan II and particularly its sub-period IIb—may be considered among the best investigated in European prehistory. Without going into too much detail, we may list as perhaps the most important advances: indications of a stratified society, with many prestige and status objects of elites; urbanization and a threefold structured settlement system; quasi-monumental architecture and organized communal works; complex administration and standardized systems of measuring and weighing; economic specialization and mass production such as wheel-made pottery; and fair quantities of copper, gold, and silver, including the first tin bronzes.

This period between c.2450 and 2200 BC seems also to have been one whose climate favoured agricultural production (e.g. Barker 2005: 57–8). This favourable situation leads almost inevita-

bly to a constant growth in population, which we are now able to trace archaeologically through many systematic surveys. In southern and central Greece we see this in the building and enlargement of new urban centres like Manika, Thebes, and many smaller but fortified centres (c.1–4 hectares in extent) often close to the coast (Maran 1998). At the same time this has the effect that large parts of the population, previously working in agriculture, abandon primary food production and move over to crafts, manufacturing, trade, and the service sector in the new centres. Subsistence and, to an increasing extent, some of the wider basic needs of peoples are now covered by barter and trade. Autarchies are therefore lost and dependencies are created.

This boom in barter and trade becomes visible in the records firstly through foreign and exotic objects imported from distant worlds (e.g. Kilian-Dirlmeier 2005). Key finds also include the beams of jewellers' scales and standardized, partly marked stone weights, now known to be in use in the whole Aegean-Anatolian area and copying ultimately a Mesopotamian metronic system (Rahmstorf 2006; 2010). They attest to the particular significance of trade at this time, as do manufactured goods made of metal (such as slotted spearheads and jewellery), of other materials (such as the decorated bone tubes), and not least the new wheel-made pottery of the Lefkandi I-Kastri repertoire. Even if it is difficult to prove this by archaeological means, grain and probably olive oil from surpluses, and preserved foodstuffs such as marine resources from the Aegean, almost certainly also had an important part to play in this short- and long-distance exchange. Consequently, maritime trade gains increased in significance with these products, which are profitable only in quantities as compared with single high-value prestige items. This significance is supported by the proximity of the many newly emerging settlement sites on the coast.

All these achievements and innovations, as well as the inclusion of this area as a further nucleus in the international network of exchange and trade with extensive contacts, naturally increased social complexity to an extent that had never before occurred in Europe, and was not to occur for a long time afterwards. Social hierarchies and elites develop; a society with division of labour is established; systems of redistribution, social storage, and the exchange of prestige goods appear; and daily supplies are obtained through trade. The notions of territory, political control, and even perhaps regional hegemony are born. Although they do not constitute a checklist, it is clear that all these things are also signs of a 'chiefdom' level of culture establishing itself over a wide area. Thus one may accept the assessment of Joseph Maran that culture at this time was 'on the threshold of the birth of state structures' (Maran 1998: 432). Perhaps one can go so far as to accept that for a few hundred years this south-eastern part of Europe took on the features of a developed culture, although writing had not yet appeared, as far as we know. Even if one does not wish to go that far, there may be a consensus that between c.2500 and 2200 BC around the Aegean, in other words partly on European soil, we have a highly complex and dynamic system of communication and exchange that includes everything we would imagine by the term 'Early Bronze Age'.

## NEW PERIPHERIES IN THE BALKANS AND SOUTHERN ITALY

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At the time the Aegean was being incorporated as another core area in this international system, neighbouring regions were also reacting, and peripheries advanced further north and west, and entirely new ones came into being (Fig. 3.1). In this process we recognize not only peripheries in the

economic sense, as a hinterland with sources of raw materials and a market for finished goods, but also as regions in which elites controlling the available resources participated in these developments, using them as a means of self-promotion. At the same time new social and economic values, information, and innovation, and also probably direct personal contact with people from the core area, now reach regions that had never had access to such resources before. Thus new structures evolve and the level of social complexity rises generally. Therefore the core area was not the only active place, and its peripheries were not the passive recipients, but rather the peripheries developed a dynamic and a life of their own. In this respect, however, each region reacted differently.

Three regions, now entirely within Europe, thus come into much closer contact and direct exchange with this Early Bronze Age Aegean network:

1. The eastern Balkans, with the hinterland of the north Aegean, the European part of Turkey (Turkish Thrace) and Bulgaria, mainly south of the Balkan mountains;
2. The western Balkans, meaning large areas of former Yugoslavia and Albania, particularly the east Adriatic coastal area but also parts of the mountainous hinterland northwards as far as Slavonia and Syrmia (roughly the Sava valley);

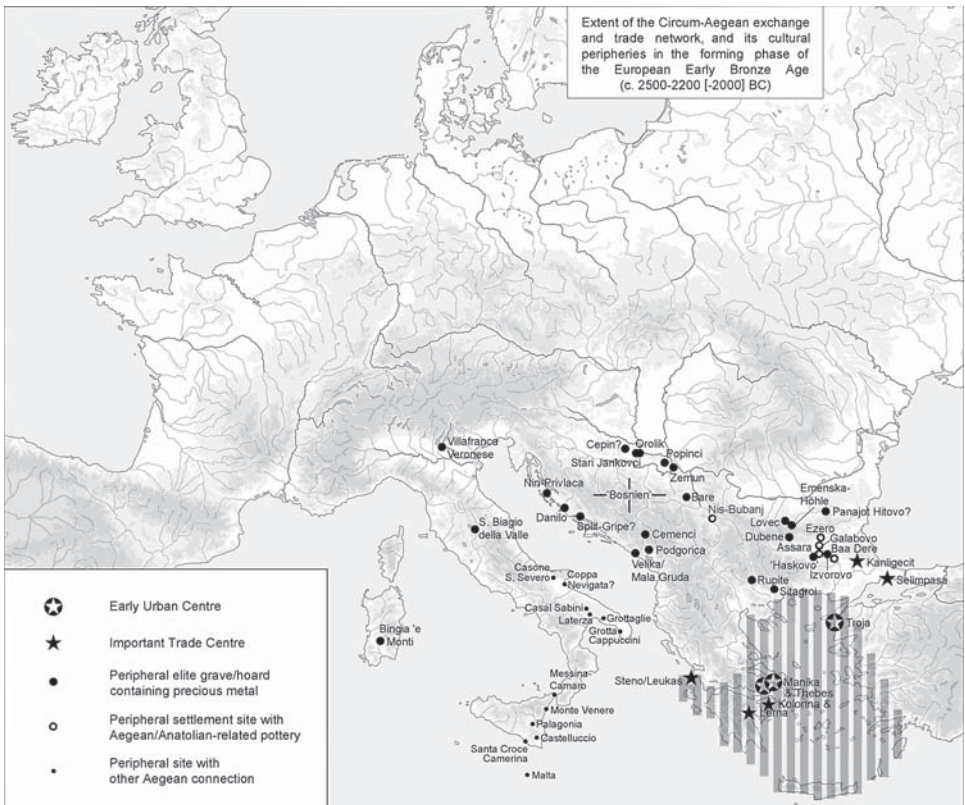


FIG. 3.1 Map showing the extent of the circum-Aegean exchange and trade network and its cultural peripheries in the Balkans and central Mediterranean in the formative phase of the Early Bronze Age (c. 2500–2200 BC).

3. The southern central Mediterranean area, particularly Sicily and Malta, but also Apulia.

Whether southern Spain was reached as early as the second half of the third millennium BC as a kind of fourth cultural periphery is a question that cannot yet be answered. The sources for this are ambiguous.

## The Eastern Balkans

The greatest progress in terms of new sites, artefacts, and a better understanding about third millennium BC prehistoric archaeology has taken place in this region (Fig. 3.2). The Yamnaya groups in the steppes west of the Black Sea were still the dominant culture in the first half of the third millennium BC, but after the middle of the millennium there is a clear cultural shift towards the south-east and south. In this, the Helladic element is only weakly present, while many finds of north-eastern Aegean and Anatolian provenance show the origin of this cultural current. One key site is Kanlıgeçit in inland Turkish Thrace (Özdoğan 2002); another key site can surely become the Selimpaşa Höyük, a coastal site 50 km west of Istanbul (Heyd, Aydingün, and Güldoğan 2010).

Large parts of Kanlıgeçit have been excavated since the 1990s. The results are spectacular: not only is there a fortified citadel, a kind of gate-tower, and several large megaron houses with encircling walls built in mud-brick on a stone foundation in the manner of Troy II–III and Küllüoba, but in addition an external settlement of several hectares surrounds this centre. A high proportion of so-called Anatolian red slipware, wheel-made pottery, and elements of the Lefkandi I-Kastri ceramic repertoire, along with typically Anatolian clay idols and signs of a specialized economy, provide more evidence of an Anatolian trading colony in this part of Europe than of a local elite trying to copy the achievements of the south.

Kanlıgeçit is so far the only excavated example of this Anatolian ideal in Europe. However, we have evidence for more of such Anatolian red slipware and/or wheel-made imported pottery from the local, partly fortified late Ezero culture settlements of Michalich-Baa Dere, Assara, and Gülübovo (which seems to continue till the next chronological watershed of 2200 to c.2000 BC), and from Tell Ezero itself (all in Bulgaria); to top this, we also know of local imitations of the Lefkandi I-Kastri ceramic repertoire (Stefanova 2004; Rahmstorf 2006) (Fig. 3.3a and b). Additional pottery evidence, as yet unpublished, from Altan Tepe, Cherna Gora, and Mudrets demonstrates that we must be dealing with extensive networks of exchange in the upper Thracian plain of Bulgaria (Leshtakov 2006) in this local so-called Early Bronze Age 3 period. The presence of settlers from Anatolia and the persistent cultural current from the south-east clearly cause a dramatic increase in the social complexity of this zone. We see this in the graves of local leaders and elites, their ritual sites, and buried hoards; their adornments of jewellery of gold and silver, new metal fittings for clothing, and equipment such as weapons of a foreign type (e.g. the fenestrated bronze axe from the Haskovo region, the only one of its kind in Europe: Avramova and Todorieva 2005), new alloys, and vessels made of precious metals. The evidence from Rupite in the Struma valley, from Dübene and Haskovo in the Thracian plain, and probably also from Izvorovo in the southern Sakar mountains shows this dramatically, but it is probably only the tip of the iceberg. For with the grave of Lovech and the probable hoards from the Emenska Peshtera and Panajot Hitovo (dating yet to be confirmed), we have indications that

Western Balkans			Eastern Balkans	Phases	abs. Dat.		
Boleráz			Cernavodă III	('Proto-EBA')			
Nakovana	Baden Sequence	Coţofeni	Sitagroi IV Dikili Tash IIIa	(EBA I)	3200/ 3100 BC		
	Kostolac	Coţofeni III Bubanj Ib	'Fluted' Ezero A = XII -XIII Junacite XIV (XV) - XVII cemetery Bereketska Mogolia =Bertemes 'Horizontgruppe 1'		3000/ 2900 BC		
A d r i a t .  V a r i a n t	Vučedol	A	Y a m n a y a  ↓ ↓ ↓	(EBA II)	2900		
		(early) B1			Sitagroi Va Dikili Tash IIIb =Bertemes 'Horizontgruppe 2' Ezero B1 = VIII -XI Junacite IX - XIII(XIV)	2800/ 2700 BC	
		(classical) B2			Michalič -Phase 'Incrusted' 'Corded' =Bertemes 'Horizontgruppe 3' Ezero B2 = IV - VIII	2700  2600/ 2500 BC	
Ljubljana		C			2500		
Bell Beaker	Vela Spilja	(Somogyvár)- Vinkovci	=Bertemes 'Hmgrp.4' Ezero B2 = I - III	Sitagroi Vb	K a n i l j e c i t	Early Bronze Age	2400/ 2300 BC
Proto-Cetina	Palagruža		Sveti Kirilovo-phase 'Undercorated' Junacite I- VIII Drama-Kreisgraben				2300
							2200/ 2100 BC
'classical' Cetina	Vinkovci	Vatina	Izvorovo	?	(MBA)	2000/ 1900 BC	
Krajčina Spilja	Vatina	Vatina	Galabovo III-I				
							1800/ 1700 BC

FIG. 3.2 Chronological correlation of archaeological cultures, groups, and key site stratigraphies for the Balkans in the third millennium BC.

this trend succeeded in spreading to the regions north of the Balkan mountains. Finally, Greek Thrace is also included, as demonstrated by the famous stone sceptre in the form of a lion from Sitagroi, amongst other finds and sites.

Thus we have more than a local effect; rather, it is the widespread realization of a 'chiefdom' system based on prestige goods. Nevertheless local terminology speaks nonsensically of the second half of the fourth and the first half of the third millennium BC as an 'Early Bronze Age'—however, one should recognize a structurally defined 'Early Bronze Age' only in relation to this local Early Bronze Age 3, in other words roughly the second half of the third millennium. This is justified through the application of the 'chiefdom' system concept,

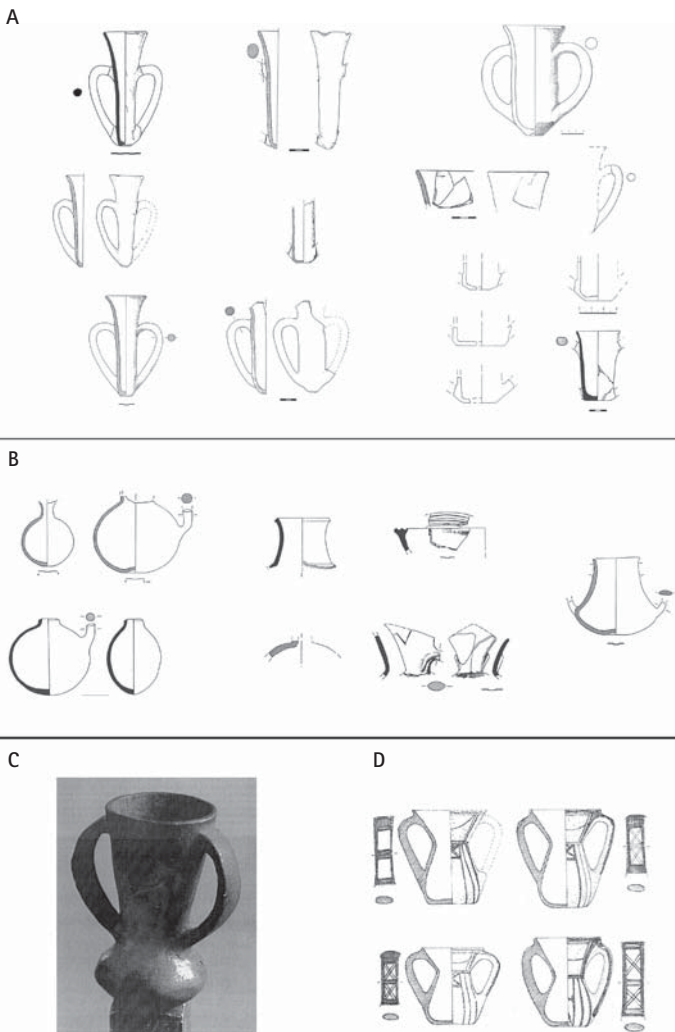


FIG. 3.3 Bulgaria (and Serbia and Sicily): elements of the Lefkandi I-Kastri pottery repertoire, other later third millennium BC pottery imports, and potential imitations: A) *Depas* cups and their imitations from Michalich-Baa Dere, Assara and Gülübovo; B) Other wheel-made pottery from Gülübovo; C) Potential imitation of a *depas* cup from Niš-Bubanj (Serbia); D) Decorated Castelluccio vessels from Santa Croce Camarina (Sicily).

Drawings: author, after various sources.

but also by the advanced economic context, the segmented system of settlement behind it, and the many innovations of the time. Anything else makes no sense in a trans-regional context, and particularly compared with the circum-Aegean regions and Anatolia.

## The Western Balkans

As with the eastern Balkans, we see in wide areas of the western Balkans the appearance in the third millennium of larger and more varied gold and silver objects, more prestige goods and exotic finds. We can also detect elites, the way they represented themselves in graves, hoards, and hierarchically structured settlement sites and settlement systems. However, there are clear differences in the structures themselves and particularly in their dating. For if this increase in complexity in Bulgaria and Turkish Thrace occurred suddenly in the local Early Bronze Age 3, then we are dealing with a development as early as 2750 BC or even earlier (Maran 1998; Harrison and Heyd 2007; Primas 2007: 9–10). This is shown by the well-known graves of Mala and Velika Gruda and of Podgorica-Tološi in Montenegro, a Bosnian silver-axe hoard of unknown provenance, as well as the hierarchically structured settlement of Vučedol and similar sites along the Danube and Sava rivers in Croatia and Serbia. The gold dagger weighing 108.8 g from Mala Gruda, silver axes made from supposedly exotic alloys, a knife of tin bronze with 7.3 per cent tin content from Velika Gruda, and a polished rectangular-shaped object with almost exactly the same weight as an Aegean-Near Eastern Mina standard (cf. Rahmstorf 2010: 685, fn. 13)—all are evidence of very early connections through exchange in the eastern Mediterranean area.

In this one cannot overlook the coastal location of many important sites and their direct access to the Adriatic. Clearly in this early exchange connection the contemporary Early Helladic cemetery of Steno on the Ionian island of Levkas is of great importance (Kilian-Dirlmeier 2005; Maran 2007; Primas 2007: 9).

This connection between the Aegean/east Mediterranean and local elites who took part in this system and possibly also controlled it, remains in place during the second half of the third millennium BC, even if the cultural background of the west Balkan area changes markedly. The previously dominant Vučedol complex falls apart shortly after the middle of the millennium, and more regional groups appear—like Vinkovci in Slavonia and Syrmia, Bujanj Hum III and Armenochóri in east Serbia and Macedonia, Belotić-Bela Crkva in central Serbia and Cetina along the Adriatic coast (Maran 1998). The factor connecting them is now largely undecorated pottery, and the dominance of cups and jugs, plates and bowls; a development similarly observed at this time in Bulgaria. However, rich finds of silver and gold from probable and certain graves and hoards clearly demonstrate continuity (Fig. 3.4): the inventory of gold jewellery from a probable burial mound in Nin-Privlaka in Dalmatia; the two axes of cupellated silver, probably Aegean (c.300 g)—along with gold jewellery—from Stari Jankovci (lost); a grave with gold diadem (39.95 g) from Zemun; the gold jewellery from the mound of Bare near Rekovac and the treasure of Orolik (75.56 g of gold in total); probably of the same kind are the chronologically doubtful finds of Cemenci (gold bracelet), Popinci (gold jewellery), and Split-Gripe (gold jewellery, possibly also the uncertain find of Čepin). As far as we know, settlements from this time no longer demonstrate the strict hierarchical divisions found at Vučedol. Nevertheless, alongside regionalization there seem to take shape the beginnings of local centralization processes, as the large tell settlement in the town centre of Vinkovci shows. In addition, a second connecting axis to the Aegean area, via

the river systems of the Serbian Morava and Vardar-Axios, also seems to become significant, though this does not emerge clearly from the record. However, a vessel from Niš-Bubanj shows the importance of this connection; the form of this vessel can only be understood if one is familiar with Aegean wheel-made drinking vessels of the *depas* form (see Fig. 3.3c).

Overall, we note a development between the Adriatic, Sava/Danube, and Vardar-Axios similar to the one in the eastern Balkans, in which a 'chiefdom' system based on prestige goods came into being. Exchange and down-the-line trade, particularly along the Adriatic coast, are of prime importance, and it is obvious that the recently discovered Early Bronze Age shipwreck of Kefalonia gives us a clue as to the main means of transport for this connection. Local terminology rightly sees in the cultural changes of the second half of the third millennium the beginnings of the Early Bronze Age in this region. This can also be proven structurally; as is the case later in many other regions of Europe (see below), cultural regionalization, the rather small areas in which cultural identity was established, and the abandonment of decoration on pottery, must be among the fundamental criteria of such a definition. The fact that this occurred in the Vinkovci area together with aspects of centralization, elite graves, and hoards of precious metal, proves the argument is watertight. A second important role in this connection is played by the Cetina group of Dalmatia (e.g. Della Casa 1995): Splitting off from the dissolving Adriatic variant of the Vučedol complex, and at the same time incorporating elements of the Bell Beaker phenomenon (also see below), early Cetina apparently had a quite different social agenda, as shown on the one hand by the conspicuous absence of prestige goods and, on the other, by the group's drive to expand. For not only do we come across Cetina finds on the other side of the Adriatic in Italy, probably from the twenty-fourth century onwards, but also to the south in Albania and later the Peloponnese, where Cetina finds have a particular role in the transition from Early Helladic II to III (around c.2200 BC) (Maran 1998; Nicolis 2005).

## The Southern Central Mediterranean Area

The third European region that had direct exchange links with this Early Bronze Age Aegean network is southern mainland Italy and Sicily, along with Malta. Here too knowledge about Early Bronze Age connections with the Aegean is nothing radically new (e.g. Leighton 1999; Cazzella 2003; Maran 2007). But unlike the situation in the Balkans described above, the social background seems different: we find far fewer prestige goods of precious metal, nor do we have direct evidence of local elites. This is partly because of local traditions, particularly burial rituals. In the centre and south of Italy there are mostly communal graves in natural and artificial grottos and caves. In addition there is the problem of relative and absolute chronology, which still causes difficulty today (Maran 1998: 364–5; Maran 2007). This is particularly true of the settlements. Although the beginnings of fortified settlements near the coast, like Coppa Nevigata in Apulia, seem to reach back into the third millennium, we have no other reliable comparison between sites. Thus in the case of many of the relevant small finds made of metal, bone, stone, and clay, the exact time frame cannot always be fixed beyond doubt, especially as some of the most important artefacts have no context (Fig. 3.5).

If we nevertheless try to proceed chronologically, then amongst the earliest finds showing Aegean connections are two stone 'violin idols' found in 1991 and 1996–7 at a Piano Conte site in Camaro outside Messina in Sicily. It is in no way accidental that there are burials at the same site, which interestingly includes an adult burial covered with the sherds of a large

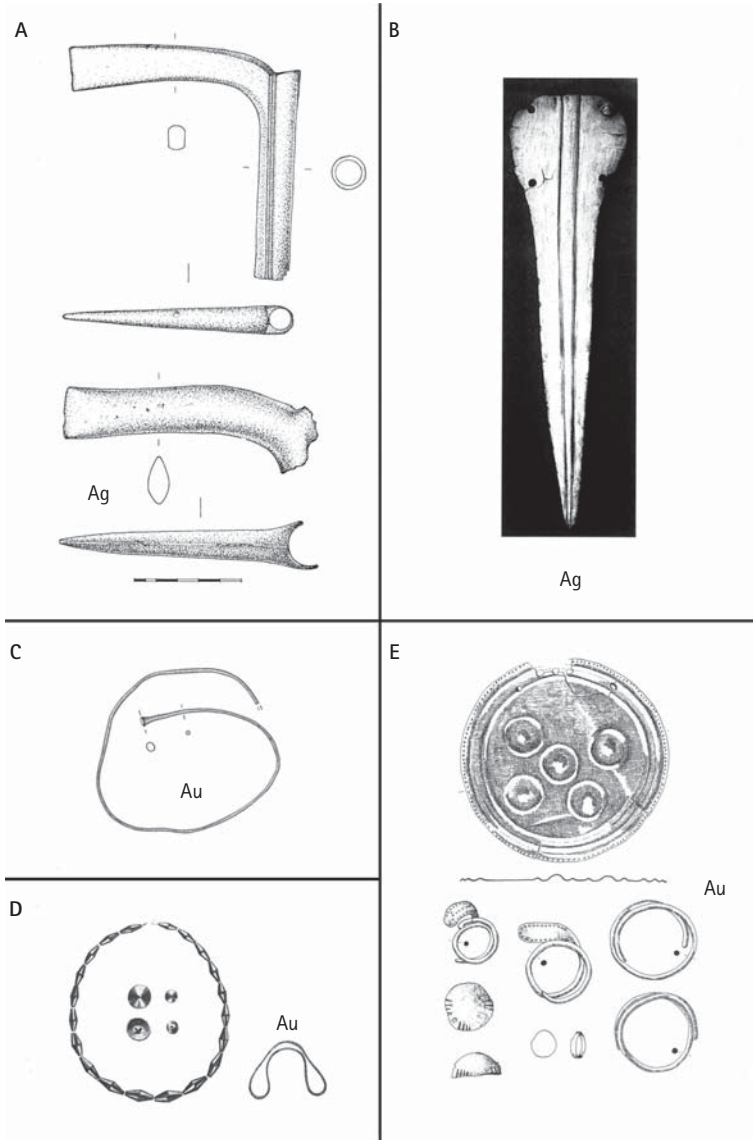


FIG. 3.4 Former Yugoslavia: heavier gold and silver finds belonging to the second half of the third millennium BC: A. Stari Jankovci; B. Hungarian National Museum Budapest; C. Cemenci; D. Nin-Privlaka; E. Orolik.

Drawings: author, after various sources.

pithos (Bacci 1997). There are no others of this kind in Sicily or the entire central Mediterranean area, and indeed the best parallels are found in the Aegean area, where one would place them roughly in the first half of the third millennium BC.

A second watershed from 2500 till about 2200 BC, in other words the peak of Early Helladic IIb, probably provides the chronological background to more finds (Cazzella 2003). To this period belong: a small decorated bone tube, one of which was found in Casone San Severo in

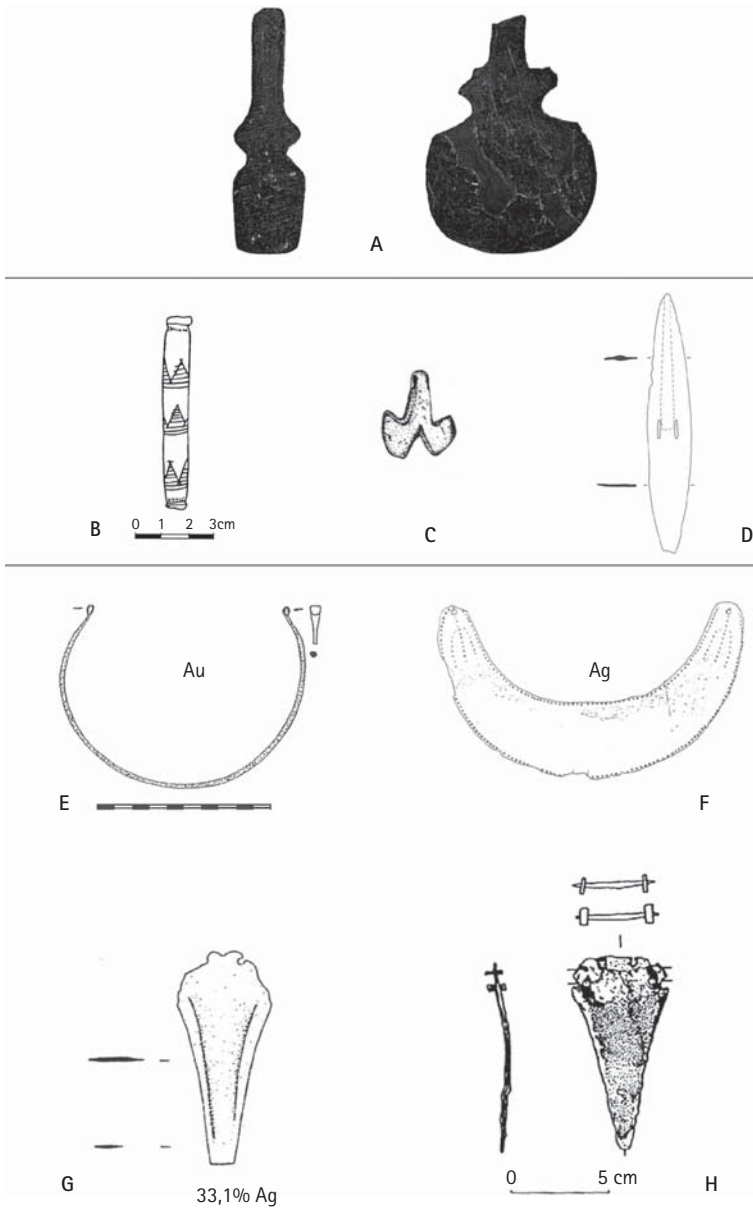


FIG. 3.5 Italy: Key third millennium BC finds with Aegean, or probable Aegean, connections. A. Camaro; B. Casone San Severo; C. Grotta Cappuccini; D. Monte Venere; E. Bingia 'e Monti; F. Villafranca Veronese; G. San Biagio della Valle; H. Palagonia.

Drawings: author, after various sources.

north Apulia, with excellent parallels in the necropolis of Steno in Levkas (grave R4), mentioned above; a small anchor-shaped amulet made of shell, possibly *Spondylus*, found in the Grotta Cappuccini in south Apulia, with clear connections to the Aegeo-Balkan clay anchors, and also known from Corfu, Albania, and Malta; the single find of an Aegeo-Anatolian slotted spearhead with haft tongue from Monte Venere near Taormina in Sicily

(for this item, a date to Early Helladic III, i.e. after c.2200 BC, is also possible); a few copper sheet objects, with a shape varying between elongated rectangular and oval, with two rivets next to each other on one of the short sides, of a kind known from several Italian graves of this period (e.g. from the 'Cavità dei Sassi Neri', Grosseto; Laterza, grave 3, Taranto; Grotta Cappuccini, Lecce), and corresponding best with 'spatulae/scrapers' of Steno and several Cycladic graves, particularly Chalandriani; a neck-ring made of single round-sectioned gold wire from a Bell Beaker context from Bingia è Monti in Sardinia, the best contemporary parallels for which, made of precious metal, come from Eskiyapar, Troy, Poliochni, and perhaps also Steno, graves R4 and R15b (in silver); and finally, various silver finds, among them the two most important graves with silver grave goods, dating from the middle and second half of the third millennium, from Villafranca Veronese in the Veneto (a lunula, 28 cm high, reportedly with 99 per cent silver content) and San Biagio della Valle in Umbria (a riveted dagger of the Guardistallo type with 33.1 per cent silver); as these have not been analysed, it remains uncertain whether they are of cupellated, perhaps Aegean, silver or of local ores, from Sardinia for instance. The geographical distribution would tend to support the latter.

In many of the finds mentioned, the connection with the cemetery of Steno on the Ionian island of Levkas is significant (Kilian-Dirlmeier 2005). Looking at the Steno finds themselves, one is also struck by the typical long and narrow obsidian blades made using a highly specialized pressure-flaking technique, such as are also known from the Grotta Cappuccini, from Laterza itself, and other southern sites. However, further studies are needed to determine whether the technique and material were imported from the Aegean, or rather a local obsidian from Lipari was in use.

The third watershed in the connections between the Aegean and southern Italy may be placed only after c.2200 BC (Maran 2007). From this chronological horizon come the famous bossed bone plaques (*ossi a globuli*), such as those from the Casal Sabini (Bari) and the Grotta del Pipistrello Solitario (Taranto), as well as those found in considerable numbers on Sicily (Leighton 1999). To this period also belong graves and artefacts from the Castelluccio necropolis, eponymous for the Early Bronze Age Castelluccio culture in Sicily. Graves here contain, along with the bossed bone plaques, such outstanding items as what appear to be a scale-beam (grave 22), bronze tweezers (grave 23), and fragments of a bronze vessel, probably a cup (grave 31). There are interesting indications of other imported weapons, like a Sicilian riveted dagger from Palagonia, grave North 5, where the rivets are arranged in a trapeze shape, a feature that otherwise occurs only on Aegean examples. On the other hand, there are perhaps less explicit similarities as for some Castelluccio two-handled jugs, such as those from Santa Croce Camerina, compared with the *depas* cups in the Aegean (see Fig. 3.3d). The same is true for the Balkan connections of asymmetrical handles on other Castelluccio jugs, as well as cups with elbow-formed handles, butted handles, and/or handle-protomes, which came into vogue in a relatively narrow time frame of the Early Bronze Age along the Italian Adriatic coast and in northern Italy. However, their trans-Adriatic connections and the contemporaneity with Bulgarian Early Bronze Age 3 vessels are striking. Finally we must mention Malta, where eastern Mediterranean connections with the Tarxien Cremation Cemetery are evident (the description of the latter seems almost like that of a tumulus).

Overall it seems that the finds and sites listed above are only the proverbial tip of the iceberg of Aegean-Italian connections (Fig. 3.6). The wide spectrum of the finds is revealing, from traded goods to prestige goods to imitations. The significance of the Steno site on the Ionian island of Levkas is also noteworthy in its function as a cultural intermediary, for forms originating in the southern Greek mainland and on the Cyclades, then migrating into the Adriatic and over to

Apulia and Sicily. It also seems clear that these Ionian-Apulian-Sicilian and trans-Adriatic connections—and probably also the presence of peoples from the Aegean and Balkans—have a central significance in the origins of the Early Bronze Age on the Italian Peninsula. Italian scholars also consider that this chronology is not coincidental. The favoured conclusion today sees a progressive development from south to north and from east to west, with a culturally regionalized background and a definition that is still to be standardized: Castelluccio in Sicily is already being influenced by Early Bronze Age culture from the Aegean in the twenty-fifth century BC (Leighton 1999), Apulia, the Marches, and Caput Adriae (Cetina) in the twenty-fourth (Nicolis 2005), and northern Italy (Polada) in the twenty-third (De Marinis 1999); the western half of Italy is similarly included only in the twenty-second century BC.

Even if each region is different and demonstrates its own characteristics, these peripheral areas in the Balkans and in southern Italy are very important in the transmission of Early Bronze Age cultural features in Europe. However, hitherto they have seldom been considered as such.

## BEYOND THE PERIPHERIES: THE GRADUAL TRANSMISSION OF NEW IDEAS, VALUES, AND ACHIEVEMENTS

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There seems little transmission of valuable goods to regions beyond these peripheries between 2500 and 2200 BC. This coincides with an absence of hoards containing precious metals, of rich graves distinguished by their lavish provision of grave goods, of objects made of precious metals and other rare and exotic materials, and/or of superior ways of constructing the graves. The few exceptions of over-average individual Bell Beaker graves like those of the Amesbury Archer in Wiltshire, Fuente Olmedo in Castile, Markt in Bavaria, and perhaps Villafranca Veronese in the Veneto cannot alter this picture.

And yet, we observe distinct changes in the pattern of sites and artefacts, first in a wide arc stretching from the lower Danube via the Carpathian Basin as far as northern Italy. These range from innovations in material culture and changes in pottery to shifts in the organization of settlement sites and of regional settlements. Thus the group of objects gradually appears, at first as isolated findspots, that were later to characterize the inventory of the central European Early Bronze Age after 2300 BC (the Bz Ao, A1, and A2 periods). These include new elements in weaponry like triangular riveted daggers and halberds. In ornaments and clothing, the composite necklaces, lunulae, and other neck ornaments become important, as do metal diadems, bracelets, and *Noppenringe* (knobbed rings). In burials of the twenty-third century BC the first dress pins made of copper or bone are noteworthy. In general more metal gradually appears in graves and settlements, with different kinds of copper increasingly present, both in terms of alloy and isotopic origin; in addition we find the first tin bronzes (Bertemes and Heyd 2002).

There are also significant changes in pottery. In parts of Romania, as in the entire Carpathian Basin and Italy, there is a general decrease in decoration on pottery. Vessels no longer act as messengers, or symbols indicating affiliation to an identity-group or differentiation from other groups. Instead specific functional aspects of vessels are put in the foreground. At the

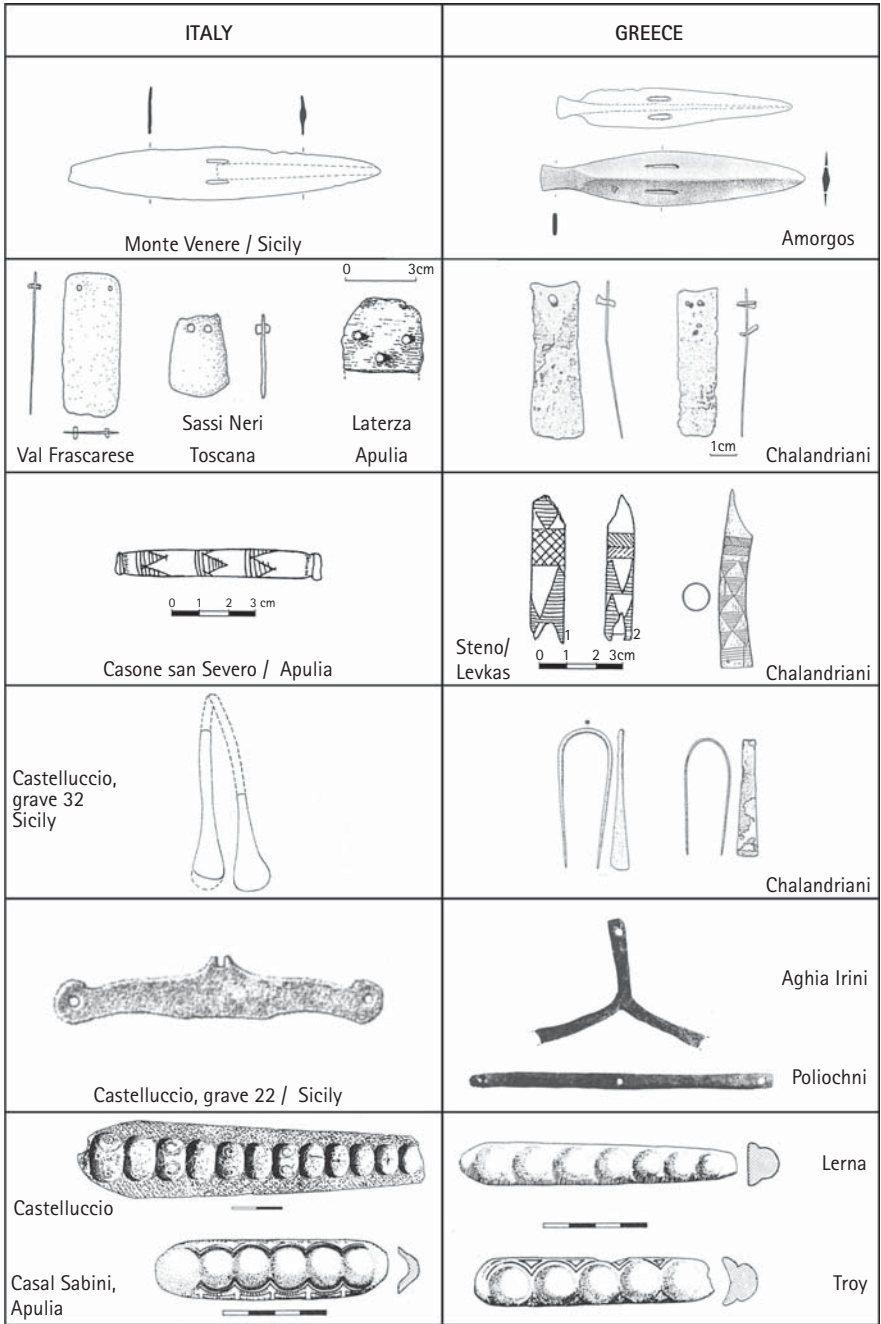


FIG. 3.6 Italy and Greece: later third millennium BC Italian finds of Aegean, or probable Aegean, origin, and comparisons in Greece and Troy.

Drawings: author, after various sources.

same time the repertoire of forms shifts towards a preference for cups and jugs, plates and bowls, that is to say, more personalized drinking vessels with handles and open shapes for eating. In addition they now appear widely in burial rituals. As such, their cups and plates even become a diagnostic criterion for an advanced phase of the central European branch of the Bell Beaker phenomenon, and are introduced into the west of Europe, where they are well-known as the *Begleitkeramik* (accompanying pottery) (see Nicolis 2001).

In looking at the underlying factors behind the abandonment of decoration and alteration to the range of forms, one first notices these changes in the new geographical peripheries described above. However, we would not be wrong to trace the primary cause for these developments back to the Aegean core. Here the initial impulses seem to be given by the appearance of the first wheel-made pottery of the completely undecorated Lefkandi I-Kastri repertoire, with its *depas* cups, tankards, and saucers (Maran 1998; Rahmstorf 2006). Not only does mass production of pottery begin, and pots become goods for trans-regional trade, but there is an increase in the prestige and value of these often high-quality drinking and eating vessels, as shown by the copies of these same vessel shapes made of gold and silver, for instance from the Troy hoards. In the final analysis a factor may be the institution of the 'symposium' originating in the Near East, with its associations of elite image cultivation, hospitality, and dependency relationships (Helwing 2003), which appears in the record as far away as central Europe, though in very attenuated form.

Shifts in the organization of settlements can be seen particularly in the Carpathian Basin. Here we note a gradual return to tell settlements (Gogăltan 2005). Just as settlements are now often preferred in protected locations, this development comes at the beginning of the rise of centralized places and thus probably also the rise of 'segmentary' systems of settlement. This is closely compatible with the changes in regional organization in the Carpathian Basin and its surroundings. While in the second quarter and the middle of the third millennium there were still trans-regional cultural phenomena like Vučedol and Makó/Kosihy-Čaka, we soon detect a more fragmented archaeological cultural pattern with almost a dozen regional cultural units, distinguished from each other in their burial rituals as well as pottery (Maran 1998; Bertemes and Heyd 2002). This process is obviously part of identity creation in smaller areas, possibly a sign of the genesis of tribes. Considered together with the changes in organization of settlements mentioned above, it could also be a sign of the birth of chiefdoms.

Moving further to the north and north-west, in central Europe at the western edge of the Carpathian Basin and also in parts of northern Italy, significant changes occur in the course of the twenty-third century BC (Bz Ao), followed by the regions along the upper Danube, Elbe, Oder, and Rhine in the twenty-second century BC (Bz A1). Earlier Bell Beaker cemeteries are now abandoned everywhere, while new ones are established, and these were to be in part maintained for several centuries without interruption, as for instance at Franzhausen in Lower Austria. Alongside continuing regional fragmentation, we also find centralization in the form of the first fortifications on hills, particularly in more southerly areas. At the same time the characteristic longhouses come to predominate both as living places and as the focus of a new form of settlement planning (Bertemes and Heyd 2002).

Similar changes occur at the same time in southern Spain, for instance, where the El Argar culture likewise brings a more regionalized system of influence, with hill forts functioning as a focus. We also see changes on the British Isles, where in the twenty-second and twenty-first centuries BC there is increased circulation of copper, but also there are finds of significant numbers of the first tin bronzes. Following this, the accumulation of wealth and practice of

hoarding begins; exotic materials for jewellery like amber, jet, faience, and shells are found in increasing quantities, and are now distributed over an ever-expanding area. This is a trend that stretches right across Europe, a gradual and continuous process involving the intensification of all the cultural subsystems.

The next stage is then reached from c.2000 BC when in wide parts of temperate Europe a system of intensified exchange and trade becomes established in Bz A2. Based now on a hierarchically organized society, with many prestige and status objects belonging to elites, and culminating in their lavishly equipped graves (such as Leubingen and Helmsdorf in Germany, Łęki Małe in Poland, Thun-Renzenbühl in Switzerland, Kernonen en Plouvorn and Saint Adrien in Brittany, and Bush and Clandon barrows in Wessex) and the big metal hoards, we also see precious metal vessels, economic specialization, specialized craft production, and widely available tin bronze. No doubt, these are components of a cultural process of the kind that had arrived around the Aegean some five hundred years earlier.

## MEETING THE BELL BEAKER NETWORK

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The Bell Beaker phenomenon also pertains, over most of its distribution area, to the period between c.2500 and 2100 BC (see Nicolis 2001; Czebreszuk 2003), but by 2000 BC even the very latest beakers, only rudimentarily displaying their original form and decoration, have ceased to be made. As for the beginnings of this development, it is only on the Iberian Peninsula that we have secure radiocarbon evidence for an earlier Bell Beaker formation. This reaches perhaps back as early as c.2700 BC, thus bringing it into the chronological range of a Europe-wide transformational horizon that so altered societies in both east and west (Harrison and Heyd 2007).

There is still much speculation in our efforts to understand the origins of the iconic pottery form that the Bell Beaker represents, and of the groups of people producing and using them as their communal symbol in the European west. Safer ground is reached, however, in the evidence that this early Iberian Bell Beaker tradition is apparently confined to parts of the peninsula for over a century. At this early stage, the Bell Beaker phenomenon is not yet fully developed, lacking for example two of its most prominent components, the tanged copper daggers and the wristguards. It was perhaps shortly after 2600 BC when the ideas, expression, values, and ideology behind the Bell Beaker seemingly altered, and an expansionistic drive—almost missionary in its appearance—became the dominant element. This is the moment when the first Bell Beaker vessels, and the people regarding them as their common symbol, were bypassing the Pyrenees along the Atlantic and Mediterranean coastline, reaching for example the mouth of the Rhône in southern France or Brittany in the north-west, perhaps during the later twenty-sixth century BC. From now on, the phenomenon accelerates dramatically, with more people being involved, and seizing the opportunity to promote themselves by adopting the now well-defined assemblage of objects, and with the community of Beaker users growing. At the same time, around 2500 BC, the use of the Bell Beaker expands geographically to encompass more distant regions. By integrating an increasing number of local populations, with their various traditions, the phenomenon was itself being transformed, from being the driver of change to being part of more established regional cultures with their

own distinct flavour. This, in turn, shaped the course of developments over the succeeding centuries.

The Bell Beaker phenomenon thus became pan-European in nature (e.g. Nicolis 2001; Czebreszuk 2003), with its centre of gravity located firmly in the western half of the continent. If we take an overview of its distribution, four larger geographical entities can be discerned: an Atlantic domain, a Mediterranean domain, the central European or East Group, and a Beaker tradition in the western part of the north European plain, also including southern Scandinavia. This distribution is the result of an expansion that clearly follows the Mediterranean, Atlantic, and North Sea coasts, and the main river systems such as the Rhône, Rhine, Danube, and Elbe, and their tributaries. However, distinct regional traditions incorporated by the respective new Beaker users are also responsible, and a geographically staggered west-east impulse, resulting in weaker and stronger centres, and secondary and tertiary regions of Beaker expansion. This is particularly evident in Italy where the cultural geography of the underlying cultures is decisive for the Beaker distribution from 2500 BC on (Nicolis 2001). So Remedello societies of the north and Rinaldone in the west were more receptive to Beaker novelties than Conelle and Laterza in the Adriatic Basin, resulting in an uneven distribution of Beaker pots. The same is visible as far south as Sicily, where Bell Beaker users only set foot and established a Beaker core in the Conca d'Oro area, in the west of the island (Leighton 1999). Therefore burial and settlement customs, material culture such as domestic pottery, and economic resources and subsistence economies vary greatly across Europe and in the regions, while the overarching iconic Beaker vessel and the Beaker package act like a glue for the diversity, creating the image of 'similar but different' (Czebreszuk 2003).

Beside these four domains, and their regional networks and distinct cultures, a kind of eastern Bell Beaker periphery has recently come to prominence (Heyd 2007). This is manifested in the form of syncretistic cultures, '... adopting different components of the Bell Beaker ideology and the package in its repertoire ... transforming it together with parts of their own traditional inventory to build a new identity' (Heyd 2007: 102), and located in a zone following a virtual line from central Poland in the north to the heel of the Italian Peninsula in the south (roughly between 15 and 20 degrees of longitude). These syncretistic Beaker/local cultures start about one to two hundred years after the more western regional Beaker cores but are, seen from a different angle, the dominant regional players in the slightly later formation of the Early Bronze Age. Representatives from north to south are the archaeological cultures of Iwno (and partly Trzciniec) in the western Baltic region; Chłopice-Veselé in Little Poland, western Slovakia, and eastern Moravia; Pitvaros/Maros in the south-eastern Carpathian Basin; as well early Cetina in the Adriatic Basin; and the Grotta Cappuccini aspect of the Laterza-Cellino San Marco culture in south-east Italy. It is important to note that the last two concern regions that are among the Early Bronze Age Aegean peripheries described above.

Beyond these ideological peripheries there is even a marginal eastern zone of more remote Bell Beaker traces (Czebreszuk and Szmyt 2003; Heyd 2007). These Bell Beaker margins include parts of eastern Poland, Moldova, and Romania, as well as Malta in the south. Major diagnostic elements are the wristguards, or their imitations in bone and clay. If one includes some early flint dagger types, and there is good reason to think that the dagger idea is propagated in the context of the Beaker phenomenon in the north, these influences even reached the Baltic States, Finland, and Belarus. Surprisingly perhaps, one can argue that these Beaker margins also reached as far as the Early Bronze Age core, Greece, Crete, and the Aegean. This European south-east has only recently come into the focus of Beaker research (Heyd 2007;

Maran 2007). Beside conspicuous pottery evidence mostly from Olympia, it is again the wristguards, and the ‘Montgomery toggles’ (as on duffle coats), that form the majority of the diagnostic Beaker elements. As a result of this recent interest, more wristguards, both the broader four-holed and the oblong-narrow two-holed, are now known from the Aegean than from the whole of Italy, for example. They almost all date to Early Helladic III levels (as does the pottery evidence from Olympia), thus after 2200 BC in absolute terms. This makes them late Beaker, as compared to the central and western European examples. The best explanation for their relatively late appearance lies with a migratory event, rightly described by Maran (e.g. 1998) as bringing Adriatic Cetina people incrementally to southern Greece for some decades from the transition of Early Helladic II to III. And since early Cetina is one of those syncretistic Bell Beaker cultures of its south-eastern periphery as shown above, this best explains the manifestation of these Bell Beaker elements deep in south-east Europe.

Bell Beaker ideological peripheries and initial Bronze Age cultural, social, and economic peripheries therefore meet from the twenty-fifth century BC in the central Mediterranean, on both sides of the Adriatic Basin including much of the western Balkans as well as southern Italy and Sicily. Here, people from the two directions, and the very different value systems and world views, may have greeted each other. There are even Beaker elements that reached the Early Bronze Age core in the Aegean, if only from 2200 BC. But more decisive for the further course of development are the new cultural, social, and economic ideas and values, ultimately originating in the Aegean, and their materialization and reception, that reached beyond this contact zone, deep into continental Europe—by then regions with Beaker occupation, soon to become the new Early Bronze Age focal points.

## CONFLICTING WORLD VIEWS BETWEEN 2500 AND 2200 BC

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As briefly described in the introduction, the Bell Beaker phenomenon represents the climax of these ideologically driven cultural phenomena, having dominated the course of events on the European continent for almost one and a half millennia. With the Bell Beaker, the western half of the continent is incorporated in these expansionistic phenomena for the first time. The whole became a truly European phenomenon, by virtue of the distribution of influences to the eastern peripheries and adjacent margins, representing more distant parts of the Bell Beaker idea. However, Bell Beakers are not only the climax but also represent the end point of this era, in which what occupies centre stage is more an idea, a message and a particular world view. This fits the aggressive and expansive, almost missionary, outlook well. One also gets the impression that there was an attempt to convert, not always peacefully, as many people as possible for to this newly emerging community. The emblematically decorated Bell Beaker, the symbol, and before that to some extent the Corded Ware beaker, are the ideal communal drinking vessel for such a community: on average enough content so that several persons can consume a special drink from it; a form that forces one to use both hands for drinking; and then to hand it over, again with both hands, in an almost ritual manner, to one’s neighbour. However, it was not so much the Bell Beaker itself but two other elements associated with this phenomenon that reached the peripheries and margins more often, and must therefore have been more

interesting as innovations for newcomers of any cultural background. These are the dagger, no matter if made of metal or, in southern Scandinavia and along the Baltic Sea, of flint (Sarauw 2008); and archery, materialized in the arrowheads and wristguards (Fokkens, Achterkamp, and Kuijpers 2008). Both were obviously very attractive for distant peoples, who did not hesitate to add these weapons to their own repertoire even if, faraway as they were, these new adherents may not have completely understood the message behind them. But within the wider framework of individualization and internationalization, such daggers were prestigious enough to become highly regarded all over Europe; likewise, the societal acceptance of archery, with the wristguard as its symbol of adherence, brought advantages in hunting and warfare.

The Early Bronze Age, expanding from the south-east at the same time, is fundamentally different. It is a gradual process; more a cultural reorientation than a different ideology. It also has a clear trajectory, ultimately originating in the Aegean, the eastern Mediterranean, and beyond, and then crossing the continent from the south-east to the north-west. For the peoples of the Early Bronze Age, economic and social considerations were at the top of their agenda: production of goods, the exchange of surplus, and the first real trade, as well as the systematic accumulation of possession and wealth; this includes in particular an enhanced role for metals, their exploitation as ores, alloying, manufacturing as finished products, marketing, and hoarding. As such, the Early Bronze Age also stands for a Europe of new values and new symbols of wealth and power; a kind of capitalist world in embryo, so to speak, for the peoples of the time. These begin to witness new categories of weapons, prestigious objects of personal adornment, new dress codes, golden/silver drinking cups, exotica, and so on, in sum a package of ultimately south-eastern innovations. All this makes the Early Bronze Age a Europe of emerging complexity and host to the rise of local elites. Because for most of continental Europe they had previously been Beaker users, in the same way the privileged people of the Beaker period became the new elites of the Early Bronze Age. But geographical positioning and timelines are crucial to this development. For much of Europe the centre of gravity around 2500/2400 BC still lay on the Bell Beaker side, whereas around 2300/2200 BC it shifted towards the new Early Bronze Age agenda. And soon, after 2000 BC, these elites were fully established and so became archaeologically visible in their princely graves, hoarding practices, abundance of weapons and jewellery, and monumental burial places (tumuli), settlements (hill forts), and longhouses. This conflict between two world views therefore also refers to the question of identities, multiple identities, and changing identities over time. Particularly apparent is the development in the central Mediterranean region, and particularly in the Adriatic Basin, where both 'worlds' meet in an early stage of their respective expansions, in the course of the twenty-fifth and twenty-fourth centuries BC, making this area a crossroad for streams of exchange, trade, and peoples.

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## CHAPTER 4

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# A LITTLE BIT OF HISTORY REPEATING ITSELF: THEORIES ON THE BELL BEAKER PHENOMENON

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MARC VANDER LINDEN

### A SENSE OF *DÉJÀ VU*

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From its definition in the archaeological literature of the late nineteenth century to a refreshing revival of interest over the last two decades, the Bell Beaker phenomenon (Fig. 4.1) (hereafter Beaker phenomenon) has been subject to various competing interpretations. Yet, as argued here, unquestionable advances thanks to ever-improving analytical and field work have not been matched by a parallel improvement in our understanding of this important period from later European prehistory, lying at the interface between the Neolithic and the Bronze Age. Indeed, older and recent theories of the Beaker phenomenon share several common themes (e.g. they stress social hierarchy and extended human mobility). When read in succession, key publications can thus leave a worrying, bitter taste of *déjà vu*. This brief review aims at exploring the nature of these ever-repeating themes and their status in the successive stages of research.

This sense of theoretical, interpretative similarity is even more surprising considering that, from the material point of view, the Beaker phenomenon is first and foremost defined through its variation, evidenced by all facets of the archaeological record (for a recent European-scale review, see Vander Linden 2006). Pioneering scholars noted striking similarities in the assemblages from western to central Europe, especially the eponymous S-shaped bell beaker, but also other artefacts (e.g. stone bracers, triangular copper daggers, etcetera) and practices (renewed favour for individual burial, quasi-systematic deposition of a bell beaker in the graves). While this level of uniformity caught—and still catches—the archaeological imagination, there has been at the same time a growing realization that there is no unique pan-European Bell Beaker material culture. Bell Beaker assemblages rather



FIG. 4.1 Distribution map of the Bell Beaker phenomenon.

Source: Vander Linden 2006.

exhibit a wide variability from one region to the next, which even led some scholars to question the validity of any global appraisal of the Beaker phenomenon (e.g. Barrett 1994). As a net result, it is fair to state that, all things being equal, limited energy has been spent on a factual description of variations in the Bell Beaker assemblages. The various theories under review here played a key role in this relative disengagement from variation, as they provided interpretative discourses explicitly applied to the entire scale of the Beaker phenomenon, thus enabling either complete avoidance or a sidestepping of descriptive, local issues.