Chapter 11
The Iron Age

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The Idea of the Iron Age

European archaeologists formulated the idea of an Iron Age early in the nineteenth century, as they began organizing the growing collections of antiquities in museums then being established in different parts of the continent (Kühn 1976). Changes in agricultural technology and the large-scale earth-moving connected with the construction of railroads resulted in the discovery of great quantities of archaeological materials. At the same time, the growing awareness of and interest in Europe's prehistoric past stimulated the establishment of many new museums and local antiquarian societies and led to ever more archaeological excavations. In the latter half of the nineteenth century, scholars concerned with archaeology began convening at international conferences to share discoveries and ideas about the growing field of study. The formulation of a detailed framework for the European Iron Age dates from these conferences of the 1870s and 1880s.

The Iron Age came to be understood as that period of time that began when iron replaced bronze as the principal material for tools and weapons and ended with the conquest of much of Europe by Rome, around the time of Christ. A precise date for the start of the Iron Age according to this technological definition is difficult to pin down, because the replacement of bronze by iron was gradual, and because it happened at different times in different regions. Today the start of the Iron Age is defined in typological terms, not just technological.

The Iron Age is different from the Bronze Age in important ways besides the development of iron technology (Sørensen and Thomas 1989), and the discussion that follows illustrates those differences. Of fundamental importance in our understanding of the societies of the European Iron Age is the existence of written texts by Greek and Roman authors that mention, and in some cases describe, the Iron Age peoples of Europe. The societies that I discuss in this chapter were non-literate, except for some very limited adoption of Greek and Latin writing at the end of the Iron Age in the context of trade with Mediterranean societies. Because we have the Greek and Roman texts to supplement the archaeological evidence, the information available about the Iron Age societies of Europe is both richer and more complex than that from earlier periods. But we must remember that the texts were all written by outsiders, not by the prehistoric Iron Age peoples.

All of our interpretations of the material evidence of archaeology are based on analogies with other things. The postholes that mark foundations of houses, the pots, and decorative pins that people made, even the graves they arranged, provide us with information about the people who created them only if we link the material evidence with what we know about human behavior. That knowledge comes from

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analogies. Greek and Roman texts provide some information, but interpreting them is a complex exercise. Analogies from early medieval Europe are often used to understand Iron Age social structures, settlement patterns, trade organization, and ritual behavior. Many of the basic circumstances of life were similar during the Iron Age and the early medieval period, and this kind of analogy can be useful, when applied with caution. More general ethnographic analogies can also be brought into consideration in interpreting the archaeological evidence from Iron Age Europe. Analogies, whether from Greek and Roman authors, medieval Europe, or world ethnography, can never explain the material evidence, but they can help us to develop models that may lead to better interpretations.

Chronology

During the 1870s and 1880s, when archaeologists working in different parts of Europe met to establish common frameworks for organizing the evidence, they agreed that the finds from the Iron Age could be divided into two main groups (Fig. 11.1). The earlier group resembled objects recovered from graves excavated between 1846 and 1864 at the site of Hallstatt in Upper Austria (Fig. 11.2), and the researchers named this early part of the Iron Age after that site. The second, later group of finds resembled those recovered at the site of La Tène on the shore of Lake Neuchâtel in western Switzerland, and the second part of the Iron Age was designated the La Tène Period (Gräslund 1987). The more detailed chronology of the Iron Age was worked out by many researchers studying materials in different parts of Europe, first around the turn of the twentieth century. Among the most influential of these scholars were Oscar Montelius in Scandinavia, Paul Reinecke in Germany, and Josef Déchelette in France (Klindt-Jensen 1975, Sklenár 1983). The basis of the chronological framework was typology and associations of objects in graves. It was common practice in the Iron Age to place metal ornaments, weapons, and pottery in burials with the dead. As increasing numbers of graves and

BC	Britain + Ireland	France	C. Europe	S.E. Europe	E. Europe	N. Europe	Italy
	Roman Conq.	Roman Conq.	Roman Conq.			Pre-Roman Iron Age Seedorf (Period III)	Roman Empire
100	Late Pre-Roman Iron Age	La Tène III	La Tène D				
200		La Tène II	La Tène C		Sarmatians	Pre-Roman Iron Age Ripdorf (Period II)	
300	Middle Pre-Roman Iron Age			La Tène			
400		La Tène I	La Tène B La Tène A				Roman Republic
500					Scythians	Pre-Roman Iron Age Jastorf (Period I)	
600	Early Pre-Roman Iron Age	Hallstatt II	Hallstatt D	Later Glasinac	Late Lusatian		Late Etruscan
700		Hallstatt I	Hallstatt C				Early Etruscan
800				Basarabi			
					Koban		Villanovan

Fig. 11.1 General chronology of the Iron Age

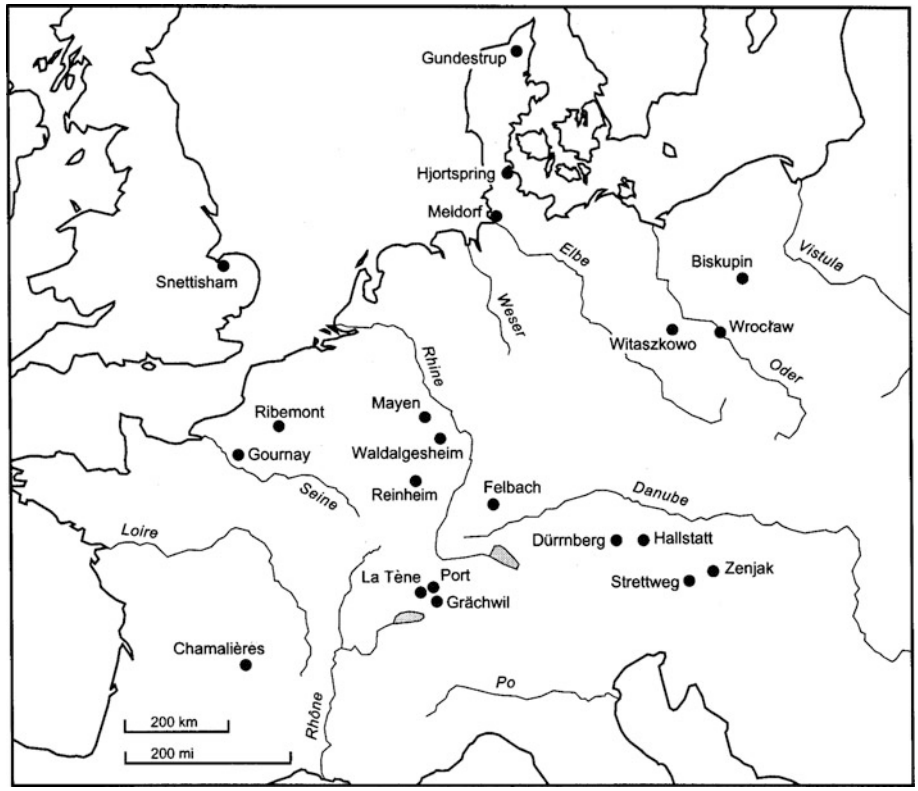

Fig. 11.2 Map of sites mentioned in the text (See also Figs. 11.12 and 11.15)

whole cemeteries were excavated and published, researchers observed that the style of pins, swords, and pots changed through time, and certain types of objects occurred together in grave groups, but not with certain other types. Over decades of analysis, they worked out chronological sequences for different parts of Europe based on typological change (Figs. 11.3 and 11.4). The chronological framework has undergone constant refinement throughout the twentieth century. The most widely accepted system is that developed by Reinecke (1965) on the basis of grave groups in southern Germany. While he designed his framework specifically for that part of Europe, researchers have found that, at least in rough outline, it can be applied more widely. Schemes devised for other parts of Europe are linked with the Reinecke framework.

Since the development of the basic chronological system for the European Iron Age, great advances have been made in absolute chronology. The principal method of connecting the relative sequence with calendar years is through Mediterranean imports (see e.g. Kimmig 1988). Throughout the Iron Age, but especially during the sixth, fifth, second, and first centuries BC, large numbers of objects such as fine pottery and bronze vessels made in Greece, Etruria, and Roman Italy were imported into Iron Age Europe (Fig. 11.5). Classical archaeologists are able to date many of these products, such as Attic pottery, very precisely, because they can connect the style of objects with historical dates in the Mediterranean world. When such imports are recovered in graves and on settlements in Iron Age Europe, they provide important links to absolute chronology.

In recent years, dendrochronology has played an increasing role in absolute dating in Iron Age Europe (Hollstein 1980, Baillie 1995, Billamboz 2008). When wooden timbers are well preserved, and a local tree-ring sequence has been worked out, it is possible to determine the date that a tree

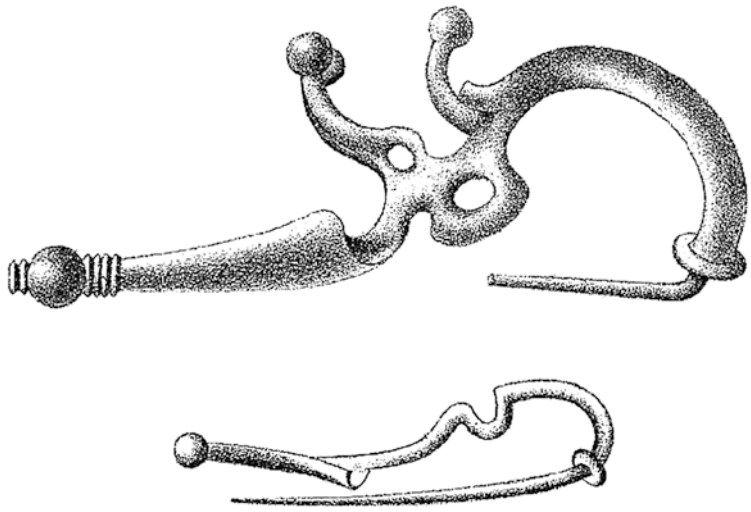

Fig. 11.3 Bronze serpentine brooches, or fibulae, of the Early Iron Age (After Deschmann 1879, plate following 144, 2.3)

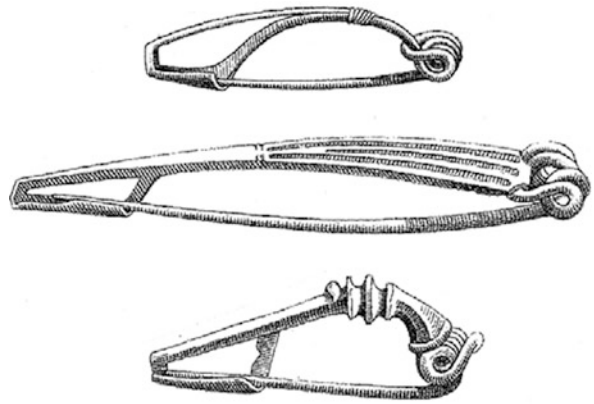

Fig. 11.4 Bronze fibulae characteristic of the middle (*top*) and late La Tène Period (After Osborne 1881:l. 3, 6.7.8)

was cut down with great precision, to the specific year and sometimes to the season. Outstanding examples of the application of this technology include the dating of the settlement at Biskupin in Poland (Rajewski 1970, Scarre 1998), burials in the Magdalenenberg tumulus in southwest Germany (Spindler 1976), and galleries in the salt mine complex at Hallstatt in Austria (for recent bibliography on this important site, see Bichler et al. 2005).

Radiocarbon dating has also been applied to Iron Age Europe, but it is of limited use compared to the other two techniques. The statistical error inherent in the method makes this method much less precise than dendrochronology and less exact than the absolute chronology based on Mediterranean imports and typological sequences extrapolated from them.

Even with the precision now available in the absolute chronology, there is still disagreement as to exactly when different phases, defined typologically, began and ended. Furthermore, the typological changes happened at different times in different regions of Europe. The following is an outline of the phases for the central part of the continent, with dates that are generally accepted by the scholarly community.

Fig. 11.5 Bronze beaked jugs, or *Schnabelkannen,* made in Etruria in central Italy and recovered in graves in Belgium and France (After Déchelette 1914:1430, figure 640)

- Hallstatt C 800–600 BC (Reinecke's phases Hallstatt A and B are considered part of the Late Bronze Age)
- Hallstatt D 600–450 BC
- La Tène A 500–400 BC (material culture of the Hallstatt tradition continued in use in some regions after that of the La Tène style appeared in others, hence the overlap)
- La Tène B 400–275 BC
- La Tène C 275–150 BC
- La Tène D 150 BC – Roman conquest

This absolute chronological framework is just a schematic model, of course. The styles that investigators use to define the different phases appear earlier in some places, and continue in use later in others. The dates given above are meant to provide a general idea of the dating of the phases.

Economy

The subsistence economy during the Iron Age was broadly similar to that of the preceding Neolithic and Bronze Ages. In most parts of Europe, the subsistence base was cereal agriculture, especially of wheat, barley, millet, rye, and oats, supplemented with garden crops that included peas and lentils (Körber-Grohne 1987, Küster 1992). Cattle, pigs, sheep, and goats were raised (von den Driesch 1993). The emphasis in the plants cultivated and animals raised varied regionally with local environmental conditions. For example, wheat was the predominant cereal in southern temperate Europe, while rye played an important role in the north. Cattle and sheep were emphasized in the sandy meadowlands of the North European Plain, while pigs thrived in the wooded landscape of the hilly uplands. Wild plants and animals continued to play a minor role in the diet. Red deer, roe deer, boar, hare, quail, and other land animals were hunted, and many kinds of fish were taken from the rivers and lakes. Nuts such as hazelnuts, fruits such as apples and plums, and a wide range of berries were collected from trees and bushes. Some of these plants may have been partly domesticated. Recent studies

have emphasized the impact that agriculture had on the landscape at this time (Rösch et al. 2008, Mailänder et al. 2008).

During the Iron Age, important technological improvements made food production more efficient. By the Late Iron Age, iron plowshares and colters made possible the exploitation of heavier, more nutrient-rich valley bottom soils. Scythes first appear archaeologically in the Late Iron Age, enabling the harvesting of hay more efficiently than ever before. Exploitation of richer soils meant that more people could be fed by fewer farmers, and use of the scythe meant that more animals could be provided with hay through the winter. Other new iron tools such as shovels and hoes contributed to increased efficiency of agricultural production.

The peoples of Iron Age Europe employed a variety of different materials for making tools, ornaments, and household goods. While there is evidence for some use of iron earlier (see recent discussion in Collard et al. 2006), during the eighth century BC communities in different parts of temperate Europe began to make ornaments, tools, and weapons from iron on a regular basis. Iron had the great advantage over bronze that iron ores are widely available in Europe. Once smiths learned the techniques of smelting and forging iron, most had ready access to the metal rather than having to rely on trade systems to acquire copper and tin for bronze. Iron did not rapidly replace bronze as the principal material for implements, and for the first few centuries of the Iron Age, iron objects are not abundant on most archaeological sites. Only after about 400 BC did many communities begin to produce iron in large quantities. By the final centuries of the Iron Age, great amounts of the metal were present at the big settlements known as *oppida* (Schäfer 2002). Iron was used to manufacture tools for a wide variety of purposes, including metalworking, woodworking, leather and textile production, food preparation, and agriculture. Tools included hammers, tongs, nails, gouges, chisels, saws, axes, adzes, plowshares, coulters, sickles, scythes, pruning knives, shovels, hoes, awls, needles, cooking vessels, and andirons (Jacobi 1974) (Fig. 11.6).

In many parts of the upland regions of central Europe, surface deposits of iron ore were abundant, and bog ore could be extracted from most areas of the North European Plain. Until the final centuries of the Iron Age, smelting was a small-scale operation. One common type of furnace was constructed by digging a hole in the ground and above it building a cylinder of clay about a meter high, with ports at the base for attaching bellows (Voss 1993). The smiths loaded the furnace with alternating layers of iron ore and charcoal, with a flux such as limestone. The product of the smelting furnace was a bloom of impure iron about the size of a football. The bloom was extracted from the furnace base, reheated in a forging fire, and hammered in the red-hot state to drive off slag and other impurities. The resulting material was wrought iron, which could be forged by hammering into tools, weapons, ornaments, and other objects. Metallographic analyses of tools have shown that already in the Early Iron Age, some smiths had developed techniques to produce steel, an alloy of iron and carbon (Pleiner 1980). Steel had the advantage of yielding a much harder and potentially sharper cutting edge than wrought iron.

Bronze remained important throughout the Iron Age. In the Early Iron Age it was still much used for weapons and tools. Through the whole of the Iron Age, bronze was the principal material for personal ornaments, especially fibulae and ring jewelry and for metal vessels. Figurines of animals and of humans were also cast of bronze (Fig. 11.7). Techniques of casting and hammering bronze were similar to those developed during the Bronze Age, but new types of ornaments and vessels were created.

The most abundant material on Iron Age settlement sites in most of Europe is pottery. Good clays are available in most regions of the continent, and most communities relied on local deposits rather than importing the material. Already at the start of the Iron Age pottery in many regions of Europe was complex, with diverse forms for a variety of different functions. These included large storage vessels, thick-walled pots for cooking, dishes and jugs for serving food and beverages, and cups and plates for consuming. In some contexts pottery was fine and ornate, in others coarse and plain. The fast-turning potter's wheel first came into general use in the final two centuries of the Iron Age, and

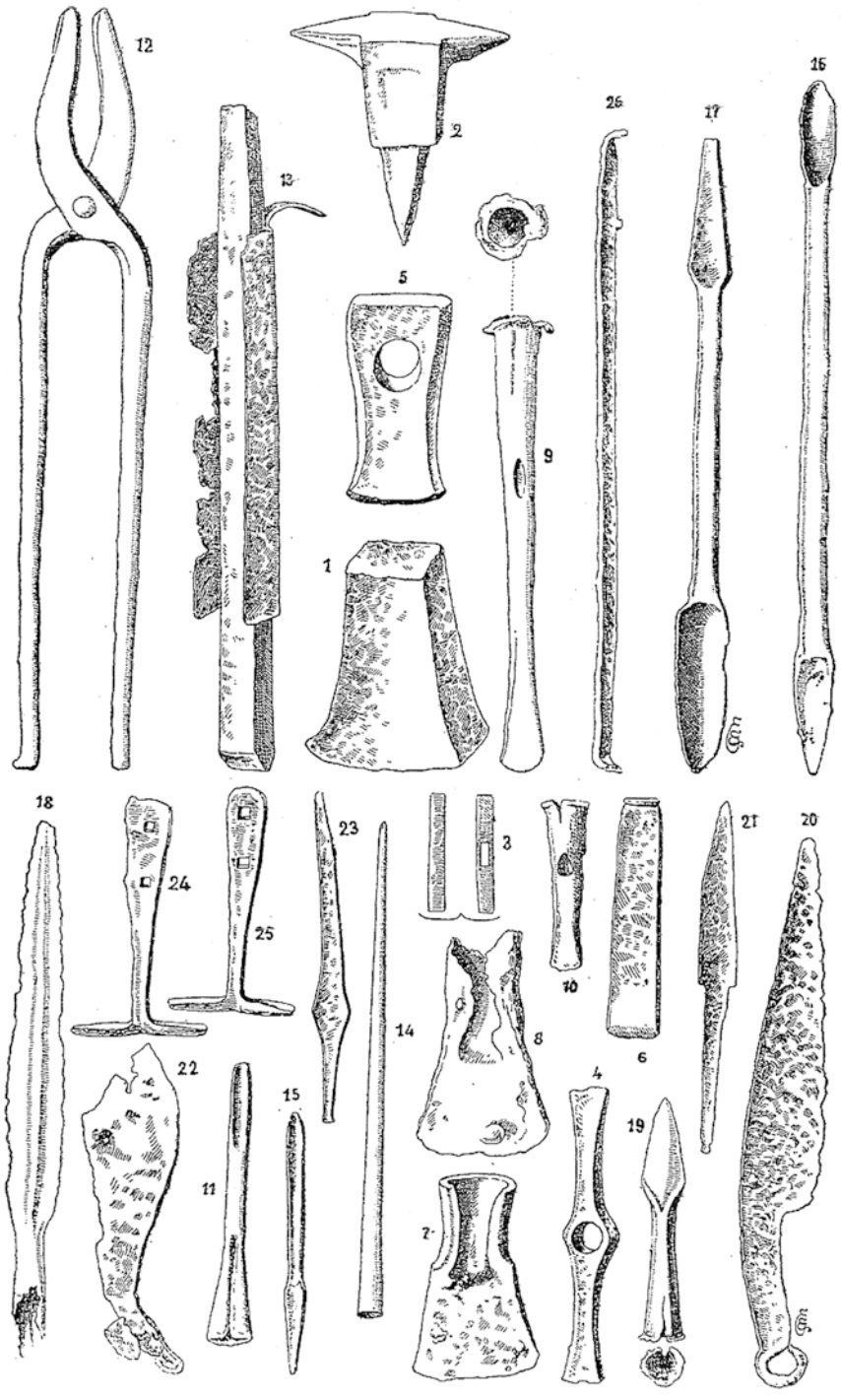

Fig. 11.6 Iron tools of the Late Iron Age, from Szalacska, Hungary (After Déchelette 1914:1376, figure 609)

Fig. 11.7 Bronze bull figurine from Býčí Skála, Czech Republic (After Wankel 1877, plate)

it is well represented at the *oppida*. Bronze and occasionally gold vessels played important roles in funerary ritual for elites, and probably in festive celebrations in their lifetimes as well.

Glass beads are common as personal ornaments throughout the Iron Age, but direct evidence of their production is rare. The enormous quantities of beads in graves in Early Iron Age Slovenia, at sites such as Magdalenska gora and Stična (Wells 1981), has led researchers to suggest that centers there were the production places, but direct evidence for manufacture is sparse. Not until the Late Iron Age is evidence for glassworking common, in the form of lumps of unworked glass recovered at many of the *oppida*.

Wood was much used for building and for making a wide range of objects, but in most situations wood does not survive archaeologically. From places where unusual environmental circumstances preserve wood, such as the salt mines at Hallstatt and waterlogged settlements in different places, we have a wide range of objects including handles for axes and hoes, mallets, shovels, vessels, furniture, spear shafts, shields, and boats. Sculptures from sites, such as Chamalières in France (Romeuf 1986) and Fellbach-Schmiden in Germany (Planck 1982), show that wood was used for representational arts as well.

Textiles, like wood, survive only in exceptional environments. From northern Europe, especially Denmark, we have abundant textile remains preserved in waterlogged conditions. The salt mines of Hallstatt also preserve textile pieces (Bichler et al. 2005). Small fragments of textile often survive in contact with metal oxides, and modern excavation procedures have resulted in large quantities of such samples being recognized and preserved. Wool and linen were the main fibers used in the production of clothing, but animal hairs and imported silk are also represented (Banck-Burgess 1999, 2008). Recent studies demonstrate the potential information from Iron Age textiles about technology, symbolism, and group identity (Jørgensen 1992).

Flint continued to be used throughout the Bronze and Iron Ages. Even with the availability of bronze and iron, in the hands of a skilled flint-knapper, sharp and serviceable blades could be produced quickly and easily from flint. Many excavated Iron Age settlements have yielded considerable quantities of the material. It is not always clear whether the flint tools and debitage represent earlier

activity on the site or Iron Age usage. But sufficient studies have now confirmed the use of flint by Iron Age peoples (Young and Humphrey 1999).

Stone was an important material for grinding grain, and in the Late Iron Age large rotary querns came into general use. Important quarries were developed where usable hard rock occurs, for example at basalt deposits at Mayen in the Rhineland and porphyry outcrops in Bohemia. The best-quality stones were highly valued, and the distribution of the products from the quarries shows that they were widely circulated.

A variety of other materials were exploited for making personal ornaments, including gold (figure 10.14), silver, amber, coral, jet, lignite, and sapropelite. These substances were limited in use, either by social status or by natural distribution, and I treat them below under "Trade."

Direct evidence for manufacturing is common on settlement sites, mostly in the form of debris from manufacturing processes (Wells 2007). From about 600 BC on, we have evidence for both centralized manufacturing at larger settlements and dispersed manufacturing in smaller communities. I discuss these patterns below, under "Rise of Centers" of the Early Iron Age and "Origins of Urbanism." A special characteristic of the European Iron Age, in contrast to urban developments in some other parts of the world, is the dispersal of manufacturing, even of special products such as ornate bronzes and gold and silver coins, among communities of different sizes.

Trade

To understand Iron Age trade in its context, we need to take account of the great amount of mobility that characterized cultural life during later prehistoric times. Many studies have demonstrated that communities throughout Europe were in regular contact during the Iron Age, and individuals and groups moved regularly through the landscape, for purposes of trading, raiding, migrating, visiting relatives, on pilgrimage, and for many other reasons (Wells 2008). Trade was not something exceptional, but was a part of this general mobility in Iron Age Europe (Stary 1993) that included landscapes of the Mediterranean and even the Near East (Bouzek 1997).

There has been a tendency in studies of trade to focus on evidence within or between particular regions, or in specific categories of goods, rather than viewing the phenomenon as a whole. The available evidence makes clear that to get a comprehensive view, we need to consider trade on the broadest scale, then examine each local network as a part of the complete system.

Sherratt and Sherratt (1993) argue that throughout much of the Mediterranean Basin there was an upswing in trade activity around the beginning of the Iron Age. The reason is that the breakdown in the palace economies of the Late Bronze Age opened new opportunities for entrepreneurial commerce, thus stimulating growth in trade. The greater availability of attractive goods from those regions, and the demand of the growing urban centers throughout the Mediterranean basin, stimulated the production of larger surpluses for trade within European communities. Furthermore, the wider availability of iron and steel cutting tools and the development of new categories of farming implements, such as iron-tipped plows, iron colters, and scythes, made possible improvements in agricultural efficiency. Thus communities could generate larger surpluses of farm products, and at the same time larger numbers of people could devote their energies to the acquisition and production of other goods that were in demand, such as furs, animal skins, pitch, tar, and metals (Pare 1997).

In an overview such as this one of trade 2000 years ago in Iron Age Europe, there is a tendency to portray the phenomenon in terms of regular, constant commercial and technological progress from the beginning of the Iron Age to the complex centers at the *oppida* at the end of the Iron Age. If we were to examine the growth and decline of individual communities, or study economic change in a

single valley through the Iron Age, we find a much more complex picture of economic ups and downs, booms and busts.

Archaeological evidence for Iron Age trade shows extensive commerce in both raw materials and finished goods. Amber was a favored substance throughout prehistoric and historical times, and it is well represented in Iron Age Europe. Amber occurs most often in the form of beads and pendants, but also as inlay on bronze jewelry and other forms. Most Iron Age amber is in burials. At the Early Iron Age cemetery of Hallstatt in Austria, about 17% of the 980 graves excavated in the middle of the nineteenth century contained amber beads. At Stična in Slovenia, over 30% of the graves had amber in them (Wells 1981). Extensive trace element analyses have shown that the great majority of amber finds from Iron Age Europe come from the Baltic region (Beck 1970). At the Early Iron Age hillfort of Komorowo in Poland, large quantities of unworked amber indicate a place where amber was brought for carving and transshipping (Lang 1993). On the Late Iron Age settlement of Wrocław-Partynice were found three pits, up to 2.5 meters deep and 0.9 meter in diameter, full of unworked amber, containing a total of 1400 kilograms of the substance (Godłowski 1978). These deposits are thought to represent amber en route between the Baltic source and the large population centers to the south in central and southern Europe. Sizeable amounts of uncarved amber have been recovered at the *oppidum* site at Staré Hradisko in Moravia in the Czech Republic.

With the gradual replacement of bronze by iron for tools and weapons during the Early Iron Age, the quantities of bronze and of its components copper and tin in circulation declined. But bronze was still favored throughout the Iron Age for personal ornaments, vessels, statuary, and other special purposes, and hence the trade in these metals continued.

Trade in iron within Europe is difficult to document. Iron ore is abundant in most parts of the continent, and evidence for its extraction and smelting during the Iron Age is widespread (Schäfer 2002). Yet iron ingots found in much of Europe suggest that trade in the metal took place, at least during some phases of the Iron Age (Jacobi 1974). Attempts to identify origins of iron metal through trace element analysis generally have not been successful, because the chemical composition of individual ore bodies can vary greatly.

Gold and silver were much traded in Iron Age Europe, but the places of origin of these metals are difficult to determine. Many mountain rivers of Europe carry gold particles in their sediments, and panning was the principal means by which gold was acquired (Waldhauser 1993). From the fourth century BC on there is also some evidence for underground mining. During the later parts of the Iron Age, much gold was obtained by melting down metal acquired from societies of the Mediterranean basin, especially for the production of the massive quantities of coins minted during the second and first centuries BC. Until the development of silver coinage during the second century BC, silver played only a minor role in Iron Age Europe compared to gold. Silver also was acquired principally through interaction with the Roman world.

Numerous natural substances were gathered, processed, and traded for use as ornaments and for magical purposes (Wells 1995a). Graphite was mined in several districts of central Europe and favored as decoration applied to pottery to give it a black sheen. In the graphite-clay pottery of the final centuries of the Iron Age, graphite mixed with the clay served a practical purpose, making the fabric less likely to heat unevenly. This material was the basis for the graphite-clay cooking pots so well represented in the ceramic assemblages on Late La Tène settlements (Kappel 1969). Jet and lignite were mined, carved, and traded for use as beads and ring jewelry. Coral imported from the Mediterranean Sea was cut into various ornamental forms, including beads, rings, and inlay pieces on bronze jewelry, especially during the period between 600 and 300 BC. Ivory was imported, mostly likely from Mediterranean traders but ultimately from Africa or south Asia, and used as a decorative material on some high-status goods, such as on the handles of three iron swords in the cemetery at Hallstatt.

Salt was a commodity much traded in Iron Age Europe, but one that does not survive archaeologically in the places where it was consumed. Extensive evidence for the extraction and trade of salt

during the Iron Age comes from the mining sites of Hallstatt and the Dürrnberg in Upper Austria (Stöllner 1999). At those sites, the salt-mine galleries have been extensively explored archaeologically, providing insight into the technology and scale of salt extraction. The cemeteries at Hallstatt and on the Dürrnberg yield abundant evidence for the extensive trade systems which these salt-producing centers were part of. Salt-evaporation sites are also well documented in many parts of Iron Age Europe (Nenquin 1961).

Among finished goods, personal ornaments such as fibulae, ring jewelry, belthooks, and glass beads and bracelets circulated widely. Ornaments of a particular style that characterizes one region occur in graves and on settlements in others, indicating some kind of movement. Such transmission is usually subsumed under the general heading "trade," although any of a variety of different mechanisms may have been involved, such as personal gifts, captured war booty, and travel mementoes.

Finer varieties of pottery were traded during both the Early and Late Iron Age. For example, fine painted wares produced at centers such as Mont Lassois and the Heuneburg circulated extensively into the countryside, where they are found both in burials and within settlement deposits (Dämmer 1978). In the Late Iron Age, the fine wheel-made wares manufactured at the *oppidum* production centers were disseminated both into the surrounding countryside and, in some instances, considerably further afield. Many examples of ceramic vessels manufactured at the *oppida* of southern temperate Europe have been found on settlements far north of the regions in which they were produced (Heege 1987).

During the second and first centuries BC, coins circulated widely, and they provide some of the best evidence for understanding trade systems at the end of the Iron Age. Communities at the different *oppida* minted distinctive coins, and numismatists are able to identify the places of origin of coins recovered through archaeological excavation. The result has been the demonstration of extensive commerce in gold, silver, and copper-alloy coins across the whole of Europe. Many coins circulated northward and have been found hundreds of kilometers beyond the centers at which they were minted.

Trade between communities in temperate Europe and societies of the Mediterranean world during the Early Iron Age, especially 600–450 BC, was distinctive. From the Mediterranean societies, elites in temperate Europe mainly based at the centers (see below), imported quantities of wine-drinking paraphernalia and other exotic luxuries. Ceramic wine mixing and drinking vessels from workshops in Athens have been recovered at many centers across temperate Europe, both in settlement deposits such as Mont Lassois and the Heuneburg, and in richly outfitted burials such as Vix (Mohen et al. 1988). Ceramic amphorae used to transport wine are well represented at many of the centers. Bronze mixing and serving vessels of Greek and Etruscan manufacture have been recovered in many richly outfitted graves such as those at Hochdorf, Vix, and Kleinaspergle. Other exotic ornaments show that this import trade by the European elites was not limited to feasting gear, but included other material accouterments of an elite lifestyle in which display played a major role in communicating status. Silk textiles imported from the East have been identified in burials at Hohmichele, Hochdorf, and Altrier (see discussion in Good 1995). At Grafenbühl, the leg of a bronze tripod, with carved sphinxes of amber, bone, and ivory, and with amber and ivory ornaments from furniture, attest to extravagant imports of luxuries from Mediterranean societies (Zürn 1970). Recent research at sites beyond the major centers has shown that the importation of these luxury goods was much more widely spread than had been believed (Krause 2005).

Trade with the Mediterranean world in the final two centuries of the prehistoric Iron Age resulted in the importation of a much larger quantity of wine-related equipment, but with fewer exotic items that distinguish the rich burials of the Early Iron Age. Instead, a wide range of everyday goods from the Roman world were imported, especially into the major *oppidum* centers. These included ceramic wine transport amphorae and wooden wine barrels, fine pottery, and bronze jugs, pails, pans, beakers, dippers, and sieves, all for use in serving and consuming wine. Other Roman products common at Late Iron Age centers are personal ornaments, writing instruments, glass vessels, mirrors, balances, and surgical implements (Fischer 1985, Gabler 2005).

The volume of trade in Iron Age Europe was substantial and its organization complex. It is helpful to consider the trade in terms of three different systems (Wells 1995a). (Surely it was much more complex than we could hope to model, but dividing it this way provides a useful means for us to examine the evidence.) One encompassed the luxury goods that are largely limited to the wealthiest burials and the central sites associated with them. Mediterranean wine-serving paraphernalia, furniture decorated with amber and ivory, and silk textiles show strictly limited distributions within the social systems of Iron Age societies. A second comprised manufactured objects that occur commonly in burials and on settlements. These include personal ornaments such as fibulae, glass beads and bracelets, and fine locally made pottery. These objects are much more widely distributed and seem to have been accessible to a substantial portion of the population. A third system of trade encompasses the bulk commodities such as grindstones and perhaps metals and salt.

There is good evidence for changes during the Iron Age in how these systems were organized and integrated, as well as for considerable regional variability. The occurrence of large numbers of special, often unique, objects in the richest burials of the Early Iron Age (600–450 BC), such as Vix and Grafenbühl in western Europe, and the richly outfitted burials in the kurgans of the forest-steppe zone of eastern Europe (Melyukova 1995, Rolle 2006), indicates a tight control by the elites of this luxury trade with Mediterranean societies. Trade in bulk commodities was little developed during this period. The situation changed over the course of the Iron Age. By the final two centuries before the Roman conquest, there is little evidence for exclusive elite control of luxury trade. The Mediterranean imports of this time were mass-produced Roman goods, in contrast to the unique Greek bronze objects of the earlier period. Trade in bulk commodities such as grinding stones developed into a major commercial activity, and trade in everyday personal ornaments such as fibulae was widespread and intensive (Völling 1994).

The idea of coinage was introduced into Iron Age Europe by mercenaries returning from service in armies of the eastern Mediterranean (Mannsperger 1981). The earliest coins minted in temperate Europe are of gold and date from the late fourth or early third century BC, and they were modeled on Hellenistic prototypes. These gold coins embodied considerable value, and were a form of treasure, not everyday currency. Coinage in silver and copper alloys began around the middle of the second century BC, and the appearance of those coinages is an indication of a fundamental change in the nature of trade (Haselgrove 1988). In contrast to the circulation of handcrafted products under the supervision of elites in the earlier parts of the Iron Age, the coins represent mass circulation of standardized commodity wealth in the Late Iron Age. Silver and copper coins accompanied mass-produced goods that included wheel-made pottery, series-manufactured iron tools, and mass-produced personal ornaments such as Nauheim fibulae (Furger-Gunti 1977).

Much of the elite trade, especially in the Early Iron Age, took place as gift exchange or diplomatic presentation. Classical texts provide insight to how such exchange operated and what purposes it achieved (Fischer 1973). Unique objects such as the Vix *krater* and the Grächwil *hydria* were probably presented by Greek emissaries to potentates in Iron Age Europe for the purpose of establishing trade relations or political pacts. Mercenary service by soldiers from central regions of Europe, well documented in Classical texts for the fourth and third centuries BC, provided an important mechanism for the circulation of goods, including coins, from the Mediterranean world into continental Europe. Booty captured during raids between communities was another mechanism through which goods circulated, and this means is also well documented in both Classical and early medieval contexts, and was probably a part of life during the Iron Age. Many personal ornaments that circulated between regions have been interpreted in terms of exogamy – marriage of individuals from different communities, with one spouse bringing his or her personal ornaments to the new location. Roman texts attest to such social practices among elite groups in Europe just before the start of the Roman Period (Rankin 1987).

Along with all of these socially charged mechanisms of circulation, barter trade – the exchange of goods of equal value – surely played a major role throughout the Iron Age. Much of the trade in personal ornaments, small quantities of raw materials, and pottery, surely took the form of barter trade. This mechanism probably operated both between communities within societies, and between societies, for example on frontiers between continental Europeans and their neighbors on the shores of the Mediterranean Basin.

By the final two centuries of the Iron Age, real market exchange developed, at least at the major oppidum centers and probably over a broader landscape as well (Kellner 1990). The rapid expansion of the use of coinage, that of the three-metal currency of gold, silver, and bronze, make a market-based system likely. The prevalence of equal-arm balances and of weight standards that match the Roman system, on many of the major *oppida* indicate a close link with Mediterranean markets (Creighton 2000). The mass-production of iron tools, wheel-turned pottery, fibulae, and other goods similarly indicate the creation of an economy fundamentally different in structure and organization from what had existed before. The presence of writing instruments and seal boxes indicates close connection between the merchants at the *oppida* and their counterparts in Italy (Steuer 1999). The large quantities of coins found at places away from their mint sites attest to the intensity of commerce across much of the continent. Distributions of pottery, personal ornaments, and other goods also indicate intensive commerce across Europe, including across the English Channel to Britain. For Gaul in the final century BC, Roman texts inform us of merchants who managed sizeable operations dealing in bulk commodities; the Roman writers referred to them as *negotiatores* (Timpe 1985).

Warfare

In Iron Age Europe there is considerable evidence for warfare, and also for symbolism and ritual connected with warfare. Systematic research on battle sites is relatively new, and at present it is difficult to judge how much fighting actually took place. Certainly a great deal of material and energy were devoted to military preparation and representation. Perhaps such behavior often resulted in the avoidance of actual armed conflict. But from certain times and places there is abundant evidence for warfare.

Evidence pertaining to warfare in Iron Age Europe comes from a variety of different sources. These include fortified settlements, weapons scattered around such fortifications, weapons placed in graves, weapons deposited in ritual sites, wounds on bones, pictorial representations of warriors, and references to European warriors and descriptions of battles in Greek and Roman texts. For the end of the Iron Age, several recently excavated battle sites provide important information about weaponry and tactics (Reddé et al. 1995, Schlüter 1999, Zanier 2000). It will be useful to consider the subject in three chronological units, the Early Iron Age (800–450 BC), the Middle Iron Age (450–200 BC), and the Late Iron Age (200 BC-Roman conquest).

During the Early Iron Age, many communities constructed substantial earth and stone walls around the tops of hills to create fortified settlements. Often steep sides made the hilltops difficult to access, and water had to be hauled up for community use. Clearly the builders felt that there were important reasons for constructing the massive walls and establishing their settlements in such inaccessible places. Little direct evidence for attack at these hillforts has been identified, probably because of only limited surface area excavation at most sites. Archaeological research has often focused on sectioning the walls and excavating narrow trenches on settlements in order to establish construction techniques and chronology, without large area exposure of the original ground surface. Caches of egg-sized pebbles believed to be slingstones and substantial numbers of arrowheads have been noted at many fortified settlements (Wheeler 1943:49, Mercer 1970).

What Kristiansen (1999) has called a warrior aristocracy is in evidence already during the Bronze Age, and in the Early Iron Age placement of weapons in the graves of some men was common practice. Characteristic weapons are long swords of bronze or iron, lances or spears, and shields and, especially in eastern Europe, battle axes (Stary 1982). In richer burials, helmets and cuirasses were also included. Burial of weapons does not necessarily mean a time of unusual violence and warfare, but it does indicate that weapons were in use and that they formed an important aspect of the status and identity of some men in society. In the latter part of the Early Iron Age, the fashion of burying swords in graves declined in much of central Europe, and in richer burials the dagger was the principal weapon represented. In contrast to the swords of the early part of the Early Iron Age, the daggers are often highly ornate and individualized, suggesting a special symbolic significance to these weapons. Associated with the daggers in some wealthy graves were bows and arrows, as at Hochdorf (Biel 1985).

In the situla art of the southeast Alpine region and northeastern Italy, representations of marching troops indicate the formation of larger military units than existed before. The top frieze of the Certosa situla, for example, shows a row of men wearing helmets and carrying lances and shields, marching in formation. A fragmentary helmet from Magdalenska gora and a belt plate from Vace show similarly equipped soldiers (Lucke and Frey 1962). The weapons represented match those in burials of the same region (Fig. 11.8). These scenes suggest that at the Early Iron Age centers at which the situla art was produced, such as Magdalenska gora, Stična, and Vače, military activity was carried out by highly organized units with standardized equipment. An engraved bronze sword scabbard from Hallstatt (Megaw and Megaw 1989:80–81, figure 92) shows three soldiers marching with lances and shields, four horseback riders with helmets and lances, and two scenes of fighting. In one, one man struggles with another on the ground, in the other, a horseman tramples a man. On the Strettweg wagon, also from Austria, men on horseback wear helmets and carry lances, axes, and shields (Egg 1996).

In the middle part of the Iron Age, swords and other weapons again became important components of many burial assemblages (Fig. 11.9). In the great flat grave cemeteries of temperate Europe, long iron swords, often massive lances, and shields formed a standard inventory of a large proportion of men (Waldhauser 1987) (Fig. 11.10). Such weapons also played an important role in status expression in Britain (Stead 2006). The implication is that weapons played more important roles in defining men's status and identity now than before (Bujna 1982). This was the time when Classical sources inform us about the service of Celtic mercenaries in armies of Mediterranean societies in Greece, Anatolia, and even Egypt and Carthage in north Africa (see the Section "Ritual"). While weapon symbolism, in the form of swords, lances, and shields in graves, is common in temperate Europe during this time, actual physical evidence for warfare is sparse. Hillforts did not play as important a role as they had

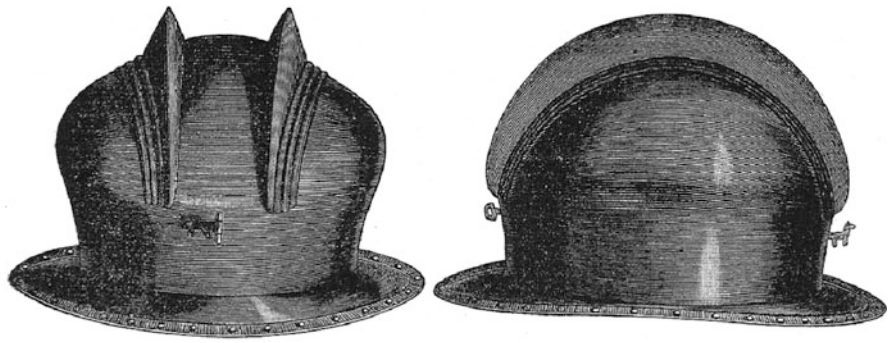

Fig. 11.8 Early Iron Age helmet from Vače, Slovenia (After von Hochstetter 1883:l. 22, 2)

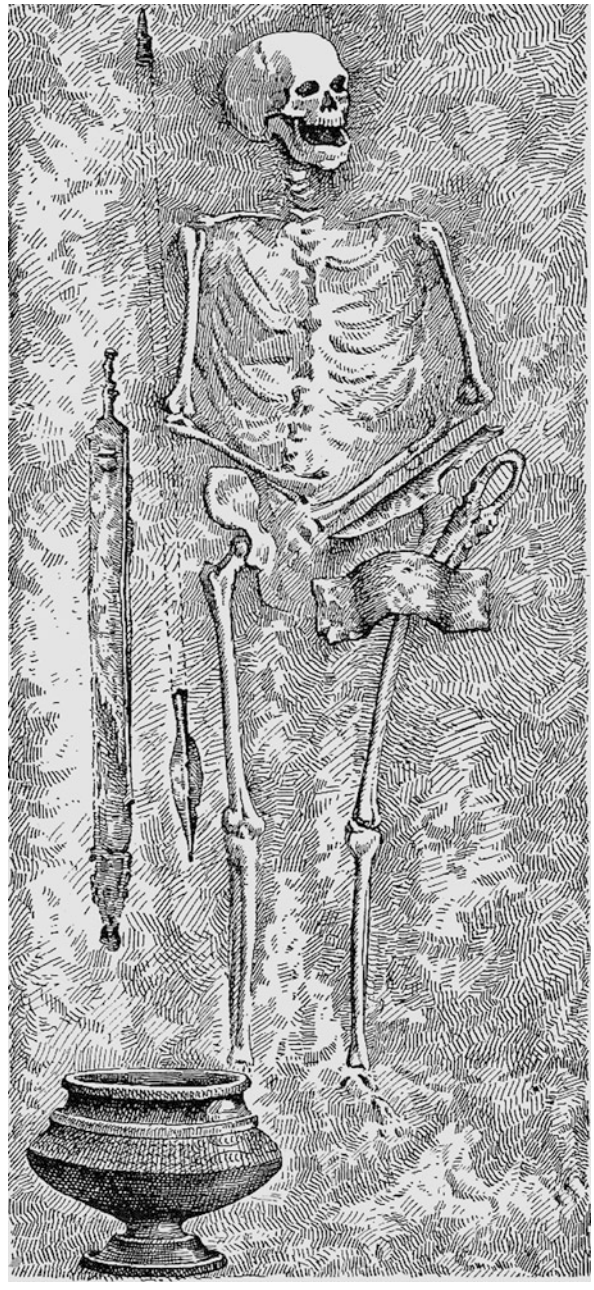

Fig. 11.9 Late Iron Age warrior grave, Montfercaut, Marne, France (After Déchelette 1914:1029, figure 427)

previously. Excavation of settlements of this period is too limited for us to draw conclusions about military activity at occupied sites.

The practice of depositing weapons as offerings is well documented during the Bronze Age, but during the fourth century BC we have the first clear evidence for the ritual depositing of large quantities of weapons representing an entire army. At Hjortspring on the island of Als off the southeast

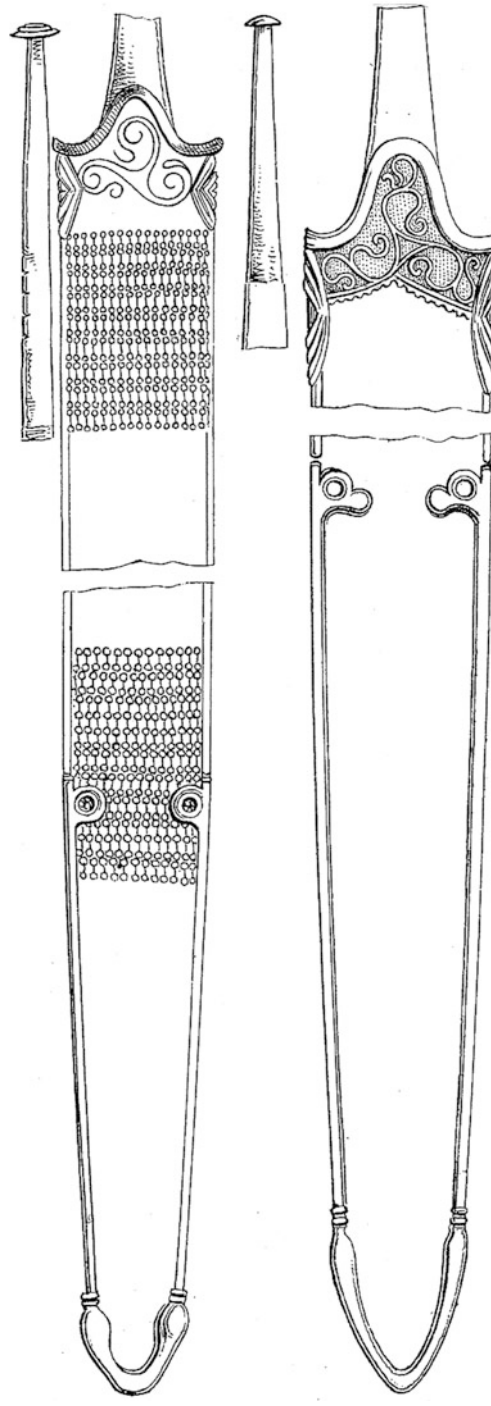

Fig. 11.10 Decorated iron sword scabbards from the site of La Tène in Switzerland (After Keller 1866:l. 74, 3. 4)

coast of Jutland, Danish archaeologists excavated a weapon deposit, apparently containing objects offered to gods by a victorious army (see section, Ritual). The site is important not only for what it can tell us about ritual activity, but also about weapon technology and military organization at this time (Randsborg 1995, 1999, Kaul 2003). The deposit included a boat, 19 meters long built of wood from unusually tall lime trees. Eighteen paddles and two poles indicate that the boat carried at least 20 warriors. The weapon deposit included 95 javelins, 73 lances, 65 shields, 11 swords, and at least 10 suits of mail armor, among the earliest examples of such armor in Europe. The archaeologists who have studied the Hjortspring find believe that the deposit represents an army of at least 80 soldiers, who must have arrived to attack this part of Denmark in four boats of the type represented by the one found. The small number of swords and mail armor sets compared to the javelins, lances, and shields has been interpreted to indicate a military force consisting of a large number of infantry men and a small number of leaders.

A scene on the Gundestrup cauldron (Fig. 11.11) illustrates the kind of large-scale army formation that characterized military activity between the Iron Age tribal groups of Europe and the armies of the Greek and Roman societies with which they came into conflict. The cauldron was found in a bog in the north of Jutland in Denmark, but scholarly consensus places its origin in southeastern Europe during the late second or early first century BC (Kaul and Martens 1995, Nielsen et al. 2005). The scene shows three different kinds of troops – foot soldiers armed with helmets, shields, and lances; cavalry troops with helmets and lances; and horn-blowers. Other elements in the scene illustrate the highly ritualistic context in which military themes are frequently represented.

The Gundestrup representation provides a good impression of what the military forces at the *oppidum* settlements of the final two centuries BC looked like. The term *oppidum*, borrowed from Julius Caesar's use of the word for the tribal capitals of Gaul during his campaigns there between 58 and 51 BC, refers to large fortified settlements that occur across the whole of upland temperate Europe during the final two centuries of the prehistoric Iron Age. Common to all *oppida* is a massive wall constructed of earth, stone, and timber, enclosing an internal area much larger than most fortifications of earlier times. Many *oppida* are hundreds of hectares in size, dwarfing the hillforts of the Early Iron Age. Most of the *oppida* are situated on hilltops, but some take advantage of other kinds of natural defensive barriers such as rivers and marshes.

Fig. 11.11 Scene showing soldiers armed with lances and shields, and horse-riding warriors with lances and helmets, on inner plate E of the silver Gundestrup Cauldron from northern Denmark. Width of this plate: 40 centimeters. Photograph courtesy of the Nationalmuseet, Copenhagen

The construction of *oppidum* walls represents an enormous expenditure of effort. The walls are faced on the outer surface with cut stone blocks and with timbers the size of telephone poles. The quarrying, transporting, and shaping of the stone was a huge task, as was the felling, hauling, trimming, and setting of the timbers. The construction of the earth rampart behind the facade, and of the ditch in front of the wall, was also a major task requiring large labor forces and considerable time (see below).

The *oppida* were primarily defensive in purpose. Field research in the vicinity of the *oppidum* at Kelheim in southern Germany has demonstrated that at the time that the *oppidum* settlement was established, smaller settlements in the region were abandoned (Murray 1993). Apparently the large fortified settlement was required to provide protection, and when it was completed, people abandoned their open, undefended settlements to move into the new fortified location. In his commentaries on his campaigns in Gaul, Caesar explains in detail how the Gauls used their *oppida* as fortresses to defend themselves. The Roman general recounts how effective the *oppidum* walls were against the Roman army's assaults.

Contemporaneous with the scene on the Gundestrup cauldron and with the *oppida* are many sites at which weapons were ritually deposited (see below). At Gournay-sur-Aronde in northeastern France, the excavator Brunaux (1996) interprets the large numbers of Late Iron Age swords, lances, shields, and other weapons deposited in the enclosing ditches to indicate that the weapon sets of some 500 defeated warriors were displayed as trophies within the sanctuary area.

The appearance over much of Europe of very similar weapon sets in burials has led to the formation of the concept of an "international warrior aristocracy" during the final two centuries BC (Frey 1986, James and Rigby 1997:24). The weapons include long iron swords with iron or bronze scabbards, frequently bearing a distinctive ornament that shows connections between individual warriors over great distances. Lances with iron points and shields are also common components of these burials. The striking similarity of the sets of weapons, and of the ornament on individual pieces, over most of Europe suggests that the weapon-bearing elites of different regions were in close contact, sharing styles and ideas, and that the warrior ideology was fundamental to political power and social status during this period (Roymans 1993). Increasing conflict with Rome played an important role in this development (see section, Roman Conquest). At this same time in Britain, changes in the use of hillforts and the deposition of weaponry has been interpreted to indicate the development of a new orientation in military conflict, toward territorial warfare aimed at gaining control of the circulation of valued raw materials and imported products (Sharples 1991).

Recent archaeological research at several sites of battles between Iron Age peoples and Roman armies provides insight into the technology and tactics of warfare by military forces such as those represented on the Gundestrup cauldron and in the sanctuary at Gournay. Excavations at Alesia in France have revealed the battle site where Julius Caesar's Roman legions defeated the final unified resistance of the Iron Age Gauls in 52 BC (Reddé et al. 1995). At Döttenbichl near Oberammergau in southern Bavaria, Germany, a site associated with a battle between Roman legions and native peoples in 15 BC has been excavated and is now being analyzed (Zanier 1997). The site of the Battle of the Teutoburg Forest, where Iron Age troops under the command of the German leader Arminius wiped out three Roman legions in AD 9 and thereby ended Roman designs on the lands east of the lower Rhine is currently under excavation (Wells 2003). Among the most direct examples of warfare between Iron Age Europeans and the Roman legions is a skeleton in a cemetery at the hillfort of Maiden Castle in southwest Britain, with an iron arrowhead lodged between the vertebrae (Wheeler 1943:63, plate 58A). I shall say more about these sites in my discussion of the Roman Conquest.

Rise of Economic and Political Centers

A special feature of the Iron Age in Europe, in contrast to earlier periods, was the rise of centers – settlements that became larger than typical farming communities and that developed to assume specialized functions in manufacturing, commerce, and political organization (Härke 1979). This phenomenon is especially apparent in two periods, the latter part of the Early Iron Age, 600–450 BC, and in the latter part of the Late Iron Age, 200 BC to the Roman conquest.

The Early Iron Age centers (Figs. 11.12 and 11.13) share a series of characteristics (Krausse 2008, Schussmann 2008). Manufacturing includes iron-working, bronze-casting, gold-smithing, pottery production, and the working of a variety of other substances such as amber, coral, antler, bone, glass, jet, and lignite. Imported goods are common at the centers in the southern regions of Europe, including Attic pottery from Greece, wine amphoras from Greek production centers in southern Gaul, and other Mediterranean products. Associated with many of the centers are exceptionally large mounds that contain rich burials distinguished by quantities of gold ornaments, Mediterranean bronze and ceramic vessels associated with wine-drinking, and other luxury goods. These graves underscore the role of the centers both in commerce with distant markets and in political hierarchies that were developing in Europe at the time. Biel (1993) argues that the Early Iron Age centers and the special burials associated with them indicate the first development of highly complex social and political structures.

Fig. 11.12 Map showing locations of some Early Iron Age centers and other important sites from around 500 BC

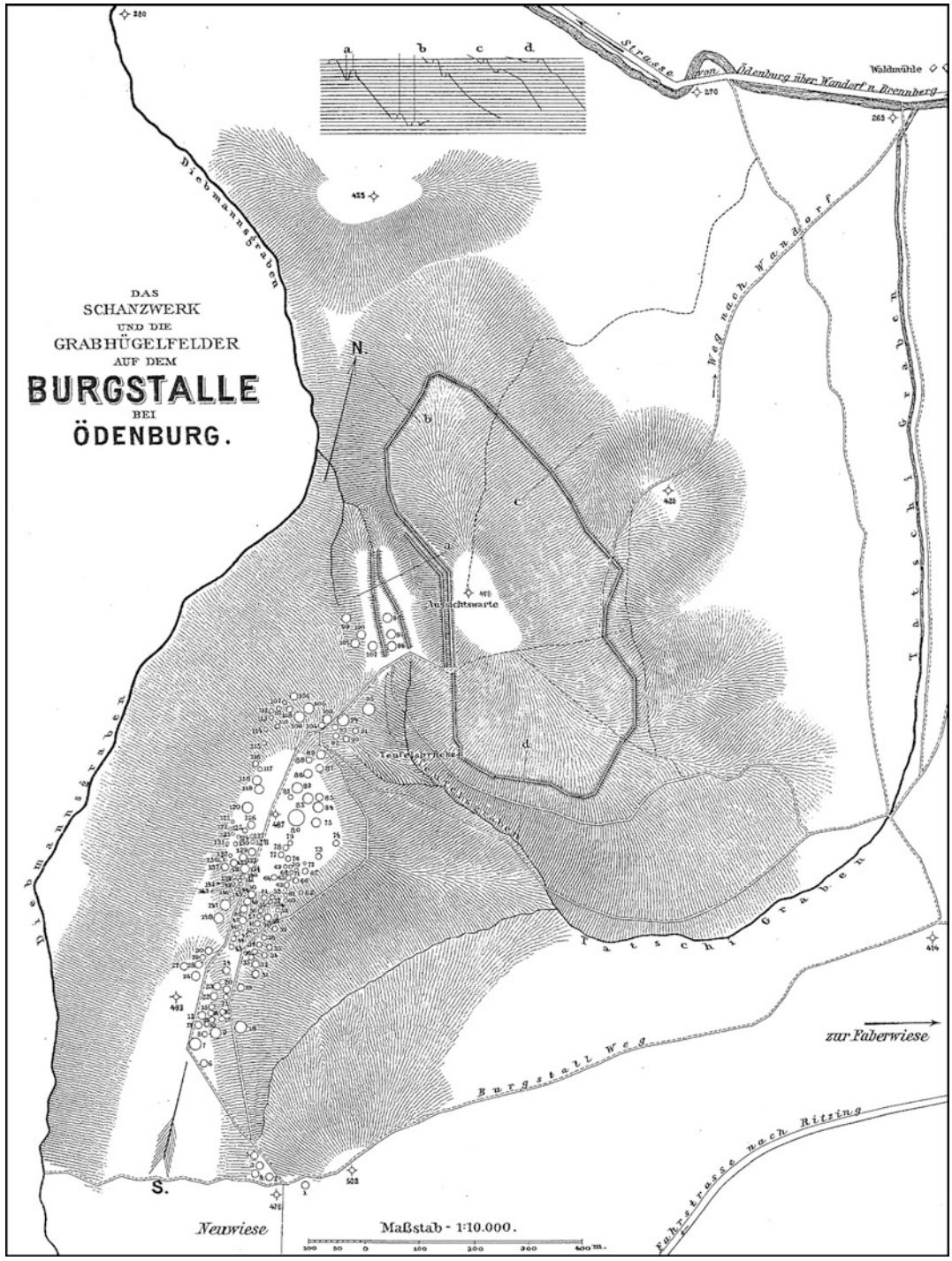

Fig. 11.13 Plan of the Early Iron Age hillfort center at Sopron (Ödenburg), Hungary (After Bella and Müller 1891:l. 4)

The formation of centers in Iron Age Europe needs to be understood in the context of changes that were happening not only in Europe but more broadly in the Mediterranean Basin and the Near East as well. As mentioned above in the discussion of trade, fundamental changes in the east Mediterranean region at the end of the Bronze Age and start of the Iron Age opened up new possibilities for commerce, and as a result, trade increased greatly throughout the greater Mediterranean region (Sherratt and Sherratt 1993). Since the Early Bronze Age, continental and even Scandinavian Europe had been part of a "world system" linked to the Mediterranean and the Near East (Harding 2000). When Greek cities sent out colonies to different places along the shores of the Mediterranean and Black Seas beginning in the eighth century BC, they transplanted Greek urban traditions to Italy and the east coast of the Adriatic, the Pontic coasts of the Black Sea, and later to Iberia and southern Gaul. Many of these colonial cities engaged in commerce with the peoples in the lands around them (Boardman 1999).

As a special phenomenon of the Early Iron Age, the centers have attracted considerable research attention. The reasons behind the emergence of these centers at this particular time have been much discussed. Among the issues of most lively debate is whether they developed more through local processes of change or more as the result of the effects of Greek commerce (Pare 1991, Sherratt 1995b). Rather than trying to argue for one or the other factor as the determining one, it is more productive to try to understand the interactions between the different elements. No single factor can explain a complex phenomenon such as the emergence of these centers.

In parts of the Iberian Peninsula, fortified hilltop settlements were established from the sixth century BC, characterized by active manufacturing and participation in trade with Mediterranean societies (Santos Velasco 1989). Richly outfitted burials associated with the centers contained luxury imports, especially equipment for feasting, and lavish personal ornaments. The formation of these centers is apparent earliest and most intensively along the southern coastal regions of Iberia, and slightly later and less intensively northward and in the interior (Alvarez-Sanchís 2000).

Mont Lassois (Chaume 1997, Mötsch et al. 2008) and Bragny-sur-Saône (Feugère and Guillot 1986) are representative sites of this development in eastern France. Both have yielded extensive evidence of on-site manufacturing in a variety of materials, and importation of luxury products from the Mediterranean world, especially vessels connected to feasting rituals. The richly outfitted burial of Vix lies at the foot of the fortified hilltop settlement of Mont Lassois containing some of the most important evidence for political ties with the Greek world of the Mediterranean (see section, Contact).

In southwestern Germany, the Heuneburg on the upper Danube River is one of the most extensively investigated of all Early Iron Age centers (Kimmig 1983). The settlement deposits have yielded abundant evidence for manufacturing in many different materials, as well as commerce with the Greek and Etruscan societies. A special feature of the Heuneburg is a wall of sun-dried clay brick, modeled on a type of wall characteristic of Greek cities in the Mediterranean region and foreign in material and design to temperate Europe. Some of the houses on the settlement have floors paved with clay brick as well, interpreted as the residences of the political elites at the site. These elites are well represented in the numerous exceptionally rich burials situated around the settlement. Recent research at the Heuneburg demonstrates that around the hilltop settlement were extensive suburbs that indicate a hitherto unappreciated level of complexity to the occupation of the landscape (Kurz 2005, Bofinger and Goldner-Bofinger 2008, G. Kurz 2008, S. Kurz 2008).

New excavation results show that the patterns of economic and social centralization so well documented at Mont Lassois and at the Heuneburg were by no means limited to those well-studied sites. At the Hohenasperg (Balzer 2008) and at the Ipf (Krause et al. 2008), for example, very similar developments are in evidence.

Of a number of Early Iron Age centers identified in Slovenia, Stična is the best documented (Gabrovec 1974). The settlement was established in the eighth century BC, and during the seventh and sixth centuries this hilltop fortress became a major center of iron production, bronze working, and glass bead manufacture. Below the hillfort are the remains of a large tumulus cemetery. Some of the

burial mounds contain well over 100 graves, many outfitted with fine products of local industries and with luxury imports from other parts of Europe. Unusually large quantities of amber beads attest to regular trade with the Baltic region, and many imports show connections with northern Italy. Imported luxury goods in the graves come from as far away as the eastern coast of the Mediterranean Sea.

At Závist in Bohemia in the Czech Republic, a hilltop fortified settlement contained workshops for the manufacture of a variety of goods, and imported materials from distant source areas, including amber from the Baltic coast and glass beads from the southeast Alpine region (Motyková et al. 1988). Unusual at Závist is a large and elaborately constructed enclosure that has been interpreted as a ritual complex of regional significance. The evidence is not yet clear as to the nature of the rituals practiced at the site, but the structure underscores the central role in ceremonial life of the surrounding populations that this hilltop settlement played.

In southwestern Poland, the lakeside settlement of Biskupin is an unusually well-preserved and investigated center dating to the beginning of the Iron Age. Dendrochronological determinations indicate that the first phase was constructed between about 740 and 710 BC. The 1.5-hectare (3.7 acres) site was protected by a stockade and built, in its first phase, of oak from some 80,000 trees. Remains of 102 log-built houses were uncovered, indicating a community considerably larger than the characteristic farming settlements. The unusually good preservation and exceptionally careful excavation resulted in rich documentation of plant and animal remains as well as implements of wood, together with objects of ceramic, stone, and metal. Imported materials from outside include bronze, amber, and glass beads (Rajewski 1970, Scarre 1998).

A site that was probably a center similar to those discussed above has been identified at Oprisor in Romania, but it was largely destroyed by sand and gravel quarrying before full investigation was possible (Kull and Stinga 1997). Signs of the special nature of the site include the presence of wheel-made pottery earlier than at most sites in temperate Europe, and especially a bronze stamp designed for impressing an acorn or lotus bud pattern into sheet metal. The stamp is similar to designs on two silver vessels in the great silver hoard at Rogozon in Bulgaria and links Oprisor with other sites along the west and north coasts of the Black Sea.

Among Early Iron Age centers in eastern Europe, the site of Belsk on the middle Dnieper River in Ukraine is well documented (Melyukova 1995:47–48, Rolle 2006). This exceptionally large settlement covers a total of 4021 hectares (about 9900 acres). It is surrounded by a ditch and a wall built of timber and earth, still standing to a height of up to 9 meters. The complex was first constructed around 700 BC as two separate fortresses, then during the sixth century BC an enclosing wall was built that included them and the land between. Extensive remains of iron production, bronze casting, and other crafts have been recovered, along with many luxury objects imported from the Greek world. As western European centers, including Mont Lassois and the Heuneburg, interacted with Greek merchants at colonial cities such as Massalia on the Mediterranean coast of Gaul, the community at Belsk was situated near Greek colonies on the north coast of the Black Sea, including Olbia.

The Early Iron Age centers, of which I have discussed several examples here, are the most apparent indication of major social, political, and economic changes that took place in Europe during the Early Iron Age. But other kinds of evidence in regions where these centers do not occur also point toward the formation of more complex social and political hierarchies. Fortified farmsteads, enclosed by walls and ditches, are characteristic in parts of central Europe and may reflect the emergence of new elites in a context where the larger centers did not emerge (Nagler-Zanier 1999). In northern parts of the continent, the construction of wooden trackways to serve as roads across bogs attests to a level of political organization considerably larger than that of the individual farm or hamlet. At Ockenhausen in east Friesland, a track 650 meters long and 3.3 meters wide was built of oak, from some 1,500 oak trees felled between 717 and 714 BC (Fansa and Schneider 1993). Construction on this scale for the purpose of improving the efficiency of movement through the landscape can only have been undertaken through the planning, organization, and direction of a political authority operating in the

interests of many communities concerned with creating favorable conditions for the movement of people and goods. This political complexity has not yet been identified in other evidence in that region, however, such as in more complex settlements or unusually richly equipped burials.

In Britain many hillforts were constructed during the fifth and fourth centuries BC. Among the best studied of these sites are Danebury in Hampshire (Cunliffe 1994a) and Maiden Castle in Dorset (Sharples 1994). These British sites were centers of population, and there is substantial evidence for manufacturing on them. But they do not appear to have played the same role as centers of long-distance trade that the Early Iron Age centers in the southern parts of central Europe did at the time.

La Tène and Other New Styles

When the chronological framework for European Iron Age archaeology was established in the latter half of the nineteenth century, the Late Iron Age was defined by the La Tène style of ornament. Since that time, the La Tène style has formed the basis for discussion of the start of the Late Iron Age. But like all categories established by archaeologists and historians, the La Tène style is an artificial construct, and was most likely not a reality to the people who made and used the objects bearing that decoration. Whereas early investigators sought to define the essence of Early La Tene style and viewed it as a uniform phenomenon, with the large database now available we can see that there is great regional and individual variability in the design of objects linked to this style (Frey 1995a, Müller 2009). Archaeologists have recognized other new styles that appeared at about the same time, such as Jastorf in north-central Europe and the Scythian Animal Style in eastern Europe. Yet as the quantity of archaeological data increases, it is becoming increasingly evident that all of these "styles" are artificial categories created by modern researchers. A detailed discussion of new approaches to this issue is beyond the scope of this chapter, however, and for present purposes, I consider three of the accepted styles that became current in the fifth century BC – the La Tène, the Jastorf, and the Scythian.

The La Tène style of ornament first appeared around the beginning of the fifth century BC (or perhaps earlier – see Möller 2000), probably in the area of the middle Rhineland, where most of the earliest examples have been recovered in richly outfitted burials. In contrast to the dominant decorative style of the Early Iron Age in the central parts of Europe, which was constructed around geometrical forms such as circles, triangles, squares, and rectangles, the new ornament was based on floral ornamentation introduced on objects imported from the Mediterranean world. Stylized flower petals, leaves, and tendrils form the basis of the ornament, integrated with stylized faces of humans, animals, and imaginary creatures. The development of this new style can be understood in terms of responses by Iron Age craftworkers and their customers to designs and motifs they observed on imported objects. In his foundational studies of what he called Early Celtic Art, Paul Jacobsthal (1944) traced the new elements in La Tène style primarily to Greek and Etruscan origins. He mentioned Eastern motifs as well, but thought they were transmitted via the eclectic cultural mix of the Etruscan arts. Recent work has documented strong links with artistic traditions of Eurasian peoples (Guggisberg 1998), thus broadening the discussion of the origins of the La Tène style. The adoption of themes of figural representation played a special role in the creation of the new style, reflecting the evolution of a new system of beliefs (Frey 1993).

The earliest expressions of La Tène style are on objects crafted for the Iron Age elites, such as gold neckrings and bracelets, gold pendants, gold bowls, bronze sword scabbards, bronze fibulae, and bronze jugs. Recent studies by Echt (1999) and Verger (1995) highlight the diversity of the new style, even in the core areas. But among the rich men's graves with objects ornamented in the new style, Echt draws attention to some important common elements in landscapes from central France

in the west to Bohemia in the east. These include standard sets of weapons – short swords most frequently, but also spears and, less commonly, helmets; two-wheeled vehicles; bronze vessels from Etruria in central Italy; and, in the wealthiest, gold jewelry consisting of neckrings, bracelets, and plaques. He interprets the strong similarities between men's graves across this broad expanse of the continent to indicate regular interaction between these elite males. The emphasis on weaponry in the graves suggests that warfare played an important role in gaining and maintaining power and wealth, probably through raiding expeditions. Echt suggests that many objects in the rich women's graves of this period, such as the large numbers of figural representations and beads made of special substances as in the burial at Reinheim, indicate special religious or ritual roles for women. The rich graves of women contain gold ring jewelry and feasting equipment similar to that in the rich men's graves, suggesting similar status with respect to the political and social roles implicit in the display of the personal ornaments and the hosting of feasts.

The proliferation of figural representations in Early La Tène art merits special attention. Human and animal heads are much more common in this style than in any earlier traditions (Müller 2009). In a study of 559 figural fibulae of the Early La Tène period, Binding (1993) notes the extreme attention to detail in the sculpting of faces, compared to similar representations from the Early Iron Age. The much increased concern with such representations is thought to reflect important changes in religious ideas (Frey and Müller 1995). We do not know how the Iron Age Europeans imagined their gods and spirits looked, but these Early La Tène figures could be representations of such deities. We know that at the start of the Roman Period, indigenous European peoples adopted the Roman medium of anthropomorphic sculpture to represent their deities (Wells 1999:184–186). Perhaps a similar transformation took place during the fifth century BC as the result of interaction with the Greek world and its traditions of figural sculpture.

After a generation or two, La Tène style ornament appeared more widely among peoples of Europe (Fig. 11.14). Geographically, the style was disseminated far beyond its places of origin in western and central Europe, and socially, it came to be applied to many objects in modest burials, not just in the richest (see following paras).

At the time that the La Tène style developed and spread in central regions of Europe, in northern Europe a tradition known as Jastorf became characteristic. Whereas the La Tène style was associated most often with inhumation burial, the Jastorf tradition was associated with cremation. Characteristic objects were straight bronze pins, some with U-shaped bends near the head, others with flat disks or globes on the head. Other typical Jastorf objects are long triangular belthooks, sheet-bronze earrings, bronze neckrings, several different types of fibulae, and plain pottery (Müller 2000). Ornamentation of objects is much less pronounced than with the La Tène style, and human and animal faces played a negligible role in the Jastorf tradition. The Jastorf style is characterized by the shapes of objects – especially the metal ornaments – rather than by decorative elaboration.

In eastern Europe and Eurasia, the tradition known as Scythian Animal Style developed from the sixth century BC (Reeder 1999). The most commonly represented animals were the stag, horse, and boar, often portrayed more naturalistically than the animal figures of La Tène style. Plant motifs became common in the fifth century BC, borrowed from Greek prototypes, as in the case of the La Tène tradition (Melyukova 1995). In the regions north of the Black Sea, communities established similar kinds of relations with the Greek world as communities in western and central Europe had, and we see similar patterns of Early Iron Age centers, rich burials, and Greek imports. In both of these instances, we can understand the formation of the new styles – La Tène in the west and Scythian in the east – in terms of the interplay between indigenous traditions and new ideas introduced via Greek trade. As the archaeology of eastern parts of Europe becomes better known, we are seeing increasing evidence for the application of these styles in regions hitherto considered outside their core areas. For example the gold ornaments found at Witaszkowo in Poland are now thought to be local products

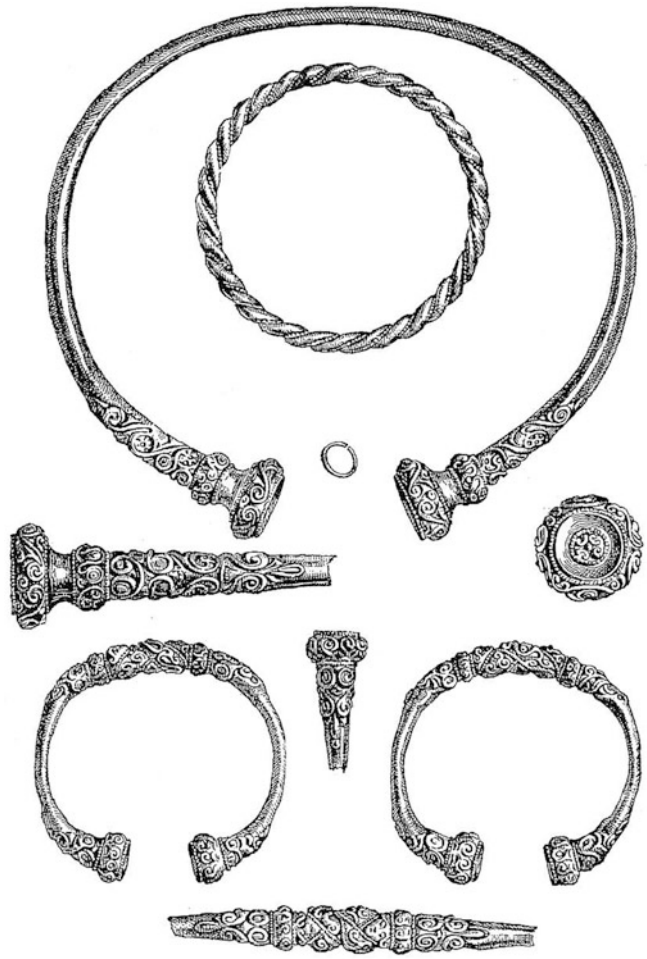

Fig. 11.14 Ornate gold rings from Waldalgesheim, Rhineland, Germany. The set includes a neck ring, three bracelets, and a finger ring. The decorative style represents a development from the earliest La Tène ornament (After Déchelette 1914:1333, figure 582)

crafted in a style similar to that of the Scythian arts north of the Black Sea, rather than imports from that area (Bukowski 1981).

La Tène style fibulae appear in Britain shortly after the creation of the style on the continent. A small number of actual imports have been identified, but the vast majority are distinctively British in style (Haselgrove 1997). Throughout the Late Iron Age, the material culture of the British Isles remained closely connected to the traditions on the continent, but at the same time distinctive (Fitzpatrick 2007, Macdonald 2007). Artisans working in Britain created their own versions of the new styles developing across the Channel. In Ireland, the earliest appearance of the La Tène style is dated to the third century BC. Much La Tène style metalwork has been found in Ireland, but most of it consists of isolated objects, without burial or settlement contexts, making both chronological and functional interpretation difficult (Raftery 1996).

Migration and Change

The fourth and third centuries BC are commonly known as the period of the great Celtic migrations (Szabó 1991a, Kristiansen 1998). This idea is based on texts by Greek and Roman authors, who describe movements of peoples north of the Alps whom Greek writers call Celts and Roman writers call Gauls. Much discussion revolves around whether the archaeological evidence supports the statements by the Classical authors, or whether it suggests different kinds of developments.

Roman tradition describes migrations of peoples from north of the Alps, whom the Romans knew as Gauls, southward across the mountains into Italy (Frey 1995b). Most of the accounts concern migrations beginning around the start of the fourth century BC, but some investigators have argued that some accounts point to a time as early as the sixth century BC. The Greek author Polybius and later the Roman historian Livy name specific tribal groups that settled in northern Italy after their arrival from beyond the Alps. This tradition of southward migration into Italy is presented in greatest detail and most colorfully by the historian Livy, who wrote at the end of the first century BC, almost four centuries after the events he describes. His text was based on what we would today call oral history and legend. According to Livy's version of the events, Gauls crossed through Alpine passes, descended into the Po Plain, and attacked Etruscan cities there. Some of the migrants settled in the Po region as farmers, others continued southward toward Rome. In 387 BC they defeated a Roman army sent to intercept them, entered the city of Rome, and pillaged and set it on fire. This experience of destruction at the hands of northern barbarians played a major role in the decision by Rome's inhabitants to build up its defenses and to create an army to protect Rome's interests in the future.

Livy's text and others that relate the same events are difficult to interpret. Since the many accounts are more or less consistent in describing a migration across the Alps, settling in the Po Valley, and moving on toward Rome, it seems clear that some kind of large-scale movement must have taken place that included an assault on the city. But none of the accounts are by eyewitnesses, and all were written down long after the events. Thus it is difficult to separate fact from tradition. Certainly many of the details in Livy's version of the story were added by the historian to make the account colorful and popular with readers.

The archaeological evidence in Italy supports the idea of movements between regions north of the Alps and northern Italy, but it does not suggest migrations on the scale indicated by Livy and the other writers (Frey 1995b). Cemeteries and individual graves in the Po Plain and south as far as Ancona on the Adriatic coast indicate the introduction of new burial practices during the fourth century BC that include, in some cases, weapon burial in men's graves and lavish personal ornaments in women's. Many specific objects, including swords, neckrings, bracelets, fibulae, and belthooks, point to connections with peoples in eastern France and southern Germany (Frey 1998).

A number of texts refer to Celtic mercenary soldiers hired to serve in armies in lands bordering on the Mediterranean Sea (Szabó 1991b). They are mentioned in Greece in 369–368 BC, in Sicily shortly thereafter, in north Africa in 307 BC, and in Egypt in 277–276 BC. These warriors earned a reputation for exceptional fighting ability and were apparently in great demand by Mediterranean potentates fighting for power. Other texts describe Celtic tribal warrior bands migrating into the middle and lower Danube valley and into Greece during the first part of the third century BC (Szabó 1991a). In 278 BC, 10,000 armed men are said to have crossed Hellespont into Asia Minor. But there is very little archaeological evidence to support these textual accounts.

Archaeologists have long searched for material evidence that corresponds to these migrations described in the ancient texts. A major problem has been that archaeologists have been too eager to interpret the texts literally, without being critical enough about the sources and purposes of the texts. Before the fourth century BC, we have very little written information about the peoples north of the Alps (see the Section "Contacts"). The first more detailed information about them occurs in the context of the migrations represented by Livy, Polybius, and other writers. Thus we do not know

whether the movements about which those Classical authors wrote were unusual, or whether they were common but only described first for the fourth century BC.

Another problem concerns the character and scale of the migrations. The movements recounted by Livy and other writers, like other migrations described from early times, are portrayed as one-way, large-scale migrations. But recent cross-cultural studies of migration as a cultural phenomenon show that most migrations in human history have been accompanied by back-migration; in most instances, a large proportion of migrants move back to where they came from (Anthony 1997). The ancient authors do not discuss such return migration. Nor do they indicate clearly how many people were involved in the movements they describe. From Livy's descriptions, the movements across the Alps into Italy could have involved just a few hundred men in warrior bands, or they could have consisted of thousands or even tens of thousands, including men, women, and children, with their belongings. The Greek and Roman writers do not indicate the geographical origins of the migrations. The same lack of detail applies to the references about Gallic mercenaries. According to the vague and general way that the Greek and Roman authors used the names Celt and Gaul, Gallic mercenaries could have come from almost all of the central and southern regions of temperate Europe (see below). Nor are the writers clear about how many such mercenaries were involved.

The textual sources concerning migrations and mercenary service are thus complex and problematic, and they do not seem to correspond closely to the archaeologial evidence. But they are nonetheless important sources of information, and the archaeological picture is similar enough to indicate that some important movements were taking place during the fourth and third centuries BC.

Archaeological evidence throughout much of the European continent shows that the fourth and third centuries BC were a time during which styles and practices spread widely. The La Tène style became an important decorative fashion from Spain in the west to Ukraine in the east, from Italy in the south to Scandinavia in the north. Over much of continental Europe, a uniform burial practice was adopted, consisting of flat inhumation burial, with many men buried with sword, lance, and shield, and women with sets of jewelry that included neckrings, bracelets, fibulae, and glass and amber beads. This increasing uniformity of style and practice was been interpreted as "the spread of the Celts," but as Fitzpatrick (1996) and others have shown, there is no evidence that these changes resulted primarily from migration. The better model is one of increased mobility – that is, greater movements of individuals and groups for many different reasons, and adoption of new styles and practices because they were attractive for one reason or another (Frey 1995c). Even though the spread of the La Tène style and common burial practice shows increased interest among peoples across Europe in sharing objects and behaviors, regional differences are still apparent which we would not expect if the principal mechanism of spread were migration. Some migration surely took place, but more important were movements of limited duration, along with sharing, borrowing, exchanging, and copying.

An important series of movements at the end of the second century BC are noted in Roman texts. According to these sources, peoples known as the Cimbri and the Teutones migrated in large numbers from northern Europe southward (Last 1932). In 113 BC they confronted and defeated a Roman army at a place called Noreia, thought to be somewhere in Austria or Slovenia. During the next decade they moved across central Europe into Gaul, met and defeated Roman forces several times, until finally they were conquered by Rome at a place called Vercellae, somewhere in northern Italy, in 101 BC. As in the case of the earlier migrations already discussed, the texts are unclear about many important details, especially the location of their places of origin in northern Europe and the numbers of people involved (Kaul and Martens 1995). These migrations are often invoked in discussion of disturbances in central Europe at the end of the second century BC, but there is no clear archaeological evidence for these migrations or for the people said to have taken part in them.

Contacts with Literate Societies

Much that is written today about the Iron Age peoples of Europe is based on descriptions of them by Greek and Roman authors who provide the earliest information about contacts between the prehistoric peoples of temperate Europe and members of literate societies of the Mediterranean world. These early written accounts of cross-cultural interactions can be very informative, but they must be used with informed caution (Wells 2001). Too often the early texts have been adopted as if they are straightforward, matter-of-fact reports about neighbors.

In eastern Europe, Greek writers wrote of peoples they called *Skythai*, or Scythians, at the end of the seventh century BC (Alekseev 2000). In western Europe, Greek authors in the sixth century BC refer to peoples living around the Greek colonial city of Massalia (modern Marseille) as *Keltoi*, or Celts (Freeman 1996). These early contacts between prehistoric peoples of temperate Europe and members of literate societies of the Mediterranean world developed in a specific context. Beginning in the eighth century BC, Greek cities established colonies along the shores of the Mediterranean basin, for purposes of growing grain to feed the populations of the mother cities and acquiring needed goods through trade with peoples throughout the Greater Mediterranean world (Boardman 1999). These Greek colonies brought the literate world of Greece into direct contact with peoples inhabiting Iberia, southern France, Italy, Sicily, the east coast of the Adriatic, and the Black Sea coasts (Pare 1997).

From the early phases of this colonization process, we have only scanty literary texts about the native peoples of Europe. But from the fifth century BC the texts gradually become more extensive and more abundant. Herodotus, around the middle of the fifth century BC, wrote a detailed account, what we might call an ethnography, of the Scythians north of the Black Sea. During the second century BC, Polybius described people he called Gauls living in the north of Italy. From the first century BC, we have abundant written accounts of the Iron Age peoples of Europe by Julius Caesar, Diodorus Siculus, Livy, Strabo, and others (Crumley 1974, Rankin 1987).

In assessing how we can use such accounts to understand the peoples of Iron Age Europe, we must apply a number of critical judgments to the Greek and Roman texts (Champion 1985, Hartog 1988). As historians have emphasized in recent decades, historical texts are cultural artifacts, and must be subjected to analysis as such. In assessing any text about the Iron Age peoples, we must ask a series of questions. What political bias did the writer bring to his or her consideration? For what purpose was he or she writing? Did he or she have direct personal contact with the people being described, or does the reporting consist of secondhand information?

All writings by Greek and Roman authors about the Iron Age Europeans reflect a general attitude toward those peoples as barbarians (Dauge 1981). The word barbarian did not have the same connotation of savagery and violence that it has today, but meant to the ancient Greeks and Romans foreign, different, with an implication of inferiority.

All descriptions of Iron Age peoples presuppose earlier interaction that had already affected the native peoples. This point is often ignored by modern writers, yet it is critical to assessing what we can learn from the texts. By the time Herodotus learned about the culture of the people he called Scythians, and by the time Polybius became familiar with the Gauls of northern Italy, these peoples had been in close contact with the Greek and Roman societies for decades. Modern investigators consistently adopt Polybius's descriptions of Gallic culture (because it is one of the few early accounts) and apply what he says about the Gauls he came to know in Italy to the peoples north of the Alps. But the people Polybius called Gauls in Italy had changed considerably from their relatives to the north, through migration and close interaction with the peoples of the Italian peninsula.

In addition to this general caution concerning the effects of interaction with the literate Mediterranean societies on the Iron Age peoples of Europe, we need to consider a more specific issue. During the final two centuries BC – the time from which we have many more Greek and Roman texts about the Iron Age societies than for earlier centuries – interactions between indigenous peoples

of Europe and Romans frequently took the form of warfare. Mediterranean observers had already established in their minds that the peoples to their north were warlike. Many of the earlier accounts of the peoples called Celts (Gauls) and Scythians describe their bellicose character. And of course since Mediterranean armies often hired "Gallic" mercenaries, the Gauls became known for their martial prowess.

By the first half of the second century BC, Rome was expanding northward to the Alps and beyond, and becoming increasingly engaged in military and political affairs in southern France. These ventures brought the Roman world into increasing interaction with the indigenous peoples of Europe (Timpe 1989). Hence the great majority of accounts about the Celts (Gauls), and later the Germans, describe military confrontations and characterize the natives as warlike. This type of representation is the result of the nature of the written sources. We have no accounts by Roman anthropologists who lived in villages in the Netherlands, say, and described the way of life of the natives there.

Finally, in judging how to utilize the Classical written sources concerning the Iron Age peoples, we need to consider the specific purposes for which the Greek and Roman authors were writing. Herodotus, for example, was attempting to write a world history. In order to make his account interesting, he emphasized customs of other peoples that his Greek readers would find particularly unusual and fascinating. Livy, in recording the ancient traditions of early Rome, used the story of the Gallic invasion of Italy and sacking of Rome early in the fourth century BC as a cautionary tale at the time of Augustus's imperial rule, to warn Romans of his day to be on their guard against external enemies (Galinsky 1996). Julius Caesar, in his commentary on his military campaigns against the tribes of Gaul, was writing accounts that would help him to win Roman support for his military ventures and ultimately to achieve supreme power in Rome. In every case, the Greek and Roman texts do not provide an "objective" description of the Iron Age peoples (whatever that might be). In order to make use of the texts, we need to be aware of why the texts were being written and what was behind their composition.

Linguistic and Ethnic Groups

Traditionally, the Iron Age peoples of western and central Europe are referred to as Celts (Gauls), those of northern Europe as Germans, those of the eastern regions north of the Black Sea as Scythians, those of Spain and Portugal as Iberians, and myriad different groups in southeast Europe by names such as Illyrians, Thracians, and Dacians (many other groups are named as well, especially on the shores of the Mediterranean Sea). From the point of view of written history, these are the names by which the Greek and Roman writers designated the preliterate peoples of Europe. But from the perspective of archaeology, or indeed from the perspective of those Iron Age peoples themselves, the situation is much more complex.

Space does not permit me to examine the situation for all of the different groups of Iron Age Europeans named by the Greek and Roman writers. I limit myself to those designated Celts and Germans to illustrate the basic points. The earliest documented use of the name *Keltoi* is by the Greek writer Hecataeus of Miletus in the sixth century BC, when he uses that name to designate peoples living in what is now southern France, in the region around the Greek colony of Massalia. In the fifth century BC, Herodotus informs us that *Keltoi* live in the western regions of Europe and that the Danube River originates in the land of the *Keltoi*. From the fourth century BC on, Greek references to the Celts become more frequent, and they use the name to refer generally to peoples throughout western and central Europe (Freeman 1996). Historians and archaeologists have employed these texts to conclude that people named Celts inhabited western and central Europe while those Greek writers were writing, from the sixth century BC on.

But examination of this usage in the light of recent research on the ways that literate societies name groups in non-literate ones brings up serious problems with this procedure (Wells 1995b). The

name *Keltoi* was, as far as we know, a Greek creation. We do not know what the people whom the Greeks called *Keltoi* called themselves. Furthermore, there is no reason to think that all of the groups the Greeks called *Keltoi* had any sense that they belonged to a unified people. The archaeological evidence showing regional variation could be interpreted to indicate that they most probably did not think of themselves as members of one people. That unity was an image in the minds of the Greeks, not of the Iron Age Europeans.

We do not know what other categories Hecataeus, Herodotus, and other authors had in mind when they used the name Celt. Were they contrasting Celts with others, or did Celt simply mean something akin to "all of the natives" in a particular region? The fact that for centuries no other group in the west-central regions of Europe is named by Greek authors casts serious doubt on the significance of that name. There is no useful linguistic evidence from the region (except the southernmost areas such as Mediterranean Gaul) until the second half of the second century BC.

The earliest written text that provides detailed information about the peoples the Romans called Germans (*Germani*) is by the Roman general Julius Caesar (Pohl 2000). (The slightly earlier Greek commentator Posidonius may have written about the Germans, but his works do not survive.) His remarks about the Germans were specific. In his commentary on his military campaigns in Gaul, Caesar writes that the peoples who lived east of the Rhine were Germans, while Gauls (Celts) lived west of the river. These groups whom Caesar and subsequent Romans called Germans occupied a part of Europe between the two large divisions that the Greeks had recognized for centuries – the Celts to the west and the Scythians to the east (Timpe 1989).

Caesar portrays the Gauls and the Germans as very different (Walser 1956, Dobesch 1989). The Gauls, in his account, have towns, political counsels that he likens to the Roman Senate, and elaborate religious rituals similar in some ways to those of Rome. The Germans, on the other hand, Caesar represents as more primitive than the Gauls, and much less like people of Rome. They have no towns, little-developed agriculture, no permanent political leaders, and no elaborate rituals. Caesar even goes so far as to describe mythical animals that he claims live in the forests inhabited by the Germans. When we compare the archaeology with Caesar's assertions, it is clear that Caesar did not know much about the peoples east of the Rhine. Either he wrote on the basis of poor information gathered from others, or he made up most of what he wrote to suit his purposes.

Today linguists distinguish between Celtic and Germanic languages. But Caesar did not make any use of language as a distinguishing feature between Gauls and Germans, probably because he did not know much about the languages the indigenous peoples spoke. Furthermore, as Untermann (1989) points out, the categories "Celtic" and "Germanic" in reference to languages were only created in the nineteenth century by scholars in the field of historical linguistics. The languages that Iron Age peoples west and east of the Rhine spoke might not correspond to either of those categories. Recent linguistic studies of inscriptions (mostly from the early Roman Period) and place-names suggest that many groups probably spoke languages that modern linguists could not easily classify either as Celtic or Germanic, but rather languages that mixed elements of what modern linguists recognize as distinct categories (Meid 1986).

The earliest evidence of what linguists consider a Celtic language in Europe is on inscriptions in southern France, starting in the third century BC, written in Greek letters (Kruta 1991). Slightly later examples include Celtic names inscribed on sherds of pottery from Manching in southern Germany, and the Celtic name KORISIOS on the blade of a sword from Port in Switzerland. Celtic names in Latin letters first appear at the end of the second century BC on coin inscriptions, including some in central Europe (Allen and Nash 1980).

The earliest traces of a language that linguists consider Germanic are also inscriptions. Among the earliest are the inscriptions on a bronze helmet from Zenjak (Negau) in Slovenia, thought to date to the late second or first century BC (Egg 1976), and on a fibula from Meldorf in northern Germany from the first century AD (Düwel and Gebühr 1981).

The linguistic evidence for the Celt-German distinction is thus sparse and ambiguous. It suggests in a very general way that, at the time Rome was expanding across the Alps and into western and central Europe (see below), when inscriptions were being carved more frequently, Celtic languages were more common in western and central Europe, Germanic languages in northern and central Europe (Mallory 1989). But there is considerable overlap in the regions where inscriptions in the different languages are found.

The archaeological evidence provides yet another picture. Traditionally in European archaeology, the La Tène style of ornament has been considered a sign of Celts. This connection was first made in the latter part of the nineteenth century, when excavators of cemeteries in northern Italy recognized that metal objects in fourth and third century BC burials, such as iron swords, bronze fibulae, and bronze ring jewelry, were similar to metal objects in graves in northeastern France. The written sources about migrations across the Alps into Italy (as already discussed) included tribal names that matched later tribal names of groups that lived in northeastern France. Thus the connection was made – the cemeteries in northern Italy were those of immigrants whom Livy and other writers called Gauls, hence the peoples in France who shared similar objects must also have been Gauls. Furthermore, Herodotus had said that the peoples of western Europe, and those around the headwaters of the Danube, were Celts (Gauls).

During the fourth and third centuries BC, the La Tène style of ornament became popular over much of temperate Europe (as stated earlier). This happened to be the same time that Greek authors wrote about increasing contacts with barbarians north and northwest of Greece whom they called *Keltoi*. Thus in the developing field of Iron Age archaeology, investigators came to consider the La Tène style as emblematic of the Celts. But as Fitzpatrick (1996) has argued, this link does not hold up to modern scrutiny.

In the Late Iron Age, during the second and early first century BC, the archaeology in the lands west and east of the Rhine is very similar (see below). The large and complex fortified settlements known as *oppida* dominated the cultural landscape, with intensive industrial production, long-distance commerce, and a developed money economy (see the very informative papers in Dobiat et al. 2002). The pottery, personal ornaments, tool technologies, and ritual practices on the two sites of the river show fundamentally similar societies, with the degree of regional variation that we would expect. The distinction that Caesar draws between complex Gauls west of the Rhine and simple Germans east of the Rhine is not reflected in the archaeology, at least not before Caesar's arrival in Gaul to begin his campaigns (Wells 1995b).

In the course of the Gallic War between 58 and 51 BC, we can recognize changes in the archaeology east of the Rhine. During this period, many of the *oppida* were abandoned, the intensive production systems based there fell out of use, and economic and social systems declined in size and complexity. The way of life of the communities east of the Rhine during these years might well correspond to the character of the peoples Caesar describes as Germans. This was not an ethnic distinction, but rather a case of rapid cultural change, in which the Roman military actions west of the Rhine (and including two forays across the Rhine by Caesar in 55 and 53 BC) played important roles. The distinction that Caesar drew between Gauls and Germans, and that modern researchers have largely accepted, may have been between groups of closely related and similar peoples who, for specific historical reasons, were experiencing different circumstances at the time of Caesar's military activities north of the Alps.

Origins of Urbanism

Until the final two centuries of the Iron Age, settlements and communities in temperate Europe were small. Settlements consisted of isolated farmsteads or small groups of farms that we can best call hamlets. Population estimates based on cemetery evidence suggest that most communities were fewer

than 50 people, and the settlement evidence supports that number. The only major exceptions to this general pattern before 200 BC were the centers of the Early Iron Age (see above). Even they were small compared to communities in the Mediterranean world, which could attain tens of thousands of people by that time. Even the population of the larger centers, such as Sticna and the Heuneburg, is unlikely to have been more than a thousand.

Population sizes in the past are extremely difficult to determine, but we can make educated guesses on the basis of a variety of data. Population of all of Europe during the Iron Age may have been around 15–30 million, with a steady but slow increase from the beginning of the Iron Age to the time of the Roman Empire. The Mediterranean lands were the most densely inhabited. Around 400 BC Greece is thought to have had around three million people, at the start of the Roman Empire, Italy may have had as many as seven million. In central regions of the continent, the land that is now Germany is estimated to have had around three million during the final century BC, England and Wales about 600,000. In all of Scandinavia, there may have been around 500,000 people at the time of Christ, about half of them in Denmark (McEvedy and Jones 1978).

Compared to conditions in the modern industrial West, life expectancy during the Iron Age was determined largely by rates of infant mortality and mortality for women in their child-bearing years. Before the modern development of antibiotics and understanding of sanitation, infant mortality tended to be high – often as high as 50% in the first 2 years of life. Living conditions varied widely throughout Europe, and life expectancy surely differed from region to region and over time. Based on skeletal studies of some Iron Age cemetery populations, life expectancy at birth in some regions may have been between 25 and 30 (Pauli 1984, Sellevold et al. 1984, Waldhauser 1987). For individuals who had attained young adulthood – 20 years of age – life expectancy may have been 35–45. Analyses at a number of cemeteries indicate that adult life expectancy was somewhat higher for men than for women, probably because of the effects of infection in childbirth. Though life expectancy during the Iron Age was low compared to that in modern Europe, skeletal evidence shows that many individuals lived to advanced ages – 60, 70, and beyond. In societies without writing, the older individuals in communities were particularly important for remembering events of the past and passing on cultural traditions to the younger generations.

With the emergence of the *oppida* during the second century BC, some centers much larger than those of the Early Iron Age developed throughout southern regions of temperate Europe (Collis 1995). The word *oppidum* (plural *oppida*) is Latin and was used by Caesar to designate the tribal capitals of the Gauls against whom he fought between 58 and 51 BC. The term has been adopted by Iron Age archaeologists to refer to all of the large-walled settlements of the second and first centuries BC. *Oppida* are distributed across the whole of upland temperate Europe, from central France in the west to Slovakia in the east, from the Alps in the south to the Lahn River in the north (Fig. 11.15; for a more complete map of *oppida*, see Wells 1999:50, figure 6). Around 150 have been identified. Even on the surface, these settlements are distinctly different from earlier ones by virtue of their size. The walls are often still enormous despite two millennia of erosion, and they enclose often huge areas. The enclosed area of the Early Iron Age Heuneburg is 3.2 hectares (about 8 acres): that of the *oppidum* of Manching is 380 hectares (939 acres).

The amount of labor and material that went into building the *oppidum* walls was enormous. The walls were constructed mostly of earth, but they had stone and timber facing as well. For walls of the type known as the *murus Gallicus* (Gallic wall, after Caesar's description), large iron spikes were used to fasten together the horizontal support beams. For one phase of the wall at Manching, Lorenz (1986:25–33) estimates that about 60,000 large trees were felled and their trunks cut and trimmed to create the basic timber structure. Around 18,000 nails around 25 centimeters in length were required to secure the bottom layer of timbers. The limestone used for the outer facing of the wall was quarried 30 kilometers to the north and hauled in wagons to the site. A total of some 250,000 cubic meters of stone and earth were used for the Manching wall. Altogether Lorenz reckons around 500,000

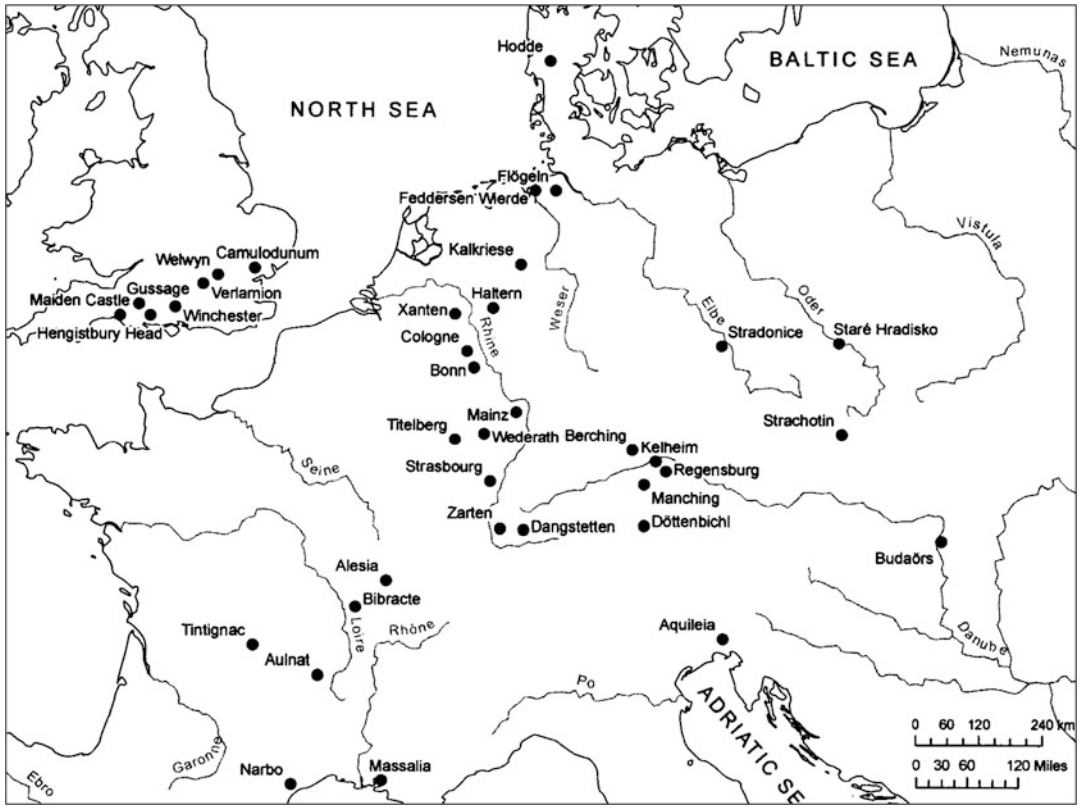

Fig. 11.15 Map showing *oppida* and other sites of the final two centuries BC, and sites associated with the Roman conquest

person-days were required to build the one phase of the Manching enclosing wall. At present, we have little information about either the population of Manching or the scheduling of the wall construction; hence we do not know how long the process took.

All of the *oppida* are situated in places of natural defense. Most are on hilltops, with the walls encircling the upper portions of the hill. A few are in low-lying areas, where they are protected by rivers and marshes. Most of the *oppida* have yielded evidence for industrial and commercial activity. Some, such as Bibracte in France, Manching in Germany, and Stradonice and Staré Hradisko in the Czech Republic, have dense occupation remains showing large numbers of inhabitants, intensive industrial activity, and extensive trade. The populations of those major sites were probably in the several thousands, perhaps approaching ten thousand. Others, such as Kelheim in Germany show much smaller-scale occupation. Sites such as Zarten in Germany have so far yielded only very sparse occupation remains and may have served as fortresses in times of emergency but may have never been permanently inhabited. Excavations at the different *oppida* show that while all share similar wall construction and large enclosed areas, each *oppidum* was unique in its internal structure. Since these settlements are so large, none has been completely or nearly completely excavated. The most extensively excavated is Manching. Of the 380 hectares of enclosed surface area, 18 hectares (44.5 acres) – an enormous area – have been excavated. Still, that represents less than 5% of the site. Thus even with considerable fieldwork at some of the *oppida*, only a tiny fraction of any of the sites has been explored as yet.

Julius Caesar's descriptions of the *oppida* in Gaul make clear that they were urban centers, and he used the word *urbs* (city) to describe three of the sites. East of the Rhine in Germany, Austria, the Czech Republic, Hungary, and other regions, we have no contemporaneous Roman descriptions such as those of Caesar, but extensive archaeological research makes clear that these centers meet most of the criteria for urban places. Many yield remains of intensive industrial production on a scale much larger than anything earlier. Particularly striking is the iron industry. Nearly all excavated *oppida* have produced evidence for iron working on site, often, as at Manching and Kelheim, on a very large scale. Mass production is evident at Manching, with substantial numbers of nearly identical axes, knives, hammers, and other tools. Iron nails were produced in large quantities for the first time in this period, indicating the application of this metal to fabrication of such structures as houses, furniture, and vehicles (Fig. 11.16). Other new kinds of tools such as iron plowshares, colters, and scythes made possible much greater efficiency in agricultural production. In his study of the iron objects recovered at Manching, Jacobi (1974) documented some 200 different types of iron implements.

Bronze casting was practiced at all of the major *oppida* as well, primarily for personal ornaments and other decorative objects, such as parts associated with horse-riding and wagons and chariots. Many of the *oppida*, including Manching and Kelheim, yield evidence for manufacturing glass beads and bracelets, as well as a variety of other crafts.

At the principal *oppida*, most of the pottery was manufactured on the fast-turning potter's wheel, a technological innovation that first became dominant in this period. Wheel-thrown pottery is produced much more efficiently than hand-built pottery, and it usually is a sign of specialized potters, not domestic craft. This pottery evidence, together with the iron-working and other crafts, suggests that manufacturing at the major *oppida* was organized in specialized manufacturing groups, no longer carried out by part-time craftworkers. Additional evidence for this change with the *oppida* is in the character of the most common personal ornaments – the fibulae. In contrast to previous times, nearly all of the fibulae at the *oppida* are forms that lend themselves easily to mass production, not to individual crafting (Furger-Gunti 1977). This change has implications for the way people marked their identities through their personal ornaments, as well as for how manufacturing was organized. Earlier,

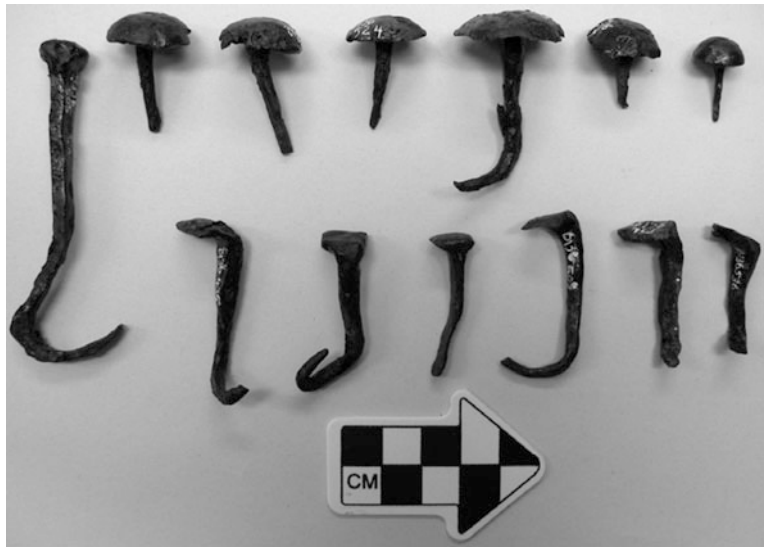

Fig. 11.16 Typical iron nails form the final phase of the prehistoric Iron Age. From the *oppidum* at Kelheim on the Danube River, southern Germany (Photograph by the author)

fibulae were largely individually crafted, and there is evidence that different kinds of fibulae and different types of ornament communicated information about the individual – perhaps the family to which he or she belonged, the person's status, or other information about the individual's identity. With the mass production of fibulae, variability between objects was much reduced, suggesting that they played a much less important role as devices for signaling information about the wearer (Gebhard 1991).

The communities at many of the *oppida* minted coins. By around the middle of the second century BC, the major *oppida* were minting three-metal coinages, gold, silver, and bronze. With this trimetal coinage, we can for the first time speak of a real-money economy with three metals of different values. Ceramic molds for the casting of coin blanks have been recovered at many *oppida*, and dies for stamping the coins have been found at some. This development of a full-money economy at the *oppida* represents a substantial change in the economy and social system of Late Iron Age Europe (Kellner 1990). When a money-based market economy replaced a barter or redistributive system, relationships between individuals changed. Social relations ceased to be the principal basis of goods exchange, and market-determined values replaced them. Different archaeologists studying the economic changes apparent in this phase of the Iron Age have reached similar conclusions about this fundamental shift from family-based settlement and economic organization to a system driven largely by specialized manufacturing and commerce (Meduna 1980:157, Gebhard 1989:185).

Another sign of the changes at the *oppida*, and the urban character of these centers, is the proliferation of keys (Fig. 11.17). Keys and locks are sparse in prehistoric Europe before the second century BC, but at the *oppida* they are common. The proliferation of keys suggests two important changes. One was the need to secure one's possessions in a large community in which one did not know and trust all of one's neighbors. This was surely a major change in the creation of the new urban centers. The other was the presence of wealth in sufficient quantity to require locking up on a large scale. The *oppida* were commercial centers, and large quantities of goods were collected and circulated there. Many people derived wealth from the commerce, and they had reason for wanting to secure their possessions.

Commerce is abundantly in evidence at the *oppida*. At Manching writing implements have been found, two sherds with Celtic names scratched in Greek letters, lead weights, Roman amphoras, fine Italic pottery, millefiori and mosaic glass, and Roman bronze vessels. In the amphoras were imported

Fig. 11.17 Iron keys from the Late Iron Age *oppidum* at Kelheim, southern Germany (Photograph by the author)

not only Mediterranean wine, but also the pungent fish sauce known as *garum* so beloved in the Roman world. A barrel made of fir wood, probably originally used as a container to bring wine by wagon from the Mediterranean north to Manching, was used subsequently as the liner of a well (Maier 1993).

The excavations at Manching have yielded good evidence for an urban settlement plan. Dwellings, workshops, warehouses, and other specialized structures have been identified, including ritual buildings within the settlement (see below). Among the dwellings, the excavators have been able to distinguish buildings that were occupied by elite individuals at the site. These are associated with storage cellars, horse-riding equipment, and keys (Sievers 2007) – all signs of access to greater wealth than was available to most residents. Habitation areas of elites have also been identified at Kelheim on the basis of special objects recovered on parts of the settlement (Wells 1997).

While the *oppida* were sites of specialized manufacturing and commercial activity, recent research at smaller, unenclosed settlements also yields evidence for extensive manufacturing. At Aulnat in France (Collis 1995:163–165), Berching-Pollanten in southern Germany (Fischer et al. 1984), and Strachotín in Moravia (Cizmár 1987), for example, small farming communities were engaged in manufacturing well beyond their local needs. In Britain, the settlement of Gussage All Saints, which in other respects resembles a typical farmstead of the final century BC, also shows specialized metalworking, including the casting of ornate bronze chariot ornaments (Cunliffe 1995a). Much recent research in Britain has focused on the special characteristics of the unfortified sites (Davies 2007, Hill 2007).

The reasons behind the development of the *oppida* from the second century BC on have been much discussed and debated (Collis 1995). Since they are such complex phenomena and dominate the cultural life of the final two centuries of the Iron Age throughout the southern regions of temperate Europe, many different perspectives have been advanced. The defensive aspect is readily apparent in the massive enclosing walls that demarcate all of the *oppida*. But the evidence for intensive production at many of the *oppida*, including the application of new technologies to agricultural and industrial productivity, has led many investigators to argue for an explanation involving increased productivity. Commerce also looms large in interpretations of the *oppida*, and their role as trade centers has been discussed with reference to their origins.

Recently several scholars (Woolf 1993) have emphasized the great variation in the character of the *oppida*. Individual *oppida* were established at different times, ranging from the end of the third century to the first century BC (Rowlett 1988, Colin 1998). Given their variety, it is likely that no single explanation can account for all of them. Following new trends in archaeological interpretation, many investigators have drawn attention to the element of display in the *oppidum* walls. At Kelheim, for example, the course of the walls is about 7 kilometers (4.3 mile) long, but the excavation evidence so far suggests a relatively modest population, compared to more densely inhabited sites such as Manching and Stradonice. Even assuming participation of warriors from smaller communities around the *oppidum*, the available combatants could not possibly have successfully defended the walls of Kelheim. But the massive ramparts, with their gleaming facades of white limestone, would have served as a strong symbolic statement by the elite at the site of their status and of the special character of Kelheim relative to communities outside (Wells 1993).

In Britain, the development of complex urban settlements at the end of the prehistoric Iron Age was similar in some ways to the process on the continent, different in others. In the course of the second century BC, marked changes took place, especially in southern Britain. Large centralized complexes developed, including huge fortified settlement such as Maiden Castle (Fig. 11.18), but after about 100 BC few remained sited on hilltops like the continental *oppida*. Coinage appeared, long-distance trade grew in intensity, and large cremation cemeteries were established (Hill 1992, 1995a). The site of Hengistbury Head on the south coast has yielded abundant evidence for long-distance trade during

Fig. 11.18 View of the banks and ditches at the western entrance to Maiden Castle (Photograph by the author)

the first century BC, including importation of wine from the Mediterranean, glass for working into jewelry, and pottery from Gaul (Cunliffe 1994b). Many imports were destined for consumption by the emerging elites of the period, who are represented in a series of richly outfitted burials in southern Britain such as that at Welwyn Garden City (Stead 1967). In the second half of the first century BC, after Caesar's two incursions into Britain during the 50s BC, large centers of manufacturing, commerce, and political power emerged at sites such as Verlamion (St Albans) (Haselgrove and Millett 1997) and Camulodunum (Colchester). Many archaeologists believe that interaction with the Roman world, dated by imports at Hengistbury Head back to the final decades of the second century BC, was an important catalyst, but not the main cause, for these developments toward urbanism and state formation (James and Rigby 1997, Creighton 2000).

In southern Scandinavia, although no centers developed that could be called urban, there is also evidence for growth in social, political, and economic complexity at the same time as the formation of the *oppida* to the south. From around 200 BC on, true villages appear in Denmark, not just the isolated farms and hamlets of the earlier Iron Age. The most striking example of the change is the settlement at Hodde in Jutland, with a village comprising 28 farmsteads, all enclosed by a common fence (Fig. 11.19). One farmstead is distinguished by larger buildings than the others and by finer pottery, suggesting that the emergence of larger communities was accompanied by sharper status distinctions between members of the communities (Hvass 1985, Rindel 1999). Similar processes of nucleation are apparent in the final century BC in northern Germany at such sites as Feddersen Wierde and Flögeln, as well as in the Netherlands (Gerritsen 1999).

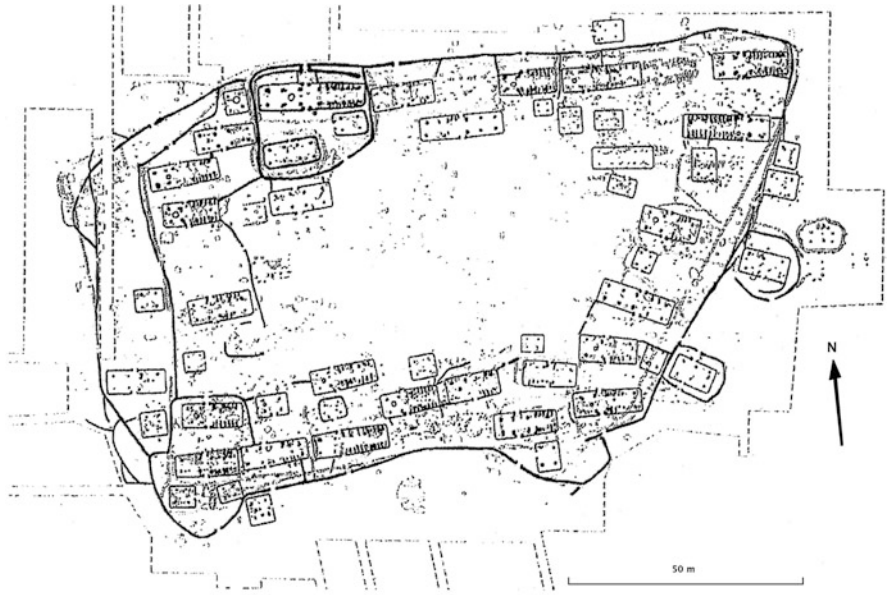

Fig. 11.19 Plan of the settlement at Hodde, Denmark, showing the posthole foundations of farmhouses, with stalls for livestock in their eastern ends, smaller structures, and the fence enclosing the settlement. Note the unusually large buildings surrounded by the separate fence in the upper left part of the enclosure. (After Hvass 1985:309. Used by permission of Steen Hvass and the Nationalmuseet, Copenhagen)

Ritual

In the past two decades, there has been a great increase in concern with the subject of ritual in European archaeology. Archaeologists have increasingly realized that Iron Age Europeans may have viewed their world in fundamentally different ways from the way we view ours, and from the way that archaeologists have approached prehistoric societies (Hill 1992). In the past, there has been a strong tendency to look in the archaeological material for indications of lifeways that seem familiar to us and thus lend themselves relatively easily to interpretation – reconstructing settlement patterns, subsistence practices, and technological and commercial behaviors. But as ethnography demonstrates, other people have different worldviews from ours. By looking beyond the most obvious (to our eyes) aspects of the archaeological material, and taking into account that the Iron Age peoples we are studying may have thought and behaved in ways that are unfamiliar to us, archaeologists increasingly are identifying new patterns in the evidence that provide insight into ritual practice, if not into the beliefs that lie behind the practice.

For discussion here, I understand ritual as symbolic behavior performed with the intention of interacting with and influencing supernatural powers or other human beings. Ritual can relate to religion – it can be a means of communicating with gods and spirits with the intent of affecting a future outcome. It can also be part of social interaction, in feasts, political ceremonies, and other structured events in which all human communities engage. Ritual thus includes a broad range of human practice. We can identify ritual archaeologically through the recognition of regular, repeated patterns and associations (Renfrew and Bahn 2000:408–409). Understanding the meaning behind ritual is much more difficult. I organize my discussion around four main topics – burial, offering deposits, enclosures, and ritual on settlements. There is no reason to believe that Iron Age peoples thought in terms of these categories,

and there is considerable overlap between the evidence for ritual activity at these different kinds of sites.

Burial is the most familiar and best represented form of ritual practice in Iron Age Europe. Throughout most of the continent, large numbers of graves are documented from the Iron Age. There are notable exceptions – contexts in which practices of disposing of bodies did not include subsurface burial. For much of the Iron Age in Britain burial evidence is sparse, and for the Late La Tène period in central regions of the continent, we know only a handful of graves. But for the majority of Iron Age communities, the dominant means of disposing of the dead was burial in the ground. Cremation and inhumation were practiced at different times and in different places, and there was considerable variation in treatment of the body, arrangement of the grave, and nature of above-ground structures.

In earlier traditions of archaeological research, the principal emphases of cemetery study were on chronology, differential distribution of wealth, and study of grave goods as evidence of crafts and trade. Much recent work concerns examination of the rules that governed burial practice in different contexts. As Pearson (1999b) shows through analysis of burial patterns in Britain, we can learn much about social relations within a community from examination of ways in which the dead were treated in the burial process.

Iron Age graves often contain information about different kinds of rituals that were part of the funerary celebrations. One ritual that has attracted considerable research attention is feasting and especially drinking of alcoholic beverages (Fig. 11.20). Rich graves throughout the Iron Age and from many regions of Europe contain special vessels associated with the serving and consuming of wine and other intoxicants. These vessels often are luxury imports from Greece, Etruria, or Rome, and in other cases are lavish local products, such as the huge gold-banded drinking horn at Hochdorf and the figurally ornamented bronze jugs from Basse-Yutz and the Dürrnberg (Megaw and Megaw 1990). As a number of investigators (Dietler 1990, Krausse 1996, Arnold 1999) have shown, the drinking and feasting vessels often form structured sets in the graves. Arnold demonstrates how these sets can be linked to rituals that played important social, political, and ideological roles in their communities.

Graves represent only a final stage in the funerary ritual celebrated by the survivors. Recently research attention has turned to the landscapes of which graves are part, with important results for reconstructing aspects of the ceremony that preceded the outfitting and closing of the grave. At the site of the rich woman's burial at Vix in eastern France, investigators have uncovered a rectangular enclosure 23 meters on a side, defined by a ditch, that may have been the site of funerary ritual carried out in connection with the woman's burial. Next to the entrance of the enclosure were lifesize stone sculptures of a woman and a man. The woman is portrayed with a neckring similar to that found in the rich burial, and the man is shown with weapons that characterize the rich graves of the sixth and early fifth century BC. Quantities of pottery and animal bones in the enclosure ditch may represent remains of a funeral feast (Chaume 1997).

Fig. 11.20 Representation of a feast on the situla from Vače, Slovenia (After von Hochstetter 1883:l. 20, 2)

At the Glauberg in central Germany, excavators have uncovered a complex cultural landscape of which a tumulus containing two well-outfitted burials was a part (Frey and Herrmann 1997, Hansen and Pare 2008). In ditches surrounding the tumulus were remains of four lifesize stone statues, which apparently had been arranged next to the burial mound. The nearly complete statue represents a man portrayed with the same accouterments as the individual buried in one of the two graves in the mound, including a sword, a neckring, and even a bracelet on his right arm and a ring on the fourth finger of the right hand. The ditch surrounding the tumulus was connected to two parallel ditches that defined a 10-meter wide avenue that extended 350 meters to the southeast. The western ditch then turned sharply to the west, the eastern to the east. The scale of this earthwork was enormous, indicating a vast structured landscape apparently built for the funerary ceremony for one or both of the individuals buried in the tumulus. Future research may help to illuminate the nature of the rituals that were carried out in connection with these landscape features during, and perhaps after, the burials.

A third example is at the eastern edge of Europe. Excavations at the huge Kurgan 1 at Filippovka near the Ural River in Russia revealed not just a rich burial in the center of the mound, but a complex arrangement of special objects that played roles in the funerary ritual at the time of the burial. Five 50-centimeter high figures of stags, carved of wood and covered with sheet gold, were among objects arranged at the entrance of the passage into the tumulus. Two pits that had been dug into the mound contained a total of 12 more wooden stag figures covered with silver and gold, along with silver and gold vessels, all apparently used in the funerary ceremony and buried subsequently in the mound (Pshenichniuk 2000).

As these three examples indicate, recent research is showing that graves are often parts of complex cultural landscapes in which elaborate traces of funerary rituals are often preserved. We are still in the early stages of investigating these kinds of data and only beginning to understand the full implications of the available information. As we learn more about the cultural landscapes in which burial monuments were situated and about the character of the rituals carried out in connection with the burials, we shall be able to develop a much more dynamic picture of Iron Age funerary rituals than we have at present.

Iron Age Europeans deposited large quantities of metal objects and other materials in special places, apparently as parts of ceremonies of offering to deities (Bradley 1998). The interpretation of these sites is based largely on information from inscriptions from the early Roman Period. For example, at the site of Bath in England, metal objects, including Iron Age coins and ornaments, were thrown into the hot springs gushing from the ground. The practice was continued in the Roman Period, during which time the items deposited in the spring included pieces of sheet lead with inscriptions on them indicating that they were offerings dedicated to a deity, Sulis Minerva (Cunliffe 1995b). At a spring at Chamalières in the Massif Central region of France, associated with many hundreds of carved wooden figures of humans was a lead tablet bearing an inscription written in an Italic script and in a Celtic language (Romeuf 1986). The text indicates that the offerings were made to local deities. At Empel in the Netherlands, continuity in offering practice from the Late Iron Age into the Roman Period is apparent at a rectangular enclosure (Roymans and Derks 1994). There the local deity, represented in an inscription and a bronze figurine, was Hercules Magusenus. As in the case of Sulis Minerva at Bath, a local deity was combined with a Roman one.

Similar practices of offering are well represented throughout the Iron Age and in many parts of Europe. For example, at a spring at Duchcov in the Czech Republic a bronze cauldron was discovered, containing a large number of bronze fibulae, bracelets, and other objects. The find was made in 1882, and a complete count of the objects is lacking. A recent inventory identified a minimum of 1600 objects, including 850 fibulae, 650 bracelets, and 100 finger rings. The style of the objects indicates a date in the fourth or third century BC (Motyková 1986). In southern Denmark at the site of Hjortspring, a 19-meter long wooden boat was deposited in a pond, together with the weaponry of an army of some 80 warriors (see above). The weapons included javelins, lances, swords, shields,

and chain mail. Many stones had been placed inside and on top of the boat in an apparent effort to sink it into the pond and to keep it from floating to the surface. Many of the weapons had been intentionally bent before being deposited, and associated with them were remains of several animals. The Hjortspring site, dated to the second half of the fourth century BC, is the earliest of a large series of weapon offerings in northern Europe believed to represent the armaments of a defeated army, offered to the gods in thanks for victory (Randsborg 1995, Kaul 2003).

A deposit of iron implements and ornate bronze metalwork found at Llyn Cerrig Bach in northwest Wales may have served a similar ritual purpose (Fox 1946). About 150 objects excavated from a bog included 11 swords, six spears, parts of shields, metal fittings for harnesses and for chariots, two cauldrons, tongs, a chain perhaps for human captives, a horn, and other metalwork. The materials are thought to have been deposited in the late second or early first century BC. Noteworthy is the composition of the find, consisting largely of high-status items (otherwise found in rich burials), including weapons, a decorated vehicle, horse-riding equipment, and bronze vessels.

Many sites linked with water have yielded human skeletal remains, suggesting the offering of humans – whether alive or not is not clear – as well as of metal objects. At the site of La Tène on the shore of Lake Neuchâtel in western Switzerland, along with the many hundreds of iron weapons and other objects found were numerous human skulls and some other skeletal parts (Bradley 1998). Hundreds of skulls, mostly those of young adult males, have been recovered from the Thames River, with dates ranging from the Bronze Age to the early medieval period (Bradley and Gordon 1988). In the Meuse River at Kessel in the Netherlands, human skeletal remains, especially of young adult males, have been recovered together with weapons (Roymans 2007). Throughout the northern regions of Europe, humans were ritually deposited in ponds and bogs. Among the best-documented finds of this category is the body known as Lindow Man, discovered in a bog near Manchester in the Midlands of England (Joy 2009).

Another type of offering site, not always clearly distinguishable from the water-finds, is pit deposits. While objects placed in watery contexts are well represented throughout the Late Iron Age, pit deposits are especially common in the final two centuries BC. Two main categories can be recognized, iron tool deposits and precious metal hoards. In their study of the iron deposit at Kolín in the Czech Republic, Rybová and Motyková (1983) observe that many such deposits are characterized by tools associated with agriculture such as plowshares, sickles, scythes, and axes, and those associated with food preparation, including andirons, cauldrons and the chains from which to suspend them, jugs, and spits. The common themes suggested by these deposits are fertility and nutrition.

Precious metal hoards include coin hoards, hoards that combine coins with other objects, especially ring jewelry, and hoards that consist mainly of rings. Hoards that contain hundreds of gold coins, and hoards with numerous silver coins, are common. At Niederzier in the Rhineland of Germany, a pit on a Late Iron Age settlement contained three rings made out of sheet gold – two neckrings and a bracelet – and 46 gold coins (Göbel et al. 1991). This find is one of about 10 such deposits that contain the combination of one or more gold neck rings and gold coins. At Snettisham in East Anglia in England, 11 small pits have been found on a field, containing gold and silver neckrings, bracelets, coins, and other items, including ingots and some bronze objects. The Snettisham complex is noteworthy for many reasons. A large proportion of all the gold known from Iron Age Britain is in the 11 pits at this one site. In addition to the ritual deposition of all of this treasure, the complex raises questions about the nature of the local political power that controlled such wealth (Stead 1991). The recent discovery on a hill near Winchester in southern England of a hoard that contained two complete sets of gold necklaces, pairs of fibulae, and bracelets (Hill et al. 2004) similarly relates to important questions about political power and the display of precious metal. The Winchester hoard dates to around the middle of the final century BC, about the time that Julius Caesar led his Roman legions in invasion of Britain from Gaul. Whether that deposit of gold relates in some way to the Roman invasion remains to be determined.

Another type of offering deposit is associated with fire. Especially in the Alps and the foothill regions to the north of the mountains, numerous places have been investigated that consist of burned areas covering several square meters, with deposits of quantities of metal objects and animals bones. The layers of charcoal and ash can be substantial, and the objects deposited include personal ornaments, horse-riding equipment, weapons, and metal vessels. These categories are similar to those found in the water deposits (as well as in rich burials), suggesting similar ritual practices and similar meanings in connection with deposits associated with both fire and water (Zanier 1999).

Like the small enclosure near the Vix burial (above), the great majority of enclosures linked with ritual activity in Iron Age Europe are rectangular. At some, rituals involved the depositing of objects of the same categories as those associated with water and fire sites. Among the best-studied enclosures are those at Gournay-sur-Aronde and Ribemont in northern France, but similar sites have now been investigated all over France and in surrounding regions (Brunaux and Malagoli 2003). At Gournay, a rectangular enclosure was constructed around 300 BC and used, with renovations over time, for about three centuries. Pits inside the enclosure, and the ditch surrounding it, contained large quantities of animal bones, especially those of cattle, pigs, and sheep. About 2000 iron weapons, including swords, scabbards, lances, and shields have been recovered from the ditch. The excavator believes that the animals were sacrificed on the site as part of ritual activities, and the weapons were displayed in the form of some 500 complete sets (Brunaux 1996, 2001). At Ribemont, human skeletal remains are especially abundant. One deposit on the site contains the skeletons of about 80 individuals, all without skulls, together with weapons. Much of the deposit at Ribemont consists of separate bones arranged and piled together, suggesting rituals that involved the manipulation of human skeletal materials after the removal of the flesh. Brunaux reports that skulls are lacking from the deposit at Ribemont. They must have been removed to a different location for some particular purpose.

A recent discovery at Tintagnac in central France provides strong evidence for close connections between ritual and warfare (Maniquet 2008). Underneath a temple complex of Gallo-Roman date archaeologists found a rectangular enclosure, about 25 meters on a side, defined by a ditch system. Inside the enclosure were traces of a wooden building and, at one corner of the enclosed surface, a pit that contained an extraordinary quantity of special military equipment. Among the objects recovered were nine iron swords, all deliberately broken, with remains of scabbards; 10 or 11 helmets, also damaged; many ornaments from horse harnesses; and seven bronze war trumpets with open ends in the shapes of animal heads, of a form known from a few other sites and from a representation on the Gundestrup cauldron. This pit at Tintagnac also contained a bronze cauldron and additional fragments of figurines of animals made of sheet bronze. The deposit dates to sometime during the final century BC. The excavators believe that the weapons may have been displayed within the enclosure as war trophies, then buried. Their date in the final century BC indicates that they were probably associated with military activities connected to the Roman invasion of Gaul or with events just before or just after it.

At the time of the *oppida*, rectangular enclosures defined by a bank and outer V-shaped ditch were constructed throughout the central regions of temperate Europe. Around a thousand of these enclosures have been identified, and more are discovered every year, especially through aerial reconnaissance. Typically they are slightly smaller than a football field, they have an entrance halfway along one of the walls, and they often have a rectangular post-built structure in one corner (Wieland 1999). Often, but not always, there is one, sometimes multiple, deep shafts inside the enclosures. These enclosures have been variously interpreted as ritual spaces, livestock pens, forts, and farmsteads. Following excavations of one at Holzhausen in Bavaria, most investigators accepted the idea that the enclosures were mainly ritual in nature. Discoveries of unusual wooden animal sculptures at the bottom of the shaft in the enclosure at Fellbach-Schmiden near Stuttgart (Planck 1982), and the association of the well-known carved stone from Msecké Zehrovice with such an enclosure in Bohemia (Venclová 1998) have contributed to this idea.

But recent excavations at other enclosures have cast doubt on this theory. At many sites, excavators are finding remains that suggest the same kinds of domestic activity that show up on typical settlements sites – posthole remains of wooden buildings, domestic pottery, typical animal bones, and other characteristic residential residue (Wieland 1999). The result has been that many investigators now reject the idea that the enclosures were intended for ritual purposes and view them in profane, everyday terms.

Until recently, most archaeologists tended to hold firmly to the categorization of sites as settlement, burial, or ritual, without exploring the possibility that places may have had multiple functions for the people who used them. Today much interesting research is exploring ritual practices that were carried out on settlements. At the hillfort settlement at Danebury in southern Britain, Barry Cunliffe (1992) notes that of the roughly 1700 pits studied by the early 1990s, some 40% contained what he calls "special deposits" – things other than remains of stored grain and the sort of discarded rubbish that archaeologists always assumed comprised pit contents. These special deposits in the pits at Danebury included human skeletons, skeletal remains of animals, especially horses, dogs, and birds, sets of horse and vehicle equipment, and complete ceramic vessels.

In a study of pit fill on many Iron Age settlements, J.D. Hill (1995b) has demonstrated that a large proportion of pits contain not just random debris from the settlement surface, but materials that were carefully selected and intentionally deposited, similar to the special deposits that Cunliffe identified at Danebury. Hill found that particular kinds of animal remains, types of pottery, and metal objects are especially common in these contexts. He uses the term "structured deposition" to characterize these selected assemblages of materials that Iron Age inhabitants placed in the pits around their houses.

The particular meanings of these pit deposits have not yet been worked out. What is so important about this work is the demonstration that in settlements – sites that until recently had been interpreted almost exclusively in terms of economy and social organization – there is clear evidence for activities that we consider ritual. This of course is how human societies work – what we consider different aspects of experience are always bound together and inseparable. This new recognition opens great possibilities for future research and thinking about how Iron Age peoples viewed and interacted with the world in which they lived.

In the greater attention being devoted to ritual aspects of settlements, archaeologists are also reconsidering the enclosing features – walls and ditches – that surround many Iron Age sites. Traditionally, these have been interpreted as defensive structures to protect the community from attack, or, when on a smaller scale, to keep wild animals such as wolves out of the settlements and domestic animals in. But recently some investigators, adapting ideas from folklore and ethnography, have begun research on symbolic aspects of boundaries as means of creating feelings of community and place (Hingley 1990, Bevan 1997). The use of enclosing walls and ditches in many Iron Age cemeteries in different parts of Europe, for example in the Arras cemeteries of Yorkshire (Stead 1979) and at Wederath in the Moselle valley (Haffner 1989), underscores the ritual significance of enclosure at this time in European prehistory.

The ritual significance of individual buildings on settlements has also become an important issue of research. In settlements in northern England, Pearson (1999a) has shown that particular attention was paid to the orientation of house entrances and the organization of space in the interior of dwellings. Fitzpatrick (1994) demonstrates the same for houses in southern Britain. At the *oppidum* of Manching in southern Germany, investigators have identified a series of settlement components that they link to ritual. The foundation of an octagonal building near the center of the site has been identified as a possible temple. Ditches similar to those that surround the rectangular enclosures have been found in recent excavations at Manching (Sievers 1999). Special finds that investigators link with ritual include a bronze tree coated with sheet gold with sheet gold leaves (Maier 1990) and an iron figure of a horse 70 centimeters high (Krämer 1989). Large numbers of weapons, many of them intentionally bent,

have been found over much of the settlement surface (Sievers 1989). The character of the deposited weapons is similar to that of the weapons at Gournay-sur-Aronde.

Also found on the settlement at Manching are the skeletal remains of at least 420 humans. In most cases, they consist of individual bones, especially skulls and longbones, rather than complete skeletons. Many show traces of cuts with sharp implements. Extensive study of the human remains at Manching (Lange 1983, Hahn 1992) suggests that most reflect ritual practices carried out on the settlement, not death from battle wounds or sacrifices. Similar human skeletal remains from other settlements of the period, and the dearth of graves from the latter half of the second and the first century BC in much of temperate Europe, support the idea that funerary rituals included some kind of exhumation or excarnation and ritual manipulation of bone, with final deposition of human skeletal remains on settlements. The treatment of human bone at Manching is reminiscent of that at the enclosure at Ribemont. At the settlement of Glastonbury in southwest Britain, the excavators recovered human skulls both within the settled area and just outside the perimeter fence (Coles and Minnitt 1995).

The possibility of human sacrifice as a ritual in Late Iron Age Europe has been raised by Lambot and Méniel (1998) in their investigation of the settlement of Acy-Romance in northeastern France. At the center of the settlement was an enclosure defined by a palisade and ditch. Substantial numbers of animal bones, especially those of cattle and horse, were recovered from the postholes. In the northern part of the enclosure, burials of 19 young men were found, all in a flexed position. Near them was a skeleton of another young man whose right temple showed that he had been killed by a blow from an axe or similar implement. These graves within the settlement of Acy-Romance are unusual in that they are all inhumation (most of the graves known from this period in the region are cremation), and they contain no grave goods, unlike the majority of burials.

The evidence from Manching, Glastonbury, Acy-Romance, and many other settlements suggests that rituals involving human bodies – alive or dead – played a significant part in settlement activities at the end of the Iron Age. Settlements are still an under-represented category of archaeological site in Iron Age Europe, and future excavation of settlements is likely to yield more evidence of these and related practices.

As the discussion in the preceding pages indicates, archaeologists now recognize a wide variety of sites that contain evidence of ritual practice in Iron Age Europe, in all cases involving the deposition of things – weapons, ornaments, fine vessels of pottery and sheet metal, coins, and human body parts. The category "ritual" seems much too broad to contain the wide range of behaviors indicated by these diverse sites and objects. As research on these sites progresses, it should be possible to distinguish different kinds of practice that resulted in the various patterns that we see in the evidence.

The Roman Conquest

Most archaeologists and historians regard the Roman expansion northward into temperate Europe and the conquest of much of the continent as a separate, external factor from the development of the European Iron Age societies. This tendency to view the Roman world of the Mediterranean basin and the Iron Age peoples north of the Alps as distinct entities with different historical and cultural trajectories is fostered by the disciplinary separation of research into prehistoric Europe and into Roman culture and history. The Iron Age peoples of Europe are a subject of study by prehistoric archaeologists, while the Roman world is the academic domain of ancient historians and Classical archaeologists.

As suggested above that we can understand the Early Iron Age centers and the growth of trade in that period best by considering temperate Europe as part of a larger universe that included the Mediterranean basin and the Near East, so too what is known as the "Roman conquest" can be best

approached as a part of the interactions that were taking place for centuries between peoples of temperate Europe and societies of the Italian peninsula. Iron Age European and Roman society shared a great deal in common.

Rome's expansion of territory and power began by the fourth century BC, and during the third century BC Rome had begun to conquer overseas territories (Dyson 1985). By early second century BC, Rome had conquered northern Italy, and in 181 BC Rome established a colonial city at Aquileia at the northern end of the Adriatic Sea, which was to serve as a major trade center for commerce northward over the Alps. Also during the second century BC, Rome became increasingly involved in military and political affairs in southern France, where the Greek city of Massalia had been a dominant political and cultural influence. According to written sources, several times during that century, Roman military forces came to the aid of the city of Massalia in its struggles with surrounding peoples. By 118 BC Rome had founded a colonial city at Narbo on the coast to the west of Massalia, thus establishing a firm Roman presence in Gaul.

During the second century BC, as Rome's political, military, and commercial interests extended northward in Europe, Roman trade goods spread across the continent. At Manching in southern Germany, Roman wine amphoras appear already early in the second century BC (Will 1987), and amphoras from that century have been recovered throughout Gaul and neighboring regions (Cunliffe 2001:389). Along with the importation of wine into temperate Europe, large numbers of Roman bronze vessels used to serve and drink the beverage are also found, including dippers, sieves, cups, and other feasting equipment (Feugère and Rolley 1991). The *oppida* appeared at this time, and many of the Roman imports are recovered at or in the vicinity of those large settlements. The relationship between Roman political and economic expansion and the establishment of the large centers in Europe north of the Alps was complex and is not well understood, but the processes were closely interconnected. The activities of Roman merchants plying their wares northward from Aquileia and from the Mediterranean coast of southern France, and of Iron Age merchants traveling southward to the Roman centers to negotiate their commercial interests, played major roles in the growth of industry and commerce at the *oppida*, and in larger-scale economic and political changes as well.

In addition to commercial interactions, Rome also cultivated political alliances with the peoples who inhabited the lands on the other side of the Alps. In the course of political struggles for power in Rome, Julius Caesar began 8 years of military campaigns in Gaul – the territory west of the Rhine and the Alps and north of the Pyrenees – in 58 BC. The precise nature of the reasons behind Caesar's decision to intervene in Gallic affairs is not clear. In his written commentary about the war, Caesar says that he responded to requests for assistance from allies in Gaul who were being troubled by enemies. But modern historians believe that Caesar used such excuses as a pretext for intervention, when his real goal was to win a stunning military victory and conquer a rich territory for Rome, in order to win ascendancy over his political rivals, Pompey and Crassus (Goudineau 1990). The strategy succeeded – Caesar gained great glory through his successes in Gaul, and the people of Rome named him dictator. His enemies, fearing a one-man rule, conspired against him and murdered him in 44 BC.

The course of Caesar's campaigns in Gaul between 58 and 51 BC is fully described in his commentary, *The Gallic War*. Unusual for an ancient general, Caesar wrote a detailed description of each season's campaigns, providing us with an extraordinary account of the Roman military and political interaction with the Late Iron Age peoples of Gaul. Many of the places Caesar describes can be identified archaeologically, and ongoing excavations are revealing important information about the campaigns (Duval 1994). Recent research at Alesia (Reddé et al. 1995), the *oppidum* at which united Gallic tribes made a final stand against Caesar's forces in 52 BC, reveals the earthworks the Roman army constructed for its assault and has yielded abundant weapons from the battle, many with the kinds of knicks and dents that we would expect on weapons used in combat. These include helmets, shields, swords, daggers, lances, spears, javelins, catapult bolt points, and lead slingstones. Analysis by Sievers (1995) reveals the interesting fact that the great majority of weapons recovered are of types

used by the Late Iron Age peoples, not the Roman legions. Most of the distinctively Roman weapons are types used at a distance, such as catapults, javelins, and spears, not weapons used in hand-to-hand combat such as swords and shields. This pattern may reflect the fact that the Roman army employed many auxiliary troops consisting of warriors from Iron Age tribes who were allied with Rome, and that Caesar used the auxiliaries in the front lines against the enemy. Roman legionary soldiers may have fought from positions in the rear, launching their projectile weapons from a distance but remaining behind the front-line troops when they moved forward into combat.

Caesar with his Roman legions and auxiliaries from allied Gallic tribes defeated his enemies at Alesia, and in 51 BC he completed the conquest of Gaul. Over the next several decades, Gaul was gradually integrated into the growing Roman world. The establishment of full Roman infrastructure – building of roads, establishing of towns on the Mediterranean model, introducing the villa system of rural organization – was delayed by civil war and political chaos in Rome following Caesar's assassination in 44 BC, and by frequent uprisings among people in Gaul. Many of the *oppida* in Gaul continued to be occupied after the Roman conquest, including the major center of Bibracte (Duval 1994) and the large *oppidum* in eastern Gaul at the Titelberg (Metzler 1995). The Titelberg experienced its greatest period of economic and commercial activity in the decades following the conquest, with vast numbers of luxury imports brought in from Italy and from southern Gaul.

During his campaigns in Gaul, Caesar made two forays across the English Channel to Britain, where he encountered tribal armies similar to those of Gaul. He did not conquer territory in Britain, but through his military actions there he succeeded in establishing patron-client relationships between Rome and several of the powerful tribes of southern Britain. Before Caesar's invasions, Roman imported goods had been arriving in Britain during the final decades of the second and the first half of the first century BC, where they are especially well represented at Hengistbury Head on the south coast (Cunliffe 1994b). After Caesar's incursions the connections with Rome expanded greatly. Roman imports, as well as goods from Gaul, became much more common, and a whole series of complex cultural changes that investigators link with the increased interaction with Rome is apparent in the archaeological evidence (Creighton 2000).

Rome pursued further conquests on the continent in the final two decades BC (Wolters 2000). Between 16 and 13 BC the Roman Emperor Augustus directed the building of a series of Roman military bases on the west bank of the Rhine River, of which those at the modern German cities of Xanten (Roman *Vetera*) and Mainz (*Mogontiacum*) were to play special roles in the launching of campaigns eastward across the Rhine. Archaeological research in these cities regularly yields important new evidence for understanding the development of the military bases and of the urban centers that grew around them (Schönberger 1985). In 15 BC the Emperor's two adopted sons, the generals Tiberius and Drusus, conducted what is known as the Alpine campaign. Tiberius led his legions from Gaul eastward, and Drusus led his from northern Italy northward across the Alps into southern Bavaria. The result, according to historical documents, was the conquest of 45 tribes of the greater Alpine region, including all of the peoples as far north as the Danube. Two important sites associated with that Alpine campaign have been discovered and excavated recently.

At Dangstetten on the north bank of the upper Rhine River on the border between Germany and Switzerland was a military base about 13 hectares (32 acres) in size, discovered in 1967 (Zanier 2000). The objects recovered through excavation place the occupation of the base between 15 and 9 BC. The fort was protected by a wall built of earth and timber, typical for Roman bases of this early period, and the structures in the interior were made of wood. At Döttenbichl near Oberammergau in southern Bavaria, at the north end of a pass through the Alps, remains of a battle between Roman legionaries and indigenous people were discovered and excavated in the 1990s. Among the finds are three Roman daggers, part of a helmet, more than 350 Roman arrowheads, about 20 catapult bolt points, and numerous nails from soldiers' boots (Zanier 1997). Early reports about the site offer two interpretations – it was the actual place on which a battle took place, or it is an offering site at which

local people ritually deposited weapons lost by Roman soldiers after a battle. The final report on the site is in preparation.

Between 12 BC and AD 9 the Romans launched a series of annual campaigns across the Rhine, most of them from the bases at Xanten and Mainz, in an effort to conquer the tribes east of the Rhine the way Caesar had done with the tribes west of the river (Kühlborn 2000). Archaeological research has revealed a series of military bases east of the Rhine constructed for these campaigns. One group is along the Lippe River just east of Xanten on the lower Rhine, another across the Rhine from Mainz on the middle Rhine. At Haltern on the Lippe archaeologists working since the end of the nineteenth century have produced the most information about a Roman military base of the Augustan Period (von Schnurbein 1981). The excavation results from Haltern provide a detailed view into the archaeology of the Roman troops who fought against the Iron Age peoples of Europe.

In their campaigns between the lower Rhine and the Elbe River, the Roman legions had some successes, but they were never able to achieve a decisive victory in this part of Europe. Two main factors hindered their efforts. The environment of the northern part of central Europe, north of the central uplands on the North European Plain, was difficult for Roman troops to negotiate. Unlike Gaul, this landscape consisted largely of forests and bogs, environments in which Roman legions were unaccustomed to maneuver. Equally important was the lack of any major centers comparable to the *oppida* of Gaul, at which the local tribes congregated and which could be besieged by the Roman troops. Instead, the Roman legions had to march great distances, only to have the highly mobile local warriors depart from their territories, taking their belongings with them.

Roman attempts to conquer the lands between the Rhine and Elbe rivers were finally stopped by a massive surprise attack in September of the year AD 9. A local leader called Arminius had organized an army of united tribal warriors to confront the Roman army under the command of Publius Quinctilius Varus. In the ensuing battle, known to history as the Battle of the Teutoburg Forest, three Roman legions, the Seventeenth, Eighteenth, and Nineteenth, were annihilated, together with several contingents of auxiliary troops – around 15,000–20,000 men in all. This defeat was one of the greatest Rome ever suffered, and it caused Rome to give up its attempts to conquer the peoples east of the lower Rhine and to consolidate its position at the Rhine. In the following years Rome conducted several punitive campaigns into the same territory, but without winning any decisive victories. In AD 16 the new Emperor Tiberius recalled his general from that theater of operations and ceased attempts to conquer the region. Instead, Rome strengthened its military presence on the west bank of the Rhine. The buildup of troops in the Rhineland led to the establishment and growth of towns there, many of which, such as Cologne, Bonn, Mainz, and Strasbourg, have thrived for the past 2000 years. During the first and second centuries AD, the Rhineland was one of the most prosperous parts of the Roman Empire, in part because of the large number of troops stationed there.

In 1987 the site of this great battle was identified for the first time, at Kalkriese north of Osnabrück, on the topographical divide between the central uplands and the North European Plain (Schlüter 1999, Schlüter and Wiegels 1999, Wells 2003). So far well over 4000 Roman objects have been recovered. About a third of them are coins, and the others are mostly weapons. They include all of the equipment that legionary soldiers carried and wore – swords, daggers, helmets, shields, belts, boots, cooking pots, and clothing pins. Horses that cavalry troops rode are represented, as are mules that pulled the baggage weapons. A large number of preliminary reports have been published, and the site is still under intensive excavation. Kalkriese is one of very few Roman battle sites to be extensively excavated, and the final analyses of the excavation results will yield important new information about Roman battle tactics, and about those of the Iron Age warriors that confronted them.

Some later conquests in Europe added more territory to the Roman Empire. In AD 43, Roman legions under the Emperor Claudius invaded Britain and went on to conquer most of the island (Creighton 2006, Mattingly 2006). In AD 83, the Roman army added the land between the upper Rhine and upper Danube rivers to its imperial domain, creating a diagonal frontier from the middle

Rhine to the northernmost point on the Danube. And in AD 106 Roman armies on the lower Danube conquered the territory of Dacia north of the river.

Although the written sources from the Roman Period suggest that following the conquest, political, social, religious, and cultural systems in the new provinces changed greatly to become "Roman," the archaeological evidence presents a different picture. The texts were all written from a Roman perspective, but the archaeology allows us to study the perspective of the conquered native peoples (Millett 1990, Wells 1999). Examination of the burials, settlements, ritual sites, pottery, personal ornaments, and other categories of material culture enables us to see how the native peoples adapted to the changed conditions of incorporation into the Empire. The archaeology shows strong continuity among the populations of Europe after the Roman conquest (Wells 2005). At many settlements, such as the recently studied site at Budaörs in Hungary, archaeological evidence shows that occupation was continuous from the pre-conquest Late Iron Age into the post-conquest Roman Period (Ottományi 2005), which of course is not surprising. The complex interplay between continuity of cultural traditions and changes introduced by the Roman presence can be examined particularly well in cemeteries that were used continuously from prehistoric Iron Age times into the Roman period, such as Wederath in eastern Gaul (Haffner 1989) and King Harry Lane at St Albans in Britain (Stead and Rigby 1989).

Peoples in the lands beyond the Roman frontier were also much affected by the proximity of the Roman Empire. Throughout the four centuries of Roman imperial presence north of the Alps, intensive trade took place across the frontier, and many thousands of Roman objects have been recovered throughout those regions (Hansen 1995). There too, as in the conquered territories, the cultural traditions of the prehistoric Iron Age were transformed, but not obliterated, by the interactions with the new political and economic configurations introduced by Rome (Bispham 2008).

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