

Creating an Imperial Frontier: Archaeology of the Formation of Rome's Danube Borderland

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For investigating the formation of frontier zones, study of changes in small communities that constituted the majority of earlier populations provides a different perspective from a focus on major centers. A network model applied to settlement and cemetery sites on Rome's Danube River frontier in Bavaria, Germany, shows that many communities, through participation in regional and long-distance circulation systems, played significant roles in creating the dynamic and culturally heterogeneous character of that landscape. This approach offers a model applicable to analysis of the formation and functioning of frontier regions in all cultural contexts.

KEY WORDS: frontiers; networks; Roman Empire; Iron Age Europe.

INTRODUCTION

Frontiers of empires, or of any complex societies that have recognizable edges, are critical zones of interaction. Empires depend on goods acquired from peoples beyond their borders. Their rulers expend considerable resources in manpower and wealth defending their frontiers. The existence of imperial frontiers and of peoples beyond them plays an important role in the political ideology of empires. In the cases of some imperial powers, such as the Roman Empire and, in more recent times, the Spanish and British empires, surviving texts tell us something about relations at the edges of imperial territories, but those sources focus largely on invasions and official policy, and they say little about economic, social, and political relations between communities in the frontier zones (Pagden, 1995; Whittaker, 1994). Archaeology provides a means for investigating these questions (Lightfoot and Martinez, 1995).

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In the past few decades, archaeologists have become interested in the edges of early empires all over the world—the dynamic frontier zones defined by Ferguson and Whitehead (1992). For example, Smith and Montiel (2001) examine evidence for how empires in prehispanic Mesoamerica controlled their provinces. For the Aztec state, Smith (2003) suggests a frontier strategy that can be identified through archaeological evidence. In her study of the period of the Spanish conquest of Yucatán, Farriss (1984) highlights the complex cultural changes that took place in the frontier regions. In South America, D'Altroy (2002) discusses problems of identifying the eastern and southern frontiers of the Inca empire, and Covey (2003) investigates issues of state formation and territorial control. In North America, recent studies have focused on evidence from native settlements that can inform us about how indigenous communities responded to interactions with expanding European trade and settlement (Lightfoot *et al.*, 1998; Rogers, 1990). The same issues pertain to understanding the edges of other complex societies that archaeologists do not usually classify as empires. Examples include investigations of the relations between Uruk centers and colonies (Stein, 2002), settlement patterns beyond central Moche complexes in northern Peru (Quilter, 2002), the state of Oaxaca in Mesoamerica (Feinman, 1999), settlement systems and structures of political control in Postclassic Veracruz (Garraty and Stark, 2002), and peripheries on the edges of Chavín in central Peru (Burger and Mendieta, 2002).

These studies reflect an increasing awareness of the need to recover and analyze evidence from typical small communities in which the majority of people lived in all ancient cultural landscapes. Yet until recently, investigations of major forts, urban settlements, and monumental defensive structures have tended to dominate research agendas. As attention turns toward a broader-based approach to change, we are gaining a different picture about processes in the formation of the distinctive culturally heterogeneous societies that characterize frontier zones.

Here I present a case study on the Roman frontier on the Danube River, a region with exceptionally good, and rapidly expanding, data about small sites. My approach is diachronic, examining patterns in the cultural landscape before the imperial conquest, during the course of the conquest, and in the postconquest period. The question driving this research is, what role did the majority of people play in the creation of the frontier zone? From textual sources we know much about imperial military and political policy in the region; from earlier archaeological investigations we have information about a few major centers, both before and after the conquest. But the vast majority of people lived in small settlements, some near centers, but most in the hinterlands. As I argue below, the hundreds of communities that can only be studied through extensive field research played crucial roles in the development of the ever-shifting economic, cultural, and political characteristics of the frontier zone.

The model I use to approach these archaeological sites is based on network theory (Barabási, 2002). All archaeologically identifiable communities in late prehistoric and Roman period Europe were linked together in an extensive network. The clearest evidence for the workings of this network is the distribution of bronze, the components of which (copper and tin) are limited in nature. Bronze ornaments, tools, and weapons are found on virtually all archaeological sites from the beginning of the Bronze Age around 2500 BC, demonstrating that large quantities of the metal circulated among communities throughout Europe. The wide distribution on sites all over Europe of objects made of other raw materials of limited natural occurrence, such as amber, coral, and graphite, as well as of manufactured goods produced only in specific places, further confirms the regular circulation of goods throughout the network.

All communities in the landscape were linked in this system. According to network theory, a change in one community causes change in all others. For example, if a foreign military unit establishes a base near a settlement, then all communities within the network will be affected and will show evidence of a response. (Network theory does not specify *how* they will respond, only that they will be affected in some way.)

In approaching the question of imperial frontier interaction from the perspective of network theory, the focus shifts from examination of individual settlements and cemeteries to study of changes evident at many or all sites in a landscape. This approach can yield highly significant information for understanding processes of frontier formation, and it is applicable to all contexts that include frontiers, borders, or edges (Schortman and Urban, 1998), whether they involve empires, such as the Aztec or Inca in the New World or the Assyrian or Shang in the Old, or other kinds of complex polities, such as the Olmec and Mississippian groups in the Americas, and Sumerian and Harappan in Asia.

THE ROMAN FRONTIER IN EUROPE

In recent years there has been a proliferation of new studies about the Roman Empire in Europe, especially in Britain and in the Netherlands, that draw attention to the role that indigenous peoples played in the formation of societies in Rome's new provinces (Barrett *et al.*, 1989; James and Millett, 2001; Mattingly, 1997; Millett, 1990a; Roymans, 1996; Wells, 1999; Woolf, 1998). Such studies serve an important corrective function to earlier investigations that often portrayed indigenous peoples as largely passive recipients of Roman imperial policy. The current dynamism of ongoing discourse about the Roman frontier is well illustrated by recent debates over the term "Romanization."

In an earlier tradition of research, romanization referred to the spread, or diffusion, of Roman culture to the conquered peoples of temperate Europe and

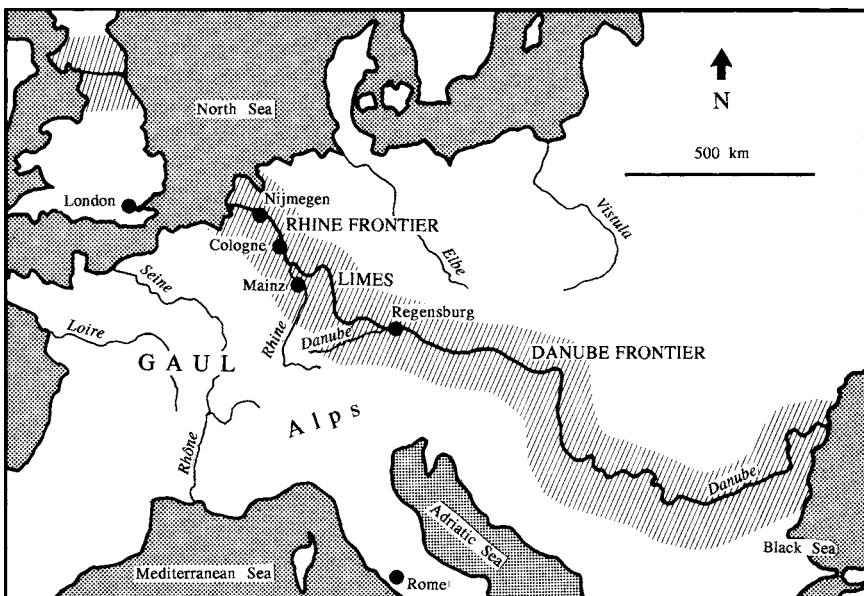


Fig. 1. Map showing the Roman frontier zones in Europe (oblique hatching), including that on either side of Hadrian's wall in the north of Britain, and those along the Rhine, *limes*, and Danube boundaries on the continent. Several modern cities of Roman origin are indicated.

elsewhere, especially to the introduction of cities and other distinctive elements of Mediterranean cultural life (Hingley, 1996; James, 2001; Millett, 1990b). As the fields of archaeology and ancient history have developed, it has become clear that the term is too vague to have any useful meaning. Mattingly (2002) and others have noted that the term was created when Roman archaeology was developing, in the late nineteenth and early twentieth centuries, and from the outset it was strongly influenced by then-current ideas about imperial expansion and colonization. Critics note that to many the term implies purposeful change directed by Roman authorities. Some scholars argue that the term is still useful, because it is common and generally understood. Others believe that it is too laden with implications and too vague to be helpful. I do not use the term in the discussion below.

The Roman frontier in Europe (Fig. 1) is of special importance for thinking about frontiers and borderlands (Hingley, 2000; Whittaker, 1994). Early investigations of Roman structures, inscriptions, and coins played significant roles in the development of archaeology (Bahn, 1996; Kühn, 1976). Since the rediscovery during the fifteenth and sixteenth centuries of Roman texts that describe the native peoples of Europe, such as those by Caesar and Tacitus (Reynolds and Wilson, 1968), the Roman frontier has been a dominant model in the Western intellectual tradition for thinking about empires and frontiers (Hingley,

2001; Pagden, 1995). Gibbon's *The History of the Decline and Fall of the Roman Empire* (1946 [1776–1788]) provided a vivid narrative that has played a major role in forming our modern notions of civilizations and their borders (McKittrick and Quinault, 1997; Pohl, 2002).

The Roman frontier in Europe is the best-studied frontier in the ancient world. In the major Roman centers on the Rhine and Danube Rivers that became the cities of Nijmegen, Cologne, Mainz, and Regensburg, the tradition of research on Roman remains dates back at least five centuries (Dietz and Fischer, 1996; Rüger, 1987). The amount of archaeological investigation that has been carried out along the Roman frontier in the Netherlands and Germany is enormous (Wamser, 2000; Willems, 1986).

Although the database of material excavated at Roman military bases, towns, cemeteries, and villas is vast, until very recently relatively little research was directed to study interactions between the conquering Roman forces and the indigenous peoples along most parts of the frontier in Europe (von Schnurbein and Erdrich, 1992). Textual evidence, preserved in the works of Roman and Greek authors, often tells us when conquests occurred, provides information about troop strength, names individual leaders, and occasionally describes relations between Romans and native peoples. But details about the development of the Roman cultural landscape and about relations with native communities are sparse. To learn about the processes of formation of provincial communities, we are dependent almost exclusively on archaeological evidence.

This paper examines the emerging understanding of processes of change from the Late Iron Age, through the time of the conquest, and into the early Roman period—roughly 200 BC to AD 200. I focus on one frontier region (Figs. 2 and 3) but bring relevant information from other areas into the discussion. The study area includes two major centers and numerous smaller settlements of the Late Iron Age, a portion of the Roman frontier on the Danube, Roman military bases and associated civil settlements, and villas in the countryside, all within the province of Raetia.

THE DANUBE FRONTIER IN BAVARIA

The northern edge of the region includes the hills of the Bavarian Forest to the east, the valleys of the southward-flowing Naab and Regen Rivers in the center, and the hilly limestone land of the Franconian Jura to the west. In the western part of the region, the Danube River flows through fertile plains at the northern edge of the Tertiary Hills as far as Weltenburg, then in a narrow valley cut through the limestone plateau between Weltenburg and Kelheim, between low hills from Kelheim to Regensburg, and along the northern edge of a broad, flat and fertile expanse of loess soil to Straubing and beyond (Rutte, 1981; Torbrügge, 1984). The central part of the region consists of the uplands between the Danube and

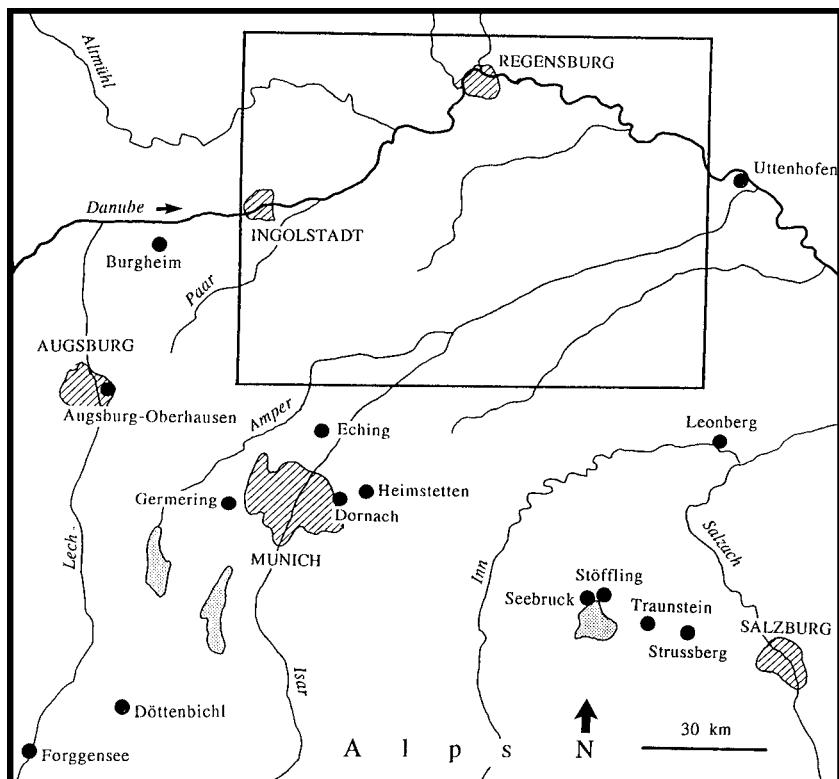


Fig. 2. Map showing the principal study area (rectangle) within its larger context in southern Bavaria, with archaeological sites mentioned in the text. Modern urban areas are indicated by oblique hatching.

the valley of the Isar, rolling country of low hills and small streams, with fertile farmland in the valleys and on the slopes.

Development of Archaeology in the Region

Archaeology here can be traced back to the fifteenth century (Dietz and Fischer, 1996). In the early 1500s Johannes Thurmair published nine Roman inscriptions found in the city of Regensburg, and he identified Roman remains at Straubing. Georg Gottlieb Plato in the eighteenth century made note of Roman cemeteries in Straubing and drew a plan of the legionary base there, using both above ground structures and stone foundations discovered below the surface. By the end of the nineteenth century, large-scale excavations were carried out (Prammer, 1989). Attention to Late Iron Age sites also was recorded early. The

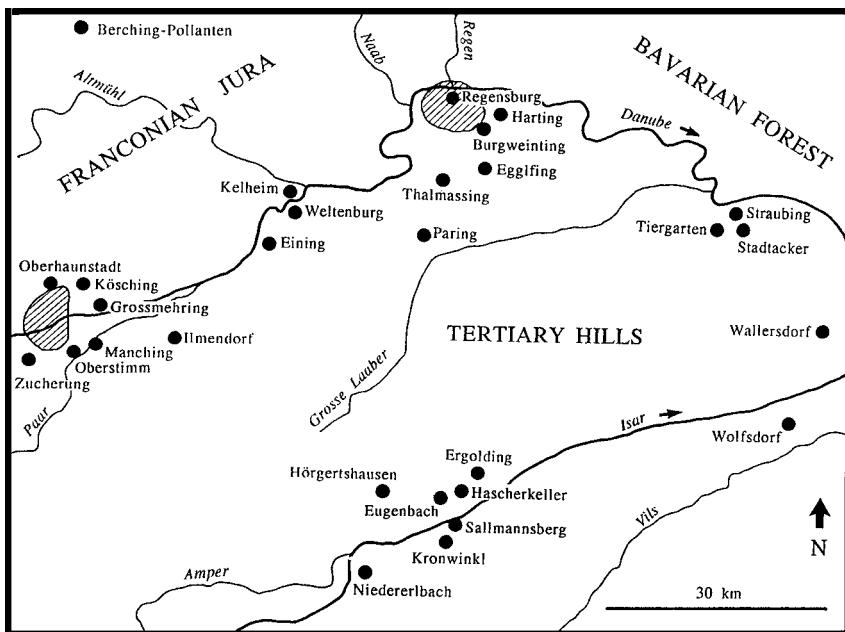


Fig. 3. Map showing the study area (within the rectangle in Fig. 2) with sites mentioned in the text. Modern urban areas are indicated by oblique hatching.

wall enclosing the *oppidum* settlement at Manching is mentioned in a source dating to 1417 (Sievers, 2003a). In the final decades of the nineteenth century, many local historical societies and museums were established. Systematic excavations became common by the first decade of the twentieth century and, except during the First and Second World Wars, have been carried out regularly at prehistoric and Roman period sites.

Several significant developments since the 1970s have resulted in a rapidly expanding database. Many archaeologists working for the *Bayerisches Landesamt für Denkmalpflege* (Bavarian Office for the Protection of Monuments) have established good relations with local amateurs who discover sites by walking open fields. Information about newly identified sites is published regularly in the *Fundchronik* ("chronicle of finds") in the journal *Bayerische Vorgeschichtsblätter*. In 1980 publication began of *Das archäologische Jahr in Bayern*, an annual large-format journal, copiously illustrated, with many color photographs, presenting 60 to 80 of the most important discoveries of the previous year in Bavaria. Since the late 1970s, the *Bayerisches Landesamt für Denkmalpflege* has employed aerial photographers to study the landscape of Bavaria and to record new archaeological sites (Christlein and Braasch, 1982; Irlinger, 2000).

LATE IRON AGE

From the late fifth until the middle of the second century BC, the principal archaeological evidence in the study region consists of cemeteries of inhumation burials; about 40 of these cemeteries have been investigated (Krämer, 1985). Women's graves were often outfitted with one or two ceramic vessels and with personal ornaments including bronze bracelets, fibulae, and chain-link belts, as well as bracelets and beads of multicolored glass. Some men's graves contain weapons, including iron swords and spears and wooden shields with iron fittings. Cemetery findings suggest significant differential distribution of wealth within communities (Waldhauser, 1987), though lavishly equipped graves such as those of the sixth and fifth centuries BC (Arnold, 1995) are rare in this period.

Settlements have received less attention. Many are documented, but few have been extensively excavated. Settlements were small, but a trend is apparent from individual farmsteads in the fifth and fourth centuries BC to larger agglomerated communities of the third and second (Rind, 1992; Uenze, 2000a, p. 171). Houses, up to 14 m long and 8 m wide, were built with vertical posts sunk into the ground and wattle-and-daub walls. Dwellings, barns, and granaries have been identified (Engelhardt *et al.*, 1993; Osterhaus, 1988). Production of iron from local ores is apparent on many sites, and an increase in quantities of iron, used for a wide range of tools, is evident from the fifth century BC (Wells, 1996). Imported bronze remained the preferred metal for ornaments, and bronze-casting took place on many settlements. Pottery manufacture, bone and antler carving, textile production, and other crafts also are well represented.

Centralization Processes

Important changes are apparent during the second century BC. Historically, these have been associated with the increasing involvement of Rome in southern Gaul from the start of the second century BC (Dietler, 1997), accompanied by a striking increase in the circulation of Roman goods northward into Gaul, the Rhineland, and the upper Danube region (Loughton, 2003), and later by the establishment of the Roman province of Gallia Narbonensis around 120 BC. Archaeologically, the clearest change is the construction of walled settlements known as *oppida* (Collis, 1995). The *oppida* at Manching and at Kelheim are in our study region (Fig. 3). The *oppida* were much larger than any earlier settlements in temperate Europe, and they show much greater intensity of building activity, manufacturing, and trade. The community at Manching probably numbered 3000–5000 inhabitants at its peak around 100 BC. A very brief review of characteristic sites of the period 200–50 BC follows, with an emphasis on material that is especially relevant to the issues of continuity and change discussed later in this paper.

Settlements

Of some 150 *oppida* identified in temperate Europe, Manching is the most thoroughly investigated, with some 20 ha (about 50 acres) of its total 380 ha excavated to date. Cemeteries on the site date to as early as the fourth century BC, while the construction of the enclosing wall and dense habitation began early in the second century BC (Sievers, 2003a). The wall, built of an earth ramp with a stone-and-wood face on the outside, is about 7 km long and was rebuilt at least once. Calculations indicate that the first phase of construction required some 500,000 person-days of labor (Sievers, 2003a).

Barley and spelt were the dominant cereals, while einkorn and emmer wheat, oats, and rye also were cultivated. Garden crops included beans, lentils, and poppy. Hazel nuts and fruits were consumed. Agricultural tools recovered include plowshares, colters, shovels, sickles, scythes, and grindstones. Pig was the principal source of meat for the community, with cattle, sheep, and goat also significant. Wild animals played a small role.

Manching was a center of manufacturing and trade (Leicht, 2002; Sievers, 2002a,b). Three kilns have been identified, and vast quantities of pottery studied. The majority of the ceramics were wheel-thrown and indicate mass-production (Stöckli, 1979). Several categories of thin-walled, hard-fired wares are represented, including one painted in polychrome patterns (Maier, 1970). A common type of thick-walled cooking vessel was made from a mixture of graphite and clay, providing exceptional resistance to damage from heat (Kappel, 1969).

Iron working was a major industrial activity, and some 200 different types of iron tools have been identified (Jacobi, 1974). Many of the cutting implements have finely crafted steel edges. Smiths produced tools in series at Manching, serving small communities in the vicinity as well as the inhabitants of the *oppidum*. Manufacturing also is evident in bronze (van Endert, 1991), glass (Gebhard, 1989), and many other materials.

Bronze, silver, and gold coins attest to the growing role of money in the economy (Kellner, 1990). Ceramic amphorae attest to importation of wine and fish sauce (*garum*) (Will, 1987). Other imports from the Mediterranean world include fine pottery, bronze vessels, glass vessels, and ornaments. Objects interpreted as slave chains may represent part of the trade that the community maintained with Rome (Sievers, 2003a, pp. 123–124). Copper and tin for bronze, sapropelite for ornaments, and graphite for pottery were imported from other parts of Europe. Fibulae and belt ornaments reveal interactions with communities in Alpine regions to the south and on the North European Plain to the north (Krämer, 1950, 1971).

Skeletal remains of some 420 human individuals have been recovered in pits, ditches, and on the settlement surface. Analyses suggest that these bones were purposely deposited in the course of ritual activity (Hahn, 1999), not, as once thought, as the result of a battle. During the second century BC, the practice of

burying the dead in well-outfitted inhumation graves declined; other settlements also yield manipulated human bone such as that at Manching.

The *oppidum* at Kelheim, 34 km down the Danube from Manching, thrived during the same period (Pauli, 1993; Wells, 1993). The walls at Kelheim enclose 600 ha, about 90% of which is on a high limestone plateau at the confluence of the Altmühl and Danube Rivers. The structure of the enclosing wall at Kelheim is similar to that of the second phase at Manching, with earth ramp, stone face, and vertical timbers on the front (Herrmann, 1975; Leicht, 2000).

Based on settlement remains, architecture was similar to that at Manching but the community was smaller, perhaps 500–1000 people. All the same types of pottery, iron tools, bronze ornaments, and glass jewelry are represented at Kelheim, and it also was the site of a mint (Overbeck, 1987). No Roman amphorae have been recovered at Kelheim as yet, but commerce with the Roman world is represented by a bronze wine jug (Werner, 1954, 1978) and remains of other bronze vessels (Pauli, 1993). Evidence of iron production is exceptionally abundant. The community at Kelheim may have specialized in producing iron for the larger one at Manching (Schäfer, 2002).

Rescue excavations at Berching-Pollanten in the 1980s and 1990s revealed an unwalled settlement contemporaneous with the *oppida*, at which a community produced iron on a substantial scale, crafted tools and ornaments, and even minted coins (Fischer *et al.*, 1984; Watzlawik, 1998). Settlement structures and other material culture are similar to those at Manching. Since the first major publication on the site in 1984, Berching-Pollanten has presented a major challenge to accepted ideas about the special role of the *oppida* in Late Iron Age Europe.

Another unwalled settlement of this period is at Eggling, 10 km south of Regensburg, known exclusively from surface collections (Uenze, 2000b). The character of some of the glass bracelet fragments suggests that it was a production site for glass jewelry. Most of the pottery matches that at Manching, indicating that this small community also had access to the same material culture as the *oppida*. Over 300 coins (bronze, silver, and gold) have been found on the site, attesting to connections with other communities (Ziegaus, 2000).

Many other settlements of this period have been identified (Murray, 1995), often on the basis of small surface collections or pits exposed by construction or quarrying. When substantial excavation is possible, findings indicate that many communities were engaged in substantial manufacturing and commerce. A kiln excavated at Sallmannsberg (Koch, 1997) and a bronze statue of Athena from Dornach (Irlinger and Winghart, 1999) exemplify such activity.

Rectangular Enclosures (*Viereckschanzen*)

Contemporaneous with the *oppida*, rectangular enclosures 5000–10,000 m² in area, defined by an external V-shaped ditch and an interior bank, were

constructed throughout much of temperate Europe (Wieland, 1999). Interpretation of these sites is hotly debated (Irlinger, 1994; Wieland, 2003). One school of thought considers them ritual in nature (Schwarz, 1975), another believes that they were enclosed farmsteads (Krause and Wieland, 1993). Deposits of weapons, tools, and imported ceramics in the ditches of many enclosures (Neth, 2000, 2001) suggest ritual behavior. If we think of settlement activity in light of Hill's analysis (Hill, 1995) of "structured deposits," then we need not force the enclosures into either the secular or the ritual category. Iron Age communities practiced rituals in the places where they lived (Wilson, 2000).

Burials

In much of temperate Europe, practices of disposal of the dead changed during the second century BC (Krämer, 1985). Very few graves are known from the latter half of the second and first half of the final century BC in our region. In other parts of Europe, burial with grave goods continued, but with cremation replacing inhumation as the dominant rite, as at Bad Nauheim (Schönberger, 1952), Dietzenbach (Polenz, 1971), and Wederath (Haffner, 1989). Among the few graves of this period known from our area are a group of 19 just east of the *oppidum* at Kelheim (Kluge, 1985). They include inhumations and cremations, with pottery and metal objects, including ornaments and weapons, as grave goods.

Deposits

During the second and especially the first century BC, it was common practice to deposit objects in the ground and in water. For example, sizable hoards of gold coins have been found at Wallersdorf (Kellner, 1989) and Manching (Sievers 2003b). Deposits of iron tools such as that at Kelheim (Behaghel, 1952) are a common phenomenon throughout temperate Europe (Rybová and Motyková, 1983). A number of iron swords have been recovered from the Danube River, especially opposite the Naab confluence, just west of Regensburg (Kurz, 1995; Spindler, 1984; Wehrberger and Wieland, 1999). A Roman bronze helmet of the mid-first century BC was recovered from the Danube at Straubing (Reinecke, 1951). Discussion of interpretation of such deposits is beyond the scope of this paper (Bradley, 1998; ter Schegget, 1999). It is significant that similar deposits were made during the Roman period (see below).

Decentralization after the *Oppida*

Until recently, thinking about the transition from the Iron Age to the Roman period in this region focused on the highly visible phenomena in the

landscape—the *oppida* of the Late Iron Age and the Roman forts following the conquest. Recent archaeological research is providing evidence for a much more complex process of change.

During the middle part of the final century BC, most *oppida* east of the Rhine River, including Manching and Kelheim, declined in industrial and commercial activity. The latest Roman amphorae brought to Manching date around 80 BC, the amount of graphite imported for making cooking pots decreased, and habitation of the site became less dense. Settlement activity in the region around Manching continued but in small communities and apparently without the highly integrated economic activities of the *oppida* (Hüssen, 2000a).

The problem of why Manching, Kelheim, and other *oppida* declined during the final century BC is much debated. Among explanations are military incursions by “Germans” from the north and northeast (see below), disruptions in commercial systems resulting from Caesar’s campaigns west of the Rhine (Rieckhoff, 2002; Salac, 2002), and local environmental problems including destruction of woodland (for charcoal used in iron production) and silting of harbors (Sievers, 2003a). It is not difficult to identify such factors likely to have played parts in the decline, and network theory provides a mechanism for modeling the process.

THE ROMAN CONQUEST

As it is understood today, the Roman conquest in the region was primarily a historical event, and it has been interpreted in the context of other, better documented, Roman military campaigns, particularly Caesar’s conquest of Gaul. This approach has led to a strongly text-based perspective on the changes that took place between the middle of the first century BC and the second century AD. During his military campaigns in Gaul between 58 and 51 BC, Julius Caesar composed a written commentary about the progress of the war (Caesar, 1986; Goudineau, 1990; Welch and Powell, 1998). We can compare his accounts with the archaeological evidence in Gaul (Goudineau *et al.*, 2000; Reddé *et al.*, 1995). For the lands south of the upper Danube, however, we have only very sparse textual sources. We would have even fewer had not the Emperor Augustus’s two adopted sons, Tiberius and Drusus, been the generals who led the campaign, thus making it an event worthy of recording by writers of the time (Dietz, 1995, p. 23).

From brief references in works of Cassius Dio, Horace, Strabo, Suetonius, and Velleius Paterculus, we learn that the campaign took place in the year 15 BC, and the conquest of the lands between the upper Danube and the Alps was accomplished in a single season (Zanier, 1999a). Until the 1990s, no archaeological evidence had been identified that related directly to the conquest of this region. The earliest evidence for Roman presence was at military bases at Augsburg-Oberhausen (Bakker, 1999) and Epfach (Ulbert, 1965), both established during the final decade BC. In the 1990s, Werner Zanier analyzed a large assemblage of

Roman military equipment and indigenous weapons and ornaments excavated at Döttenbichl near Oberammergau at the northern edge of the Bavarian Alps (Zanier, 1999a, 2000). The finds appear to be directly associated with the campaign of 15 BC and include more than 350 Roman iron arrowheads; 20 iron points from catapult bolts, three with stamps of the 19th Legion; three officers' daggers; parts of Roman helmets; and nails from Roman military boots. The site appears to be a place where local peoples deposited Roman military equipment collected from a nearby battlefield, a ritual practice documented throughout Europe.

Roman Military on the Danube

The earliest Roman military bases that have been identified archaeologically are in the southern part of the newly conquered territory, not on the Danube where the frontier was ultimately established (Hüssen, 2000b, pp. 58–59). The first evidence on the Danube dates to around AD 30. The most northerly of the early Roman bases in the region are at Oberstimm (Schönberger *et al.*, 1989) and Weltenburg (Rind, 1990). Oberstimm is just west of the *oppidum* of Manching, and Weltenburg just across the Danube from the *oppidum* at Kelheim, in each case representing a topographical link with an earlier center. These were small forts, staffed by some 20–80 men, probably mostly auxiliary troops rather than legionaries. Later, around AD 80, new forts were established at Kösching, Eining, Regensburg-Kumpfmühl, and Straubing. The early bases were typically enclosed with walls of timber and earth, and buildings inside them were constructed on a framework of wooden posts. At Eining, an inscription indicates that the base was established during the reign of the Emperor Titus, AD 79–81 (Fischer and Spindler, 1984), a time confirmed by the archaeological material.

Between AD 115 and 125, a boundary, consisting of a road and a wall, known as the *limes*, was constructed to link the Danube frontier with that on the Rhine and to incorporate the lands that make up what are today parts of Baden-Württemberg, Hesse, and Bavaria (Schallmayer and Becker, 2001) (Fig. 1). The eastern end of the *limes* reaches the Danube just downstream from the base at Eining, where a Roman watchtower provided an unimpeded view of the wall.

In the second half of the second century AD, most of the forts along this part of the Danube were rebuilt in stone. This transformation from earth-and-wood construction to stone architecture attests to the growing Roman commitment to the defense of this frontier. Ships excavated at Oberstimm (Hüssen *et al.*, 1995) demonstrate the nautical technology that the Roman military employed to patrol the river boundary.

From AD 179 (a date on an inscription), the legionary base constructed at Regensburg, home to the Third Italian Legion, was the principal Roman station on the upper Danube and the main military center of the Roman province of Raetia (Dietz and Fischer, 1996).

MILITARY BASES AND CIVIL SETTLEMENTS

As in most military situations, when Roman bases were established civilian settlements grew up around them, inhabited by local people wishing to earn money by providing goods and services to the soldiers (Sommer, 1988). Many settlements that began next to Roman bases became major urban centers, including Regensburg on the Danube, and Mainz, Cologne, Nijmegen, and London in other parts of Roman Europe.

Military Bases at Regensburg, Straubing, and Eining

During the latter part of the second century AD, Regensburg became the largest Roman establishment in the region (Fig. 4). Some inscriptions and later textual sources provide limited information about the Roman site, but understanding of its organization and development depends on archaeology (Dietz and Fischer, 1996). The earliest known site at Regensburg is the small fortress at Kumpfmühl, established about AD 80 (Faber, 1994). Initially it was built of earth and wood; during the second century it was rebuilt in stone, when it measured 155 m × 143 m (1.9 ha). The civilian settlement next to the fort included long rectangular buildings, some of wood and some of stone. Residents of this settlement produced pottery, metal goods, and bricks for the military base. Along

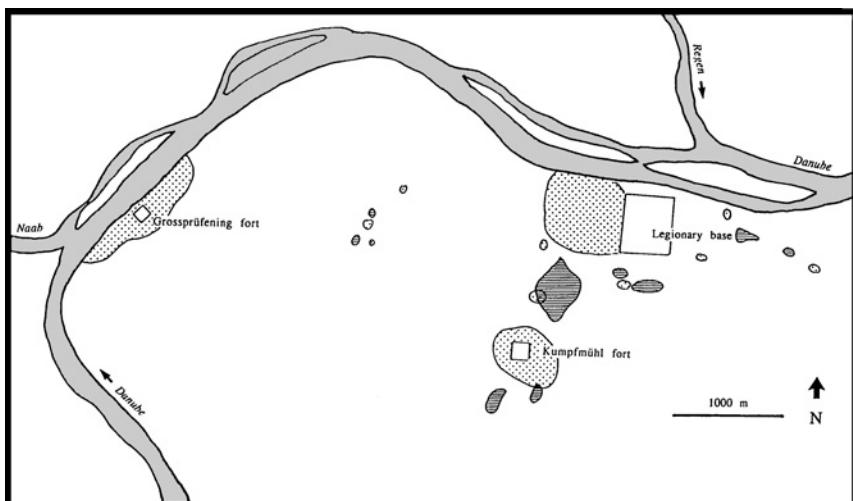


Fig. 4. Plan of the Roman period military and civil complex at Regensburg, showing settlement and cemetery remains that have been identified archaeologically. Key: Open rectangles—military bases. Stippling—settlement areas. Horizontal lines—cemeteries. (Based on Dietz and Fischer, 1996, map inside front cover, from a map made in 1829.)

with Roman-style ceramics are those of Late Iron Age character. Cemeteries for both the fort and the civilian settlement lined the roads leading out from the base, in typical Roman fashion.

Four Roman forts have been identified at Straubing, 38 km downstream on the Danube from Regensburg (Prammer, 1989, 2002). The first buildings, from the AD 60s, were of wood and earth, the later ones of stone. A large civilian settlement was associated with the bases, and in and around Straubing villas were established (Moosbauer, 1997, 2003). Upstream on the Danube from Regensburg lay a Roman military base at Eining. It included a small fort, larger fortress, civilian settlement, watch tower, and temple dedicated to Mars and Victoria. From the early second century, the complex at Eining developed to provide security to the eastern end of the *limes* boundary (Fischer and Spindler, 1984; Rind, 1995, 2001).

The legionary base at Regensburg—the largest in the region—was established in response to a series of historically documented incursions associated with the Marcomannic Wars of AD 166–180 (Friesinger *et al.*, 1994). The base was north of Kumpfmühl, close to the Danube, today under the medieval center of Regensburg. Epigraphic sources indicate that it was headquarters of the newly formed Third Italian Legion. This base measured 542 by 453 m, with an area of 25 ha. The wall surrounding the base, 8 m high and 2 m thick, built of large cut blocks of limestone and sandstone, is unusually imposing for a Roman base on the Rhine and Danube frontiers. Outside the wall was a pointed ditch 7 m wide at the top and 3 m deep, and beyond it, a ditch 16 m wide, also 3 m deep.

At about the time that this legionary base was constructed, a small fort was erected at Grossprüfening, 4 km to the east, on the shore of the Danube opposite the confluence of the Naab River. The stone walls enclosed an area of 60 m × 80 m, and the fort's walls were 8 m high. The civilian settlement and cemetery with this fort ended around AD 260, another period of large-scale destruction at and around Regensburg.

Four principal cemeteries associated with the military bases and civilian settlements have been identified. The largest, in use between about AD 180 and 260, included around 5000 burials, roughly 3000 cremation and 2000 inhumation (von Schnurbein, 1977). Several types of pottery that are distinctive to Raetia are well represented in this cemetery. It is characteristic of the Roman period on the Danube and Rhine frontiers that regionally distinctive types of pottery emerged and became very popular, and were used along with more widespread forms such as *terra sigillata*. Many vessels show strong similarities to Late Iron Age pottery, and metal ornaments also display links with prehistoric traditions.

Roman bases required substantial quantities of supplies (Fischer, 2000). The legionary base at Regensburg, which probably housed around 6000 soldiers, together with the other forts at Regensburg and those upstream and downstream on the Danube, created a large demand for food, pottery, tools, weapons, leather, textiles, and other supplies. The soldiers at the bases, and the craftworkers and merchants in the civilian settlements, all depended on the agricultural hinterland

for most of their needs. While this influx of troops and others put great strain on the productive capabilities of the local communities, it also offered them markets for surplus goods and the possibility of earning cash incomes. Farmers could use cash to purchase new products that became available through the merchants at the civilian settlements. The wide availability of consumer goods from all over the Roman Empire is exemplified by amphorae from the eastern Mediterranean region and north Africa that are found at Regensburg (Mackensen, 1999).

In the landscapes around Roman bases, the villa system was introduced to supply the needs of the new centers (Czysz, 1995). Most villas were probably owned by well-to-do locals, others were purchased or built by veterans after they had completed their 20- or 25-year terms of service and retired with their pensions, often choosing to settle in the region where they had served.

The rural landscape around Regensburg has been exceptionally well studied (Fischer, 1990, 1992), with over 100 Roman rural sites identified. These were autonomous agricultural units that produced what the occupants needed, along with surplus to trade. The classic form of villa consisted of a dwelling, typically of stone and masonry, with a tile roof (Czysz, 2003). Villas of wealthy individuals often had painted interior walls and mosaic floors. Outbuildings included barns, granaries, and workshops in which iron could be forged and pottery made. Kitchen gardens provided vegetables, and outside the immediate villa complex were fields for cereal cultivation. Within the walled villa complex at Burgweinting was a dwelling constructed of stone with two rooms that could be heated with a hypocaust—a furnace in the cellar that forced hot air under the tile floors and up through vents in the walls. Ten other buildings in the enclosure served economic purposes connected with food production and manufacturing (Bade *et al.*, 2002).

Landshut Area Villas

Villas also were established away from the forts on the Danube frontier, as in the region of Landshut on the Isar River, 50 km south of Regensburg. Beginning in the latter half of the first century AD, Roman villa finds become common on the loess terraces along the Isar Valley. At a villa at Eugenbach, Fischer (1985) found evidence for substantial surplus production not only of agricultural products but also of pottery and iron during the second half of the second and the first half of the third century.

At Ergolding, archaeologists excavated a cemetery of 79 cremation graves, thought to represent the occupants of a villa contemporaneous with that at Eugenbach. Struck (1996) estimates that the villa had about 25 resident adults at any one time, including the owner and his wife, adult relatives, and farmers and craftworkers employed by the owner. The graves contained pottery and personal ornaments such as fibulae. The burial tradition represented is more like that of the Late Iron Age than like that of Roman Italy. The dominant handmade pottery in

the graves is similar to that from the Late La Tène settlement at Hascherkeller, 2 km west of this cemetery, and the fibulae and other metal ornaments indicate the maintenance of local traditions. Although imported *terra sigillata* is present in some graves, typical grave goods of Roman Italy, such as incense burners, lamps, and coins, are rare. During the century-long use of the cemetery, a trend toward greater adoption of Roman practices is apparent. The presence of a substantial number of objects from outside the region indicates that this community was actively engaged in trade.

These villas at Eugenbach and Ergolding date to the time of the legionary base and its accompanying civilian settlement at Regensburg. The upswing in manufacturing and commerce around Landshut was a response to the increased demand for goods by the growing communities on the Danube.

PROCESSES IN THE FORMATION OF THE ROMAN FRONTIER

Study of the period between the flourishing of the *oppida* and the fully developed Roman military and civilian presence has been dominated by text-based approaches. Current understanding of the Late Iron Age *oppida* is heavily influenced by Roman textual sources pertaining to the sites in Gaul, particularly Caesar's accounts (Timpe 1985). The fact that archaeologists all over Europe use the Latin term *oppidum*, adopted from Caesar's commentaries, is indicative of the profound influence that Roman texts have on archaeologists' thinking.

The Roman sources pertaining to Late Iron Age Europeans and to the early Roman period need to be understood as cultural products of the society and of the authors who wrote them, not as objective statements of facts (Potter, 1999; Webster, 1996). Yet critical perspectives toward the texts are often lacking in modern interpretations by archaeologists (but among historians, see Dobesch, 1991; Timpe 1989, 1996; on some problems of reconciling the archaeological with the textual evidence in the region, see Hüssen, 2000a; Krämer, 1996).

The Post-*Oppidum* Iron Age

In Gaul, Caesar's armies fought against and defeated native peoples whose political and military centers were *oppida* (Drinkwater, 1983). In the region between the upper Danube and the Alps, it was not until the 1950s that archaeologists were able to demonstrate that the Roman conquest there was a very different process. Early in the modern excavations at Manching, investigators considered the possibility that the *oppidum*'s end was brought about by the Roman armies in 15 BC. Werner Krämer's studies (1952, 1959, 1962) of the grave goods in burials in southern Bavaria first demonstrated that there was a significant interval of time between the thriving period of the *oppida* at Manching and Kelheim and the

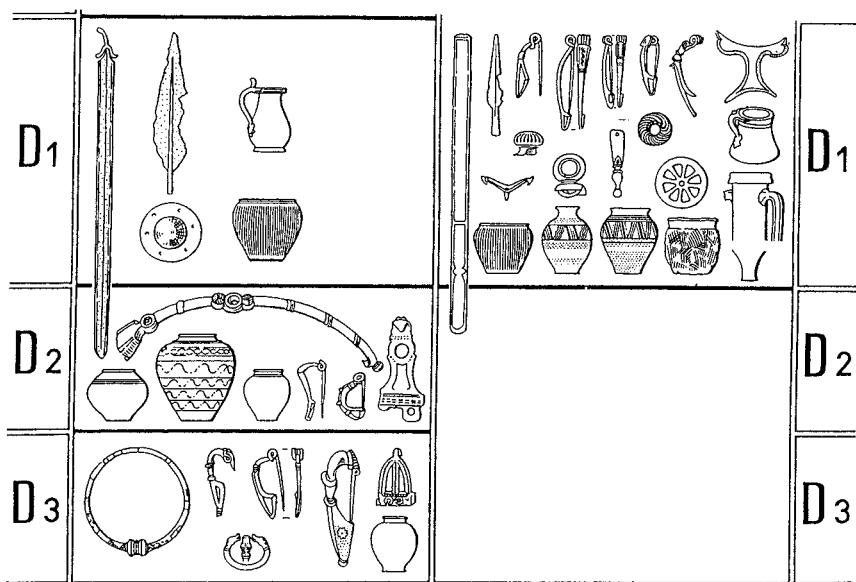


Fig. 5. Chart showing Krämer's definition of the phases La Tène D1, D2, and D3 for southern Bavaria, on the basis of settlement remains from Manching (D1, right column) and objects in graves (D2 and D3). The Nauheim type fibula is represented by the second and third objects shaped like safety pins in the upper row of the D1 box on the right. In box D2, the long curved object is a *Stabgürtelhaken*-type belt hook, the object on the right is a *Lochgürtelhaken* belt hook. The fibula on the left is the *geschweifte* type. In box D3, the large fibula is called the Norican–Pannonian type (Krämer, 1962, p. 306 fig. 1; reproduced with permission of the Römisch-Germanische Kommission).

Roman conquest. A handful of graves at Kronwinkl, Traunstein, and Uttenhofen contained fibulae, belthooks, and pottery that are closely related typologically to the Late La Tène material culture found at the *oppida*, but that in their specific forms are not represented among the vast quantities of materials from Manching or Kelheim. Kramer defined a phase D2 in the relative chronology characterized by objects that occur in these graves but not at the *oppida* and a phase D3 that, although typologically part of the local Iron Age sequence, dates to the early Roman period (Fig. 5). (For later refinements of this typological chronology, see Gebhard, 1991; Miron, 1989, 1998; Völling, 1994.)

The Cultural Landscape

Until recently, a number of archaeologists and historians believed that southern Bavaria was largely empty of human settlement after the decline of the *oppida* around the middle of the first century BC (Christlein, 1982; Rieckhoff, 1995; Schön 1986). This idea stemmed in part from the textually documented rapid

conquest of the region in 15 BC, and in part from what was thought to be very scanty archaeological evidence from the time between 50 BC and AD 50. This notion of an “empty landscape” at the time of the conquest, which had considerable influence on research during the 1970s and 1980s, can now be discarded (Hüssen, 2000a; von Schnurbein, 1993; Wischenbarth, 1999, p. 41; for discussion of this important issue in Baden-Württemberg, see Wieland, 1996, p. 181). Ongoing research is identifying large numbers of sites that date to this hitherto poorly understood period. Furthermore, many Roman place names along and south of the Danube have Celtic roots (Zanier, 2000, p. 11). Detailed analyses of pollen cores extracted from wetland sites show no sign of a break in intensive agricultural activity between the time of the urban *oppida* and that of intensive cultivation during the Roman period more than a century later (Küster, 1986). Dendrochronological evidence now shows that some sites, such as Seebrück, were occupied continuously from the Late Iron Age into the Roman period (Burmeister, 1998).

Impact of the Revised Chronology

The new understanding of the processes of formation of the Roman frontier depends in part on revisions in the chronological framework for this complex and dynamic period. Relative chronology of the Late Iron Age and early Roman period is based largely on fibulae, because they changed stylistically relatively rapidly, they are common on archaeological sites, and the same types were used throughout much of Europe (Maute, 1994; Völling, 1994). The occurrence of particular types in association with Roman imports of known date has formed the basis of the absolute chronology. But one of the failings of this system is that while it enables investigators to establish when a particular style came into use, it does not provide means for determining when the style went out of use (Gebhard, 1991, p. 68; on this issue in North American historical archaeology, see Adams, 2003).

The most diagnostic fibula type associated with the phase La Tène D1—during which the *oppida* thrived—is the Nauheim fibula (Striewe, 1996; Werner, 1955) (Fig. 5). Most Iron Age specialists date La Tène D1 and the Nauheim fibula to about 150–40 BC (Gebhard 1991; for a different perspective, see Rieckhoff, 1995, 1998). Phases La Tène D2 and D3 are defined by other types of fibulae, as illustrated in Fig. 5. Most researchers would place the beginning of D2 around 40 BC and the start of D3 around the time of the Roman conquest (Rieckhoff, 1995, p. 194, table 21). As the database grows, it is becoming apparent that key types remained in use considerably later than had been thought.

For example, a deposit at Grossmehring contained fibulae that had been attributed to different phases—one to D1, the other to D2 (Hüssen, 2000a, p. 293). The deposit at Döttenbichl contains objects that range typologically from Nauheim fibulae to *geschweifte* fibulae (D2) and Norican-Pannonian fibulae of the early Roman period (D3) (Hüssen 2000a, p. 297; Zanier, 1999a). (For these

typological terms, see caption to Fig. 5.) *Lochgürtelhaken*, characteristic of phase D2 in the study region, have recently been shown to occur in contexts as late as the first decade AD (Krämer, 1996). Völling (1994) has demonstrated that many fibulae of types that have been attributed to the D2 phase occur at early Roman settlements. In a settlement pit at Eching, pottery of La Tène D2 type was found in association with a Roman coin minted during the reign of the Emperor Tiberius, AD 14–37 (Winghart, 1986). Grave 1 at Heimstetten contained a Roman coin minted between AD 37 and 41, together with a full complement of metal ornaments of La Tène D3 type (Keller, 1984). At Kundl in Austria, objects typologically belonging to La Tène D2 were associated with fibulae of the early Roman period, at least as late as AD 20 (Lang, 1998). The effect of such new observations is to extend forward the chronological range of key types. (For similar revisions of chronology elsewhere in Roman frontier regions, see Andrikopoulou-Strack *et al.*, 1999; Lenz, 1995; and Simons, 1989.)

The regular occurrence of Middle and Late La Tène-type pottery on Roman military and civilian sites underscores the persistence of the traditional material culture well into the Roman period (see below).

Archaeological Sites, 50 BC to AD 50: Between *Oppida* and Roman Towns

A substantial number of sites dating to the period between 50 BC and AD 50 are now known. Some were excavated long ago, others have been identified in the past three years. In Table I list the best documented, with relevant literature.

Among the burials, a wide range of practices is apparent, contrasting with the much more homogeneous rituals of preceding and succeeding periods. Some hold cremations, others inhumations. In some cases, cremated remains were in urns; others were in piles on the bottom of the grave pit or mixed with earth filling the pits. At Kronwinkl, near the two graves, an additional pit held an unusual pottery deposit. A deposit at Niedererlbach contained the complete equipment of a warrior—sword scabbard, lancehead, lance shoe, and parts of a shield. Some of the five graves at Hörgertshausen were enclosed by a fence, some were covered with mounds.

These graves are distinguished by fibulae that are typologically later than the occupation of the *oppida* (Fig. 5, left column, D2). Some of the forms are derived stylistically from local predecessors; others are of types most common to the north. Similarly, the *Lochgürtelhaken* and *Stabgürtelhaken* types of belt hooks suggest links with groups north of the Danube, though some show clear signs of local craft traditions (Wells, 1995a). Pottery in these graves is heterogeneous—some similar to that at the *oppida*, some different (Christlein, 1982; Rieckhoff, 1995).

All the settlements appear to have been small, though few have been comprehensively excavated. The settlement at Harting consisted of several farmsteads (Rieckhoff, 1995). Two substantial post-framed buildings, 10 m ×

Table I. Graves and Settlements in Study Area, 50 BC–AD 50

Graves	
Heimstetten	Keller, 1984; Volpert, 2002
Hörgerthausen	Christlein, 1981
Ilmendorf	Hüsssen, 2000a, 2002
Kronwinkl	Krämer, 1959
Niedererlbach	Koch, 2002a,b
Oberhaunstadt	Hüsssen, 2000a, 2002
Traunstein	Krämer, 1952
Uttenhofen	Krämer, 1952
Zuchering	Hüsssen, 2000a, 2002
Settlements	
Burgheim	Hüsssen, 2000a
Dornach	Irlinger and Winghart, 1999
Grossmehring	Hüsssen, 2000a, 2002
Harting	Rieckhoff, 1995
Hascherkeller	Christlein, 1982
Leonberg	Pietsch, 2002
Paring	Rieckhoff, 1995
Seebrück	Burmeister, 1998
Stöffling	Hüsssen, 2002; Irlinger, 1991
Straubing-Stadtacker	Christlein, 1982
Straubing-Tiergarten	Christlein, 1982
Strussberg	Irlinger, 2002
Thalmassing	Rieckhoff, 1995
Wolfsdorf	Kreiner, 1995

10 m and 11 m × 6 m, were likely dwellings. Three rectangular pits, each 5 m long and between 3 and 4 m wide, contained settlement debris; in one there also were remains from iron production. About 90% of the pottery was handmade, 10% was wheelmade. Rieckhoff mentions a fragmentary handle of Roman origin that was with the pottery when she studied it but expresses doubt about whether it was found with the Late La Tène pottery. Among the faunal remains, Rieckhoff notes a higher proportion of wild animals than at Manching and Berching-Pollanten, but given the small sample, it is difficult to assess the significance of this pattern. No coins or glass ornaments are reported from Harting, and graphite-clay pottery is lacking.

The reported results from most other sites are consistent with those from Harting—small communities lacking materials such as coins, glass, and graphite that had circulated during the time of the *oppida*. (Rieckhoff makes the important observation that some settlements, including Harting and Thalmassing, would probably not have been recognized as occupation sites of this period if they had not happened to yield chronologically diagnostic fibulae. Many collections of sherds may languish in museum storerooms labeled “Late La Tène pottery,” without attribution to a settlement of this important post-*oppidum* period.)

From the newly discovered settlements at Leonberg and Stöffling, a very different picture emerges (neither has been substantially excavated as yet). Surface

collecting and limited excavations at Leonberg yielded over 40 silver coins, including some from Gaul, at least two of which postdate Caesar's conquest. Roman bronze vessels are represented. Bronze, silver, and gold were all worked on the site (Pietsch, 2002). Trenches opened on the largely eroded site at Stöffling yielded over 700 coins, glass jewelry, graphite-clay pottery, remains from silver working, and coin blanks and a die, indicating on-site minting (Hüssen, 2002). At both sites, archaeologists recovered quantities of bronze ornaments characteristic of the D2 and D3 phases. From these sites, it is clear that some communities had access to the full range of imports and specialized craft products that characterized the preceding period and were actively engaged in processing precious metal and in minting coins.

Immigration from the North?

In the past, some investigators, noting the typological similarity of some fibulae and belt hooks from the D2 graves and settlements to counterparts to the north in Thuringia and Saxony, have argued that these objects indicate substantial immigration of "Germans" into the region (Glüsing 1965; Pauli, 1991; Rieckhoff, 1995; Rieckhoff-Pauli, 1983; Stöckli, 1993). (For discussion of the names "German" and "Celt" in this context, and the related questions of identity, see Pohl, 2000; Wells, 1995b, 1998, 2001.) Now the increasingly rich database makes clear that material culture throughout temperate Europe had been becoming increasingly heterogeneous for some time, reflecting no doubt some movement of individuals between regions but also other means of transmission of goods such as trade, gift exchange, pilgrimage, family visits, and raiding and pillaging (Haffner, 1988; Hüssen, 2000a). Objects of personal adornment such as fibulae and belt decorations common at the *oppida* and in the cemeteries of the third and second centuries BC also reflect these links with regions to the north. Recent studies have shown that objects characteristic of the *oppida* occur on sites to the north (e.g. Ender, 2003; Grasselt *et al.*, 2003; Koch, 2000). Thus there is no need to interpret such objects as evidence for large-scale migration, for which there is no good evidence. They are rather part of a growing body of material evidence that indicates increasing interaction between communities throughout Europe during the Late Iron Age (Steidl, 2000; Völling, 1995).

Native Styles and Traditions on Roman Sites

Handmade pottery of Middle and Late La Tène style is common on Roman sites of the first and second centuries AD, and finer wares often show continuity of ceramic tradition as well. Von Schnurbein (1993) provides a striking illustration of the similarity of both plain and fine ceramics on Late Iron Age and Roman sites

(see Cordie-Hackenberg and Wigg 1998 for examples elsewhere; on the potential of such pottery studies, see Hill, 2002a,b). Many bronze ornaments, including fibulae, belt attachments, and decorative sheaths, worn by soldiers at the frontier bases during the second and third centuries AD display elements of native La Tène styles. This widespread phenomenon, well represented at Eining (Jütting, 1995), Regensburg (von Schnurbein, 1977), and Straubing (Walke, 1965), was already noted by MacMullen (1965) and Schleiermacher (1965), but its implications regarding continuity of indigenous traditions are only now being explored.

Continuity, or re-creation, of local tradition is evident in burial practice at Ergolding. During the Roman period, objects were deposited at a number of the Late Iron Age *Viereckschanzen*, indicating that individuals continued to practice rituals at these sites (Wischenbarth, 1999), a pattern noted elsewhere as well, as for example at Empel in the Netherlands (Roymans and Derkx, 1994). Rieckhoff (1997) has shown that other kinds of ritual deposits also were being made during the Roman period according to Late Iron Age practice, employing the same categories of tools associated with agriculture and food preparation (on other such ritual deposition during the Roman period, see Dallmeier, 1990; Fischer, 1995; Pauli, 1987; Thiel and Zanier, 1994). At burned-offering sites (*Brandopferplätze*) in southern Bavaria, we also find continuity of practice, as Zanier (1999b) demonstrates in his analysis of the deposits at Forggensee. These patterns show that people maintained many of their traditional ritual practices for generations after the Roman conquest, as also has been shown for Roman Britain (Fulford, 2001).

Peoples of Roman Raetia

The vast majority of people in the Danube frontier zone were of local ancestry. A portion of the military personnel, some administrators, and a few merchants came from Roman Italy, but most of the people in the civilian settlements and farming communities were natives. Among the soldiers, many—perhaps the majority—were auxiliaries—noncitizens from various parts of the Empire, including the local area. It is possible, as in Hungary (Gabler, 1991, 1995) and Britain (Hingley, 1997), that some communities in the region lived without much contact with the Roman military or civil worlds and continued to produce La Tène-style pottery and metal ornaments and rejected newly available Roman-style goods. As is clear from Gabler's studies, such communities would be extremely difficult to place chronologically if they yielded neither Roman imports nor other independent means to establish their dates. Some of the settlements and burials currently ascribed to the La Tène D2 or D3 phases may date to the latter part of the first or the second century AD. As the example of the Heimstetten graves demonstrates (Wells, 1999, pp. 96–98), some groups actively re-created practices from several generations past as they reacted to the stresses caused by the Roman

conquest. (For examples of similar recreation of past practices in Roman Gaul and Britain, see Webster, 1999, 2001.)

EMERGING UNDERSTANDING OF THE CREATION OF THE FRONTIER

This example of the Roman Danube frontier in Bavaria shows how new archaeological data, gathered from numerous small sites in a broadly examined cultural landscape, can provide insight into the processes of change in which the majority of people were involved. As we find in other cases of imperial conquest, for example in Mesoamerica (Farriss, 1984; Restall, 1998), textual sources pertaining to Roman military campaigns in southern Bavaria have been interpreted to indicate a landscape virtually empty of people at the time of the conquest. Yet the accumulating archaeological evidence shows that the region was fully inhabited by small communities. Earlier models of the formation of the frontier, based on texts and on the stone architecture of Roman military bases, towns, and villas, created a very Rome-centric view. Now the rapidly expanding database of small communities shows that the development of the frontier zone, with its distinctive characteristics, resulted from complex interactions between local inhabitants, Roman military and civil authorities, and others linked to the region by commerce, family relationships, and other connections. Key to understanding how the culturally heterogeneous and dynamic frontier zone was created is the network of Iron Age communities that persisted, adapted, and transformed themselves during the disruptions of the conquest period and into the centuries of Roman occupation. Through this network, goods and information flowed between communities that accommodated or resisted, to varying degrees, the economic and political transformations that the Roman administration introduced to its new province. The dynamic cultural landscape that developed along the Danube was neither more Roman nor more pre-Roman in character but fundamentally new and heterogeneous in nature. Some places, especially Roman bases and towns, as well as villas established by veterans, look more “Roman” (but not just like Roman settlements elsewhere). Others were more like Late Iron Age settlements in the region yet not exactly like them either. Many communities adopted new styles and practices from other regions of temperate Europe, including new types of fibulae, shapes of pottery, and burial rituals. The archaeological evidence from settlements and cemeteries of immediately preconquest times and of the first two centuries of the Roman period makes clear that terms such as “Romanization” and “assimilation” are far too simplistic to represent the complex, and continually shifting, interplay between the groups interacting in this dynamic region.

Surely the stresses caused by Roman military campaigns, first in Gaul from 58 BC, then in 15 BC in southern Bavaria, played a big part in stimulating the changes among the indigenous communities of the region. One kind of response

to these stresses was the practice of a variety of new rituals associated with funerary behavior; another was the adoption of new styles and ornaments introduced via the networks through which communities interacted with one another.

Exchange systems in which small communities were engaged played a decisive role in these developments because they kept the routes of communication along the network open and flowing with information and goods during and after the Roman conquest. The substantial iron production evident at Harting and the working of bronze, silver, and gold at Leonberg and Stöffling disprove earlier interpretations that argued for lack of economic integration among indigenous communities at this time. In addition to considerable local and regional circulation of goods and ideas, long-distance interactions are evident. The ram's head fibula from Kronwinkl is one of a small group widely distributed across Europe (Krämer, 1997). A newly recovered coral fibula from Niedererlbach is the first of its type found in the region (Koch, 2002a). Coins from Gaul are represented at Leonberg and Stöffling, and Roman bronze vessels at Leonberg. Links with northern parts of the continent, with Alpine regions to the south, and with the middle Danube area are apparent in the fibulae and belt ornaments in many of the graves. This dynamism and receptivity to new styles and practices continued throughout the expansion of the Roman military and administrative infrastructure, and they were extremely important in determining the character of the emerging frontier zone. At settlements and cemeteries in and around Eining, Regensburg, Straubing, and Landshut, and in the hinterlands away from these centers, the archaeological evidence shows a complex interplay of local techniques, practices, and styles, together with new elements introduced by soldiers and merchants from other parts of the empire. Ongoing research elsewhere along the Roman frontiers indicates similar patterns on the European continent (Barrett *et al.*, 1989; Slofstra, 2002), in Britain (Hunter, 2001; Webster and Cooper, 1996), and on other continents (Brun *et al.*, 1993; Jackson, 2002).

The approach advanced in this case could be productively applied to many other frontier regions, such as those of the Maya and Aztecs in Mesoamerica, the Moche and Inca in South America, the Mississippian and later European colonial societies in North America, the Shang in China, the Indus Valley civilization in Pakistan, and the Sumerian in the Near East (Alcock *et al.*, 2001; Deagan, 1996). Based on this case from Roman Europe and on cursory review of other frontier zones, I would predict that a similar kind of network analysis would be productive in other contexts. Indication of the circulation of nonlocal materials in the different parts of the world, such as obsidian, jade, silver, mica, seashells, lapis lazuli, and alabaster, can be highly informative about the workings of networks along which information and ideas flowed, together with these archaeologically more visible goods. Evidence for extensive adoption of new stylistic elements from neighboring regions, and creation of new ritual practices, may indicate the same kinds of responses to stress and change in other cultural contexts as are noted above in Roman period Europe. Increase in the scale of manufacturing and

in long-distance commerce by small communities may similarly point to the role of networks of communication in other frontier regions. The approach outlined here can provide a useful model for investigating the dynamic processes through which communities participated in the creation of frontier zones on the edges of empires, and of other complex societies, throughout the past 5000 years of human experience.

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