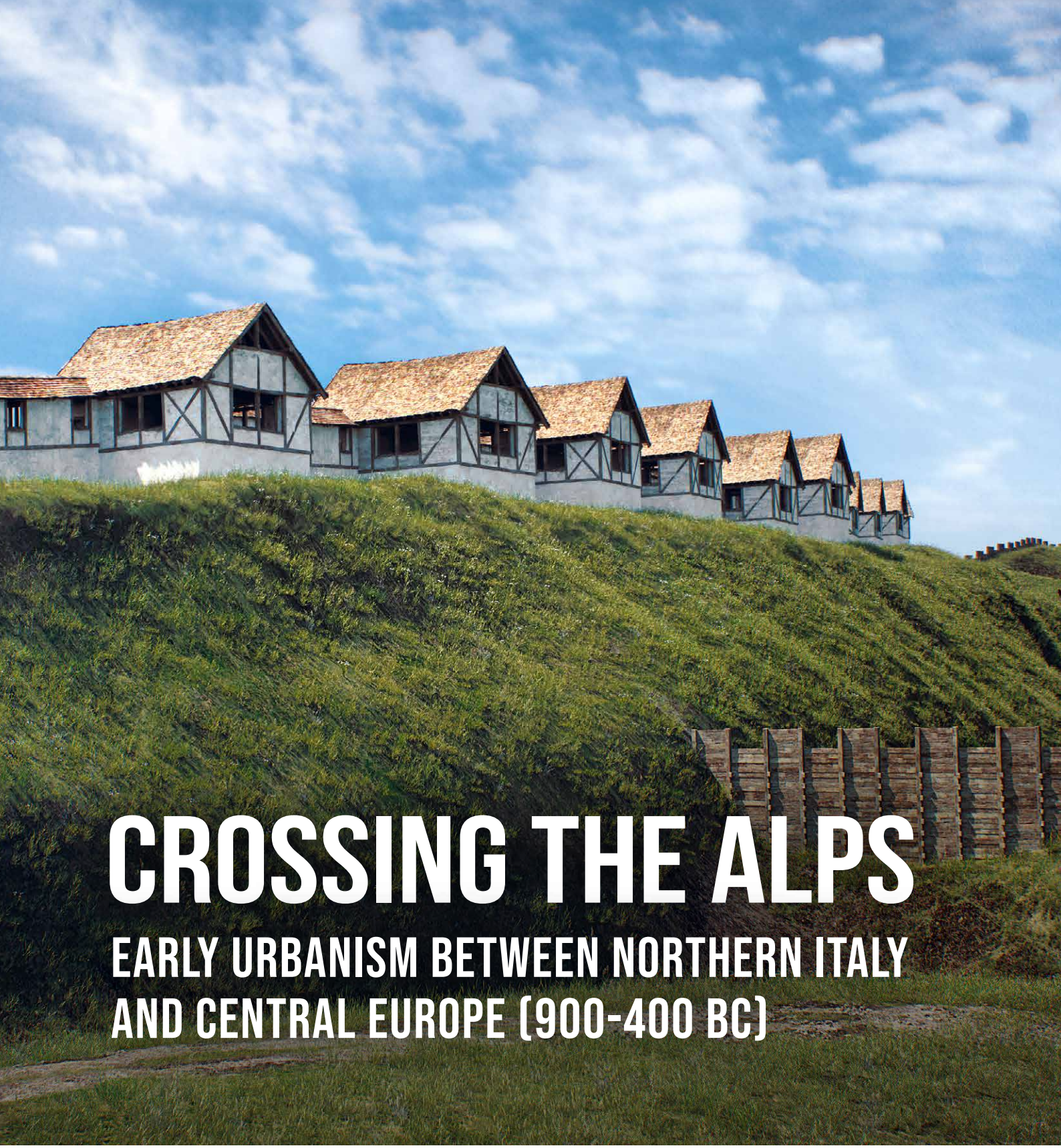

CROSSING THE ALPS

EARLY URBANISM BETWEEN NORTHERN ITALY AND CENTRAL EUROPE (900-400 BC)

EDITED BY LORENZO ZAMBONI, MANUEL FERNÁNDEZ-GÖTZ & CAROLA METZNER-NEBELSICK

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Contents

PART 1: URBAN ORIGINS AND TRAJECTORIES ACROSS THE ALPS

1. Early Urbanism South and North of the Alps: An Introduction **11**
Lorenzo Zamboni, Manuel Fernández-Götz & Carola Metzner-Nebelsick

2. Aspects of Urbanism in Later Bronze Age Northern Italy **19**
Mark Pearce

3. Urbanisation and Deurbanisation in the European Iron Age: Definitions, Debates, and Cycles **27**
Manuel Fernández-Götz

4. From Genoa to Günzburg. New Trajectories of Urbanisation and Acculturation between the Mediterranean and South-Central Europe **43**
Louis Nebelsick & Carola Metzner-Nebelsick

PART 2: EARLY URBANISATION PROCESSES IN NORTHERN ITALY

5. Verucchio: The Iron Age Settlement **71**
Paolo Rondini & Lorenzo Zamboni

6. Archaeology of Early *Felsina*. The Birth of a Villanovan City **91**
Jacopo Ortalli

7. Spheres of Consumption of Metalwork and Trans-regional Interactions at the Onset of the Urban Phenomenon in Northern Italy **109**
Cristiano Iaia

8. Urbanism and Architecture in the Etruscan City of *Kainua*-Marzabotto: New Perspectives **123**
Elisabetta Govi, Chiara Pizzirani & Andrea Gaucci

9. Relationships between City and Necropolis in Northeast Italy **137**
Giovanna Gambacurta

10. The Proto-urban Phenomenon in Veneto: A Review of the Population Dynamics of the Settlement of Oppeano (Verona) **153**
Massimo Saracino & Alessandro Guidi

11. Coazze near Gazzo Veronese, on the Fringes of Veneto and Etruria Padana, NE Italy **171**
Alessandro Vanzetti, Matteo Bertoldo, Francesca Di Maria, Dario Monti, Luciano Salzani & Fabio Saccoccio

12. The Etruscan Settlement of Adria (Italy, Rovigo): New Data from the Excavations in Via Ex Riformati (2015-2016) **193**
Simonetta Bonomi, Maria Cristina Vallicelli & Claudio Balista

13. Exploring Spina: Urbanism, Architecture, and Material Culture **207**
Aleksandra Mistireki & Lorenzo Zamboni

14. The Hidden City: Reconstructing the Urban Structure of the Etruscan Harbour of Forcello di Bagnolo San Vito through Excavations and Non-invasive Methods **227**
Rainer Komp, Tommaso Quirino & Marta Rapi

15. The Early Iron Age Protourbanisation along the Ticino River and around Como **243**
Raffaele Carlo de Marinis & Stefania Casini

16. The First Results of Geophysical Prospections Using the ADC Method on the Proto-urban Settlement Site of Como, Spina Verde **257**
Fabian Welc, Louis Nebelsick, Carola Metzner-Nebelsick, Ines Balzer, Alessandro Vanzetti & Barbara Grassi

17. Bergamo and Parre during the Iron Age: Early Urbanism and the Alpine World **275**
Raffaella Poggiani Keller & Paolo Rondini

PART 3: EARLY URBANISATION PROCESSES IN CENTRAL EUROPE

18. Earliest Town North of the Alps. New Excavations and Research in the Heuneburg Region **299**
Dirk Krausse, Leif Hansen & Roberto Tarpini

19. Centralisation Processes at the *Fürstensitz* (Princely Seat) on Mount Ipf in the Nördlinger Ries, Southern Germany **319**
Rüdiger Krause

20. Early Urbanism and the Relationship between Northern Italy and Bohemia in the Early Iron Age **333**
Miloslav Chytráček

21. Vix: The Temptation of the City **349**
Bruno Chaume

22. Bourges-*Avaricum*: A Western Example of a Princely Complex of c. 500 BC in Central France **361**
Ian Ralston

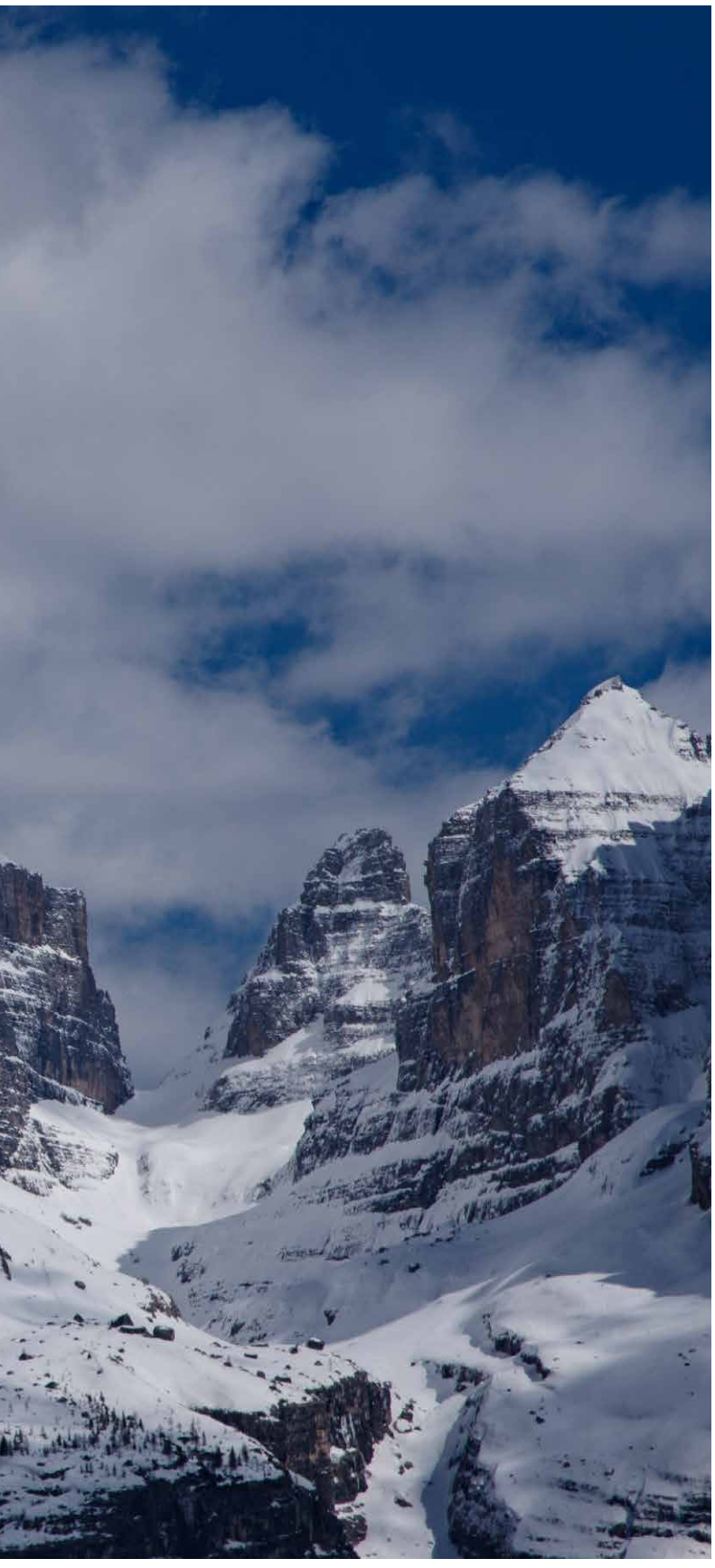
23. The Early Iron Age Central Place at Most na Soči (NW Slovenia) **377**
Snežana Tecco Hvala

24. The Dürrnberg Salt Metropolis: Catalyst of Communication and Complexity in La Tène Central Europe **393**
Holger Wendling

PART 4: CONCLUDING THOUGHTS AND COMPARATIVE PERSPECTIVES

25. The Mediterranean at the Periphery of Urban Origins **419**
Corinna Riva

26. Untold Riches of the Urban Form Central to the Pre-Roman European Experience **427**
Simon Stoddart



PART 1

URBAN ORIGINS AND TRAJECTORIES ACROSS THE ALPS

Chapter 1

Early Urbanism South and North of the Alps: An Introduction

Lorenzo Zamboni, Manuel Fernández-Götz
& Carola Metzner-Nebelsick

1.1 Introduction

> "*The great arc of the Alps to the north, as much as one would expect to the contrary, seems to have been a negligible barrier to communication and trade*" (Barfield 1971, 9).

The interactions between the Mediterranean and Central Europe during the 1st millennium BC have been a topic of ongoing debate among scholars, and one that continues to attract considerable attention (*e.g.* Barral *et al.* 2014; Brun 1987; Cunliffe 1988; Gebhard *et al.* 2011; Gleirscher and Marzatico 2004; Swaddling *et al.* 1995; Wells 1980). However, approaches have often been dominated by preconceptions based on the influence of classical studies and centre-periphery models which emphasise one-way dependency and establish a distinction between 'advanced' southern civilisations and 'underdeveloped' temperate European societies. According to many of these models, the latter would have tried to emulate their Mediterranean neighbours, which they would have regarded as 'superior' (see *e.g.* Kimmig 1983; Kossack 1974; Pallottino 1992). More recent research has started to challenge these views (Collis 2016; Riva this volume), partly due to the enormous amount of new archaeological evidence from Iron Age Central Europe (Fernández-Götz 2018; Fernández-Götz *et al.* 2014; Krausse 2008a; 2010; Sievers and Schönfelder 2012; Stoddart 2017), and partly as a result of novel theoretical approaches that criticise previous distinctions between 'civilised' and 'barbarian' societies. While the connections between communities south and north of the Alps are undeniable and deserve further attention, the way of conceptualising the interactions varies strongly between different authors and schools of thought.

One of the most important developments that took place during the early 1st millennium BC was the emergence in different regions of large settlements that can be regarded as urban or proto-urban (Fernández-Götz and Krausse 2016; Osborne and Cunliffe 2005). However, in this framework the role of northern Italy has traditionally remained rather overlooked. Although the pivotal position of the Golasecca culture has been acknowledged for a long time (Catalogue Saint-Germain-en-Laye 2009; Cicolani 2017; Pauli 1971), in most cases it has been seen as an intermediator between the Etruscans and Central Europe, rather than a region with importance in its own terms. Moreover, little attention has been paid in international scholarship to the region when discussing the phenomenon of early urbanisation that took

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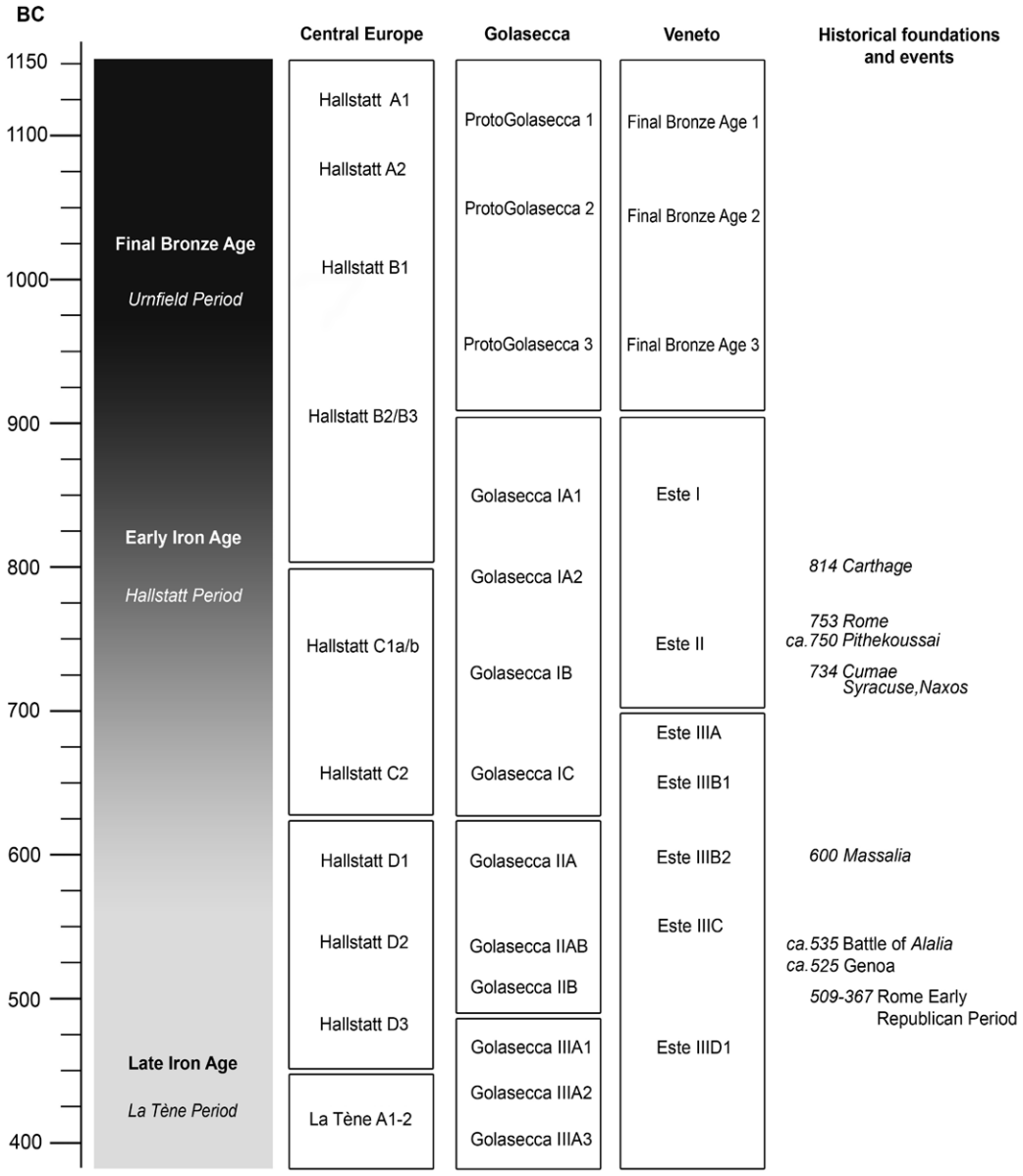

Figure 1.1. Table summarising the main chronological systems used for Central Europe, Golasecca, and Veneto between c. 1150-400 BC (authors).

place during the Early Iron Age. This is exemplified in the lack of overview works on the topic (with the exception of Zamboni forthcoming), which stands in sharp contrast to the abundance of summaries available for central Italy (*e.g.* Attema *et al.* 2016; Fulminante 2014; Leighton 2013; Pacciarelli 2001, 2016; Riva 2010; Stoddart 2016; see also Riva this volume). Thus, most published distribution maps of urban and proto-urban sites show a clear gap in the area of the Po Valley, which with few exceptions (Govi 2014; Piana Agostinetti 2012) appears scarcely represented or sometimes even empty.

The reasons for this underestimation of northern Italy are likely to be traced in the history of archaeological research (Vanzetti 2002), rather than in the nature of the archaeological evidence and the role played by the region in antiquity. Barriers in scholarship between countries and traditions (*e.g.* the distinction between prehistorians, ancient historians, and classicists) have complicated gaining a comprehensive picture of the crucial developments that took place in the regions immediately to the south and north of the Alps during the early 1st millennium BC. For example, northern Italy has been peripheral for the tradition of classical archaeology,

Figure 1.2. Conference participants at *Crossing the Alps. Early Urbanism between northern Italy and Central Europe (900-400 BC)* in Milan. In the background the Duomo (photo © A. Vanzetti).

which on the Italian Peninsula traditionally focused on the Greek colonies of the south, the rise of Rome, and Etruria. The use of different chronological frameworks and publication languages has also hindered comparisons at a supra-regional scale (fig. 1.1). Regional chronological frameworks are not always synchronous, with the Iron Age starting earlier in Italy than in Central Europe. In addition, relative chronological systems are often based on different categories of materials and therefore are not easily compared. Thus, the chronology of the north Italian Golasecca culture is mainly based on pottery sequence whereas the Hallstatt chronology north of the Alps is heavily reliant on metal finds, such as weapons and dress accessories. In terms of radiocarbon dating, the fact that the Early Iron Age coincides with the so-called 'Hallstatt plateau' (c. 800-400 BC) has further complicated the picture when it comes to establishing absolute chronologies.

In order to reassess the role of northern Italy and explore the complexity of cultural interaction across natural barriers during this time period, the editors of the present volume organised an international conference in Milan under the title *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)* (29-30 March 2019, cf. Zamboni *et al.* 2019). The conference was held at the Palazzo Reale and organised jointly by the University of Milano-Bicocca, the University of Pavia, the University of Edinburgh, and the Ludwig-Maximilians-Universität Munich. The event drew together researchers from Italy, France, Austria, Germany, the Czech Republic, Croatia, Slovenia, and the UK (fig. 1.2). All contributors were asked to make an effort to transcend existing borders of knowledge and challenge debates and discoveries within the framework of their respective regional fields of archaeological expertise.

The present volume brings together a selection of the papers presented at the conference, with 26 chapters organised into four thematic sections. The aim is to provide a fresh picture of one of the most debated issues in current Iron Age archaeology, *i.e.* settlement centralisation and societal complexity,

Figure 1.3. Map showing the location of the main sites discussed in the volume (by G.J.F. Nebelsick. Raw data: Japan Aerospace Exploration Agency [JAXA], ALOS Global Digital Surface Modell "ALOS World 3D – 30m [AW3D30])", ALOS (advanced land observing satellite: Panchromatic Remote-sensing Instrument for Stereo Mapping [PRISM]); QGIS 3.12.3, EPSG:3044).

presenting novel archaeological evidence, promoting critical approaches, and opening up new perspectives. Many papers introduce recent survey and excavation results, some presented in English for the first time, as well as settlement and territorial analysis from different regions north and south of the Alps during the first half of the 1st millennium BC, roughly from the 9th to 5th centuries BC (fig. 1.3).

The selection of case studies presented in this volume requires perhaps further explanation. The choice of not including other regions, such as Etruria and *Latium* in central Italy, or even Iberia and Greece, does not imply underestimating the crucial roles played by these areas in the wider context of the European Iron Age. However, our primary aim has been to take a closer look at a narrower scenario, mirrored on both sides of the Alpine arc, assuming that two factors could have contributed to strengthen relations and contacts in the *longue durée*: geographical proximity and environmental similarities in the first place, as well as a remarkable precocity in settlement nucleation and long-term connectivity shown in northern Italy between the second part of the 2nd millennium BC and the Early Iron Age (Pearce this volume). This must have promoted an entangled network of exchange of goods, technologies, and people across the Alpine passes and water routes, on a far larger scale than previously assumed.

The contributions collected in this volume show the diversity of paths to settlement nucleation and the variety of urban forms across time and space. Rather than a uniform model or a linear trajectory, what we observe is a variety of responses and choices by local communities. In what follows we summarise the different papers, which have been subdivided into four thematic sections.

1.2 Urban origins and trajectories across the Alps

The first thematic block includes a number of overview papers that provide insights into theoretical and methodological aspects, as well as introduce the evidence

for interactions between the regions to the south and north of the Alps. After this introductory chapter by the volume's editors, the paper by **Mark Pearce** challenges two distinct assumptions. The first is whether an 'urban' site is visible outside the criteria derived from the Classical world. He suggests the adoption of a more comprehensive approach, comparing Iron Age settlements with, for instance, European medieval towns. Secondly, following insights from authors such as Fernand Braudel and Carolyn Heighway, he claims that a more inclusive definition of a town allows for the classification of some Late Bronze Age settlements in northern Italy as urban, with Frattesina as his central example. Such early evidence radically undermines primitivist preconceptions and sets the background for later developments.

The following chapter by **Manuel Fernández-Götz** discusses different definitions for urbanism and introduces Michael E. Smith's polythetic, attribute-based approach. The paper criticises unidirectional models of urban development and interaction, arguing that we need to abandon the artificial and biased distinction between a 'civilised' south and a 'barbarian' north. In addition, the notion of deurbanisation is highlighted as an important element in urbanisation cycles. The cyclical nature of settlement agglomeration in late prehistoric Europe is illustrated with the example of the Late Hallstatt '*Fürstensitze*' ('princely seats').

Louis Nebelsick, and **Carola Metzner-Nebelsick** take a virtual journey from Ligurian Genoa to Bavarian Günzburg from the mid-7th to the early 6th centuries BC, with the purpose of demonstrating the importance of this neglected communication corridor and collecting evidence for Hallstatt period alpine infrastructure. A major part of the chapter is devoted to patterns of appropriation and social change among the communities on the route, which are an aspect of the initial willingness of elite lineages to adopt the so-called 'Golasecca package' by drastically changing their dress codes and status markers in Hallstatt C2/D1. Around the mid-6th century BC, Hallstatt D2 witnesses equally drastic changes with a reassertion of local identity through deliberate modifications of Italian inspired status signals and costume at a time when mercantile and commodity trade and the alliances facilitating this are replaced and hierarchies intensify. In this scenario, elite women play a crucial role, not only in the initial process of appropriation of dress code, but also highly visible as agents within lineage-based communities.

The wider picture that emerges in these overview chapters is expanded in the following two thematic sections which focus on a selection of key-sites, the first from the Po Valley and immediately adjacent regions south of the Alps, and the second from Central Europe.

1.3 Early urbanisation processes in northern Italy

The development of settlement agglomeration and centralisation processes in Iron Age Europe is archaeologically visible in several regions. Starting in the southeastern part of the case studies included in the volume, **Paolo Rondini** and **Lorenzo Zamboni** describe the evidence from Verucchio, a powerful centre of the Early Iron Age (9th to 7th centuries BC). This site was allegedly formed by local and neighbouring populations involved in wide-raging trade, including Baltic amber, and ruled by an aristocratic elite visible in the rich grave assemblages. Verucchio abruptly declined during the 7th century BC, offering an example of 'delicate' or ephemeral urbanisation.

Different but comparable evidence is outlined in the paper by **Jacopo Ortalli**, who reviews the discoveries in the large and complex centre of Bologna, the ancient *Felsina*. Recent rescue excavations have demonstrated the monumentality of its buildings and infrastructure. The results of these excavations suggest an alternative model of social structure, one oriented towards more collective and less hierarchical forms of government.

Insight into the supra-regional networks of trade and exchange which involved, among many goods and products, specialised bronze artefacts, is offered by **Cristiano Iaia**. His paper explores the consumption and circulation of bronze axes between the 8th and 7th centuries BC as a proxy of broader interaction phenomena, involving the Po Valley and the Circum-Alpine Hallstatt regions.

On the southern fringe of the Po Valley, along the Apennine Reno Valley, Marzabotto has long been regarded as the textbook case-study for Etruscan urbanism. The paper by **Elisabetta Govi**, **Chiara Pizzirani**, and **Andrea Gaucci** describes recent advances in the understanding of the urban layout and the monumental architecture of the city. The paper also shows the benefits of using virtual models in archaeological research.

A comprehensive description of the Veneto region in northeastern Italy is offered by **Giovanna Gambacurta**, who highlights the early chronology and the remarkable size of key settlements, such as Este and Padova. She also illustrates the relationships between settlements and cemeteries in the Venetian area, offering a nuanced picture of the spheres of close interaction between the world of the living, the dead, and the supernatural.

New investigations in large and early centralised sites of the Veneto plain are presented on the basis of two major key studies. The paper by **Massimo Saracino** and **Alessandro Guidi** provides an updated picture of the settlement of Oppeano, which developed into an urban site of about 80 ha between the Late Bronze Age and the mid-1st millennium BC. For its part, the team by **Alessandro Vanzetti**, **Matteo Bertoldo**, **Francesca**

Di Maria, **Dario Monti**, **Luciano Salzani**, and **Fabio Saccoccio** summarises the fieldwork results at the site of Coazze near Gazzo Veronese. At the end of 7th and beginning of the 6th centuries BC there are signs of a multiethnic community at Coazze, within a settlement that extended over at least 60 ha.

A new wave of settlement nucleation took place in northern Italy after the mid-6th century BC, when newly founded sites of medium or small dimensions (between 6 and 20 ha) played a key role in the exchange network between the Mediterranean and Central Europe. Along the Adriatic coast, one of the most preeminent trading hubs was the site of Adria, discussed in the paper by **Simonetta Bonomi**, **Maria Cristina Vallicelli**, and **Claudio Balista**. New discoveries from the excavations in Via Ex Riformati provide evidence for construction techniques and materials that were adapted to the humid local environment in the wetland area of the Po Delta. This is reflected in the extensive adoption of timber architecture and perishable materials in daily life.

The international *emporion* of Spina, described by **Aleksandra Mistireki** and **Lorenzo Zamboni**, was newly founded in a similar coastal environment setting, some 40 kms south of Adria. Spina is a remarkable example of a relatively short-lived 'economic town', which flourished for a couple of centuries thanks to the convergence of international interest, but was abruptly abandoned afterwards.

The fluvial site of Forcello, analysed by **Rainer Komp**, **Tommaso Quirino**, and **Marta Rapi**, has several traits in common with Adria and Spina. It was newly founded during the second half of the 6th century BC inside a wetland environment, displaying an orthogonal grid of canals and being enclosed by a bank and ditch system (as confirmed by recent surveys presented in the paper). As in the cases of Adria and Spina, the building techniques were mainly based on locally available resources such as timber. The main role of Forcello was that of a trading hub, connecting the Adriatic area with the Golasecca centres and the Circum-Alpine cultures.

The final three papers of the thematic block address the evidence in the area of the so-called Golasecca culture of northwestern Italy. **Raffaele Carlo de Marinis** and **Stefania Casini** focus on the important settlements of Como and Castelletto Ticino. Their paper outlines the changes in settlement patterns over time, including the decline of some sites and the development of new foundations, such as Milan. A preliminary report of two geophysical surveys in the vast proto-urban site of Como, in the location of Spina Verde, is outlined in the paper by **Fabian Welc**, **Louis Nebelsick**, **Carola Metzner-Nebelsick**, **Ines Balzer**, **Alessandro Vanzetti**, and **Barbara Grassi**. The main results of this international project revealed images of what seem to be linear wall structures and a great sunken "Casa Raetica"-style edifice, showing that systematic non-destructive surveys are able to significantly enhance our understanding of the protohistoric site. Finally, in the framework of the eastern Golasecca culture, the picture of Bergamo and its surroundings is significantly enhanced by the information provided in the chapter by **Raffaella Poggiani Keller** and **Paolo Rondini**. Recent discoveries and a reconsideration of old data provide evidence for an early agglomeration phenomenon, with a new settlement layout organised towards the late 6th century BC.

1.4 Early urbanisation processes in Central Europe

The archaeological evidence presented for northern Italy can be compared with the level of settlement nucleation reached at several sites in temperate Europe. Thanks to the impressive results of diverse research projects carried out during the last few decades, the corpus of information for Central Europe has grown exponentially. The volume includes a selection of some of the most important sites, from southern Germany to France in the West and Bohemia in the East.

A key site for any debate on urbanisation in Early Iron Age Europe is the Heuneburg. The paper by **Dirk Krausse**, **Leif Hansen**, and **Roberto Tarpini** summarises the latest research at the site itself as well as in its surrounding territory. This includes the outstanding results obtained at the Alte Burg hillfort, which can probably be interpreted as a place for cult and assembly, as well as at other fortified sites such as the Große Heuneburg.

The chapter by **Rüdiger Krause** about the 'princely seat' on Mount Ipf focuses on its genesis and deals with questions of hierarchisation and interdependencies between settlements in the area. This includes the relationship between the neighbouring hillforts of Ipf and Goldberg. Within the upper part of the Ipf fortification (*Oberburg*) a dense distribution of what seem to be single household courtyard structures was detected by magnetometry, resembling those on the Heuneburg acropolis after the destruction of the mudbrick fortification at the end of Hallstatt D1. Krause concludes that the Ipf can be described as a 'princely seat' -a centre of political and economic dominance of its inhabitants- but that it lacks the features of a complex urban centre.

Further to the northeast, **Miloslav Chytráček** provides an overview of Etruscan/Italian imports in Bohemia during the Hallstatt and Early La Tène periods, discussing them within the context of different types of elite settlements. He argues that the specific distribution pattern of southern imports in Bohemia, most prominently prestigious bronze vessels but also Greek pottery, is the result of attempts by local chieftains to control long distance pathways.

Moving to the west, **Bruno Chaume** presents the results of the latest research at the important centre of Vix-Mont Lassois, including the identification of potential

harbour installations on the banks of the Seine River. Moreover, he discusses other important aspects such as the territorial influence of the so-called 'princely seats'. Chaume highlights that the attempts towards urbanisation remained incomplete and short-lived, a phenomenon for which he uses the term 'atelo-urban'.

Another site of extraordinary importance during the 6th and 5th centuries BC was Bourges in Central France. **Ian Ralston** summarises the archaeological evidence for the site, which could have extended over 200 ha. The agglomeration at Bourges seems to have been at its zenith for about three generations, followed by rapid decline that leads Ralston to classify it as the core of a fragile micro-state.

In the southeastern Alps, a major role was played by the site of Most na Soči in Slovenia, which is addressed in the paper by **Snežana Tecco Hvala**. The site revealed signs of a proto-urban if not urban settlement structure with a planned grid of alleys between multi-roomed houses. The intensity of southern contacts is reflected not only by Attic imports but also the appropriation of Etruscan or north Italian lifeways, reflected for example in the use of decorated tiles in the interior of the houses or the consumption of southern foodstuffs, such as walnuts and figs.

To conclude the section on temperate Europe, **Holger Wendling** describes the salt mining centre at Dürrnberg near Hallein. He argues that the importance of salt made the Dürrnberg community a 'global player' in the Iron Age. The founding act is interpreted by Wendling as a process comparable to the establishment of Greek colonies in the Mediterranean. Overall, he suggests that the Dürrnberg complex can be labelled as a salt metropolis.

1.5 Concluding thoughts and comparative perspectives

The volume concludes with two overview papers aimed at placing the results of the individual contributions within a wider theoretical and comparative framework. **Corinna Riva** challenges traditional ethnocentric perspectives on the 'ancient city' in the Mediterranean, and advocates for focusing more on the consequences rather than origins of urbanism. She highlights how recent research in temperate Europe counters previous Mediterraneo-centric centre-periphery models. The volume ends with a summary paper by **Simon Stoddart**, who reflects on the *longue durée* structure of cross-Alpine connections and on topics such as the ideologies behind urbanisation processes, the various forms of urban density, and the fundamental role of the rural environs of cities.

In sum, we hope that the contributions presented in the volume will offer new avenues for research on urbanisation processes in the 1st millennium BC, and encourage comparative studies that go beyond traditional barriers – in a geographical, methodological, and intellectual sense.

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Chapter 2

Aspects of Urbanism in Later Bronze Age Northern Italy

Mark Pearce

This paper asks the question whether towns may be said to be visible in the archaeological record of northern Italy before the Iron Age. It argues that we should not use the forms of urbanism of the Greek, Etruscan, and Roman cities as criteria for identifying towns, but that the medieval town is a better comparator as it shows many elements of similarity with Iron Age forms of urbanism in Europe. Having established a selection of possible criteria for the identification of a town, it is argued that Final Bronze Age-Early Iron Age Frattesina is a good candidate for a town, as are the Recent Bronze Age terramare *of the Po plain. The preconception that there cannot be towns in Bronze Age northern Italy is 'primitivist' and hinders a dispassionate assessment of the evidence.*

Keywords: Urbanism; Final Bronze Age; Recent Bronze Age; Frattesina; Terramare

2.1 Introduction

In this paper I shall examine whether aspects of urbanism may be said to be visible in the archaeological record of northern Italy before the Iron Age. This will entail discussing precisely what we mean by the term urbanism and briefly reviewing part of the debate.

The conventional (and pessimistic) view is clearly expressed by Anthony Harding (2000, 71):

> "*Some authors have considered that the trend towards clustered settlement, … along with the creation of surrounding features (fences, palisades, ditches, ramparts) that marked the edge of the settlement, indicate that settlement in some parts of the Bronze Age can be called "urban" or at least "proto-urban". … Unfortunately there is little agreement on what constitutes a "town" as opposed to a "village", other than that it should have certain administrative, political and commercial functions. Whether such functions could be identified archaeologically in a period prior to the use of writing is a moot point*".

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In other words, in Harding's view there is no agreement as to the criteria for defining an urban settlement, and even if there was, it is unlikely that we could identify such a settlement in a period before writing.

In this paper I shall examine a range of criteria put forward for the recognition of urban settlements and show that towns can indeed be recognised in prehistory, despite the absence of written evidence for their status.

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2.2 What do we mean by urbanism?

In order to answer this question, we need first to address three issues.

The first is one of terminology and is a source of confusion when working between languages. In English and French there are two words that are used to denote an 'urban' settlement, 'town' and 'city', 'ville' and 'cité', while other European languages have just one (Schledermann 1970, 115). So, for example, Italian uses *città* and German *stadt*, both of whose semantic field encompasses the two English terms. To avoid confusion, in this paper I shall talk about 'towns'. The reasons for this choice will become clear as the discourse is developed.

The second problem relates to the history of our discipline. The classic definition of urbanism is that of Gordon Childe (1950), who in an incisive paper in the *Town Planning Review*, defined it in terms of the cities of the ancient Orient, Egypt, Mesopotamia, and the Indus Valley, where the phenomenon first appeared, and Mesoamerica. Childe (1950, 9-16) used 10 descriptive traits to define a city:

1. Size and density;
2. Composition and function (cities have 'full-time specialist craftsmen, transport workers, merchants, officials, and priests');
3. The primary producers paid their surplus to the god or king;
4. Monumental buildings (which 'also symbolize the concentration of the social surplus');
5. Unequal distribution of social surplus;
6. Invention of writing;
7. The invention of 'exact and predictive sciences – arithmetic, geometry and astronomy';
8. Sophisticated art;
9. Long-distance trade;
10. 'State organization … based on residence rather than kinship'.

It will be immediately clear that there are a range of problems with Childe's criteria. Firstly, they describe the very first towns to appear and are not universally applicable. Secondly, some of the aspects that Childe uses as a criterion for urbanism also occur in non-urban societies – *e.g.* there is already monumental architecture at Göbekli Tepe in the 10th millennium BC (Schmidt 2006). Finally, some of the criteria can only really be recognised where written sources are available, such as a state organisation based on kinship (criterion 10).

The third issue is one that particularly affects scholars working in Europe, and especially in the Mediterranean. Rather paradoxically, we might term it the 'teleological premise'. Put simply, Mediterranean archaeologists tend to see the classical Greek *poleis*, or the cities of Etruria or Rome, as the outcome of the process of urbanism. They therefore *implicitly* tend to use features of those 'cities' to identify urbanism. This tendency is perhaps heightened by the sense of inferiority that some prehistorians perceive *vis à vis* their classical archaeologist colleagues, which leads them to unconscious bias in favour of classical models. But the Mediterranean cities, like those of the ancient Orient, are arguably just one type of city, just one outcome of urbanism. It is in order to avoid this teleological premise that in this paper I have chosen to avoid the use of the word 'city', which carries the baggage of the Mediterranean cities of the classical world.

I would argue that neither the Mediterranean cities nor the Oriental models adduced by Childe are useful to understand the towns of northern Italy and central Europe. It is in fact more helpful to reflect on the development of *medieval* European towns. This is not a new idea, indeed nearly 50 years ago John Alexander (1972, 848) pointed out that: "*In many ways the Medieval towns of central and north-western Europe with their emphasis on … commercial and political functions … seem to resemble their prehistoric predecessors more than their Imperial ones. In a number of specialized fields, e.g. architecture, religion, art history, social organisation, the reappearance or, in the west, reintroduction of prehistoric traits has been increasingly recognized by medieval historians. It may be of value to consider medieval urban development as derived in some part at least from an indigenous urban tradition which was developing in prehistoric times and which reappeared in the west after the Roman interlude*".

In other words, and turning Alexander's argument on its head, if we look at the form and functions of medieval towns, we may gain insight into prehistoric urbanism.

2.3 The medieval town

In his 1967 monograph, *Civilisation matérielle et capitalisme, XVe-XVIIIe siècle*,[1] Fernand Braudel offers general considerations on the nature of medieval towns in Europe. The first point which he makes is that towns are not necessarily only defined by their size: there can in fact be extensive villages that are bigger than some towns (Braudel 1976, 54).

The statistics that Braudel (1967, 370-371) reports are quite surprising. Before 1500, 90-95% of western European towns had fewer than 2,000 inhabitants[2] and the average population of the 3,000 German 'cities' was no more than 400. Looking at colonial British North America, town size

1 Translated into English in 1973 as *Capitalism and material life, 1400-1800*; chapter 8 was slightly abridged and republished as a stand-alone essay, entitled 'Pre-modern towns', in 1976. A later substantial revision of the monograph, *Les Structures du Quotidien: Le Possible et L'Impossible*, was published in 1979 and translated into English in 1981.

2 This statistic is omitted from the revised version (1979; 1981) of Braudel's book.

in 1700 was: Boston 7,000; Philadelphia 4,000; Newport 2,600; Charlestown 1,100; New York 3,900. This observation is quite important, as size seems to be a recurring criterion for the archaeological definition of towns (it is Childe's first criterion, as we have seen) and I wonder what an archaeologist would make of such small settlements, if he didn't already 'know' (from written sources, one would imagine) that they were 'towns'.

Secondly, Braudel (1967, 372-373) notes that the town is part of a settlement hierarchy – it exists as a town in relation to lesser settlements. Towns detach the secondary sectors of the economy from the primary, agricultural, sector, but inhabitants of towns may continue to farm the surrounding land.

Thirdly, there is constant immigration to towns because they are perceived to offer more freedom and higher rates of pay, but also because of their high mortality rates (Braudel 1967, 374-376).

Fourthly, Braudel (1967, 376) notes that nearly all towns from the 15th to the 18th century AD had walls (apart from in the British Isles). He argues that in a very real sense, as well as their practical purpose for defence, walls define the town. Indeed, Furetière's *Dictionaire universel* (1690, vol. 3, no page numbers) defines a town (*ville*) as the "*habitation d'un peuple assez nombreux, qui est ordinairement fermée de murailles*" ("*home of a large number of people which is normally enclosed by walls*").[3]

Fifthly, Braudel also discusses whether deliberate town planning can be said to be a criterion defining a town, and notes that: "*Deux civilisations seulement ont fabriqué en grand la ville enchevêtrée et irrégulière : l'Islam … et l'Occident moyenâgeux*" ("*only two civilisations built confused and irregular towns on a large scale: Islam … and the West in the middle Ages*"; Braudel 1967, 380; 1976, 62).

Finally, it is worth noting another important criterion that Braudel adduces for urban status. As he writes: "*Mais toute ville, quelle qu'elle soit, est d'abord un marché. Qu'il manque, la ville est impensable*" ("*every town, wherever it may be, is first and foremost a market. If there is no market, a town is inconceivable*"; Braudel 1967, 385; 1976, 65), though he accepts that in medieval Europe you could also have a market without a town.

Another approach to the definition of a medieval town, in this case in Great Britain, was offered by Carolyn Heighway (ed., 1972, 2), who defined as a town those settlements that fulfilled more than one of the following criteria, while accepting that this low bar did not necessarily prove their urban status (indeed, Biddle [1976, 100] commented that "*a place needs to fulfil not less than three or four of these criteria to merit serious consideration as a town*"):

1. Urban defences (walls or bank and ditch, with or without wooden defences);
2. A deliberately planned street lay-out, perhaps with 'provision for a market place';
3. Presence of a market (which is described as 'perhaps the only indispensable criterion');
4. Presence of a mint;
5. Legal recognition;
6. Position – 'a central position in a network of communications may be a clue to its importance';
7. '[A] high density and size of population compared with surrounding places'
8. A diversified economic base, 'a concentration of crafts in one area, and evidence of long-distance trade'
9. '[S]urviving houses will be urban rather than rural in form';
10. Social differentiation, '[a] town should contain a wide range of social classes';
11. 'The presence of a complex religious organisation';
12. Judicial centre.

When these criteria were developed, there was no assumption of continuity between Roman towns and early medieval ones in Britain (Biddle 1976, 103), even when they occupied the same site, so they avoid the baggage of the Roman model of a town. It is therefore my contention that these considerations are useful in assessing whether prehistoric settlements may be identified as early towns.

2.4 Bronze Age urbanism: Frattesina

Having established that medieval towns did not look like a classical Greek *polis*, or the cities of Etruria or Rome, we can look at Bronze Age settlements free from and unencumbered by the 'teleological premise'.

The most obvious candidate for the status of a town in later Bronze Age northern Italy is Frattesina (Fratta Polesine RO); there is a vast literature on this important Final Bronze Age and Early Iron Age site, but most recently, see Bietti Sestieri *et al.* (eds.) 2019. Situated along a branch of the Po, the settlement was laid out along a main canal with perpendicular minor canals. It was a major node in a commercial network linking the Baltic and the Levant, trading amber, southeast Alpine copper, ivory, and ostrich eggshell. It used a weighing system linked to the Levantine shekel. It was not only an *entrepôt*, it was also a major industrial centre: as well as antler working and glass production, exotic raw materials (the Baltic amber and the north African and/or Levantine elephant ivory and ostrich eggshell) were imported to be worked at Frattesina – *i.e.* value was added at the site. Bronze artefacts were produced on an industrial scale: at least 100 moulds and 4 founder's hoards are known. The settlement was ruled by a small group whose prerogative was to bear a sword, sometimes with gold rivets. Analysis of the grave goods

3 This seems to be a cross-cultural definition, for example in first millennium BC Zhou dynasty China, the same character was used to denote both city and wall (Wheatley 1970, 170).

from burials at the Le Narde cemetery suggests that there were five socio-economic strata, in a pyramidal structure from poorest to richest (Cardarelli *et al.* 2015, 441-443, fig.5), though reconstructing its precise social make-up is complicated by a ritual prohibition on depositing weapons in male graves (Bietti Sestieri 2019*a*, 11), which applies to all but the sword-bearers.

So, was Frattesina a town? Certainly it fulfils a number of the criteria posited by Heighway (ed., 1972, 2) for the identification of a town in medieval Great Britain: having evidence for town planning (criterion 2), being laid out along artificial canals; a central position in a trade network (criterion 6); a diversified economy with a concentration of craft activities and participation in long-distance trade (criterion 8); it shows evidence for social differentiation among the people living at the settlement (criterion 10). There is no evidence for defensive structures (criterion 1; cf. Bellintani *et al.* 2019) and it is debatable whether its relatively large size (10 ha; Baldo *et al.* 2018) constitutes sufficient evidence for urban status (criterion 7), as there are larger contemporary settlements like Villamarzana (RO; which Bietti Sestieri [2019*a*, 10] prefers to see as the central place in the polity), but certainly the surface scatter of archaeological material at Frattesina suggests that it was *densely* inhabited. Finally, whether or not it had a market-place as such, it functioned as a market (criterion 3), trading goods circulating from the Baltic to the East Mediterranean, which as we have seen is perhaps the most important criterion of all (Heighway, ed., 1972, 2).

2.5 The *terramare*

If we assume that Frattesina meets the criteria for a town, the question arises as to whether there are any other settlements in Bronze Age northern Italy which might also be identified as towns. The *terramare* of the Middle and Recent Bronze Age central Po plain are without doubt the best candidates. In this section I shall therefore examine whether they too can be said to meet the criteria. I shall first concentrate on the Recent Bronze Age polity of the Valli Grandi Veronesi, centred on the site of Fondo Paviani (Legnago VR), which survives the collapse of the *terramare* system at the beginning of the 12th century BC.

It may be useful to begin by examining the historical relationship between Frattesina and the Valli Grandi Veronesi polity. Broadly expressed, there are two views. For Anna Maria Bietti Sestieri (*e.g.* 1997, though her later position is more nuanced: 2019a; 2019b), Frattesina, as a projection northwards from Protovillanovan Etruria, represents an entirely new phenomenon in the Po delta area that was stimulated by eastern traders, whilst the alternative viewpoint was developed by Armando De Guio (1991, 175-176, fig. 12; 2000, 306-308, fig. 21; De Guio *et al.* 2015, 315-316). He suggests that there is a progressive shift of socio-political power from the area around Lake Garda (Early Bronze Age), to the middle Veronese plain (Middle Bronze Age) and then to the Valli Grandi Veronesi (Middle-Recent Bronze Age), and thence in the Final Bronze Age to Frattesina at the apex of the delta area; this political and economic shift seems to be motivated by the desire to control the supply of southeast Alpine copper (De Guio *et al.* 2015, 315; cf. De Guio 2000, 308). Thus, Frattesina is the successor to the role of the Valli Grandi Veronesi polity.

At the central place in the Valli Grandi Veronesi polity, Fondo Paviani (Legnago VR; most recently Cupitò *et al.* 2015*a*), lead isotope work has shown that all seven artefacts analysed are compatible with southeast Alpine copper ore (Cupitò *et al.* 2015b, 842-844 figs 6 and 7; Vicenzutto *et al.* 2015, 835-838), which would tend to support the importance of the copper trade. The presence of Italo-Mycenaean pottery at various sites in the polity, but particularly at Fondo Paviani (Bettelli *et al.* 2015), certainly prefigures the role of Frattesina, and the control of the copper trade and trade with the East Mediterranean may go some way to explaining Fondo Paviani's resistance to the collapse of the *terramare* system.

However, if we are to assess whether the *terramare* of the Valli Grandi Veronesi polity are towns, it is perhaps best to consider Castello del Tartaro (Cerea VR), which, like the other *terramare* in the Valli Grandi Veronesi polity, is surrounded by a bank and ditch. The team led by De Guio have, on the basis of remote sensing and targeted fieldwork, reconstructed a complex system of roads and irrigation ditches surrounding the *terramara* (Balista and De Guio 1997; De Guio *et al.* 2015). Vicenzutto (2017, database site 51) calculates that it took between 869 (equivalent to 3 m^3 moved per person per day) and 1303 (2 m^3 per person per day) days work to dig the defensive ditch surrounding Castello del Tartaro, and this does not include the labour for the diversion of the natural watercourse and the laying out of the fields and their irrigation ditches.

Vicenzutto (2017, fig. 49) estimates a population of c. 3000 individuals at Castello del Tartaro and more than 3500 for Fondo Paviani in the Recent Bronze Age, while strontium and oxygen isotope data from burials at Scalvinetto (a cemetery of 705 excavated graves [Cavazzuti *et al.* 2015, 793] which relates to Fondo Paviani) suggest that 28 out of 60 (47%) individuals examined were not indigenous, with some individuals originating from a distance of over 50 km from Fondo Paviani (Cavazzuti *et al.* 2019, 33-34); the locally made Italo-Mycenaean pottery also likely documents immigrant potters (Bettelli *et al.* 2015, 385).

We have therefore useful data to ask whether the *terramare* of the Valli Grandi Veronesi were towns. I shall start by examining the fit to Heighway's (ed., 1972, 2) criteria for the identification of a town in medieval Great Britain. The *terramare* are defended by banks and ditches (criterion 1) and Fondo Paviani, at least, has 'a central position in a network of communications' within its polity

(criterion 6). Vicenzutto's population estimates suggest a high and dense population at the larger sites (criterion 7) and the Italo-Mycenaean pottery and alpine copper attest to a diversified economy with long-distance trade (criterion 8); indeed, we could convincingly argue that Fondo Paviani at least functioned as a market (criterion 3; cf. Bettelli *et al*. 2015, 385). Finally, we may note that Fondo Paviani fits two of the features identified by Braudel as denoting towns: it is at the centre of a settlement hierarchy (Braudel 1976, 55-57) and is characterised by immigration from surrounding areas (Braudel 1976, 58-59).

This fit to the criteria for the identification of a town may seem surprising, especially to those whose primitivism leads them to doubt *a priori* that such a complex socio-economic structure could exist in the second half of the 2nd millennium BC. The *terramare* of the Valli Grandi Veronesi do not of course look anything like the classical *polis*, but as we have seen, that is not the point.

If we accept the foregoing identification of the Recent Bronze Age *terramare* of the Valli Grandi Veronesi as towns, then we must ask whether the Middle and Recent Bronze Age *terramare* of the central Po plain to the south of the Po may also be identified as urban. Before turning our attention to this question, it is worth noting that it is widely accepted that the complex social organisation of the Valli Grandi Veronesi polity, as demonstrated by its earthworks, roads, and irrigation system, with attendant issues of land-rights and their management, would have required central co-ordination, and De Guio *et al*. (2015, 314-315) argue convincingly that it was a simple chiefdom society (cf. Vicenzutto 2017, 240). However, this socio-political reconstruction is not accepted by many as applying to the *terramare* heartland. Thus Andrea Cardarelli (2010, 454) prefers to see these banked and ditched settlements as "*a cohesive, isonomic organism, whose social constituents are highly integrated within the community*" with infrastructure works "*presumably carried out by obtaining community consent*". He accepts that an elite did exist and is documented in the funerary evidence, but it "*probably …* [consisted of] *outstanding personages from the various kinship groupings into which the village community was subdivided*" (Cardarelli 2010, 454). Although Cardarelli (*ibid*.) accepts that "*this picture changes substantially in political terms between the …* [Middle Bronze 3] *and the …*[Recent Bronze 1] *(1450-1250 BC), when evidence suggests a more hierarchically oriented territorial organisation*", he argues that "*this did not, however, have a far-reaching impact on the production system and the social structure…*". While this (primitivist) argument does not affect the question as to whether the *terramare* meet the criteria to be identified as towns, it is relevant because the more simple the social organisation of a settlement, the less likely it is to have achieved the complexity of a town.

The *terramare* of the central Po plain consist of a network of more than 60 banked and ditched settlements, mostly south of the Po. In the Middle Bronze Age their density reached one site per 25 km^2. In their early phases the *terramare* are usually no bigger than 2 ha, but the Recent Bronze Age sees many sites abandoned and others reach considerable dimensions: for example Santa Rosa di Poviglio (RE) goes from 1 ha to 7 ha, Case del Lago (Campegine RE) reaches 22.5 ha, and the outer enclosure at Case Cocconi (Campegine RE) is 60 ha in extent (Bernabò Brea *et al*. 1997; Pearce 1998). Perhaps the best known *terramara* is Santa Rosa di Poviglio (Bernabò Brea and Cremaschi 1997).

Was Santa Rosa di Poviglio a town? Using again Heighway's (ed.,1972, 2) criteria for the identification of a town in medieval Great Britain, we may note that the *terramara* is (as is usual) defended by a bank and ditch (criterion 1) and has a planned lay-out of streets with modular houses (criteria 2 and 9); the houses are tightly packed, indicating a dense population (criterion 7). In the Recent Bronze Age the *terramara piccola* becomes a highly fortified keep, arguably the residence of an elite (which might meet criterion 10); certainly it could be classed as monumental architecture (Childe's [1950] criterion 4). More generally, in the Recent Bronze Age some *terramare* attain a role as central places (Cardarelli 2010, 451) (criterion 6) and the presence of weights (tied to east Mediterranean weighing systems: Cardarelli *et al*. 1997; 2004) is a strong index of market functions (criterion 3). Again, it would seem that although the *terramare* are clearly not classical *poleis*, they meet many of the criteria that are used to denote a medieval town.

We might further argue that the banked and ditched settlements of the Friuli plain, a similar network of defended settlements in a densely settled landscape (Borgna *et al*. 2018a; 2018b), also meet such criteria.

2.6 Conclusions

Looked at from the perspective of classical Greek *poleis*, or Etruscan cities, or Rome, it would be difficult to argue for urbanism in later Bronze Age northern Italy. However, if we escape the teleological premise and accept that there was a different type of indigenous European urbanism, much more similar to medieval towns, that was supplanted during the Iron Age by the classical, Mediterranean model, then we can certainly identify towns by comparison with medieval models, as early as the later Bronze Age, if not before.

It is my contention that we must abandon the 'primitivist' preconception that there cannot be towns in Bronze Age northern Italy. Braudel (1967, 370; 1976, 53) wrote that "*… où qu'elle soit, une ville est une ville*" ("*…a town is a town wherever it is*"), but I would argue that "a town is a town *whenever* it is"!

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Chapter 3

Urbanisation and Deurbanisation in the European Iron Age: Definitions, Debates, and Cycles

Manuel Fernández-Götz

The study of early cities and towns represents one of the most attractive topics within current archaeological research. This paper explores the evidence for urban development in Iron Age Europe, starting with a discussion about definitions and criteria. It is argued that we need to overcome the outdated distinction between a 'civilised' and urban south vs. a 'barbarian' and non-urban north, and instead carry out studies that are both contextual and comparative. An important realisation is that urban developments were non-linear, with different cycles of urbanisation and deurbanisation that can be linked to the various nested wavelengths of time at which historical processes operate. Finally, the paper discusses the phenomenon of the Early Iron Age 'princely seats' ('Fürstensitze') north of the Alps, including some reflections about the origins but also of decline of these centres.

Keywords: Urbanisation; Deurbanisation; Definitions; Cycles; Iron Age.

3.1 Characterising the urban: definitions and attributes

Studies on early urbanism have experienced a renewed surge in archaeological research, with several volumes and special issues on the topic appearing in the last few years (*e.g.* Fernández-Götz and Krausse 2016; Frangipane and Manzanilla 2018; Gaydarska 2017; Gyucha 2019; Smith M.L. 2019; Yoffee 2015). Cities and towns represent one of the defining features of our modern world, and due to its time depth archaeology is in a privileged position to provide a long-term perspective that allows for the placement of current concerns within a wider framework (Smith, M.E. 2010; 2012a). However, the attractiveness of the urban should not lead us to forget that the majority of the population has always resided in the countryside. This was not only a feature of the Iron Age (Cowley *et al.* 2019), but also of other periods, such as the Roman, which have traditionally been considered highly urbanised. For example, it is estimated that in the Early Roman Empire more than 90% of the population of Gaul continued to live in the countryside (Étienne 1988). Furthermore, according to United Nations official data, 2009 was the first year in world history during which the number of people living in cities surpassed the rural population (United Nations 2010).

With this caveat in mind, one of the main issues when trying to define what is meant by 'city' or 'town' is the tension between local and global conceptualisations. Or, in other words, between definitions that are very specific but unable to capture the diversity of

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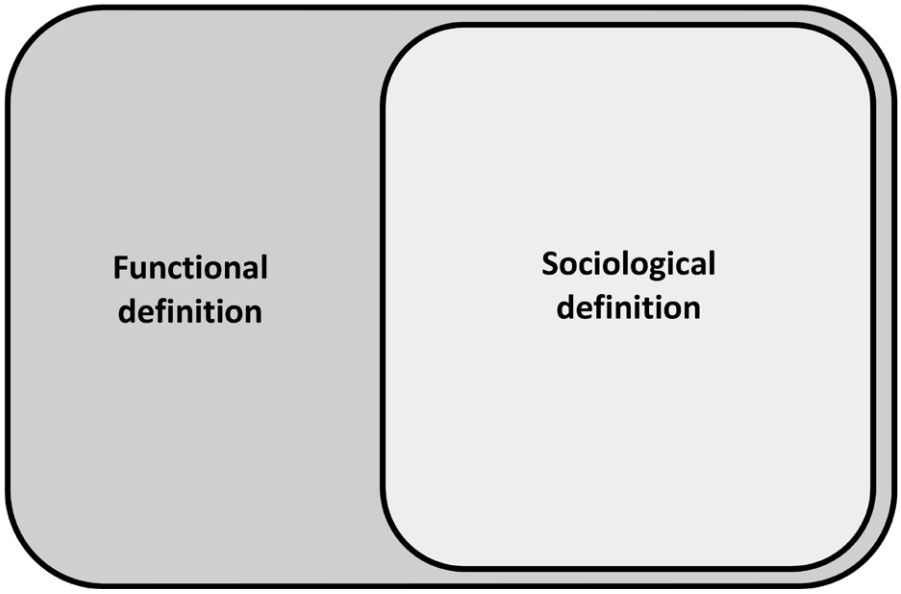

Figure 3.1. The relationship between the functional and sociological definitions of urbanism. All 'sociological' cities also fit the functional definition, whereas the converse is not necessarily the case (after Smith, M.E. 2016).

the urban phenomenon across time and space, versus others that are so broad that they risk losing any heuristic value. There is no single universally agreed definition in the present, so it would be naive to expect it for the past. Some scholars have even argued that we should abandon the concept of city altogether, but this does not seem a useful alternative if we want to adopt a comparative perspective (Smith, M.E. 2012b; 2020), which allows our research to be relevant for other disciplines (Morris 2000). In a new paper on premodern urbanism, M.E. Smith (2020) has listed seven reasons for archaeologists to pursue a comparative approach to past cities:

1. To better understand a given case.
2. To identify new processes and patterns.
3. To generalise about a phenomenon.
4. To distinguish the unique from the universal.
5. To uncover causal dynamics.
6. To combat recentism.
7. To promote synthesis.

Although all concepts are loaded and to a certain extent problematic (cf. for example the discussions about notions such as 'identity', 'romanisation', or 'globalisation'), we need a certain nomenclature in order to operate. As was already expressed by G. Cowgill (2004, 526): "*It is notoriously difficult to agree on a cross-culturally applicable definition of 'the' city, but we cannot do without definitions altogether*". Thus, rather than abandoning concepts, we should try to define their meaning more explicitly, establish nuances for dealing with specific cases, and carry out analyses on different scales that take into account both the similarities and the differences on a synchronic and diachronic level. At the same time, we should remember that definitions are tools and that terms such as 'city' and 'urban' are ultimately theoretical, so they must be inferred by combining archaeological data with a theoretical approach (Smith 2020).

Within urban scholarship, it is possible to distinguish two main approaches to city definitions: the demographic/sociological and the functional (Smith, M.E. 2016) (fig. 3.1). While the demographic/sociological approach is based on criteria such as permanence, large population size or social heterogeneity, the functional definition emphasises the role of cities as the settings for people and institutions that impacted a larger realm. Probably the most notable example of the sociological definition was provided by L. Wirth (1938, 8), who stated that: "*For sociological purposes a city may be defined as a relatively large, dense, and permanent settlement of socially heterogeneous individuals*". While this definition incorporates several important elements that continue to be valuable, the reference to 'dense' has proven problematic in light of recent work on low-density urbanism (Fletcher 2009; 2012). From a functional perspective, B. Trigger (1972, 577) emphasised the role of cities for a wider environment: "*It is generally agreed that whatever else a city may be it is a unit of settlement which performs specialized functions in relationship to a broad hinterland*". In an attempt to combine elements from both approaches, in 2013 I proposed with D. Krausse a context-dependent definition of city that is aimed at recognising the high levels of variation that often exist between and within different urban traditions: "*A numerically significant aggregation of people permanently living together in a settlement which fulfils central place functions for a wider territory*" (Fernández-Götz and Krausse 2013, 480).

Trying to match these and other definitions with the available archaeological evidence is doubtless a challenge. Some scholars have tried to establish a set of 'criteria' or 'traits' that can be used to determine the urban or non-urban character of past settlements. Perhaps the most influential model has been V.G. Childe's (1950) list of 10 criteria, although it should be noted that his main aim was to try to define 'early states' (see also Smith, M.E. 2009). Since then, it has become increasingly clear that a monothetic use of 'checklists' does not work: "*No single criterion, such as sheer size or use of writing, is adequate, and it seems best to use a somewhat fuzzy core concept rather than to try to establish criteria that will clearly demarcate all cities from all noncities*" (Cowgill 2004, 526). Thus, while population size might represent one relevant factor, it is illusory to try to agree on a universal baseline figure (*e.g.* 1,000, 5,000, 10,000 inhabitants) and there are other important elements to take into account.

This is not to say that demography should be regarded as a secondary element, but rather that it is not the only criterion and that the expectations derived from our modern, highly populated world can create some problems when assessing the past. In that sense, it is worth looking at population figures from historical periods, which can help to overcome certain widespread misconceptions among archaeologists. According to F. Braudel's influential monograph *Civilisation matérielle et capitalisme* (1967), before the year 1500, 90 to 95% of towns in Western Europe had less than 2,000 inhabitants and the average population of the about 3,000 German 'cities' was no more than 400 people (cf. Pearce this volume, for a more extensive discussion of Braudel's work). Without preserved written records that mention an urban status, how many archaeologists would classify a settlement of fewer than 400 inhabitants as a city? It is true that this does not make the study of early urbanism any easier, but acknowledging the complexity of the past is a good starting point for any analysis. Moreover, it is noticeable that the population figures provided by Braudel for a large percentage of medieval towns are equal or in many cases lower than those estimated for temperate European Iron Age sites of the 6th and 5th centuries BC, such as the Heuneburg (c. 5,000 inhabitants, see Krausse *et al.* 2019) or Dürrnberg bei Hallein (c. 1,000-2,000 inhabitants, see Wendling this volume). Furthermore, the population figures estimated for many Etruscan cities are even higher (Steingräber 2008). On a different, but important note, Braudel (1967) also observed that many town inhabitants could continue to perform farming in the surrounding land (and, one could add, sometimes even within the towns themselves, making use of open spaces!). This dismantles the myth of urban life as being necessarily detached from agricultural production.

As an alternative to monothetic criteria, M.E. Smith (2016) has proposed a polythetic, attribute-based approach founded on traits that can potentially be identified archaeologically (fig. 3.2). The list combines attributes based on size (population, area, density), social impact/urban functions (royal palace, royal/high aristocratic burials, large temples, civic architecture, craft production, markets/shops), built environment (fortifications, gates, connective infrastructure, intermediate-order temples, residences of the lower elite, formal public space, planning of epicentre), and social and economic features (burials of the lower elite, social diversity, neighbourhoods, agriculture within settlement, imports). Some of these attributes are assessed by means of presence/absence, others by a measurement scale (low, moderate, high), and finally others require a quantitative measurement. As noted by M.E. Smith (2016, 159-160): "*there are no 'necessary' traits that must be present in every case of urbanism, and there is no absolute quantitative criterion for urbanism (e.g., any site with twelve of the traits can be called a city). The purpose of this scheme is to explore the pattern of urban-related attributes at a site or a series of sites, and it works best in a comparative framework*". Thus, the list of relevant attributes might be different for each urban tradition.

In any case, beyond definitions and criteria it is important to understand urbanisation as a social process, rather than a final destination. Following R. Osborne (2005), we can characterise ancient urbanisation as a continuous process with a gradual, transformative character. More important than debating if one specific settlement within a system should be classified as 'urban', 'proto-urban', or 'non-urban' is to analyse the wider processes of settlement nucleation and centralisation that take place within the larger landscape, and which usually form part of a network (Raja and Sindbaek 2018). For example, in Iron Age temperate Europe we can distinguish the emergence of a number of urban networks that developed in different times and at varying scales: the so-called Early Iron Age 'princely seats' ('*Fürstensitze*') and the Late Iron Age *oppida* represent the main large-scale urban networks in the 1st millennium BC, which can in turn be subdivided into smaller-scale networks (*e.g.* '*Fürstensitze*' in southwest Germany or *oppida* in central Gaul). Using the term 'urban networks' does not imply that all the main sites included within them were necessarily urban (there are for instance a few cases of *oppida* which were largely empty spaces), nor that they represented a homogeneous category (there is actually significant variation among settlements). Nevertheless, the term acknowledges that the settlements existed as part of a network of connectivity and often interdependence, and that they were integrated within wider processes of emerging, albeit often 'fragile', urbanisation.

A final point to be made is that the debates around urban origins have sometimes obscured what cities/towns actually *did*, *i.e.* the consequences

Attributes	Type of Variable	Inclusion in Other Lists
Settlement Size		
population	M	
area	M	
density	M	
Social Impact (urban functions)		
royal palace	P/A	Renfrew; Flannery
royal or high aristocratic burials	P/A	Renfrew; Flannery
large (high-order) temples	P/A	Renfrew; Flannery
civic architecture	S	
craft production	S	Renfrew
market or shops	S	Weber
Built Environment		
fortifications	P/A	Renfrew; Weber
gates	P/A	
connective infrastructure	P/A	
intermediate-order temples	P/A	
residences, lower elite	P/A	
formal public space	P/A	Renfrew
planning of epicenter	P/A	Renfrew
Social & Economic Features		
burials, lower elite	P/A	
social diversity (nonclass)	P/A	
neighborhoods	P/A	Renfrew
agriculture within settlement	P/A	
imports	S	

Notes:
Type of variable
M: quantitative measurement; P/A: presence/absence
S: measurement scale (1: low; 2: moderate; 3: high)
Sources:
Flannery 1998
Renfrew 2008: 47–48
Weber 1958; 81

Figure 3.2. Archaeological urban attributes (after Smith, M.E. 2016).

and effects of urbanism. In this sense, a useful novel approach is provided by M.E. Smith's (2019) concept of 'energised crowding', which refers to the social effects caused by the large number of social interactions that take place within urban sites. Aggregation and urbanisation lead to increased energised crowding, which in turn generates social outcomes such as scalar stress, community formation, and economic growth. Research on contemporary urbanism indicates that individuals become more productive in larger cities (Bettencourt 2013), but there are also downsides to the process of aggregation. In both the present and the past, the 'positive' (*e.g.* economic growth, technological innovation) and 'negative' (*e.g.* crime, stress, alienation) outcomes should be regarded as two sides of the same coin. In the European Iron Age, we can see how urban centres were generally the main hubs of technological innovation and exchange, but at the same time also often relatively short-lived in their existence (instability), and the places where we find a more widespread use of locks and keys (insecurity, potential crime).

3.2 Iron Age agglomerations north and south of the Alps: conceptions and misconceptions

The Iron Age in temperate Europe (defined here as the period covering approximately between c. 800 BC and the start of the Common Era, although with some regional variations) witnessed the emergence of some large settlements which can sometimes be classified as urban (Fernández-Götz 2018; Fernández-Götz *et al.* 2014a; Guichard *et al.* 2000; Sievers and Schönfelder 2012). While large agglomerations existed already in earlier periods (for example some Neolithic and Bronze Age megasites), north of the Alps the traditional narratives have regarded the 2nd and 1st century BC *oppida* as being the 'earliest towns north of the Alps' (Collis 1984; see also Fichtl 2005). However, the research of the last few decades has uncovered ample evidence for another period of Iron Age centralisation and partially also urbanisation already in the 6th and 5th centuries (Fernández-Götz and Ralston 2017; Krausse 2008a, 2010) (fig. 3.3). These earlier sites have generally been classified as 'princely seats' (*Fürstensitze* in German, *résidences princières* in French), a denomination that might sometimes be misleading (see *e.g.* critiques in

Figure 3.3. Main '*Fürstensitze*' north of the Alps and selected sites of the period in Mediterranean Europe (after Fernández-Götz and Ralston 2017, fig. 1).

Eggert 1989), but that has become firmly established in the scientific literature as a sort of *terminus technicus* used to refer to the large sites that preceded the *oppida* by several centuries.

The urbanisation processes that took place in Iron Age temperate Europe can only be properly understood as part of wider trends present in many regions of Eurasia and the Mediterranean during the 1st millennium BC (Attema 2004; Fernández-Götz and Krausse 2016; Osborne and Cunliffe 2005). While it is true that urban sites started developing earlier in the Mediterranean, this does not necessarily mean that we should understand the appearance of agglomerations north of the Alps from a simplistic diffusionist perspective. Influences and exchanges certainly existed, and in some cases contact with the Mediterranean might have triggered or accelerated certain developments in temperate Europe (see also Nebelsick and Metzner-Nebelsick this volume) – similarly to how contact with the Near East also influenced developments in Greece, Italy, and even Iberia. But in general terms, we should not see urbanisation north of the Alps as being entirely dependent on the Mediterranean. Rather, it is better to envisage two distinct zones evolving in parallel and in close contact with one another (Collis 2014).

There has been a widespread tendency of viewing temperate European sites through the lenses of the classical world, interpreting their appearance as a 'barbarian' attempt to emulate Mediterranean urbanisation and using 'checklist approaches' in which the urban (or non-urban) character of a site is determined in relation to its similarities with the 'standard' of Greek and Roman cities. This approach is misleading for several reasons:

- Firstly, it artificially establishes the 'classical' city as a sort of universal model of urbanity, ignoring the fact that the 'classical' cities – which are also far from constituting a homogenous group – are only one among many urban manifestations throughout history: Sumerian cities, northern European medieval cities, Islamic cities, Aztec cities, or Chinese cities, to quote just a few examples, are all equally urban despite presenting very different patterns than Greek and Roman sites. In some aspects medieval towns might represent better parallels for temperate European Iron Age agglomerations than many 1st millennium BC settlements in the Mediterranean (Alexander 1972; Crabtree 2018; see also Pearce this volume).

- Secondly, it often ignores the fluid nature of urbanism by establishing anachronic comparisons that contribute to reinforce a stereotypical contrast between settlements south and north of the Alps. For example, when temperate European sites are compared with settlements in the Mediterranean, it is usually with how the latter looked at an advance stage of their history, usually when they were at their zenith (*e.g.* Athens during the time of Pericles or Rome after Augustus). But if we want to establish fruitful comparisons (cf. Winger 2017), the early 6th century BC Heuneburg should be compared with Athens during the same time period, and not with how the latter looked a century and a half later; a similar argument can be made for any comparison between *oppida*, such as Manching and Bibracte, and the city of Rome. The image we have of the latter is dominated by its appearance during its heyday in the late 1st and the 2nd centuries AD – if we would analyse the archaeological evidence from earlier centuries we would get a rather different picture. This is something the Romans themselves would have been aware of, as expressed in the famous quote about Augustus' reshaping of Rome: "*Since the city was not adorned as the dignity of the empire demanded, and was exposed to flood and fire, he so beautified it that he could justly boast that he had found it built of brick and left it in marble*" (Suetonius, *Lives of the Caesars, Aug.*, XXVIII, 3).
- Thirdly, the biases mentioned above are largely based on outdated 19th century models that distinguish between 'civilised' ('active') and 'primitive' ('passive') societies. These views are evident in the writings of leading Iron Age scholars such as W. Kimmig (1983), who regarded Greek colonisation, and in particular the foundation of *Massalia* in southern France around 600 BC, as the prime mover for the processes of centralisation and hierarchisation that can be observed north of the Alps. As noted by S. Rieckhoff (2007), Kimmig's ideas were ultimately grounded on a 'third world' narrative that considered temperate European societies as backward and passive until they started to become 'enlightened' through contact with the more advanced south. While Kimmig might have been particularly outspoken in his views, the underlying assumptions have shaped generations of Iron Age scholars and are still present to a greater or lesser extent. However, we need to revise and contest those views, both in light of the new archaeological evidence and also from a theoretical perspective through the insights provided by postcolonialism (Lydon and Rizvi 2010).

F. Braudel (1967, 370) made a crucial remark when stating that: "*a town is a town wherever it is*". Unfortunately, debates around urbanisation have often been dominated by considerations based on geography (where a certain settlement is located) and academic tradition (prehistoric vs. classical archaeology). While the term city is commonly used around the ancient Mediterranean, sometimes in a rather loose and uncritical way (see Riva this volume), many scholars working in temperate Europe are still reluctant to speak about urban sites north of the Alps, or at least not of 'full' urbanisation. This leads to a myriad of expressions such as 'proto-urban', 'semi-urban' or 'atelo-urban'. When visiting the Heuneburg some years ago, M.E. Smith noted that the discussions about the urban status of the settlement reminded him of the debate surrounding the North American megasite of Cahokia (Pauketat 2009): If Cahokia would be located in Mesoamerica, no scholar would hesitate in classifying it as urban, but due to its position in the North American Midwest there has been an ongoing discussion on the matter. Similarly, if the Heuneburg or Manching were located in the Mediterranean, scholars would probably have little doubt about their urban character.

In sum, rejecting the urban character of certain settlements north of the Alps based on their geographic location or difference with the model of Greek, Roman, or Etruscan cities is to – consciously or unconsciously – maintain a 'primitivist' view that should be overcome (cf. Pearce this volume). This is not to state that all large sites north of the Alps should be classified as urban, but rather to recognise diversity and base assessments on contextual approaches rather than on conceptual *a prioris* (see also Fernández-Götz 2017a). Thus, some of the sites encompassed under the broad terms '*Fürstensitze*' and *oppida* were clearly not urban. Two examples are the *oppida* of Zarten/*Tarodunum* and Finsterlohr, which have yielded virtually no evidence of any significant internal occupation; whether these and other similar sites represented unfinished projects, or were intended since the beginning as predominantly 'empty' spaces, is a question that remains largely open. But at the same time, there are good arguments for classifying settlements like the Heuneburg, Bourges, Manching, Corent, Titelberg, and Bibracte as cities or towns, based on criteria such as evidence of a preconceived plan, housing a population of several thousand inhabitants, and bringing together different categories of population and activities.

Notions about urbanism based on *a prioris* derived from the influence of classical archaeology are by no means exclusive to the regions north of the Alps. For example, in northern and central Italy it has often been the absence vs. presence of Greek material culture which has led scholars to classify settlement phases as either proto-urban or urban. Thus, important agglomerations are often labelled as proto-

urban until the arrival of significant amounts of imported objects change its status to urban. However, a dispassionate assessment of the archaeological evidence and the opening to other models of urbanism beyond the 'classical' idealised canon allows the possibility of identifying some towns even before the Iron Age, as suggested by M. Pearce (this volume) for Final Bronze Age Frattesina.

3.3 Urbanisation and deurbanisation as cyclical phenomena

One of the main recognitions of recent years is the non-linear nature of Iron Age urbanisation. While this was already noted by some previous research (*e.g.* Collis 1984; Wells 1984), the phenomenon is now receiving increasing attention (Fernández-Götz 2018; Fernández-Götz *et al.* 2014b; Krausse 2008b; Salač 2014). Instead of a gradual and continuous development from smaller to larger settlements during the course of the Iron Age (*i.e.* a model 'from villages to cities'), what we observe are changing and dynamic cycles of urbanisation and deurbanisation. Thus, Iron Age archaeology defies linear evolutionary models. In the regions immediately to the north of the Alps, three main 'waves' or cycles can be distinguished (cf. Fernández-Götz 2018 for a more extensive discussion):

- A first phase of urbanisation between the late 7th and the 5th centuries BC, materialised in the so-called '*Fürstensitze*' or 'princely seats' (Brun and Chaume 2013; Krausse 2008a; 2010; Krausse *et al.* 2016).
- A period of deurbanisation during the 4th and part of the 3rd centuries BC, with a return to more decentralised settlement patterns and less hierarchical – although by no means egalitarian – social structures (Buchsenschutz et al. 2012).
- A second wave of urbanisation that started already in the 3rd and early 2nd centuries BC with the appearance of some large open agglomerations (Fichtl *et al.* 2019), and then continued with the development of the fortified *oppida* of the late 2nd and 1st centuries BC (Fernández-Götz 2019; Fichtl 2005; 2018).

Obviously, there are some regional variations within this broad picture. Thus, while some important '*Fürstensitze*', such as the Heuneburg and Mont Lassois, ceased their occupation towards the end of the Late Hallstatt period, new centres of power, such as the Dürrnberg bei Hallein, experienced their zenith during the Early La Tène period (Wendling this volume). During this latter period, we also witness the emergence of the important unfortified settlements of Roseldorf (Holzer 2014) and Sajópetri (Szabó 2007), located in Austria and Hungary, respectively. But in general terms, we observe a clear discontinuity in the lifespan of large settlements, with a predominant abandonment, destruction or decline of major sites during the late 5th – 4th centuries BC and, depending on the regions, also in the 3rd century BC.

No single Central European agglomeration seems to have been occupied continuously during the course of the Iron Age and while some sites were important central places in different periods (*e.g.* Bourges/*Avaricum* and Závist, which belong to both the '*Fürstensitze*' and *oppida* categories), there always appears to have been a hiatus in the trajectory. This marks an important difference with the situation in the Mediterranean, where many urban sites developed without interruption during the 1st millennium BC and sometimes continue up to the present (*e.g.* Athens, Rome, Cádiz). However, even in the Mediterranean there are many – although generally less studied – examples of centres that were abandoned, moved, or shrunk, as illustrated in this volume by case studies such as Verucchio (Rondini and Zamboni), Marzabotto (Govi *et al.*), and Spina (Mistireki and Zamboni). The relatively ephemeral existence of some large settlements should in any case not lead scholars to automatically deny their urban character. Long-term continuity of occupation is not a central criterion for urbanity, as there are many historically known cities that existed for short periods of time, for example Amarna in ancient Egypt, or cities that are nowadays important but relatively recent, such as San Francisco, Vancouver, and Brasilia in the Americas.

Deurbanisation (sometimes also called 'counter-urbanisation') is a well-known social and demographic phenomenon by which people move from urban to rural areas. It occurs in the present, as demonstrated for example by late 20th century studies in North America (Berry 1980), but it is also a common feature in the past (*e.g.* Bintliff 1997). Within urban studies, it is often possible to distinguish four cyclical stages: 1) urbanisation (movement of population into the centres), 2) suburbanisation (centrifugal movement from centres to the peripheries), 3) deurbanisation (abandonment of cities/towns), and 4) reurbanisation (Van den Berg *et al.* 1982; see Salač 2014 for an application to the La Tène period); it should be noted, however, that the phase of suburbanisation is sometimes absent (fig. 3.4). Depending on the specific cultural milieus and chronological periods, the curves defining the urbanisation cycle might differ, being more or less intense and prolonged in time.

Traditional research on early urbanism has focused predominantly on 'successful cities', *i.e.* urban sites that show long settlement histories. But we also need to pay increasing attention to the numerous cases of short-lived agglomerations which only lasted for some generations or even only a few decades. This phenomenon is being described with different terms, from 'delicate' (Stoddart 2017; this volume) to 'fragile' (Fernández-Götz and Ralston 2017), and 'ephemeral' or 'incomplete' urbanism (Brun and Chaume 2013; see also Chaume this volume).

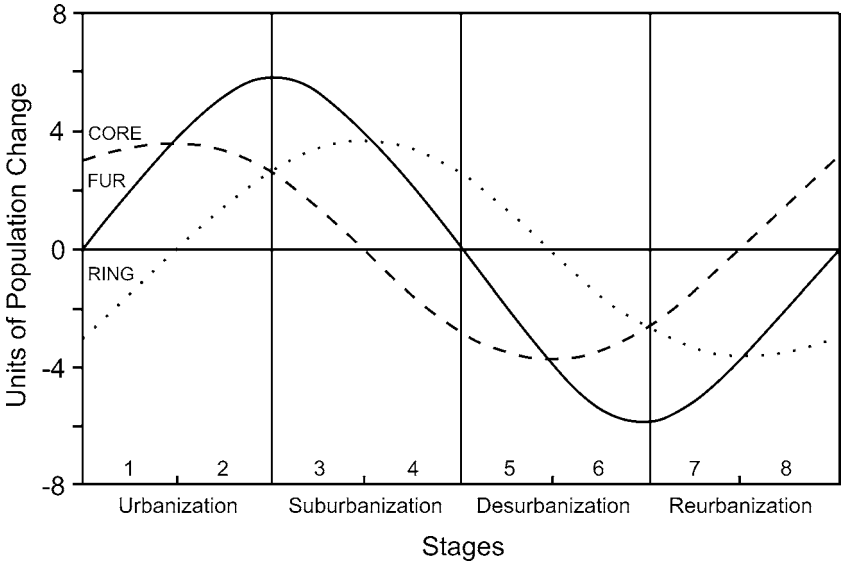

Figure 3.4. Population changes during the urbanisation process: differential urbanisation interpretations. CORE – town core, FUR – functional town region, RING – background (after van den Berg *et al*. 1982).

Non-linear and often fragile developments in population nucleation are by far not unique to the Iron Age, since similar 'waves' of centralisation – decentralisation – centralisation can be observed already in the Neolithic and Bronze Age, alternating in an almost cyclical manner (Müller 2016). The phenomenon is also not restricted to Europe: many early cities around the world were 'fragile' and rather short-lived (Yoffee 2015). Various cycles of urbanisation separated by periods of crisis and sometimes almost complete collapse are present even in the ancient Near East, the paradigm region for the study of early cities (Liverani 2013). Viewed from a long-term perspective, the urban decline that occurred in many regions at the end of the Roman Empire, and the subsequent 'rebirth' of towns in the medieval period (Bintliff 1997; Crabtree 2018), can also be regarded as part of this wider phenomenon. These types of cycles of economic and demographic expansion and contraction were defined by E.L.R. Ladurie (1966, 8) as: "*the immense respiration of a social structure*".

As proposed by the Annales School and later elaborations of its thinking (cf. Bintliff 2016; 2019), historical processes operate at three nested wavelengths of time:

- Long-term waves (millennia): From this temporal perspective, we can observe a general trend towards increasing inequality and centralisation. However, this was neither a teleological nor a linear process and included phases of decentralisation, dispersion, and collapse. Examples of the latter include the end of Neolithic megasites in Ukraine and Iberia, or the Bronze Age Mycenaean culture in Greece.
- Medium-term waves (centuries): For example, the urbanisation processes across Europe and the Mediterranean during the timeframe covered by this volume (c. 900-400 BC). The developments were connected, but produced different outcomes based on the initial starting conditions of the local contexts and the subsequent influences that came into play (*e.g.* social, climatic). Overall, within the medium-term wave of Early Iron Age urbanisation we observe a tendency towards more permanence of urban forms in the Mediterranean and a rather ephemeral nature of towns in temperate Europe.
- Short-term waves (decades/years): This is the time scale where the role of individual agents and events (*e.g.* political alliances, personal disputes, scientific inventions, wars, plague epidemics) come into play, but they can only be properly understood as part of a wider structural background.

The different scales are, of course, in constant interplay, although certain developments can be explained better at individual levels, either the long, medium, or short. For instance, the huge fires that affected the Heuneburg settlement complex around 540/530 BC – with the subsequent replacement of the mudbrick wall fortification and the abandonment of most of the large outer settlement (cf. Krausse *et al.* 2016; Krausse *et al.* this volume) – and then again around 450 BC would fall within the category of short-term waves. However, the end of the '*Fürstensitze*' as a phenomenon between the mid-5th and the early 4th century BC should be better understood as a systemic collapse within a wider medium-term wave.

3.4 The emergence and collapse of Early Iron Age urbanism north of the Alps: An outline

Central to this volume are the centralisation processes that took place in temperate Europe between the late 7th and the 5th centuries BC, which were followed by a period of

decentralisation (see contributions by Chaume; Chytráček; Krause; Krausse *et al.*; Nebelsick and Metzner-Nebelsick; Ralston; Tecco Hvala; Wendling). The phenomenon of the so-called 'princely seats' ('*Fürstensitze*') that stretched from Bohemia to central France has been much debated since the seminal work of the 1950s and 1960s (Kimmig 1969), and although some colleagues continue to avoid the use of the terms cities or towns, there are an increasing number of scholars who accept that at least some of these sites can be labelled as urban. At the same time, it has become evident that the '*Fürstensitze*' do not represent an homogenous category of sites, and that while some of them might share certain similarities, there is also considerable variability in terms of layout, chronology and even functions (Fernández-Götz and Ralston 2017; Krausse 2008a; 2010). The phenomenon of the '*Fürstensitze*' by no means reflects a homogenous culture, political or ethnic unit, but it can be conceptualised as a 'space of contact' *in the making* (Stockhammer and Athanassov 2018).

The traditional image of the '*Fürstensitze*' as rather small fortified sites of a few hectares surrounded by rich burials ('princely graves') and with presence of Mediterranean imports needs to be at least partly revised. As often happens in scholarship, there is still a certain disadjustment between conceptual models based on data from the 1950s, 1960s, and 1970s (*e.g.* Kimmig 1969; Wells 1980), and the new evidence produced by the fieldwork projects from the last few decades (Krausse 2008a; 2010). Many of the sites were much larger than initially thought, for example Bourges probably more than 200 ha, the Heuneburg c. 100 ha and Mont Lassois 40-45 ha (see Chaume this volume; Krausse *et al.* this volume; Ralston this volume). Population figures must have equally been much higher than previously expected, and although demographic estimations continue to represent a challenge the number of people living for instance at the Heuneburg during the mudbrick wall phase should be counted in the several thousands (Krausse *et al.* 2019). Moreover, while some elite members probably resided at the '*Fürstensitze*' themselves, there are also good reasons to believe that many others would have lived in rural estates for at least most of the year (Fernández-Götz and Ralston 2019).

In addition, the study of the wider environs of the sites, for example through current fieldwork at a number of hillforts, hamlets, and farmsteads within a radius of c. 20 km around the Heuneburg (Hansen *et al.* 2019; Krausse *et al.* 2016; Krausse *et al.* this volume), suggests that we should conceptualise these communities as forming part of larger political entities that went beyond the immediate surroundings of an individual '*Fürstensitz*' (see also Chaume this volume). While we cannot determine the precise boundaries of the territory controlled by the Heuneburg, it seems very likely that the different hillforts in its environs formed part of the same social, political, and probably even ritual system (fig. 3.5). In that sense, the sites in many cases could have been complementary, with the Heuneburg acting as the main production and distribution centre, the Alte Burg as a place for assemblies and contests, and the Bussen perhaps as the 'sacred mountain' of the wider region, with later historical sources pointing towards an association with fertility rituals. Although we do not have written sources about the structure of the Heuneburg territory, it is possible to envisage a situation that shows certain resemblances with what we know from areas of the Mediterranean, such as Archaic Greece. The territory of Athens, for example, was subdivided into different *demes* that included places of religious significance, such as Eleusis (Osborne 2019), which could be periodically visited by a larger community.

As suggested by Krausse *et al.* (this volume), it is very likely that the Heuneburg controlled an area of over 1,000 km² which included cemeteries, secondary hillforts, hamlets, villages, roads, and cult or gathering places. That the area of influence of the Heuneburg during the heyday of its power in Hallstatt D1 could have been even larger is suggested by isotopic analysis of animal bones: some cattle, sheep/goat, and pigs were brought from Keuper areas northwest of the Swabian Alb (medium range movements between 40-50 km) as well as from uplands, such as the Black Forest (large range movements between 80-100 km) (Schatz and Stephan 2008; Stephan 2016).

The '*Fürstensitze*', or at least the majority of them, probably acted as focal settings for political entities resembling in size the later tribal and subtribal groupings mentioned by historical sources towards the end of the Iron Age (Fernández-Götz 2014; Fichtl 2012). This is also implied by their rather regular distribution in space, which suggests that they were at the top of settlement hierarchies (Brun 1988; Chaume this volume; Härke 1982) – as indicated in the example above about the Heuneburg and its territory. The political role of the '*Fürstensitze*' as central places for wider communities is epitomised in S. Verger's (2006) suggestion that the Hohenasperg should not be considered a 'princely' residence, but rather the main seat of the tribe, the location for particular assemblies and collective ceremonies which were to be held at a neutral location, external to the estates of the major aristocratic families who controlled the plains below it.

Some authors like I. Ralston (2010; this volume) have proposed the existence of 'fragile' early states structured around central places like Bourges. While the boundaries between complex chiefdoms and early states are often difficult to determine – particularly in the absence of written sources –, Ralston's proposal shows that the use of the term 'early state' is at least worth debating in relation to some of the '*Fürstensitze*'. In any case, many questions need to remain open, for example if different '*Fürstensitze*' such as the Heuneburg and Hohenasperg were subunits within

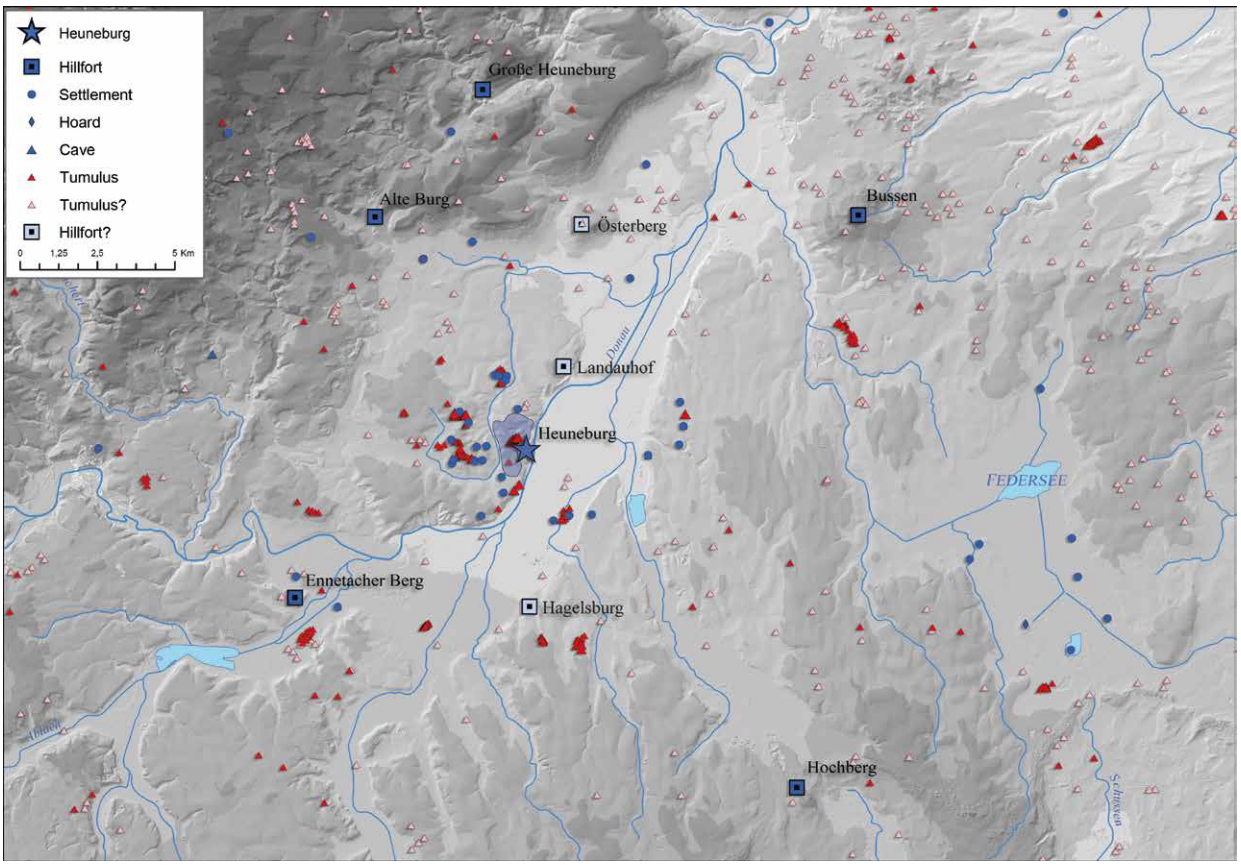

Figure 3.5. Hallstatt and Early La Tène find spots in the surroundings of the Heuneburg, with indication of the hilltop settlements (after Krausse et al. 2016; design: M. Steffen, M. Vöhringer. © Landesamt für Denkmalpflege im RP Stuttgart, base map Landesamt für Geoinformation und Landentwicklung Baden-Württemberg).

a larger single political entity, or if they were independent polities competing with one another (Collis 1995).

A key question when discussing the emergence of the Central European '*Fürstensitze*' is if the prime mover for the process was primarily endogenous or due to contacts with the Mediterranean (Collis 2014). Traditionally, research focused predominantly on external influences from the south, which were seen as the main driving factor behind the development of the 'princely seats' and 'princely graves' north of the Alps. However, these views need to be questioned or at least nuanced. To a certain extent, the dichotomy internal vs. external is artificial, since there is always a combination of factors. But the idea that the foundation of the Greek colony of *Massalia* around 600 BC acted as the main catalyst for the beginnings of the centralisation and hierarchisation processes north of the Alps needs to be largely discarded for a variety of reasons:

- Firstly, all the evidence suggests that in the 7th and early 6th centuries BC the main Mediterranean influences towards Central Europe came from central and northern Italy, rather than from the Greek world. The pivotal role of the Golasecca culture in these exchanges, while recognised since a long time (Pauli 1971), still requires further exploration (Cicolani 2017; Nebelsick and Metzner-Nebelsick this volume).
- Secondly, rich burial evidence from the 8th and 7th centuries BC in Central Europe clearly indicates that the increase in social hierarchisation and the development of powerful local elites predated, by several generations, the arrival of Greek colonists in southern France (Fernández-Götz and Arnold 2017).
- Thirdly, despite its significance the quantity of Mediterranean imports discovered in Central Europe is relatively small in comparison to what appears in southern France (Dietler 2010; Sacchetti 2016; Wells 2020). However, in the latter region we do not find large centres on the scale of the '*Fürstensitze*' or rich elite burials such as those of Central Europe. This in itself should call into question some of the models that regard contact with Mediterranean cultures as the main driving factor for societal change.

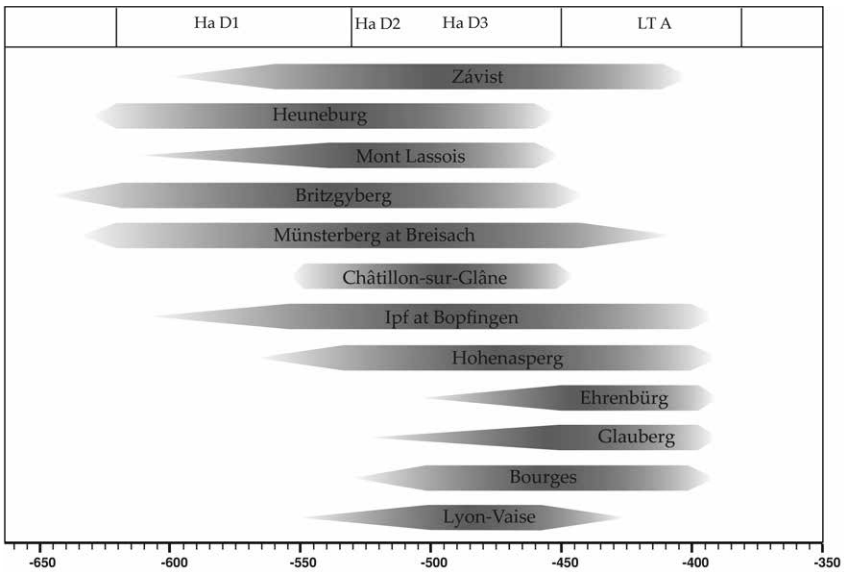

Figure 3.6. Indicative lifespans of selected '*Fürstensitze*' sites (after Fernández-Götz and Ralston 2017).

Thus, we need to move away from Mediterraneo-centric perspectives and simplistic applications of core-periphery models, by acknowledging the importance of endogenous factors and the complexity of Early Iron Age networks (Bintliff 1984; Dietler 1995; 2010; Fernández-Götz and Arnold 2017; Gosden 1985; Pare 1991). Trade with the Mediterranean does not seem to have been the prime mover of cultural change leading to the development of the '*Fürstensitze*', but rather a consequence of demographic growth and increasing internal inequalities which had their roots in Hallstatt C. The organisation of the mortuary landscape suggests a social system largely based on (real or imaginary) kinship ties (Arnold 2010), while ceramic analyses indicate that complex intra- and inter-regional groupings emerged as early as Hallstatt C (Brosseder 2004).

While important, the '*Fürstensitze*' represented a relatively ephemeral phenomenon. In fact, between the mid-5th and the early 4th centuries BC these centres of power largely ceased to exist, in some cases due to violent destruction pointing towards conflict scenarios (*e.g.* the Heuneburg), and in others as a result of what seems to be a planned abandonment (*e.g.* Bourges). The chronology of the abandonment or decline varies from centre to centre, with some already coming to an end around the mid-5th century BC and others continuing for some more generations (fig. 3.6).

The process of centralisation and early urbanisation was thus followed by a period of decentralisation and deurbanisation (Brun and Chaume 2013; Fernández-Götz and Ralston 2017; Krausse 2008b). Examining in any detail the reasons of these reversion in the trajectory would exceed the scope of this paper. However, a few brief remarks can be made. First of all, understanding of the phenomenon requires a multi-scalar approach. At the level of an individual site and its immediate environment, short-term events might explain the success or collapse of a community. For example, there are good reasons to believe that the end of the Heuneburg around 450 BC was the result of conflict, including the fact that the destruction level was relatively full of finds. However, if we adopt a broader perspective, then the end of the '*Fürstensitze*' as a phenomenon can be best interpreted as an example of systemic collapse.

Monocausal explanations for the decline of the '*Fürstensitze*' are insufficient, as factors responsible most likely operated at different levels. Nevertheless, there are indications that climatic changes might have played a role: analysis of cores from the Greenland icecap indicate that as early as the first half of the 5th century BC temperatures dropped in the northern hemisphere, followed by rapid climatic decline around 400 BC (Maise 1998; Sirocko 2009). On the macro level, the most important stages of the centralisation and decentralisation processes north of the Alps correspond with the main climatic phases of the 1st millennium BC. For example, the development of the Late Hallstatt '*Fürstensitze*' or the Late La Tène *oppida* occurred concurrently with climatically favourable phases, while the 4th century BC 'Celtic' migrations took place during a colder phase (Brun and Ruby 2008; Fernández-Götz 2014). However, if we analyse the situation on a smaller scale, then various nuances and exceptions must be taken into account. Climate change in itself does not explain why some '*Fürstensitze*' such as the Heuneburg or Mont Lassois were abandoned around the middle of the 5th century BC, while others such as Breisacher Münsterberg or Hohenasperg continued to function for some decades.

In addition to climate variation, and probably at least partly linked to it, we need to consider some social factors of a more structural nature. The archaeological record clearly suggests that the end of the '*Fürstensitze*' was at least on some occasions directly related to episodes of social conflict and possibly even warfare (Chaume this

volume; Fernández-Götz 2017b; Fernández-Götz and Arnold 2019; Pauli 1985). Some major centres such as the Heuneburg were almost completely burned down, and fires are also attested at other sites like Mont Lassois. Equally striking is the conscious mutilation of ancestral images – probably depicting heroised ancestors or founding heroes – as can be observed with the two stone statues from the sanctuary Les Herbues at Mont Lassois and three of the four anthropomorphic sculptures from Glauberg. Some authors have interpreted this destruction as a reaction against the elites, which can be summarised by the expression "societies against the princes" used by J.-P. Demoule (1999). The end of the '*Fürstensitze*' also roughly coincides with the start of the period of the so-called 'Celtic' migrations recorded in classical sources, during the course of which populations from temperate Europe migrated to the south, particularly toward Italy and the Balkans (Tomaschitz 2002).

Taking a broader perspective, population fission is a solution frequently used to reduce tensions within communities. Migrations can indeed act as regulatory mechanisms for power relations, in the sense that the emigration of part of the population can be a means of releasing social tensions and reducing social inequality in situations of increased scalar stress (Demoule 2006). In Iron Age temperate Europe, the processes of demographic growth and urbanisation that took place during the 7th to 5th centuries BC were accompanied by an increase in social density, competition, and control. This would have led to increasing pressure on resources, growing inequalities between and within groups, and the integration of persons and communities into wider socio-organisational networks. In such a context, climate changes could have exacerbated already growing social tensions and contributed to rising intergroup competition, warfare, and maybe also internal rebellions. At a more general level, the threshold limits of settlement growth should also be considered (*e.g.* Fletcher 2007), particularly for larger centres such as the Heuneburg and Bourges. The counterreaction was deurbanisation, fission of at least part of the groups, and a return to more fluid and decentralised power structures in the immediately following period.

As a final reflection, it is worth thinking about some structural factors that might contribute to explain the 'fragility' or relative 'instability' of certain urbanisation trajectories, including some of the ones discussed in the present volume *Crossing the Alps*. While traditional historical, anthropological, and archaeological narratives have tended to emphasise the success stories of states and cities, there are at least equal, if not more, cases of rather ephemeral and 'failed' examples (*e.g.* Davies 2011; Levitt 2019; Scott 2017; see also Ralston this volume). In their quantitative study of six competing models of political evolution in Austronesian-speaking societies, T.E. Currie *et al.* (2010) concluded that political complexity rises and falls in a sequence of small steps. They identified several cycles of aggregation and the break-up of units until the development of appropriate institutions that enabled more stable forms of increased hierarchical organisation. When thinking about urbanisation, one of the key factors in this regard might have been writing. While there is not necessarily an absolute equation, it seems likely that societies without a writing system (or with very limited use of it) could have had more problems in maintaining large agglomerated settlements over long periods of time. This would be related to managing the flow of information and resources within a context of increased 'social density'. As noted at the beginning of the paper, scalar stress due to a large number of people living together is one of the most frequent outcomes of energised crowding in nucleated sites. Without mechanisms to manage this flow effectively over time, the systems tend to be more susceptible to fission and disintegration.

3.5 Conclusion

Archaeologists working on Iron Age Europe should overcome the 'fear of the town' (see also Pearce this volume). Establishing a simplistic distinction between an 'urban' Mediterranean vs. a 'non-urban' temperate Europe maintains the outdated notion of a 'civilised' south vs. a 'barbarian' north. Cities and towns developed in both the Mediterranean and Central Europe during the Iron Age, and while in the former geographic area there were more numerous and longer-lasting examples of urban settlements, we need to acknowledge the existence of alternative models of urbanisation beyond the idealised canon of the 'classical' city. Furthermore, social processes – including urbanisation and hierarchisation – are most often non-linear, which implies that deurbanisation is as important as nucleation and urbanisation. The Iron Age represents a fascinating case study for analysing these questions and has much to contribute to wider debates on early urbanism in Europe and beyond.

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Chapter 4

From Genoa to Günzburg

New Trajectories of Urbanisation and Acculturation between the Mediterranean and South-Central Europe

Louis Nebelsick & Carola Metzner-Nebelsick

On an imagined journey from the Ligurian Sea to the Danube during the late 7th/early 6th century BC we explore neglected communication- and trade-trajectories connecting northern Italian gateway communities to the easternmost Hallstatt "princely" seats. At the beginning we focus on the routes towards and over the Alps, in particular, concentrating on the neglected possibilities of water transport and the evidence for impressive surviving elements of Hallstatt infrastructure in the Alpine region. We follow Roman and Medieval routes across the mountains encountering Hallstatt communities exhibiting patterns of appropriation and hierarchisation, which characterise elite reactions to southern impulses during the Hallstatt C2/D1 period. They culminate in the emergence of the "Golaseccan Package" in the late 7th century BC. After the energetic reassertion of local identity and the advent of mercantile trade in the mid-6th century BC/Hallstatt D2 period the distribution of ostentatious wagons, Pare type 7, illustrates the will of the "princely" seats elites to control and protect vital trading routes. A "Leitmotif" of Early Iron Age transalpine contact is the prominent role played by elite women, embodying transalpine contacts. The emergence of women's graves containing Etruscan inspired status paraphernalia (wagons, horse gear, metal drinking sets) in the north indicates changing patterns of social organisation with a lineage-based hierarchical social pyramid.

Keywords: Transalpine transit routes; Golasecca culture; North alpine Iron Age communities; Hallstatt period; Gateway communities; Appropriation; Identity; Proto-urbanity; Role of women; Elite exchange.

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4.1 Introduction

Among Central European archaeologists there has long been a consensus that the emergence of proto-urban "princely" seats and graves in western Central Europe was a response to Greek and Etruscan impulses transmitted through the Rhône-Saône corridor on the one hand or the Trentino-Tyrol-Brenner passage on the other. As a result, maps (Baitinger 2013, fig. 2.; Krausse 2008, 440, fig 5; Lang 2002) illustrating the vectors of exchange and the emergence of urban structures in the late 7th and 6th centuries BC usually show a void in Lombardy and Piedmont and the corresponding north-alpine foreland between Lake Constance and

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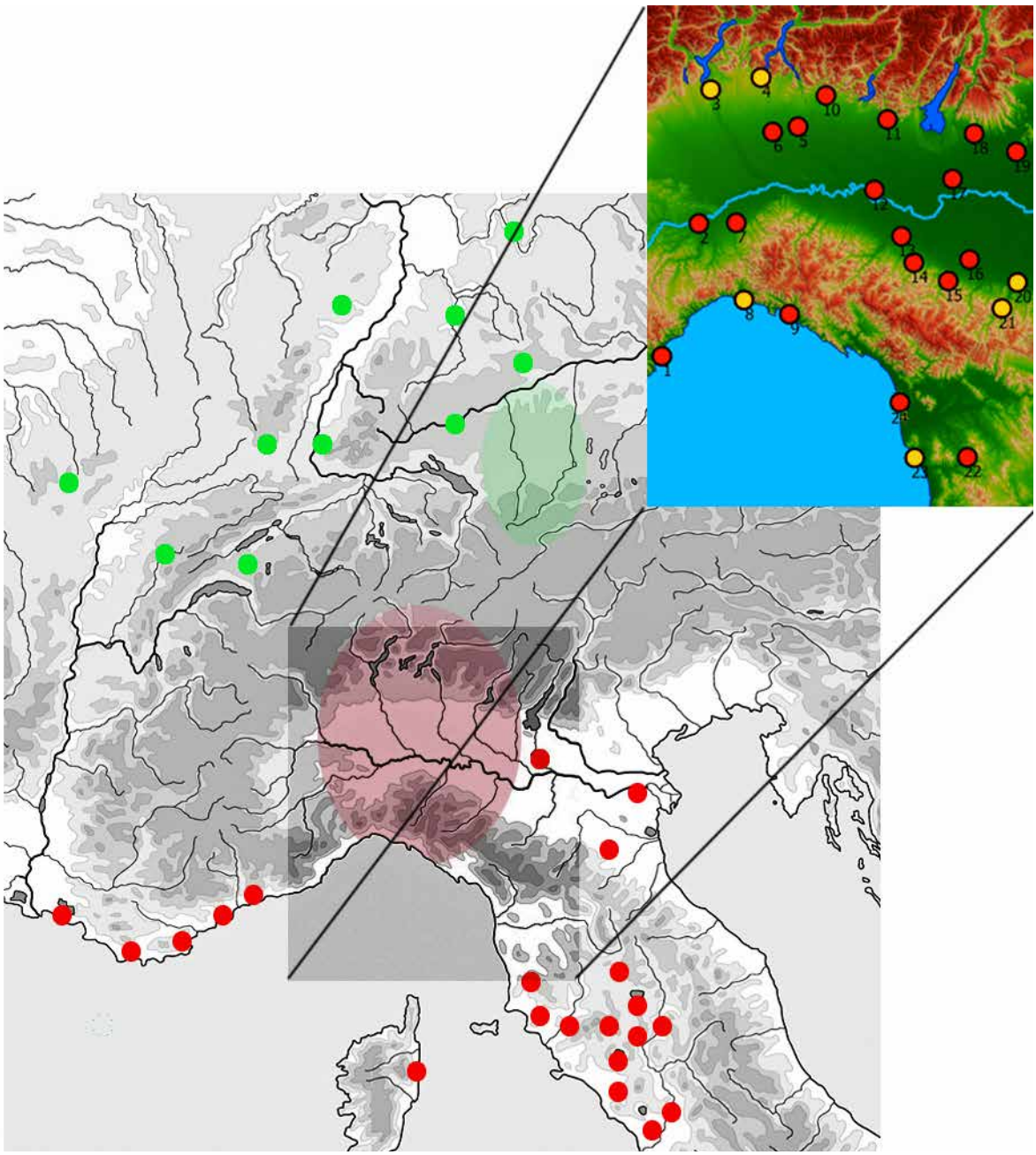

Figure 4.1. Filling the void: The traditional view of proto-urban centres between Genoa and Como with our emendations: red: cisalpine centres; green: transalpine "princely seats"; red points: regional centres; yellow points: proto-urban and urban sites. 1- Albenga; 2- Alessandria-Villa del Foro; 3- SCGT; 4- Como; 5- Melzo; 6- Milano; 7- Tortona; 8- Genoa; 9- Chiavari; 10- Bergamo; 11- Brescia; 12- Forcello; 13- Parma; 14- San Polo d'Enza; 15- Castellarano; 16- Modena; 17- Mantova; 18- Verona; 19- Cologna Veneta; 20- Bologna; 21- Marzabotto; 22- Volterra; 23- Castiglioncello; 24- Pisa.

the Danube (fig. 1a and b). Yet, transalpine distribution patterns of a series of 7th to 5th BC century artefacts (Casini and Chaume 2014, 233 fig. 1; 238 fig. 6; 240 fig. 8; 243 fig. 10; Cicolani 2017, fig. 10; 78 fig. 40; 80 fig. 43; 243; Egg 2011; Naso 2017, fig. 2 and 7; Stöllner 2014, fig 1. 6/1 and 10) suggest that this very void served as a crucial fulcrum for transalpine communication and exchange that would be expected to have evoked accompanying nascent urban structures and pronounced social hierarchies (see Pare 1991).

That this is in fact the case, can be demonstrated if one takes an imaginary journey from the Ligurian Sea to the foreland of the "princely" seats on the Danube during the

late 7th-early 6th century BC. Modern Genoa, which then as now dominates the Ligurian coast, has all but obliterated the contours of its late prehistoric forbearer (Melli 2019). Thus, although the *emporium* of the Ligurians has long been credited as being the hub of interaction between Etruria Piedmont and Lombardy (Aigner Foresti 1988; Melli 2004), Genoa's role in the integration of Hallstatt Europe into the Mediterranean world has been radically underestimated by Central European archaeologists. This assessment needs to be revised: The town's historic harbour may have been in continuous use as early as the 10th century BC, and the spur between the harbour and the Bisagno torrent was intensely settled by the 8th century BC. In the late 7th/early 6th century BC, it was the site of a large proto-urban conurbation with a hierarchical structure and clear central Italian connections, including the presence of a stone-lined barrow, which interestingly contained a late 7th century BC elite female burial with central Italian connections (Melli 2019). After 525 BC, the traditional founding date of ancient Genoa, its local elite were furnishing their graves with Attic symposial pottery, augmented by Etruscan bronzes (Delfino 2012), and fortifying their town with an ashlar wall. Early Genoa was imbedded in an arc of minor seaside centres on the northern rim of the Ligurian Sea and a dense inland network of settlements (Melli 2019, fig 13; Paltineri and Leonardi 2006) that were comprehensively appropriating northern Etruscan life and foodways by the late 6th century BC (Häussler 2007; Melli 1993). The ramifications of this inclusive response to Etruscan para-colonial interests in the Gulf of Genoa can be seen more clearly on the facing coast of the Gulf of Lion. There, excavations of a series of large late 7th to 5th century BC indigenous settlements show local communities creatively adapting Mediterranean urban attributes, including -interestingly- impressive defensive perimeters with rectangular bastions and mudbrick ramparts similar to the Heuneburg (Dietler 2015, 265-269; Gailledrat 2010) before and during the establishment of the Phocaean colony *Massalia* (Dietler 1995). At the close of the 6th century BC these communities selectively adapted to Mediterranean symposial commensality, embraced the concurrent elite ideology (Lippolis 2007), and participated in the process of ethnic branding (Collin Bouffier and Garcia 2012)[1].

Manifold contacts between the communities in coastal Liguria and the Golaseccan sphere are shown in particular by shared female costume accessories since the 9th century BC (de Marinis 1988; Pearce 1991). The specific connection between Genoa and the north is likely to have followed the course of the Via Postumia (Cera 2000), which crosses the Bocchetta Pass and follows the river Scrivia through a zone of Early Iron Age upland settlements to its union with the Po below the 6th century "Ligurian" centres Tortona/*Dertona* (Pearce 1995, 145; Ferrero 2007; Zamboni forthcoming) and Alessandria-Villa del Foro/*Forum Fulvii* (Gambari and Venturino Gambari 1982). It is highly likely that this and other major trade and communication trajectories between north Etruria and the Po Valley (Santocchini Gerg 2009) would, by the 6th century BC, have been made accessible for wheeled transport by metalled roads (Emiliozzi 2017, 419-423) like the impressive late Archaic Etruscan stone paved street recently recovered in Lucca-Capannori (Ciampoltrini 2009). Evidence, mainly from plundered cemeteries, indicates that there were a series of 7th to 6th century BC sites with well-furnished early Iron Age graves on the interface between the Po Plain and the alpine foothills (Faudino *et al.* 2014), which are likely to have been mediating exchange across the western Alps to the Swiss Lowlands and the Rhône Basin (Curdy 2010; Isoardi and Tremblay Cormier 2019)[2]. Towards the north, evidence for proto-urban centres is more compelling. While stray finds may indicate that the historic regional capital Milan had already been settled by the 6th century BC (Ceresa Mori 2015), there is considerable excavated evidence to show that Bergamo and Brescia were important local centres at that time (Piana Agostinetti 2012, 271; Casini and Tizzoni 2015; Poggiani Keller and Rondini this volume). Conclusive evidence for large scale proto-urban settlements coupled with steep social hierarchies and funerary ostentation by the 7th century BC comes from Sesto Calende/Golasecca/Castelletto sopra Ticino (SCGT) (Gambari 2011; Gambari and Cerri 2011) and Como-Spina Verde (Casini 2015; de Marinis and Casini this volume; Mordeglia and Uboldi 2017; Pare 1991).

These Golaseccan gateway-conurbations, which were negotiating the interface between the Padanic Iron Age, the alpine passes, and ultimately transalpine Hallstatt spheres can be seen as the north-western cognates of and closely linked to Genoa and Forcello (de Marinis 1986; de Marinis and Rapi 2007; Zamboni 2018). In fact, it is a typical arrangement that gateway communities funnel the products of minor centres across geographic or cultural frontiers (Hirth 1978) and in early pre-mercantile systems facilitate this with the establishment of hospitality and gifting patterns facilitated by formalised feasting (Nijboer 2017, 192). The Golaseccan centres best fit Richard Hodges classification as type B *emporia*/gateway communities (Hodges 1982, 51-52) which, while operating within the strictures of kin based pre-mercantile economies, show evidence of settlement planning, specialised production, and host multi-ethnic communities. This obviously also applies to SCGT and Como, but also, if to a lesser extent, the "princely" seats north of the Danube (Nakoinz 2014). The elites in SCGT were acquiring

1 For analogous patterns of appropriation/colonisation in the Bay of Naples and Sicily see Hodos 2006; Malkin 2002.

2 These are very provisional results as obviously intensive surveying is bound to reveal a closely knit network of larger and smaller centres placed at regular intervals along margins of the Po basin and along fluvial corridors as can be seen in the Etruria Padana; see for instance: Quirino 2017, 256, 264, fig. 5.

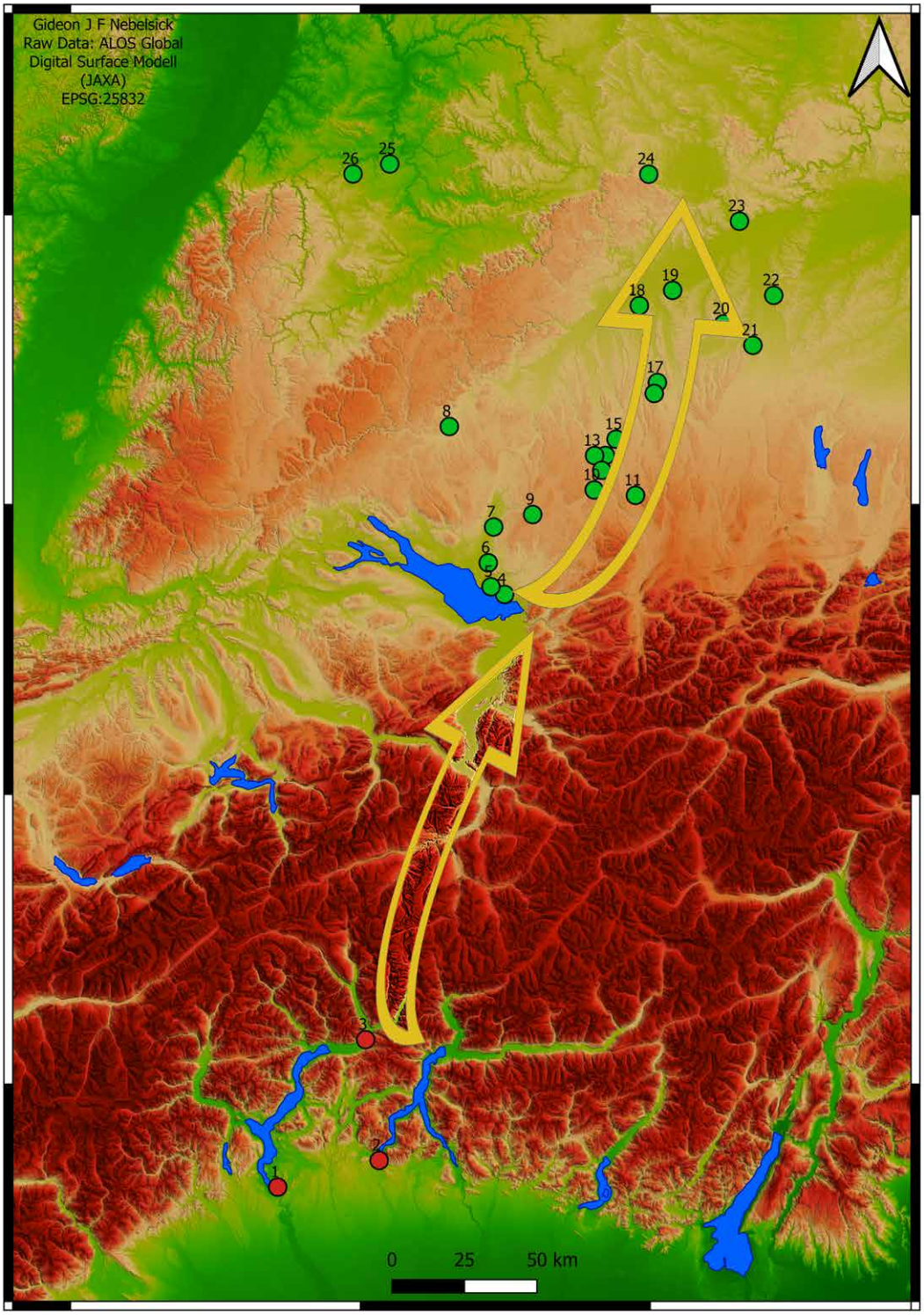

Figure 4.2. Map of the exchange and communication corridor connecting Como to the Ipf together with sites mentioned in the argument. 1- SCGCT; 2- Como; 3- Bellinzona; 4- Bodolz; 5- Kressbronn; 6- Tettnang; 7- Ravensburg; 8- Heuneburg; 9- Wolfegg; 10- Aichstetten; 11- Ittelsburg; 12- Volkratshofen; 13- Tannheim; 14- Buxheim; 15- Niederrieden; 16- Waltenhausen; 17- Niederraunau; 18- Günzburg-Reisensburg; 19- Aislingen-Sebastiansberg; 20- Horgauergreut; 21- Augsburg-Wellenburg; 22- Rehling; 23- Donauwörth; 24- Ipf; 25- Hohenasperg; 26- Hochdorf (map by G.J.F. Nebelsick, source: raw data Japan Aerospace Exploration Agency (JAXA), ALOS Global Digital Surface Modell "ALOS World 3D – 30m (AW3D30)", ALOS (advanced land observing satellite: Panchromatic Remote-sensing Instrument for Stereo Mapping [PRISM]), QGIS 3.12.3 EPSG 25832)

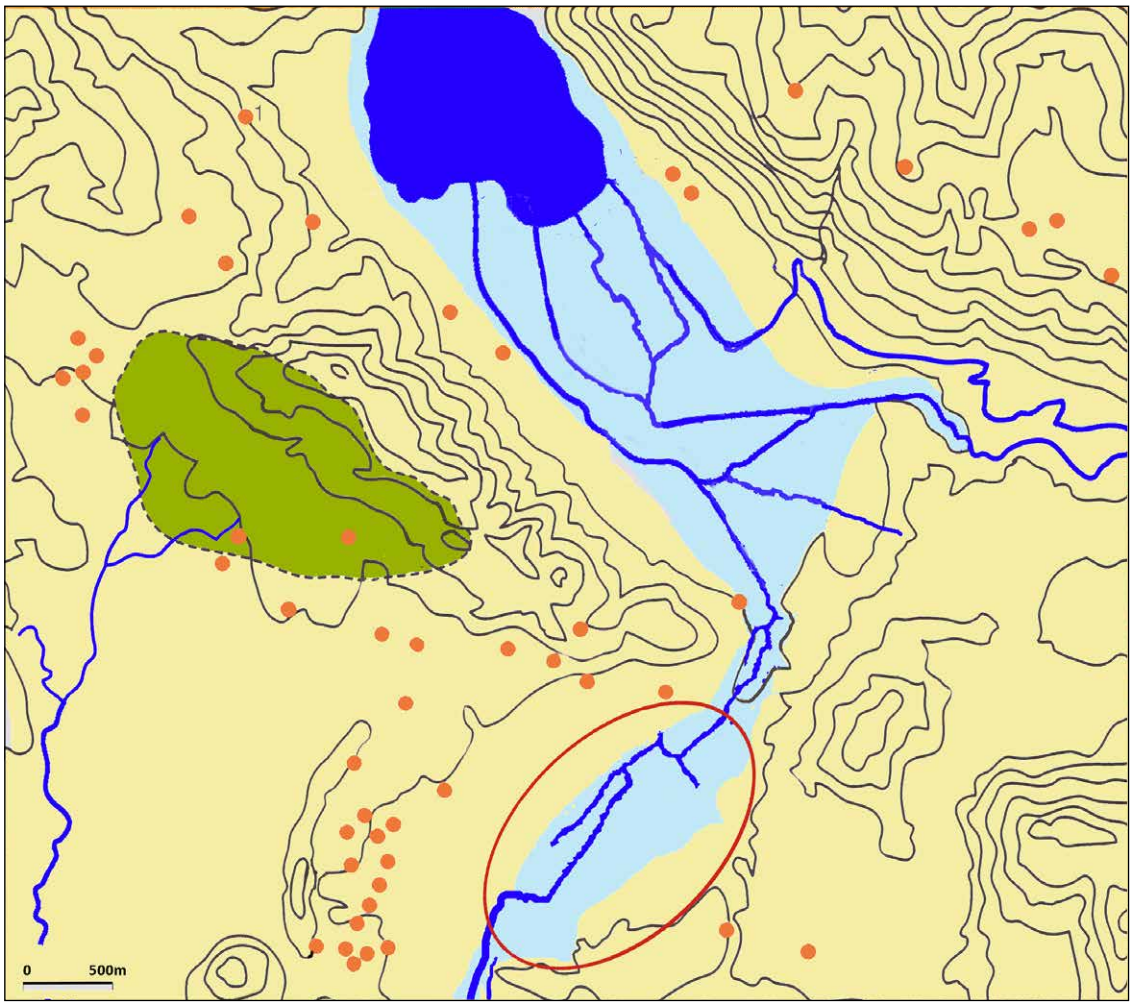

Figure 4.3. Como-Spina Verde in the pre-Roman Iron Age: settlements (green), graves (orange), with a possible location of a harbour (red circle), based on historical and geological maps of fluvial sediments (after de Marinis 1986; Gioacchini *et al.* 2008; geological map of Como: www.http://commune.como.it/export/sites/default/it/doc/pgt/document-di-piano/carte-della-geologia).

precious symposial vessels probably as diplomatic gifts from northern Etruria, most likely via Genoa starting in the early 7th century BC (de Marinis 2019, 1504-1505; Guggisberg 2017, 1571). This was a time when an elite male, armed with a Mindelheim sword, was buried in Como's cemetery (Chaume 2017; de Marinis 2014, 27, fig. 15). Both centres, and this is likely to be a prerequisite for their unbroken persistence, were using north Etruscan script by the mid-7th century (Rubat Borel 2005, 11).

The obvious reason for the rapid development of both SCGCT and Como/*Comum* is their location on the southern tips of the Lago Maggiore and Lago di Como, *i.e.* great alpine lakes which provided speedy water-borne travel deep into the Alps, and from their headwaters easy access over the crucial San Bernardino, Splügen, Septimer, Julier, and Maloja passes (Pauli 1980, 224-228; Rageth 2010) to the alpine Rhine Valley in the Grisons (Schmid-Sikimić 2002) and from there northwards to the alpine foothills between Lake Constance and the upper Danube (fig. 4.2)[3].

It is worth noting that in the early 19th century, a traveller on horseback and boat could expect to travel from Splügen to Como in one day, and from Chur to Milan using coach and steamship in two (v. Tscharner 1829, 64, 162-163). In the Iron Age, the Aperto torrent that crosses the marshy ground at the head of lake Como (Ferrario *et al.* 2015; Gianoncelli, 1975, 128) is likely to have allowed small boats to have beached at the

3 An easily accessible encyclopaedia of alpine passes and their history can be found under http://www.moesslang.net/alpenpaesse06.pdf and https://www.viastoria.ch/. In this paper the intensely frequented routes between Golaseccan centres and the west and northwest in particular over the passes accessible from the Lago Maggiore, are sidestepped. A comprehensive summary account is found in Curdy 2010.

foot of the Iron Age Como/*Comum* (fig. 4.3) in an analogous situation to the layout of proto-urban Vix. Moreover, it is interesting that the source of the Seveso torrent lies just northeast of the Como-Spina Verde ridge and flows from there directly to Milan, where it once supplied most of the water to the harbour on the southern edge of the Roman city (Fedeli 2015; Frontone 2016, 90, fig. 61).

At which point the Seveso was able to support small boats in prehistory is unclear[4], but it is worth noting, that the intensively settled site of Grandate, 3 km south of the Spina Verde, lies on an island hill, which overlooks the confluence of the Seveso and a series of tributaries (Calvo 2017,17; Lembi 2006). This could conceivably have been a starting point for river-borne travel which would have been a short portage stretch from the Aperto. Obviously, however, the main fluvial corridor between the Po basin and transalpine Europe would have been the Ticino. It connects the Po near Pavia to SCGCT and from this proto-urban centre, over the 64 km long Lago Maggiore, to the Golaseccan settlements near Bellinzona (Primas 1970). Finally, from there over the Gotthard or Lukmanier/*Lucomagno* pass to the upper Rhine Valley (Della Casa 2007)[5].

It is highly likely that within the narrow alpine valleys a pre-Roman pass infrastructure lies buried under Roman and later roadways (Vieweger *et al.* 2012) and is invisible to us. Clear evidence for Hallstatt period track and bridge constructions is found on the northern rim of the Alps. This includes an early 5th century BC wooden trackway and a 2.40 m broad Late Hallstatt/Early La Tène road carved into a steep slope in the immediate approaches to the Fern Pass near Pforten in the Oberallgäu and Ehrwald in Tyrol (Hennig 2001, 18; Kirchmayr 2019). Further evidence for elaborate alpine infrastructure includes the "Pont Desor", a 90 m long pile- and plank-built bridge dated 658 BC crossing the river Thielle at La Tène near Neuchâtel (Gassmann 2007, 84-87), and an even more impressive bridge construction (Structure 5) crossing the 1 km wide narrows of Lake Zürich near the Rosshorn Peninsula in inner alpine Canton Schwyz (Scherer and Wiemann 2008), which is dated to 647 BC. There is also mounting evidence for Hallstatt period corduroy tracks and metalled roads in southern Germany (Schußmann 2012). These include pertinently a robust, carefully built trackway connecting the bog-island settlement Buchau in the Federsee to the mainland (Heumüller 2016; Heumüller and Million 2013), dating to 634-635 BC. It lies only 20 km east of the Heuneburg. Furthermore, a long stretch of a broad metalled roadway, which was in use by the early 6th century BC, led to the ceremonial complex on the Alte Burg bei Langenenslingen near the Heuneburg (Hansen *et al.* 2015, 510, fig. 2 and 10). Disparate as it is, this evidence makes it clear that Hallstatt period transalpine travellers could rely on the presence of a sophisticated infrastructure and, importantly, as its prerequisite, supra-regionally enmeshed political structures in order to build and maintain it.

Summing up the evidence south of the Alps it seems clear that far from being a proto-urban void at the turn of the 6th century BC Liguria, Piedmont, and Lombardy hosted a network of larger and smaller settlement centres spanning between Etruscan *emporia*/gateway communities of Genoa and Forcello on the one hand and the gateways to the Alps SCGCT and Como on the other. Moreover, the hitherto underestimated role of water-bourne transport but also evidence for Hallstatt period communication infrastructure are explored suggesting that with the help of alliances spanning the Alps and its forelands it would have been possible to transport significant amounts of commodities across the mountains. What these goods might have been at this early stage is, however, completely unclear.

4.2 The consequences of communication, appropriation and hierarchisation between Lake Constance and the Danube

4.2.1. From Lake Constance to the Memmingen Basin, possible strategic hillforts and receptive traditional lineages

In the alpine Rhine Valley, which hosted the Roman road connecting Como over the Splügen pass to Lake Constance, women in particular were prepared to integrate Golaseccan accessories into their costumes (Rageth 2000, 39-42). This pattern is repeated on hilltop sites on the lower alpine Rhine's floodplain, which include Golaseccan female denoted fibulae and alpine domestic pottery (Heeb 2012, 134-200). This strongly suggests close and probably familial bonds between these Rhaetic speaking alpine natives and the Golaseccan lowlanders (Cicolani 2017, fig. 250). It is highly likely that Lake Constance itself served as an important transport vector in the Iron Age, allowing goods and people to move easily between its 63 km long shores[6], but it is equally likely that, following the

4 Roman and medieval boats were capable of navigating surprisingly small and shallow rivers even when carrying heavy loads: Eckhold 1980. Obviously while downstream travel was easy, boats running against the strong currents of alpine rivers would have had to be towed, necessitating the building and maintenance of towpaths.

5 For the navigability of the Ticino and upper Po (Cera 1995). The stretch of the Adda River, which connects Lake Como to the Po, roars through a series of rocky gorges and was only made navigable by a series of dams and locks in the 19th century.

6 There is, in fact, historical evidence for intensive Iron Age navigation in Europe's largest lake. Strabo (VII,1) records a naval battle on eastern Lake Constance between a small fleet, hurriedly built by Tiberius' invading forces, and a local flotilla in 15 BC (Schön 1986, 54 f.). There is even evidence for Roman and medieval navigation in the alpine Rhine from Chur to Bregenz (Ellmers 1992). For the importance of watercraft for transporting goods in the late Iron Age of southern Germany see Wieland 2000.

trajectory of the later Roman "Allgäustraße" travellers would have skirted the eastern end of the lake.

Little is known about the Hallstatt period north of the lake. Isolated finds make it clear that local elites were displaying their affinities with the Golasecca region and were involved in the process of hierarchisation. These include a barrow grave of an elite female wearing a Golasecca belt hook near Bodolz, which will be discussed below, Hallstatt period (Ha) D1 weapon graves and white-on-red imported Ha D1 "Heuneburg pottery" from a barrow cemetery near Tettnang (Stegmaier 2015, 122-128, figs. 2 and 4; Zürn 1987, 52 pl. 52B); and in between the Lenensburg near Kressbronn (Biel 1987, 287-290), a compact hillfort settled in the Hallstatt period.

More importantly, Urnfield, Hallstatt, and La Tène pottery as well as signs of intense late prehistoric occupation come from the Ravensburg-Veitsburg spur, which dominates a historic trade route hub at the ford of the Schussen River (Ade-Rademacher and Rademacher 1993). It was later used as the castle of the imperial town of Ravensburg, which, pertinently for our argument, dominated the Holy Roman Empire's late medieval trade with Milan and Genoa. It served as a clearing house for Bohemian ore heading south and north-bound Mediterranean oils and wine (Schelle 2000)[7]. The region's other hillforts remain undated, above all, the sprawling 10.6 ha Schmalegg-Rinkenburg (Morrissey 2012). There is however, a late Hallstatt D1 tumulus with a central inhumation, probably wearing a transalpine serpent fibula variant with ribbon bow (Trachsel 2004, 278) and armed with an iron dagger and a spear 20 km east of Ravensburg near Wolfegg (Sievers 1982, 32 no. 106; Zürn 1987, 117 f. pl. 191-192). A secondary grave of a child (infans 1) from this mound wore an ostentatious belt plate. This is tantalising evidence for the emergence of well-connected elite dynasts in the region before the mid-6th century BC.

Twenty-five kilometres northeast of Wolfegg, on the historic route connecting upper Swabia to the Danube, lies the Aichstetten-Blutsberg, an undated spectacular 500 x 70 m ditch and bank defended plateau (Geyr von Schweppenburg and Goessler 1910, 14 f., fig. 2). A nearby barrow cemetery in the "Hart" forest included a plundered impressive 32 m wide 3 m high mound with a surviving wealthy Hallstatt D2 secondary satellite female inhumation. It is likely to have been a Hallstatt period princely tomb (Paret 1961, 213; 272-273; Zürn 1987, 116, pl. 183A). In the neighbouring upper Iller Valley the "Falken" promontory fort near Ittelsburg has three ramparts and ditches segmenting its ca. 500 x 250 m wide plateau. Surface finds include Hallstatt pottery (Kossack 1959, 165 no. 80).

It is along the last 50 km stretch of the Iller-Lech interfluve before the river's confluence with the Danube that there is mounting evidence for both funerary ostentation and the appropriation of Golaseccan visual markers at the turn of the 6th century BC. The southernmost evidence comes from the Memmingen Basin, which is dominated by the isolated Buxheim-Schloßberg hillfort (Lang and Kaiser 2019). This undated earthwork lies immediately adjacent to an early Hallstatt barrow group and a historically important ford over the Iller River. The fort leads to the large tumulus cemetery at Tannheim (Geyr von Schweppenburg and Goessler 1910). Twenty-three excavated mounds from the Early to the Late Hallstatt period include wagon- and weapon-graves, among them a Late Hallstatt D1 dagger from grave 20 (Sievers 1982, 31, no. 101) and a Hallstatt D1 ostentatious bronze vessel set in barrow 2, which, had it been found in the vicinity of the Heuneburg, would have qualified it as a "princely" tomb (Burmeister 2000, 116-117). Indeed, the emergence of standardised beaten bronze drinking sets between the Adriatic and the Rhineland in Hallstatt D1 heralds the establishment of widely practiced formalised symposial customs. They are a crucial component cementing the person to person ties which are the foundation of pre-mercantile gateway community networks (Nijboer 2017, 192). A late Hallstatt C1 woman's grave from barrow 15 (fig. 4.4), which has a west-alpine leaf-shaped belt hook similar to those found in the Chiavari cemetery will be discussed below. Another salient feature of the Tannheim *necropolis* is the ubiquity of wagons in male burials (Pare 1992, 270-272, 347; Trachsel 2004, 380). The metal-clad wagons which appear in the mid-7th century BC Hallstatt C2 (or earliest D1) graves in Tannheim have Etruscan inspired conical Breitenbronn type metal-sheathed naves (Pare 1992, 65-71, 169-172). This is an innovation (Trachsel 2004, 59 f. fig. 29-30), which involves transalpine wainwrights visually and technologically upgrading traditional four-wheeled wagons with wheels, which during the second half of the 7th century BC were reserved in Italy and the Near East for chariots (Kossack 1971). It can be seen in the broader context of local elites appropriating Italian visual codes – "the Golaseccan Package", *i.e.* short swords/daggers, Italian costumes fastened with serpent/*drago* fibulae and elaborate metal drinking sets (Stöllner 2014; Dehn, Egg and Lehnert 2005, 12-45).

Another sign of how the elites in the Memmingen basin appropriated supra-regional status markers is the presence of red-on-white painted Hallstatt D1 "Heuneburg" pottery in a plundered isolated large barrow, in the tumulus cemetery of Volkratshofen-Schorrenwald,

7 Like Mediterranean trade routes, which remain stable despite fluctuations in their intensity (Braudel 1978; Horden and Purcell 2000, 168-169), the extremely physically constricted transalpine trajectories are even more characterised by massive diachronic continuities (Metzner-Nebelsick *et al.* 2017; Pauli 1980).

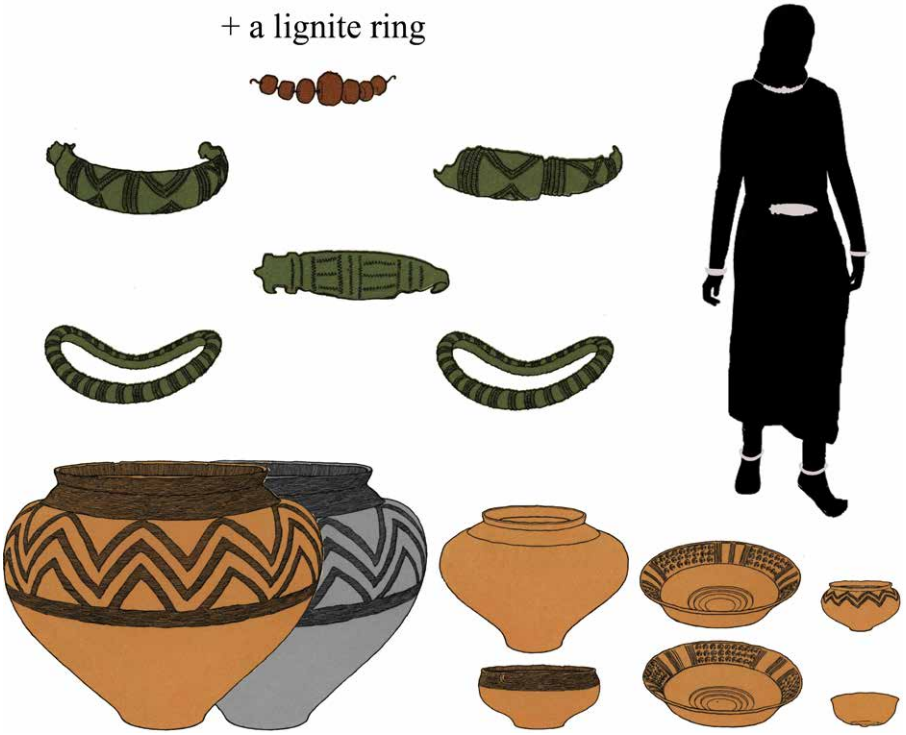

Figure 4.4. Reconstruction of the mid-7th century woman's costume and grave good assemblage from Tannheim, southwest Germany, barrow 15 (after Geyr von Schweppenburg and Goessler 1910).

7 km southeast of the Buxheim fort (Hennig 2001, 286-291; Kossack 1959, 165, pl. 11, 3; 19, 1.3). Finally, the isolated mound of Niederrieden-Lebühel in the Iller flood plain 15 km north of Memmingen (Kossack 1959, 165; Pare 1992, 159; 306, no. 130; pl. 86A), which had been plundered in the 19th century, contained iron type 7 wagon mounts (after Christopher Pare) and disk *phalera*, dating to the Hallstatt D2 period[8].

4.2.2. Lineage formation and pinnacle ostentation in central and northern Bavarian Swabia

In the central and northern reaches of the Iller-Lech interfluve, beginning ca. 40 km north of Memmingen, it is possible to make a more systematic account of the nature of southern appropriation and funerary ostentation.

An important shift in our assessment of the social structure of Hallstatt communities has been the realisation that a burial in a chambered tomb under a barrow was in itself reserved for a select elite. The vast majority of people given formalised burials, and many were not even granted that (Müller-Scheeßel *et al.* 2013), were interred in simple single urned and un-urned cremations buried in small pits whose visible grave goods or personal attire were restricted to scraps of fire damaged costume accessories if present at all (Hennig 2001, 21-24; Fries 2007; Westhausen 2016). Interestingly, with very few exceptions (Hennig 2001, 252, pl. 99,1), the people buried in these humble graves did not wear north Italian inspired costume accessories. In contrast, the widespread Hallstatt barrow fields, which are probably best seen as monumentalised lineage cemeteries (Hennig 2001, map 1) host well-equipped burials, many with attributes advertising the deceased's links to both the "princely" seat province in Württemberg and the Golasecca sphere.

The earliest evidence of Italian connections comes from a small barrow cemetery with six tumuli, in the northern Iller-Lech interfluve near Waltenhausen. Male burials from tumulus 1 and 2 (Kossack 1959, 162 pl. 18,1-6) were accompanied by Golasecca inspired Hallstatt D1 daggers and serpent fibulae. Tumulus 3, the largest in the group, is likely to have been an elite female grave, it contained among other things, a type 5 wagon (Pare 1992, 214 f., pl. 94-95), a Kappel-type cauldron whose distribution is nucleated around the Heuneburg (Dehn *et al.* 2005, 133-135), as well as Hallstatt D1 jewellery (Kossack 1959, 161-162, pl. 18,7-9). In the barrow cemetery of nearby Niederraunau (Kossack 1959, 161, pl. 18, 10-11) a Hallstatt D1 dagger with an Etruscan style wire wrapped sheath (Dehn *et al.* 2005, 18-24), a *drago* fibula of the Vače-Uffing type, and a horsegear toggle were found; it is likely that they came from a single context. Interestingly, there is no evidence for Hallstatt C burials in any of these grave groups, suggesting that these cemeteries were founded during the later 7th century BC by new lineages with transalpine connections.

8 One third of these wagons have been recovered from graves near the Hohenasperg and the Heuneburg (Pare 1992, 118).

A similar manifestation of Hallstatt D1 ostentation can be seen in burial mounds situated in the area of the confluence of the Wertach and Lech rivers, which was to become the site of the important Roman town *Augusta Vindelicum*/ Augsburg (Gairhos 2016, 113-116). A vast number of barrows, which once carpeted both edges of the broad river plain surrounding the city that have been destroyed by Augsburg's ever-expanding suburbs, included several wealthy Hallstatt burials (Hennig 2001, 235-283; Kossack 1959, 133-140). Among these a group of cemeteries comprising some 150 barrows on the edge of the Lech flood plain between Rehling and Todtenwies, just north of Augsburg provides insights into the process of lineage formation in Hallstatt D1 (Hennig 2001, 220-235; Kossack 1959, 187-188). The earliest excavated inventories date to the mid-7th century BC (Hennig 2001, 96) and an early antenna dagger with fan shaped chape found in an inhumation in Rehling-"Unterach", barrow 2 dates to the Hallstatt C/D transition period (Kossack 1959, 188, pl. 49, 3). Signs of funerary ostentation include the inventory remains from barrow 1 of Rehling-"Unterach", a deep-handled bowl of a type particularly popular in Como (Schäfer 2019, 199-201, fig. 5), and a bronze basin with cruciform handle attachments of the pan-European type C 2 (after von Merhart) (Egg and Kramer 2013, 243-255; Kossack 1959, 188, pl. 49, 1-2). Other elite inventories from this cemetery include a Hallstatt D1 barrow excavated in 1898 with horse gear. From a contemporary neighbouring mound destroyed in 1927 a bronze situla and a bronze jug were salvaged. This segment of the Augsburg *necropoleis* seems to have been established by lineages involved in and reacting to the paradigmatic shift in cultural allegiances that we call Hallstatt D1.

South of Augsburg there is even evidence for pinnacle ostentation. The steeply defined spur of the Wellenburg (fig. 4.5) near Augsburg-Bergheim might have been a regional centre in the Hallstatt period. Its oval plateau, which has not been investigated so far, is the site of the castle of the Fugger-Babenhausen dynasty (Petzet 1994, 61-62). It towers over a ford in the Wertach River which once connected the castle hill to the "Allgäustraße", the Roman road from Como to Augsburg (Czysz and Schmid 2013, fig. 1). During the 19th century a series of barrows (ca. 13) was still visible adjacent to the foot of the castle hill. They have now been obliterated by the plough. A remaining barrow was excavated in 1923 (Hennig 2009) and revealed a large plundered chamber with remains of a pottery vessel set (possibly augmented by bronze vessels), iron horse gear, an iron-clad wagon, *i.e.* hearse, type 7 (after Pare), an iron stimulus/goad, and an embossed gold sheet mount probably of a pointed shoe (fig. 4.5; Hansen 2010, 111-112; Hennig 2001, 235-240; Kossack 1959, 135 pl. 57; Pare 1992, 276-279). This metal assemblage is unique in the region. The only parallel for the golden mount comes from the mid-6th century Hochdorf "princely" tomb where the deceased was adorned with golden dress accessories, including golden shoe mounts. Among its lavish equipment the Hochdorf burial also contained a stimulus/goad and a type 7 iron-clad wagon as in the Wellenburg burial. Additionally, the prince lay on an elaborate bronze couch which was probably imported as a diplomatic gift from the Golasecca region (Frey 1989; de Marinis 2000). The two "Greek" lions and fittings on the Hochdorf cauldron have the same metal signature as the couch's caryatids (Hansen 2010, 195) and could have been assembled in the Golasecca region. Thus, both cauldron and couch may have been gifted from there to the Hochdorf prince as a coherent ostentatious symposial assemblage. Later less opulent burials of the Hochdorf lineage in the Hochdorf-Pfaffenwalde *necropolis* revealed two or three late 6th-early 5th century BC Golaseccan grooming sets (Miron 1989, 61; Zürn 1987, 95, pl. 142, 4-5).

Clearly, members of the "princely" seat elite would have needed to forge alliances with local lineages on the route to the alpine passes in order to secure access to the then crucial prestige items and other goods from the south. The concentration of iron-clad type 7 wagons (Koch 2006, 127-128; 317-322; Pare 1992, 118, fig. 91) along the Iller/Lech corridor seems to indicate that ostentatious state-of-the-art wagons were part of the diplomatic gifting process. This is underscored by the fact that, like the Augsburg-Wellenburg barrow, both the Donauwörth (see below) and Niederrieden-Lebühel barrows lie near important Roman roads ultimately leading to the alpine passes as does the only other Bavarian burial with a type 7 wagon, the Starnberg-Mühltal tumulus 1 (Kossack 1959, 222; Pare 1992, 311, no. 139). It is situated in a large barrow field across a gorge from a spur with a later prehistoric occupation and impressive medieval fortifications and looks directly on to the Roman road to the Alps.

Further evidence for wide-ranging contacts and funerary ostentation between Augsburg and the Danube comes from a large barrow field near Horgauergreut. A large barrow destroyed in 1904 revealed the remains of iron weapons and perhaps a wagon, a cauldron, as well as a bull's head protome of a cauldron-stand or drinking horn finial (Dehn *et al.* 2005, 191; Kossack 1959 135f. pl. 57, 16-21), which was probably manufactured in northern Italy.

4.2.3. Major hillforts and funerary ostentation on the Danube forecourt of the "princely" seats

In northern Swabia where the Iller and Lech flow into the Danube, inpouring streams carve deep clefts into the broad Danube Valley's high southern bank, creating ideal sites for major defended settlements. A well-researched example is the Reisensburg-Schloßberg (Ostermeier 2012, 400-402, no. 95; Rind 1999, 45 f), an over 500x200 m large fortified triangular spur, perhaps with an eastern suburbium, which was intensively settled in the Late Urnfield period. But it also produced a few Late Hallstatt/Early La Tène period

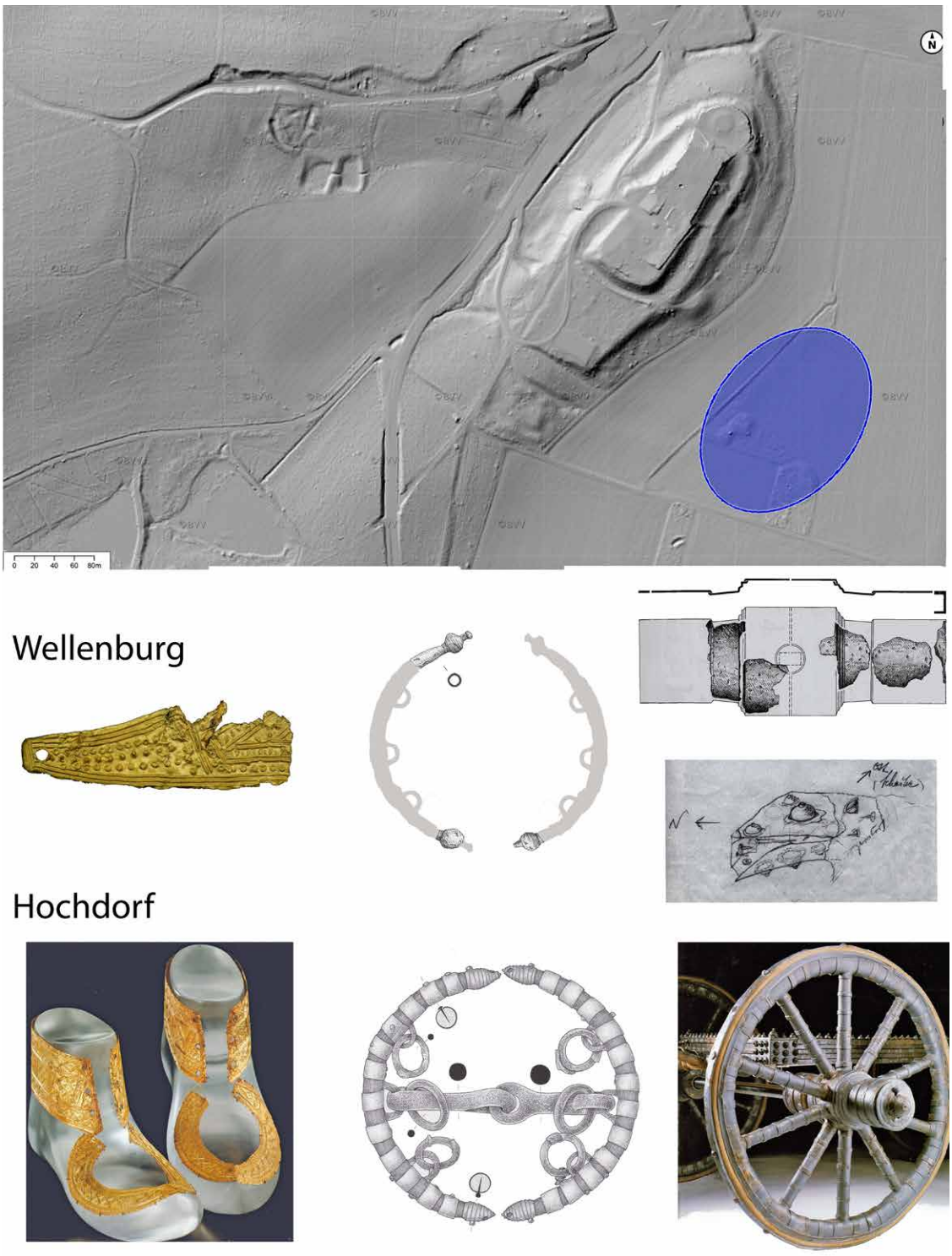

Figure 4.5. Augsburg-Wellenburg, Bavaria, DGM image of the hillfort and its surroundings (barrow cemetery marked in blue) and selected finds from the Hallstatt D2 barrow: golden shoe mount, horse gear, iron wagon box casing (after Hennig 2001; Biel 1985; Koch 2006 © *Daten: Bayerische Vermessungsverwaltung, EuroGeographics).*

sherds (Stroh 1952, 13, 15-29 25, 45-46 pl. 12-16; Loré 1992). The "Herrenfeld" barrow field, which lies 700 m to the east of the hillfort, was in use from the Hallstatt B to Hallstatt D2 periods. Its inventories include weapon graves and those of rich women (Stroh 1952, 25-29, 44, pl. 17-22).

Just 10 km east of the Reisensburg complex, the Aislingen-"Sankt Sebastiansberg" spur rises above the Danube floodplain (fig. 4.6), and is fortified with an impressive 400x200 m large bicameral earthwork. The massive ramparts of the site are thought to be Roman and Early Medieval (Christlein and Brasch 1982; Ulbert 1959, 11-14). However, recently geophysics have revealed an older complex configuration of features and pits (Fassbinder and Linck 2012), which are likely to be contemporary with traces of a late prehistoric occupation, excavated just outside the hillfort's southern rampart (Kainrath 2008).

The vast barrow fields that extended from the base of the Aislingen-"Sebastiansberg" over a kilometre west and northwest of the hillfort in the Danube's floodplain are now completely ploughed out and only a few were systematically excavated. These include the plundered Hallstatt D1/2 period "Große Bühl" barrow; with a 60-70 m diameter making it the largest barrow in Bavaria (Hennig 2001, 163-166; Pare 1992, 275, no. 99). It contained remains of another type 7 wagon and a rare horse-team burial. Surviving inventories of neighbouring elite barrows include Hallstatt D1 ostentatious metal vessel sets from Aislingen, "Katharinenhof" barrows 1 and 5 (Kossack 1959, 147f, pl. 38). An elite female burial from the cemetery includes Aislingen "Katharinenhof" barrow 6, a wealthy inhumation with an elaborate jewellery set (Kossack 1959, 141 and 147 pl. 38-39) which will be dealt with below. A Hallstatt D1/2 wagon burial with a late type 3 wagon and remains of iron drinking horn mounts like those found in Hochdorf come from the Kicklingen-"Mittleres Ried" barrow. It lies 12 km north east of the Aislingen Hillfort (Kossack 1959, 147f, pl. 39; Krausse 1996, 182, no. 745; Pare 1992, 234 f. no. 109, pl. 68). A type 7 wagon comes from a Hallstatt D2 secondary chambered tomb in the Donauwörth-"Riegelholz" barrow 10 (Hennig 2001, 195-198; Pare 1992, 286-287, cat. no. 111), situated within a large barrow field on a hill overlooking the town spur of medieval Donauwörth and possible hillfort site, just north of the confluence of the Lech and the Danube. This is also the site of the historic ford which leads across the broad river bottom to the northern terminus of the great Roman north-south axis, the Via Claudia Augusta, in Burghöfe/*Submuntorium* (Czysz 1989). Following the trajectory of a Roman road from the Danube to the Limes, it is only 45 km from both Aislingen and Donauwörth, a 9-hour hike, to the most eastern "princely" seat, the Ipf (Hauser 2014; Krause this volume; Krause *et al.* 2010)[9].

9 A Roman road begins in Faimingen/*Phoebiana* across the Danube from Aislingen and leads directly to the Kastell Opia/Oberdorf at the foot of the Ipf (Walser 1983, 92).

4.3 A trajectory to complexity between the Alps and the Danube

Following this virtual itinerary from Genoa to Günzburg in the late 7th and early 6th century BC opens a window not only to possible physical trajectories of contact, but also – and above all – the variety of responses of local elites lying between the Golaseccan and western Hallstatt trading hubs to the Italianising surge, which marks the beginning of Hallstatt C2/D. In contrast to alpine communities which integrated Golaseccan accessories into their costume, but remained structurally unaffected by their exposure to Italian lifeways, the lineages buried in the tumulus cemeteries between the Alps and the Danube were more fundamentally challenged by their exposure to the south and developed a broad palate of responses. On the one hand there were already well-established lineages, particularly in the south, who gradually integrated Italianising artefacts (Tannheim), but also "Heuneburg" pottery (Tettnang, Volkratshofen) into their grave assemblages during a period of increased status differentiation. On the other hand, new lineages, advertising their affiliation with northern Italy by adopting the "Golaseccan package" were founding new barrow cemeteries in the Iller-Lech interfluve (Niederraunau, Waltenhausen, Rehling, Aislingen), suggesting that the adoption of these new status markers accompanied major disruptions in traditional patterns of authority. Funerary ostentation distinguishes burials in large cemeteries (Horgauergreuth, Aislingen) and can, in some cases be linked to hillforts (Aichstetten,Wellenburg, Aislingen).

It is interesting to note that the sweeping changes that accompany the start of Hallstatt D2 (Pare 1991) can also be felt in the Iller-Lech interfluve. This period is characterised by a robust reassertion of a transalpine identity in the west Hallstatt region (fig. 4.7). This involves fundamental changes in the Italian-inspired, but locally produced, "Golasecca package". In a completely divorced development from the Po Basin, male asymmetrical serpent (type S4) and female navicella fibulae were replaced by markedly different local variations such as the S5 fibulae with symmetrical bow, as well as the drum fibulae. The tapered italicising short swords were abandoned in favour of shorter local variants and the lightly built wagons with Italian inspired conical naves were replaced by robust iron-clad type 7 wagons with cylindrical naves. These changes go hand in hand with a palpable hierarchisation of society (Metzner-Nebelsick 2017, 379-382; Pare 1989, 427-429), made manifest by locally invented status markers such as golden neck collars which have no Italian forebearers. It is surely no coincidence that this resurgence of indigenous identity goes hand in hand with the destruction of the Heuneburg's Mediterranean inspired settlement grid, mud brick rampart, and

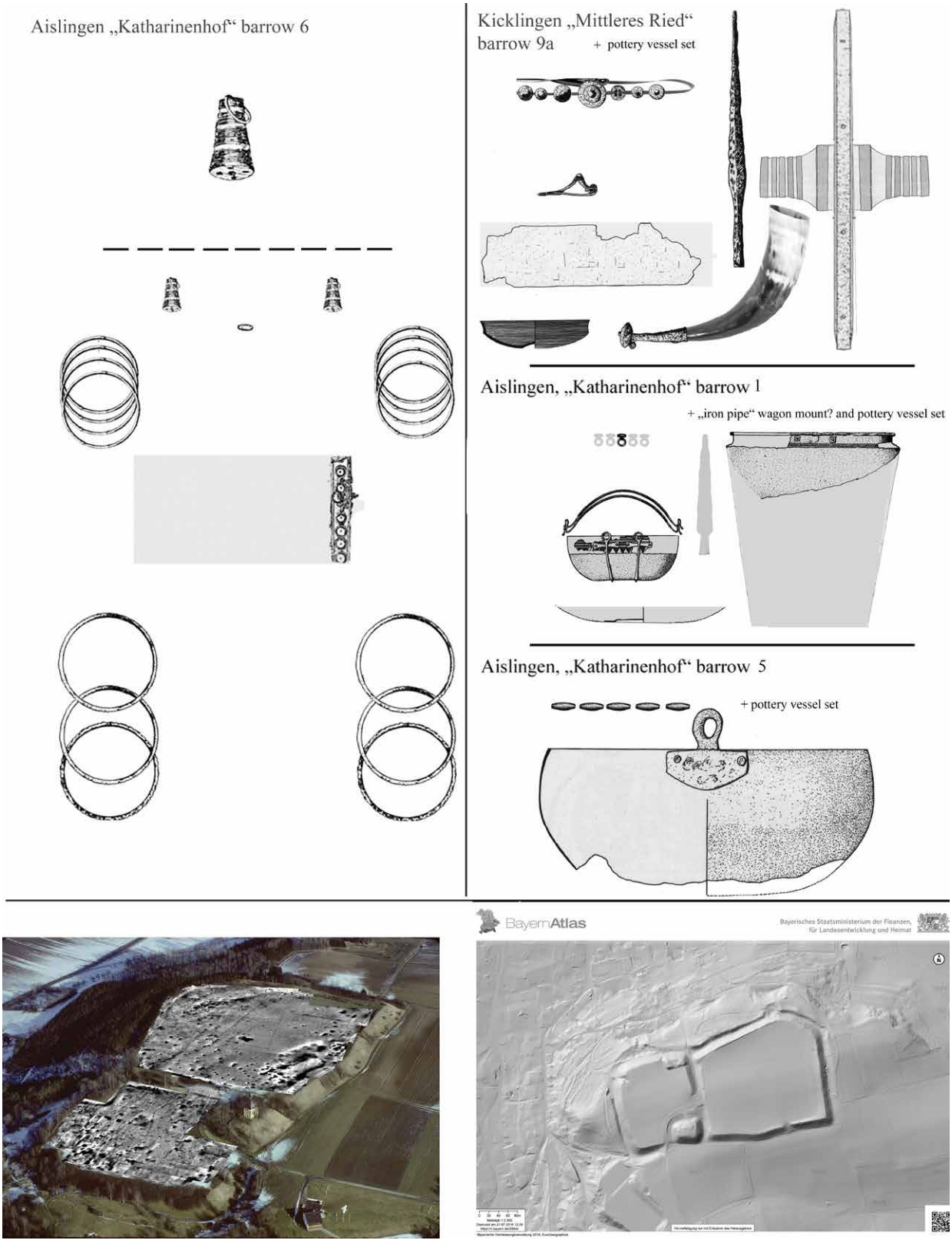

Figure 4.6. Aislingen near Dillingen, Bavaria, hillfort and elite Hallstatt D1 grave inventories from the “Katharinenhof” cemetery in the Danube flood plain (after Kossack 1959 and Fassbinder and Linck 2012; high resolution copy courtesy of the authors and © Daten: Bayerische Vermessungsverwaltung, EuroGeographics).

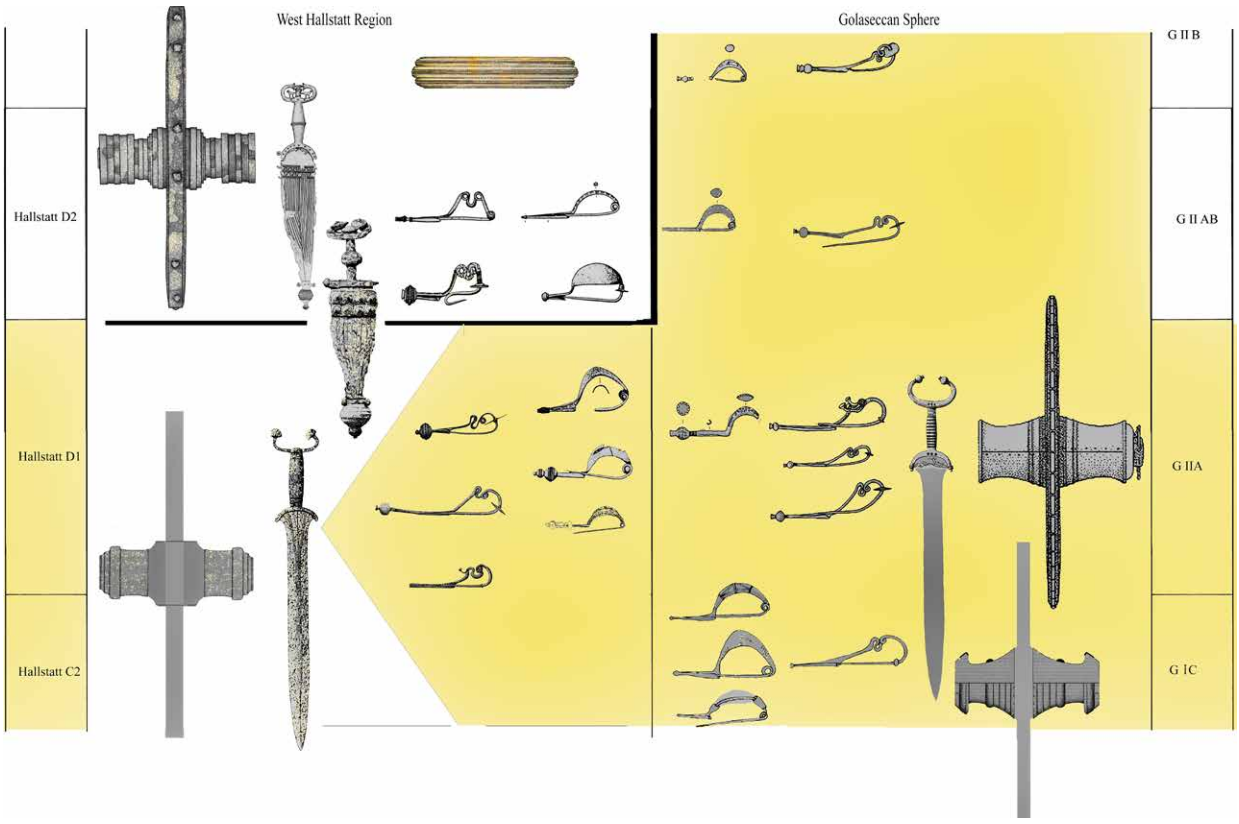

Figure 4.7. Comparison between elements of the "Golaseccan package" in Hallstatt C2/D1 and their modifications in Hallstatt D2 in southern Germany and contemporary developments in the Golasecca region (drawings originally by different authors).

ashlar gate, probably through war (Krausse *et al.* 2016, 91-95). From the mid-6th century on, exchange rooted in patronage, hospitality and familial ties was augmented by mercantile relations with the south (Pare 1996). This is made manifest by the presence of Mediterranean transport *amphorae* and Attic pottery in the Heuneburg and Ipf (Krause 2015; Sacchetti 2016). The existence of alliances aimed at securing and maintaining south-bound infrastructure in Hallstatt D2 are indicated by the southern distribution of high quality type 7 wagons (Niederrieden, Wellenburg, Donauwörth, Starnberg), which are best interpreted as diplomatic gifts from leaders of the proto-urban "princely" centres to local lineages controlling crucial trade routes to the Alps. In the case of Augsburg-Wellenburg, the accompanying golden shoe mount would rather indicate a peer-polity alliance. Interestingly, a remarkable "Leitmotif" of both the initial process of appropriation and the mid-6th century mercantile turn is the crucial and persistent role of female members of the local elites.

4.4 The role of women in proto-urban societies across the Alps

The paradigmatic shift in the Hallstatt dress-code adapting costumes fastened by new types of Italian inspired fibulae at the end of the 7th century BC/Hallstatt D1 in the western Hallstatt cultural sphere for men and women does not only represent mere changes of aesthetic norms; it clearly expresses a more profound identification with the ideological background that these artefacts embody[10]. Dress accessories as tokens of self-expression and group identity represent the intensified exchange networks of elite families across the Alps on a personal level. Stefania Casini, Bruno Chaume (Casini 2000; Casini and Chaume 2014), and Veronica Cicolani (2017, 51; 287) have suggested that the main reason for the similarity of certain fibula types on both sides of the Alps is exogamy of women. The correct gender-specific way of wearing Italian style fibulae for both women and men also reveals a deeper understanding of the social symbolism connected with those accessories north of the Alps. The wholesale

10 In contrast, in the eastern Hallstatt cultural sphere of the eastern alpine region fibulae as dress accessories for women have a long tradition, ranging back into the Late Bronze Age (Teržan 1994).

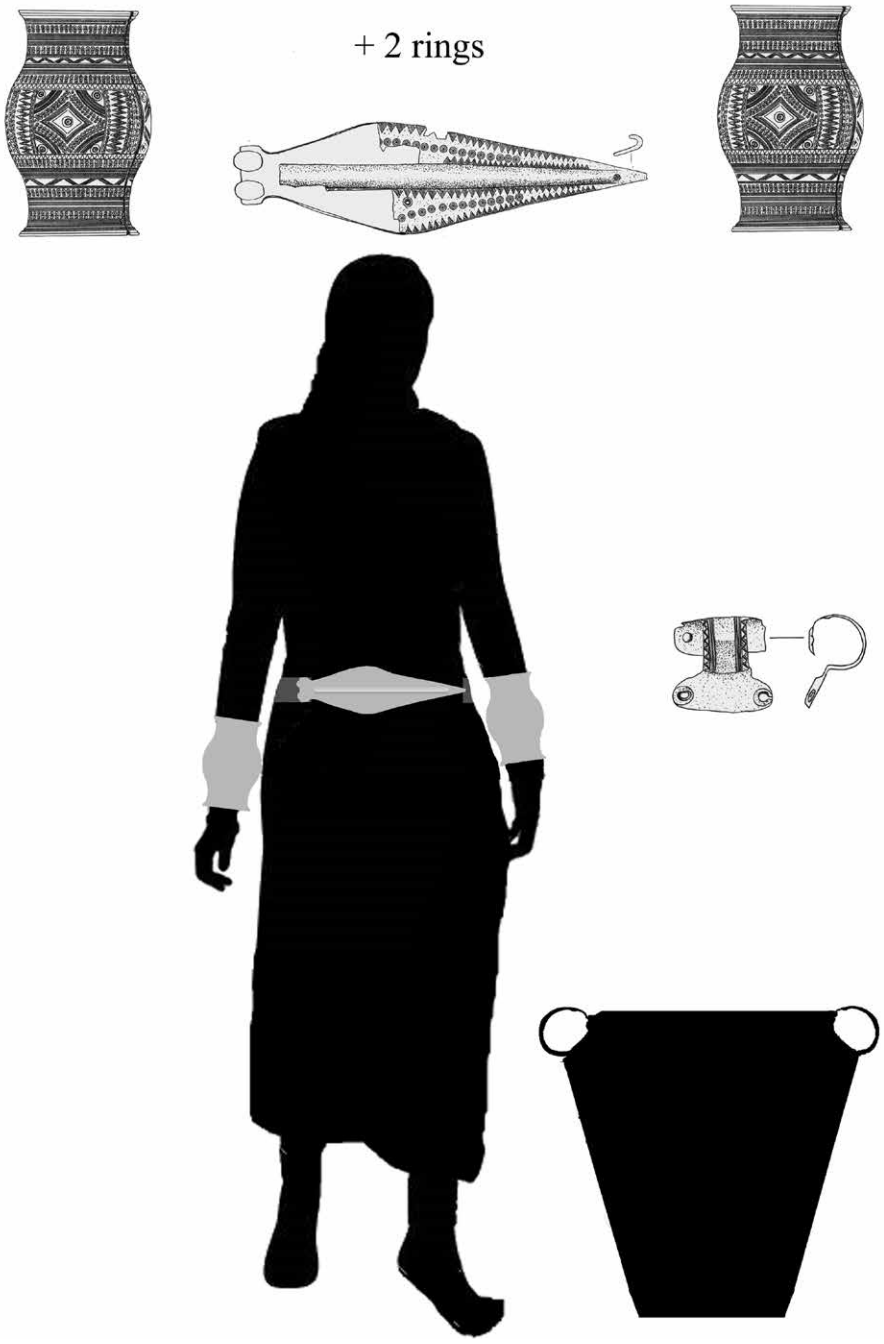

Figure 4.8. Reconstruction of the woman's costume and surviving grave good assemblage from Bodolz near Lake Constance, with a Golasecca belt hook, local barrel arm cuffs, and the handle of a bronze situla (after Kossack 1959).

adoption and local hybridisation of north Italian fibulae (and probably the garments to go with them)[11] by the indigenous people in southern Germany shows the appropriation of a foreign costume style and presumably the social changes it heralded.

To make this clearer, let us go back to the previously mentioned barrow cemeteries in Bavarian Swabia. The mid-7th century BC Late Hallstatt C1 woman's grave in barrow 15 of the Tannheim *necropolis* 15 (fig. 4.4) contained a set of local arm and leg rings, and an amber necklace augmented by a west-alpine, leaf-shaped belt-hook which according to Katharine Pászthory (1984, 164-185) resembles those found in the Chiavari cemetery

11 In the princely grave of Hochdorf near Sigmaringen in southwest Germany the deceased prince was clad in a complex layer of different shrouds one of which was dyed with *kermes vermilio*, a Mediterranean scale insect species which was used to produce crimson coloured dyes for fabric (Banck-Burgess 1999, 85; 2012).

in Liguria. Whether or not the woman from Tannheim was a foreigner is unclear, but she clearly integrated a foreign piece of personal attire into her local costume and sepulchral pottery set. Moreover, the rocked incision ornamentation ("Tremolierstich") on the Tannheim belt hook is an example of transalpine contacts connected to the female sphere. The distribution map of belt clasps with rocked incisions by Lorenzo Zamboni (2012; 2018)[12] illustrates this intense transalpine contact. The majority of the rocked incisions on belts however, date to the Hallstatt D period. One also has to bear in mind that we are just looking at a specific craft tradition; a thorough comparison of the motifs and even forms of the belts on both sides of the alpine mountain range reveals that in the north this technique was also applied to local belt forms and that their décor reflects specific regional patterns.

A genuine Golaseccan imported belt hook comes from the women's burial of Bodolz (Kossack 1959, 163 fig. 26) near the eastern end of Lake Constance in western Bavaria (fig. 4.8). Here, a comparable pattern to the Tannheim burial can be observed. Richly engraved local-style bronze "barrel armlets" (Nagler-Zarnier 2005, 37 f, no. 216-217) are combined with a foreign dress accessory in form of an elaborate belt. Unfortunately, the burial was badly preserved, and only one handle of a former bronze situla has survived to indicate the high status of the deceased. Another belt hook of this type and Golaseccan import comes from grave 96 in the well-known lineage-barrow of Magdalenenberg in Baden-Württemberg. Julia Koch (2017, 225 fig. 8) has analysed the different interregional contacts of the Magdalenenberg community and stressed, among many non-local affiliations, the strong northwest Italian impact. The isotope signature of the mature woman buried in grave 96 of the Magdalenenberg barrow shows that she had spent her childhood in the area. These local roots are also reflected in the rest of her jewellery (Koch 2017, 221 fig. 5; 222).

Person to person contacts are crucial for the understanding of the evolution and appropriation of proto-urban concepts north of the Alps and the ensuing concepts of social organisation. Since the mid-7th century BC west Hallstatt women gained prominence as highly important participants within processes of interaction involving elite families and started to play a visible role within the hierarchically organised social groups (Arnold 1991; 1995; Metzner-Nebelsick 2009).

One of the best-known examples of the burial of an elite woman in the Hallstatt period is barrow 4 of the Bettelbühl *necropolis*, a ploughed-out tumulus in the Danube floodplain at the foot of the Heuneburg, in which a 30-40-year-old woman was buried with a younger female companion. The preserved wood from the burial chamber could be dendro-dated to 583 BC (Krausse and Ebinger-Rist 2018; Krausse *et al.* 2019). Thanks to the publication of Dirk Krausse and Nicole Ebinger-Rist we can now say that this aristocratic lady, who belonged to the founder's generation of the mudbrick phase of the Heuneburg "princely" seat in Hallstatt D1, clearly had connections to the Golasecca culture in northwest Italy[13]. Golden jewellery with similarities to Etruscan ornaments – possibly produced at the Heuneburg itself[14]- indicates her high status. Sanguisuga type fibulae with segmented amber bows (*ibid.* 261 fig. 15) and the complex bronze pendant framed by boar's tusks (Krausse *et al.* 2016, 133 fig. 11.4) are Golasecca imports; identical amber segmented bow fibulae come from Castelletto, Ticino grave 45 (Pauli 1971, pl. 24). The pendent is best compared to one from Trezzo sull'Adda (de Marinis 1974). Finally, a small spherical amber pendant from the Bettelbühl grave (Krausse *et al.* 2016, 138 fig. 125) closely resembles the so-called bronze pendeloques which are one of the most characteristic female jewellery types of the Golasecca culture, as stressed by Veronica Cicolani (2011; 2017) and Barbara Tessmann (2007).

Thus, the Bettelbühl grave is an excellent example of the major cultural changes which took place during the 7th to early 6th centuries BC (Krausse 2008; 2010). It shows that elite women not only played an important part in this, but also that their changing and more pronounced status is itself an indicator for societies becoming more complex. One may argue that this markedly increasing social standing of women within male dominated societies north of the Alps originated from south alpine contacts. At least some of the north-alpine communities were copying an Etruscan model of social organisation which allowed women of aristocratic families a higher profile than in the contemporary Greek *poleis*.

During Early Hallstatt C1 there are no ostentatious women's graves among the numerous elite burials with wagons, horse gear, and metal drinking equipment from southern Germany (Hennig 2001; Kossack 1959; Pare 1992).

12 In southwest Germany and Switzerland additional examples could be added to this map.

13 The contacts between the Golasecca area and regions further to the north have been pointed out by various scholars like Raffaele de Marinis (2014), Stefania Casini (2000; 2012), and most recently Veronica Cicolani (2017).

14 Dirk Krausse, Leif Hansen and Roberto Tarpini (2019) argue that the golden jewellery in the grave, as well as two earrings and navicella fibulae found in the burial of a little girl belonging to the same barrow were produced locally. Their filigree ornaments are different from that used in Etruria (Krausse *et al.* 2019, 258 fig. 13). They convincingly state that crafts-people trained in the Etruscan tradition were probably working at the Heuneburg. This is further supported by a recently excavated workshop at the tip of the Heuneburg plateau (Hansen *et al.* 2016, 60-61; Krausse *et al.* 2019, 258-259 fig. 12b) in which among other objects fragments of gold filigree and twisted gold wire were found. Both match the ones used to produce the golden jewellery from the aforementioned graves (*ibid.* 256 fig 9; 257 fig. 11).

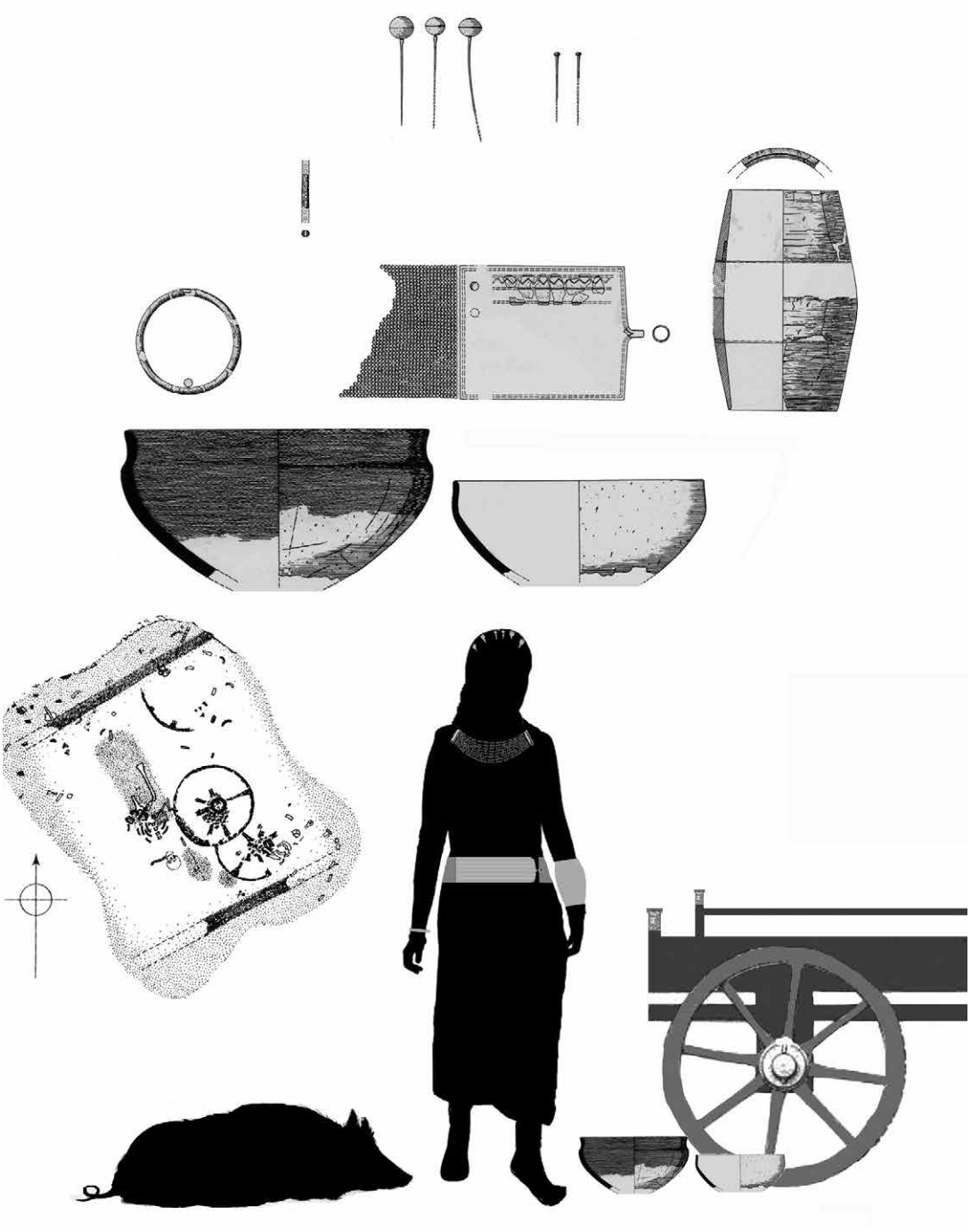

Figure 4.9. Reconstruction of the woman's wagon from Mauenheim, southwest Germany, tum. M, grave 3 (after Wamser 2016).

This probably reflects a subordinate role of women within society. It is only at the end of this period, in the second half of the 7th century BC (Hallstatt C2/D1) that the first few elite women's burials appear with grave goods which had hitherto been reserved for high-status males, such as sheet bronze vessels and, above all, four-wheeled wagons (Metzner-Nebelsick 2009, 241 fig. 1; 244-248; 250-251 fig. 6a-b). A characteristic example comes from a chambered tomb in Niedererlbach near Landshut in Lower Bavaria, where a woman was buried lying on a four-wheeled wagon with a lavish set of pottery vessels including an imported bronze *phiale mesomphalos* filled with mead (Rösch 2005) and a large meat portion for the afterlife feast (Engelhardt and Häck 1998; Koch 2002, 37-41; Metzner-Nebelsick 2019,

fig. 4). It is probably no coincidence that the inventories of these rare early high-status female graves[15], such as Niedererlbach have southern connections.

The changes of women's roles during the later 7th century BC north of the Alps follow a pattern seen earlier in Etruscan city-states during the late 9th and 8th centuries BC when aristocratic women were buried with the paraphernalia of wealth and power which was hitherto reserved for men (Metzner-Nebelsick 2009)[16]. These attributes include metal-clad wagons, prestigious jewellery, beaten bronze drinking equipment, as well as Oriental and Greek imports. Prominent examples include the orientalising Tomba Regolini Galassi and the later grave 4 of the I Pini-*necropolis* of Sirolo-Numana in Picenum[17]. These aristocratic women were able to demonstrate their prominent status in the public sphere. They could drive in wagons during processions, mostly in a two-wheeled *carpentum*, and participate in elite symposia, a social practice which was met with demeaning remarks from Greek authors like Theopomp (Amann 1999)[18]. The Etruscologist Petra Amann (2000) stressed the importance of women within the aristocratic families in Etruscan city-states. Their role involved securing the preservation of the lineage by producing heirs as well as the management of an aristocratic household – *oikos* – in order to maintain and increase the outstanding position of the *gens* within a system of competing families vying for power in the emerging city-states of Etruria.

The reason why the Etruscan example of high-ranking women, developed in the 9th to 8th century BC, was only adopted generations later north of the Alps can be seen in the less complexly structured societies there, and possibly the still very dominant concept of the Late Bronze Age warrior chief, which prevailed well into the Hallstatt C period.

With the contacts of first single lineages (see above) and the then intensive and structured exchange networks between north alpine and Italian families in the late 7th and early 6th centuries BC notions of the specific role of women in complex hierarchically organised societies were certainly transmitted to the north. The close Golassecan connections possibly intermarrying between elite families of the proto-urban centres, such as the Heuneburg or Mont Lassois, promoted social changes and the increasing importance of women within the ruling families and their crucial roles as sustainers of lineages. In some cases, also inheritance laws like matrilineality may have further supported the role of women as Ludwig Pauli (1973, 113-114 tab. 4) first suggested[19].

The recently published wagon grave of a woman in Immendingen-Mauenheim barrow M, grave 3 clearly reflects transalpine contacts involving women (Wamser 2016, pl. 8-9). It is one of the earliest woman's wagon graves north of the Alps. The belt the woman was wearing (fig. 4.9) has a local shape, its ornamentation with rocked-incision/"Tremolierstich" however, is a Golasecca element like the aforementioned example from Tannheim.

The crucial impact of southern *i.e.* Etruscan or north Italian contacts and thus the transmission of female role models can also be demonstrated by various other objects such as conical perforated amber cones which occur in the Bettelbühl grave (Krausse and Scheschkewitz 2019, 195 fig. 5), but also in several other elite burials of women in southern central Europe. Next to the Bettelbühl burial the most important grave containing these cones is the ostentatious women's grave in Ilmendorf near Ingolstadt in Upper Bavaria (Claßen 2012; Claßen *et al.* 2010; Krausse and Scheschkewitz 2019, 197 fig. 7). This largely unpublished grave cannot be discussed in detail here. It is the most north-easterly female burial with a complex set of Golaseccan imports known to date. Parts of the women's attire were augmented by ornaments of amber and glass, eight golden earrings, and three glass spindle whorls as additional Italian imports, as well as several other objects. An amber ring with a conical extension (Claßen *et al.* 2010) has a parallel in grave 4 from Sesto Calende, Mulini Bellaria (de Marinis 2009, 441 fig. 13; 443 fig. 15, 2-3), where it was found together with several fibulae. They included a bow fibula with a long foot and amber bow (*ibid.* 442 fig. 14,5) like in the Bettelbühl grave, two conical amber cones of the aforementioned type (*ibid.* 443 fig. 15,12.16), and a ceramic spindle whorl, thus indicating a similar combination of spinning equipment.

Amber cones are mainly distributed south of the Alps, in the Golasecca area, in graves of the Este culture in northeast Italy and in Etruria. These cones are often components of composite precious distaffs (Gleba 2008, 117 f.; Gleba 2011, 29-30, type C and D*).* In some cases, they seem to have been integrated, probably as amulets, into women's necklaces and headdresses. North of the Alps they are usually deposited

15 For the discussion of the other elite women's graves with wagon or horse gear and harness equipment of the 7th c. BC see Metzner-Nebelsick 2009.

16 For Etruscan elite burials of women see: Amann 2000; Putz 2007.

17 Regolini Galassi: https://regolinigalassi.wordpress.com/2011/07/20/updated-virtual-reconstruction-of-the-regolini-galassi-tomb/; Sirolo-Numana: Landolfi 2012.

18 These social practices are also shown in imagery like the famous terracotta reliefs from the Palace of Murlo in Tuscany (Amann 2000, pl. 18) or from Metapontum, San Biagio, temple C (Crouwel 2012, fig. 114-115) as well as on the numerous banqueting scenes on wall paintings of Etruscan tombs (Steingräber 2006).

19 Ludwig Pauli (1973, 113-114, tab. 4) suggested this for communities using tumuli with multiple burials which contained female central grave chambers like Mühlacker on the Swabian Alb. The prestigious burials of women in Vix in Burgundy and other graves in its immediate vicinity, as well as the absence of equally rich male burials there (Chaume 1997; 2001; Joffroy 1958; Rolley 2003), lead us to believe that also here matrilineal inheritance rules were present.

as pairs. In barrow 6 from the aforementioned cemetery of Aislingen-"Katharinenhof" in Bavarian Swabia (fig. 4.6) (Kossack 1959, pl. 38,11) the burial of a woman included two amber cones together with a rich assemblage of bronze jewellery. Another pair was found in grave 5 in the well-known Hirschlanden barrow which was accompanied by a Mediterranean inspired warrior statue (Pauli 1975, 48 fig. 15; Zürn 1970, 61-62 pl. 30). They were also found in the secondary grave 56 in the lineage barrow of the Magdalenenberg near Villingen, (Koch 2017, 221 fig. 5; Spindler 1973, 18 ff. pl. 2-4), in the female secondary burial 17 in the lineage mounds at Heuneburg-"Speckau", barrow 18 (Arnold 2012, 129, fig. 143), and in a Hallstatt D1 children's burial grave 95 from Hallstatt together with five amber beads and two bracelets (Kromer 1959, pl. 8.20)[20]. These cones all seem to have served as pendants or amulets.

The broad spectrum of Golasecca costume accessories worn by women in the northwestern alpine region was linked to funerary ostentation and reflects networks, mainly maintained by the ruling families. In the late 7th century BC women's appropriation of southern costume accessories is only one aspect of a far more momentous reaction to contact with the south: that is the increasing visibility and authority of women in western Hallstatt society.

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20 The double conical amber beads in this grave (Krausse and Scheschkewitz 2019, 197) resemble the ones in the Hallstatt girl's grave.

21 If not otherwise indicated: illustrations designed and executed by Louis Nebelsick.

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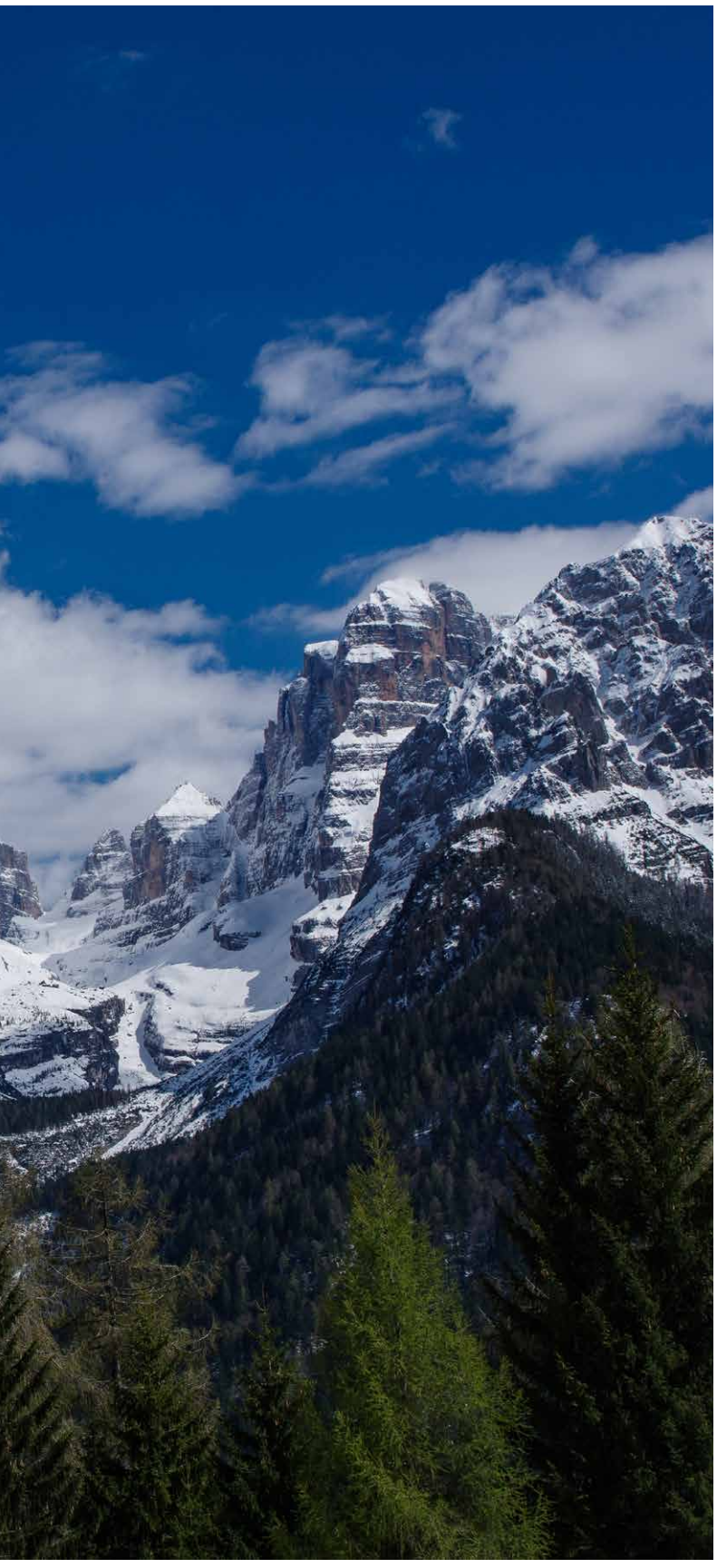

PART 2

EARLY URBANISATION PROCESSES IN NORTHERN ITALY

Chapter 5

Verucchio: The Iron Age Settlement

Paolo Rondini & Lorenzo Zamboni

A preeminent site of Early Iron Age Italy, Verucchio was a stronghold in the eastern part of present-day Romagna, controlling the northern Adriatic Sea and the Apennines' passes towards the Italian Peninsula between the 9th and 7th centuries BC. Although the funerary ritual displays signs of hierarchical society with a concentration of power and wealth, including an unparalleled abundance of amber artefacts and wooden masterpieces, the settlement area and population dynamics remain largely unknown to date. According to the traditional view, Verucchio would have been an 'Etruscan colony', a sort of outpost of the Villanovan culture north of the Apennines. Recent discoveries and alternative theoretical approaches are changing this picture, suggesting a more complex process of internal development and shifting periods of success and abrupt crisis.

Early Iron Age; Villanovan culture; Upper Adriatic; Verucchio.

5.1 Introduction

The northern part of the Italian Peninsula is characterised by an early urbanisation process, as outlined by recent discoveries and studies (Cardarelli 2018; Rondini and Zamboni 2020; Zamboni forthcoming). Many towns and cities in northern Italy have had long-term human habitation through the millennia, with a continuous stratification of layers from the Early Iron Age to modern times. A remarkable exception to this framework is Verucchio, a central place in eastern Romagna whose ancient name is unknown[1]. In fact, as we shall illustrate in this chapter, the site history follows a different trajectory. Material evidence from recent excavations suggests an early and rapid centralisation process between the 9th and 8th centuries BC. However, Verucchio encountered a sudden crisis and subsequent abandonment shortly after its heyday, during the second half of the 7th century BC, and never evolved into a proper town during the classical and Roman eras. Centuries later, without any clue of continuity during the late Medieval and Renaissance periods Verucchio became the seat of the powerful House of Malatesta (Larner 1965).

The aim of this paper is to unravel a set of environmental and anthropic factors behind the rise and fall of Verucchio during the Early Iron Age, as well as its role in the wider picture of pre-Roman Italy, addressing a comparative review of both settlement and funerary data.

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1 A possible name connected either with the later Roman colony of *Ariminium*, the ancient name of the river Marecchia, *Ariminus*, or the mythical Etruscan king *Arimnestos*, who made offering at Olympia according to Pausanias (5.12.5), has been suggested (von Eles and Baldelli 2017, 1461, with further references).

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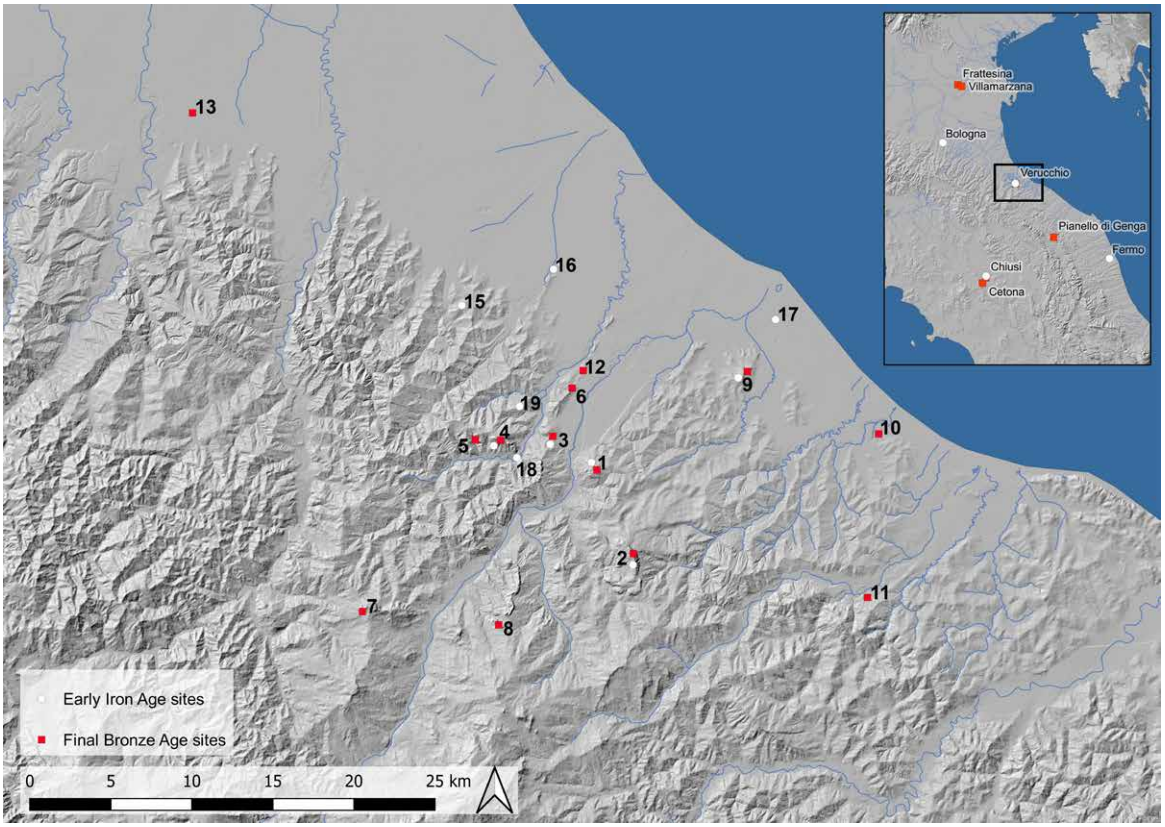
Frattesina
Villamarzana
Bologna
Verucchio
Pianello di Genga
Fermo
Chiusi
Cetona
13
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Early Iron Age sites
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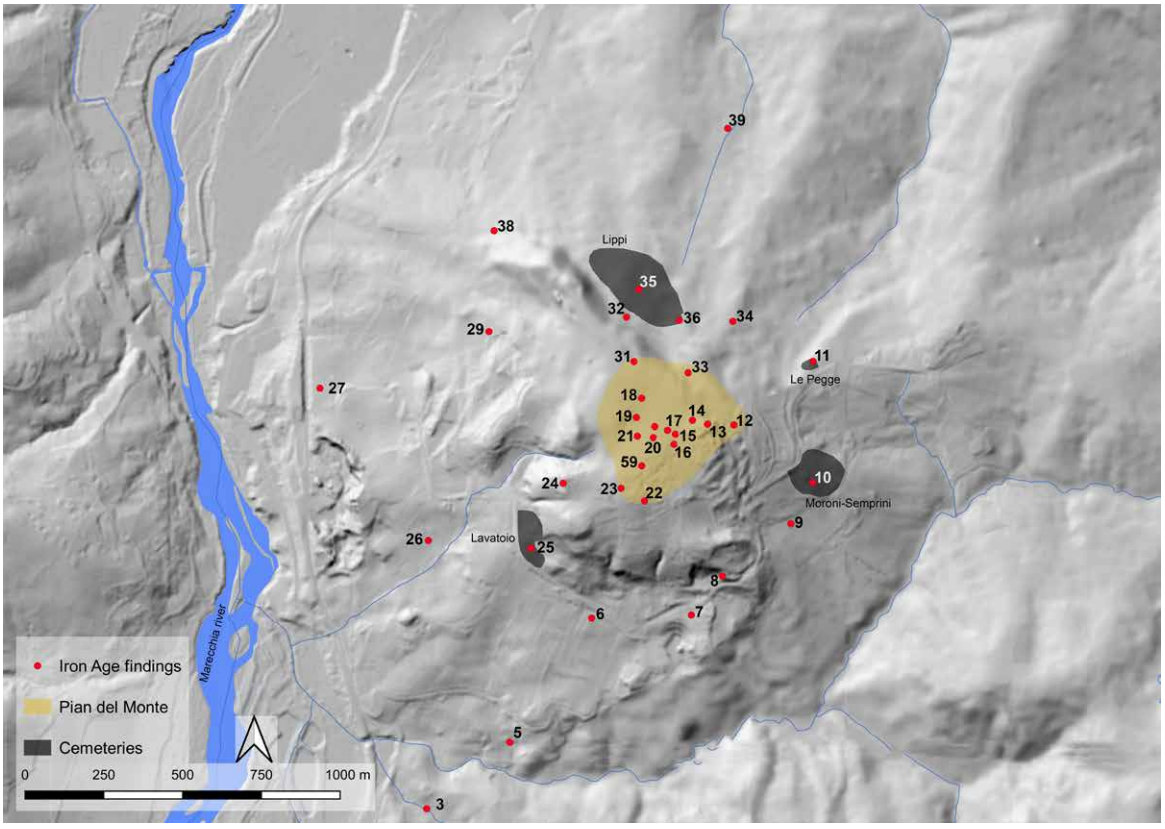
0 5 10 15 20 25 km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Le Pegge
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Moroni-Semprini
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Marecchia river
Iron Age findings
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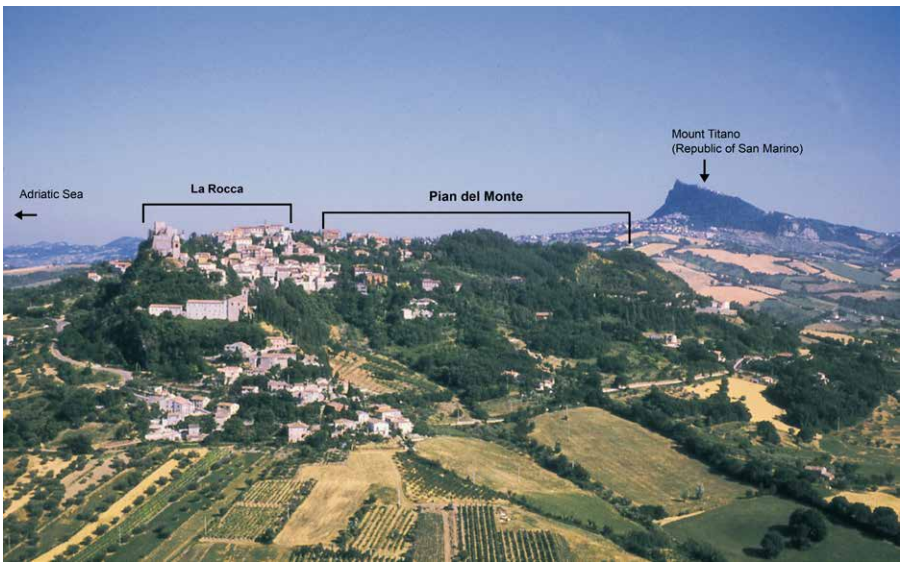

Figure 5.3. The Verucchio landscape, taken from the north (modified after Zamboni 2017).

5.2 The landscape

Verucchio is set in the south-eastern sector of present-day Romagna, at the foothills of the Apennines mountain range and some 15 km from the Adriatic coast. The site holds control over the lower portion of the river Marecchia, as well as the rest of the valley to the southwest (fig. 5.1). In order to understand the role of Verucchio, the importance of the Marecchia Valley as a transit route must be highlighted. This narrow basin slips southwest through the Apennines towards its confluence with the upper valley of the Tiber (near Sansepolcro, province of Arezzo), linking the Adriatic coastline with Etruria and Latium (Cristofani 1996; Naso *et al.* 2015; on Sansepolcro see Iaia and Moroni Lanfredini 2009).

The ancient site is located on the top of an irregular plateau, about 330 m a.s.l., geologically composed of residual limestone rocks laid on a clay tectonic substrate (Finotelli and Poli 2015). Its steep slopes are affected by erosion, fractures, and landslide fronts, a phenomenon typical of this part of the Apennines (Naso *et al.* 2015, 12-13). Another distinctive characteristic of Verucchio is the abundance of water. Until modern times, the site was rich in natural springs, wetlands, and backwaters along the rocky hillslopes, which have led to waterlogged conditions, which granted the deepest Iron Age graves a unique state of preservation of wooden artefacts (Rottoli *et al.* 2015), including the renowned thrones (see below), textiles (Stauffer 2012), and other perishable materials (fig. 5.4.2).

The Early Iron Age environment of Verucchio was characterised by a low afforestation rate, with a good incidence of agriculture, with the presence of mixed oak woodlands along the hillslopes alternating with wide pasture and large uncultivated areas (Rottoli *et al.* 2015).

The entire surface of the hill of Verucchio could be estimated to around 45 ha, including the low hillsides and the immediate surroundings. However, the main settlement area in antiquity is generally identified in the southern part of the hilltop, called 'Pian del Monte della Baldissera'. This part of the plateau is flanked by four high grounds (Cappuccini, Monte Ugone, Collegiata and Monte dei Gigli) located around a central flat and low area (Campo Sportivo) (fig. 5.2).

On the other hand, the Medieval town, along with the Malatesta castle, is placed in the northern section of the hilltop (La Rocca) (fig. 5.3). Here, little evidence of the 1st millennium BC population related to the richly furnished graves of the Lippi cemetery just below the Malatesta fortress (see below) has been found, likely erased by superimposing layers and buildings.

On the contrary, the southern area of Pian del Monte remained depopulated for centuries, and no later than WW2 it still appeared a rural landscape, with vineyards, crops, and scattered farmsteads. Unfortunately, while the location of the Iron Age cemeteries on the hill's sides remained substantially undamaged, Verucchio's rapid growth in population and residential building during the 1950s and 1960s, particularly

Figure 5.1 (left above). Map of eastern Romagna during the Late Bronze Age (■) and Early Iron Age (●) (elaborated by authors, on GIS-based DTM 5x5). 1. Verucchio; 2. Monte Titano; 3. Torriana;
4. Ripa Calbana; 5. S. Giovanni in Galilea; 6. Poggio Berni; 7. Perticara; 8. San Leo; 9. Covignano; 10. Riccione; 11. S. Maddalena di Morciano; 12. S. Andrea; 13. Forlimpopoli; 14. Monte Battaglia (Casola Valsenio); 15. Longiano; 16. Savignano sul Rubicone; 17. Rimini; 18. Borghi, Masrola; 19. Borghi, Forano-Gorolo.

Figure 5.2 (left below). Map of the archaeological evidence from Verucchio and its landscape (elaborated by the authors on GIS-based DTM 5x5). See the Appendix below.

Figure 5.4. 1. Excavations in Pian del Monte during the 1960s' and 1970s' residential expansion (courtesy Soprintendenza Bologna); 2. The waterlogged condition of the grave Lippi XXX (after Gentili 2003).

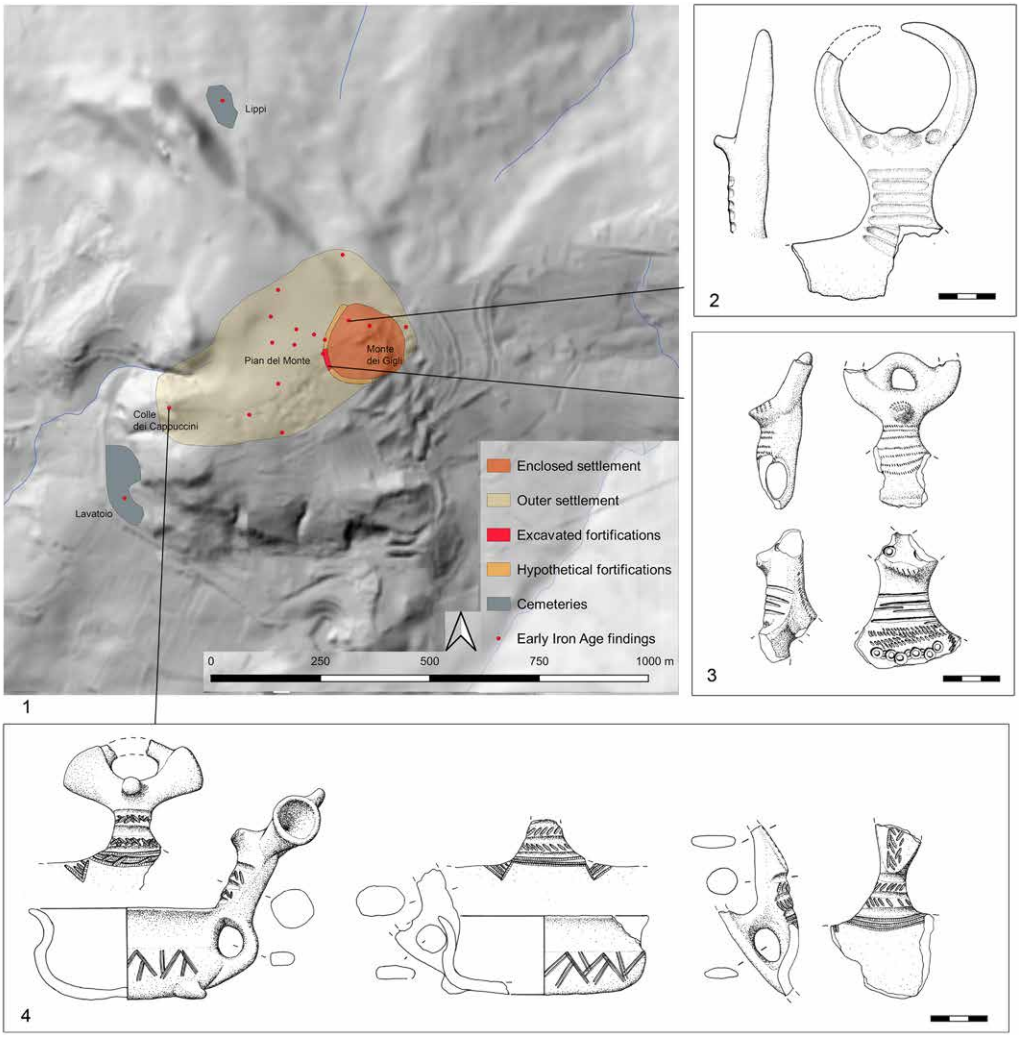

Figure 5.5. 1. The 9th century BC settlement of Verucchio (elaborated by the authors, on GIS-based DTM 5x5); 2. Final Bronze Age sherd from Pian del Monte (modified after von Eles and Pacciarelli 2018); 3. Early Iron Age pottery sherds from the Pavia excavation (authors); 4. Early Iron Age cups from the Cappuccini kilns (authors).

intense in the Pian del Monte area (fig. 5.4.1), was not archaeologically controlled, except for a few, unsystematic rescue works (Rondini and Zamboni 2016). This situation caused a presumably high loss of evidence, which is the reason why our understanding of the Iron Age settlement of Verucchio must be considered largely hampered.

L.Z.

5.3 The discovery of Verucchio

The first recorded archaeological evidence in Verucchio emerged from the ground during the 17th century in the area of Pian del Monte. The remains were accidentally discovered through ploughing, and the occasional findings provided material for local collections of antiquity and the museums in Rimini, Bologna, and Rome (Dore and Serges 2018; Poli and Rodriguez 2018; Poli *et al.* 2019). The Iron Age cemeteries were excavated starting from 1893 in the westernmost graveyard of 'Lavatoio – Campo del Tesoro' (Tamburini-Müller 2006), and in the following year in the 'Lippi – sotto La Rocca' necropolis (Gentili 2003).

Regarding the settlement area of Pian del Monte, initial research on site was a survey by Edoardo Brizio in the late 19th century, followed by some trenches dug by Gherardo Ghirardini in 1917. Unfortunately, these early activities remained largely unpublished, apart from a brief summary reported by Ugo Rellini in the 1920s (Dore and Serges 2018, 18-19; Rellini 1923). Archaeological investigations were only reprised in the late 1960s, by Renato Scarani, Mario Zuffa, Gino Vinicio Gentili and collaborators, who for a couple of decades extensively excavated both the cemeteries and the settlement area (fig. 5.4). Nevertheless, few data were published (Gentili 1988; 2003; Zuffa 1963), and the field methodology appears today rather inadequate to comprehend the complexity of the archaeological stratification of the site (Rondini and Zamboni 2016; von Eles and Baldelli 2017, 1459-1461).

More recently, new excavations have been carried out inside the Lippi cemetery (von Eles 2015), and in the settlement area of Pian del Monte (Harari 2018; Harari *et al.* 2017). After preliminary geophysical prospecting in 2011, the investigations in the southernmost portion of Pian del Monte were carried out by the University of Pavia between 2012 and 2017. Trenches have been opened inside the archaeological public area of the so-called 'Casa Etrusca' in via Nanni, a sector already discovered and partially excavated during the 1970s (Gentili 1988; Rondini and Zamboni 2016; see below).

P.R.

5.4 Before Verucchio – The Late Bronze Age

Before the general crisis of the first half of the 12th century BC, which affected large parts of northern Italy and adjacent regions (Cardarelli 2018), an enclosed village dating to the Middle and Recent Bronze Age was established at the base of the hill of Verucchio, via Mondaini (von Eles and Pacciarelli 2018).

During the final stages of the Bronze Age (around 1150 to 910 BC), the population pattern drastically changed. While the lowlands remained almost depopulated, the Montefeltro region (*i.e.* southern Romagna and northern Marches) was dotted with a series of small- and medium-size settlements strategically positioned on hilltops and cliffs (fig. 5.1), located between 6 and 11 km apart as the crow flies and visible from one another (Cardarelli 2018). These villages were located on rocky hills of different elevations: between 300 and 420 m a.s.l., including Verucchio, Torriana, San Giovanni in Galilea, and Ripa Calbana (La Pilusa and Zanini 2009; Naso and Hye 2018; von Eles and Pacciarelli 2018), between 580 and 780 m a.s.l., such as Monte Titano and San Leo (Bottazzi and Bigi 2008; Naso *et al.* 2015; von Eles and Baldelli 2017). The higher cliffs, between 880 and 1000 m a.s.l., further inland along the Marecchia Valley, are Monte Perticara and Monte Copiolo (Cardarelli 2018; Naso *et al.* 2015). Despite the scarcity of extensive excavations, a model of seasonal occupation connected with pasture and ritual practices, has been suggested for the hilltop sites of Romagna and Marche (Cardarelli 2018; Malone and Stoddart 1994).

Regarding material culture, this whole area has been related to the 'Cetona – Chiusi' culture (also called 'Pianello' *facies*, see Bietti Sestieri 2013; Cardarelli *et al.* 2017; Negroni Catacchio *et al.* 2016; Zamboni 2017; Zanini 2012), which connected the regions of central Italy north of the river Fiora (Tuscany, Marche, and Umbria) with the eastern Po Valley, through the eastern side of the Apennines across the upper Adriatic district. A key site of this culture is Frattesina, in the southeastern part of the Venetian plain along an old branch of the Po River (the Polesine region). Frattesina was actually part of an international hub which managed the trade of raw, semi-worked, and finished goods, such as amber, ivory, bronze, glass, and other exotic products (Pearce 2019; this volume).

During this period, the known evidence from Verucchio suggests the presence of a settlement placed on the southeastern high ground of the Pian del Monte plateau, called 'Monte dei Gigli' (fig. 5.5.1). Recent excavations yielded Final Bronze Age materials (fig. 5.5.2) (von Eles and Pacciarelli 2018), yet no funerary data regarding this period is known to date (except from two doubtful grave assemblages from the Campo del Tesoro – Lavatoio cemetery, see Tamburini Müller 2006, CT33 and RL67 graves)[2]. Our understanding of the population of Verucchio and the lower Marecchia Valley during the Final Bronze Age is therefore far from complete, as

2 An unpublished biconical vase from the Pian del Monte 1970's findings (via Fausto Coppi), with typical Final Bronze Age decoration, is recovered inside the Verucchio Museum.

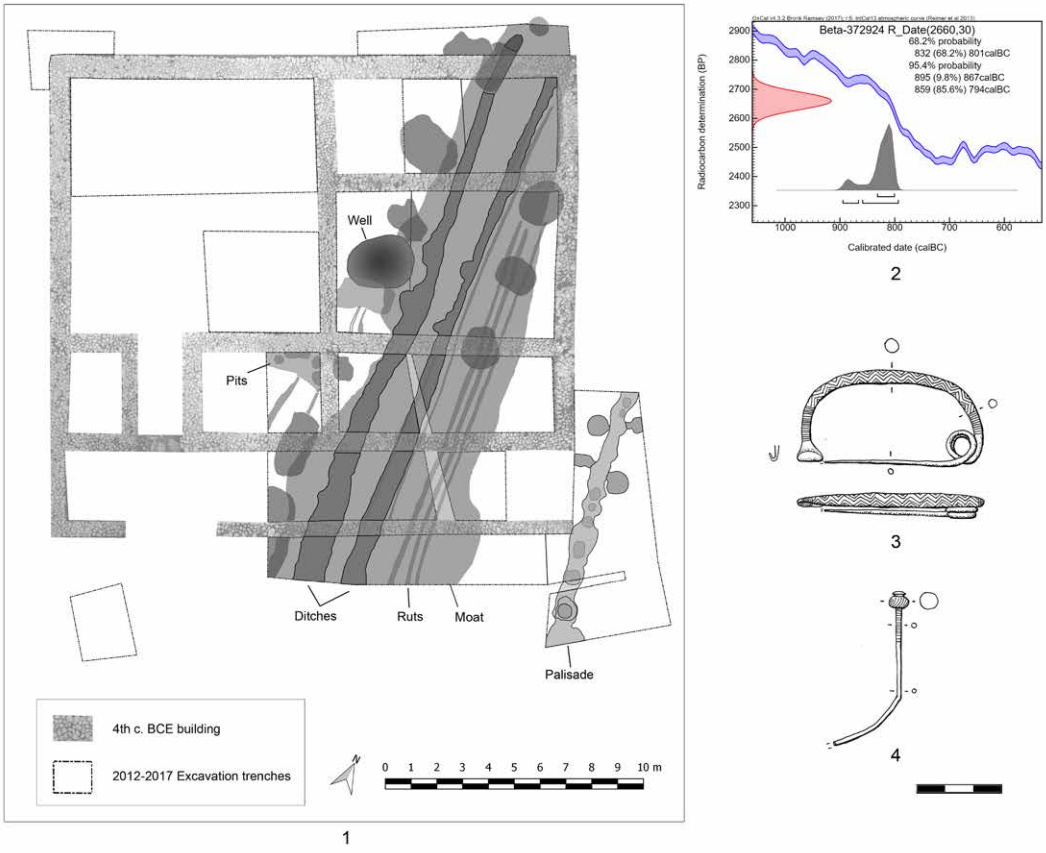

Figure 5.6. 1. Plan of the Early Iron Age fortifications of Pian del Monte, University of Pavia excavations 2012-2017 (elaborated by the authors); 2. Radiocarbon dating of a charred coal sample from the moat filling (dating by Beta Analytic labs, elaborated with Oxcal v. 4.3.2); 3. Early Iron Age bronze artefacts from the moat filling (authors).

only preliminary accounts of rescue excavations are available. Chance finds and preventive archaeology brought to light Final Bronze Age materials from the western hillslopes of Verucchio, in possible connection to a ford of the Marecchia River (Poli and Rodriguez 2017; Zamboni 2017, 385), while a metal hoard of the same period was accidentally discovered in 1869 a few kilometres downstream, in Casalecchio di Villa Verucchio. The hoard was partially lost, but the surviving bronze artefacts, including spearheads, different types of axes, scythes, fibulae, armrings, and semi-finished objects, can be assigned to the 11th century BC and connected to the local Final Bronze Age culture (phase 2) (Bellintani and Stefan 2008; Morico 1997). Analogous metal hoards have been discovered in eastern Romagna, including the sites of Camerano (Poggio Berni) and Monte Titano, primarily dated to the first and middle stages of the Final Bronze Age (von Eles and Pacciarelli 2018). In more general terms, the deposition of metal hoards is a typical phenomenon of the Final Bronze Age period between Central Italy, the Po Valley, and Central Europe, connected to the increasing specialisation and active social role of smelters and smiths (Bellintani and Stefan 2008).

However, few of these sites related to the 'Cetona-Chiusi' culture appear to have endured beyond the end of the 10th century BC, including the hilltop settlements of the Montefeltro region, suggesting a general reorganisation of the whole district towards the end of the Final Bronze Age (Cardarelli 2018; La Pilusa and Zanini 2009; von Eles and Pacciarelli 2018).

P.R., L.Z.

5.5 The rise of Verucchio (9th century BC)

The transition from the Final Bronze Age to the Early Iron Age in northeastern Italy was marked by a major change in the population dynamics, moving towards the formation of larger and more complex agglomerations. In the Po Valley, after the decline of Frattesina-Villamarzana, while an urbanisation process was ongoing both in the Venetian plain (Capuis and Gambacurta 2015; Gambacurta this volume; Rondini and Zamboni 2020) and in the area around the later centre of Bologna (Ortalli this volume; Vanzini 2018), in southern Romagna Verucchio emerged as a new hegemonic place. A societal change was also ongoing,

with a probable passage from kinship and tribal systems to larger communities controlled by elites, with an increasing of hierarchy and inequality (Cardarelli 2018). Allegedly, the primary purpose of the newly-formed Verucchio elites was to take control of the commercial routes between the Po plain, Central Italy, and the Adriatic Sea.

However, our understanding of the early stages of Verucchio, between the end of the Bronze Age and the beginning of the Iron Age, remains somewhat blurry, due to at least two factors. On the one hand, archaeological investigation in previous decades overlooked the settlement area in favour of the rich cemeteries. On the other, the scattered settlement remains have been largely erased by modern building activities, as previously mentioned. Yet recent excavations in the 'Casa Etrusca' area, in the southern part of Pian del Monte, are providing evidence related to drainage, water management, and delimitation structures, dating to the earlier stages of the Iron Age.

L.Z.

5.5.1 The fortifications of Pian del Monte

On the western side of the Monte dei Gigli hilltop, a series of earthen and timber structures north-south orientated have been discovered, including parallel ruts and two water canals dug at the bottom of a moat, with a timber palisade closing the eastern side of the fortification (fig. 5.6.1). The estimated length for this earthwork system is over 70 m north-south, taking into consideration the 1970s excavations (partially documented in the archive data, see Rondini and Zamboni 2020).

The moat is 8 m wide, with a 'U' shaped profile and a maximum preserved depth of more than 1 m and has been cut into the loess-silt bedrock. A series of 4-5 parallel ruts, dug at the bottom of the moat probably with a hoe or plough, were likely necessary for the drainage of the bare soil. Water management was also granted by two parallel canals dug at the centre of the moat (the westernmost is 1 m wide and 50/70 cm deep) (fig. 5.6.1).

The whole perimeter structure is completed to the east by a timber palisade. Following the same north-south orientation, the palisade has been documented over a length of 11 m, but it was certainly longer. Large posts were placed in holes 80 cm in diameter and as deep as 60-70 cm, dug at the bottom of a narrow ditch. Other smaller posts were placed between the large ones, at regular intervals.

Just outside the western limit of the moat-and-palisade system, a series of pits and smaller channels could be interpreted as remains of working and artisanal activity. Amongst the few traces left there are burnt fragments of a kiln, or oven, thrown inside a water well. The well was 80 cm wide and more than 4 m deep, with the internal wooden shaft, square and built with interlocking planks, partially preserved. The well shaft was separated from the bedrock by a filling of pebble stones that collapsed inside the well once it went out of use.

These defensive and productive structures were eventually abandoned and filled with layers of domestic waste towards the end of the 9th century BC (fig. 5.6). A sample of charred coal, coming from a filling layer of the moat has been radiocarbon dated to 2660±30 (2σ 95,4%: 840-795 cal BC; 1σ 68%: 825-800 cal BC)[3]. This chronology is confirmed by the overall typology of metal objects, including a bronze fibula with a slightly enlarged decorated arc (fig. 5.6.3) and a bronze pin with a small globe and top vase (fig. 5.6.4). The locally produced pottery is also consistent with a 9th century BC horizon: the typical Villanovan black polished semi-fine impasto is well attested to, with biconical vases (often used in contemporary funerary ritual as cinerary urns), accompanied by cups and bowls, usually decorated with the geometrical combed and stamped style that shares common elements with Bologna and Central Italy. It is also noteworthy that the number and variety of cups with high handles, either in zoomorphic or anthropomorphic shapes (fig. 5.5.3), show traits continuity with the previous Late Bronze Age production and similarities with contemporary productions in northern Etruria, namely Chiusi and Volterra. A large quantity of sherds belongs, however, to storage and cooking vessels, including *dolia*, *ollae*, lids, plates, and large basins, shapes usually excluded from the funerary ritual, thus suggesting the nearby presence of households not yet discovered.

In more general terms, fortification and delimitation structures have long been recognised as key elements for the understanding of early centralisation processes (Ballmer *et al.* 2018; Fontaine and Helas 2016). Early Iron Age, northeastern Italy has yielded several case-studies of early fortifications, mainly wooden palisades, ditches, moats, and waterfronts (an overview in Rondini and Zamboni 2020), especially regarding the early centralised settlements in Veneto, Este, and Padua (Gambacurta this volume), as well as in Bologna (Ortalli this volume). The discovery of a delimitation structure on the western side of Monte dei Gigli, dating to the 9th century BC, could contribute to the debate on the agglomeration processes that took place in Verucchio.

P.R.

5.5.2 The Early Iron Age settlement

Monte dei Gigli, the southeasternmost high ground on the Verucchio plateau, was inhabited since the late 2nd millennium BC, as suggested by the recent discoveries. The 'Casa della Musica' site (Bartolo 2018; von Eles and Pacciarelli 2018), located on the northern slopes of Monte dei Gigli, a few metres to the northeast of the 'Casa Etrusca' area, provided dwelling traces with storage and waste pits belonging to the Late Bronze Age and Early Iron

3 Beta Analytic Radiocarbon Dating Laboratory, Miami, Florida, calibration with INTCAL13 database.

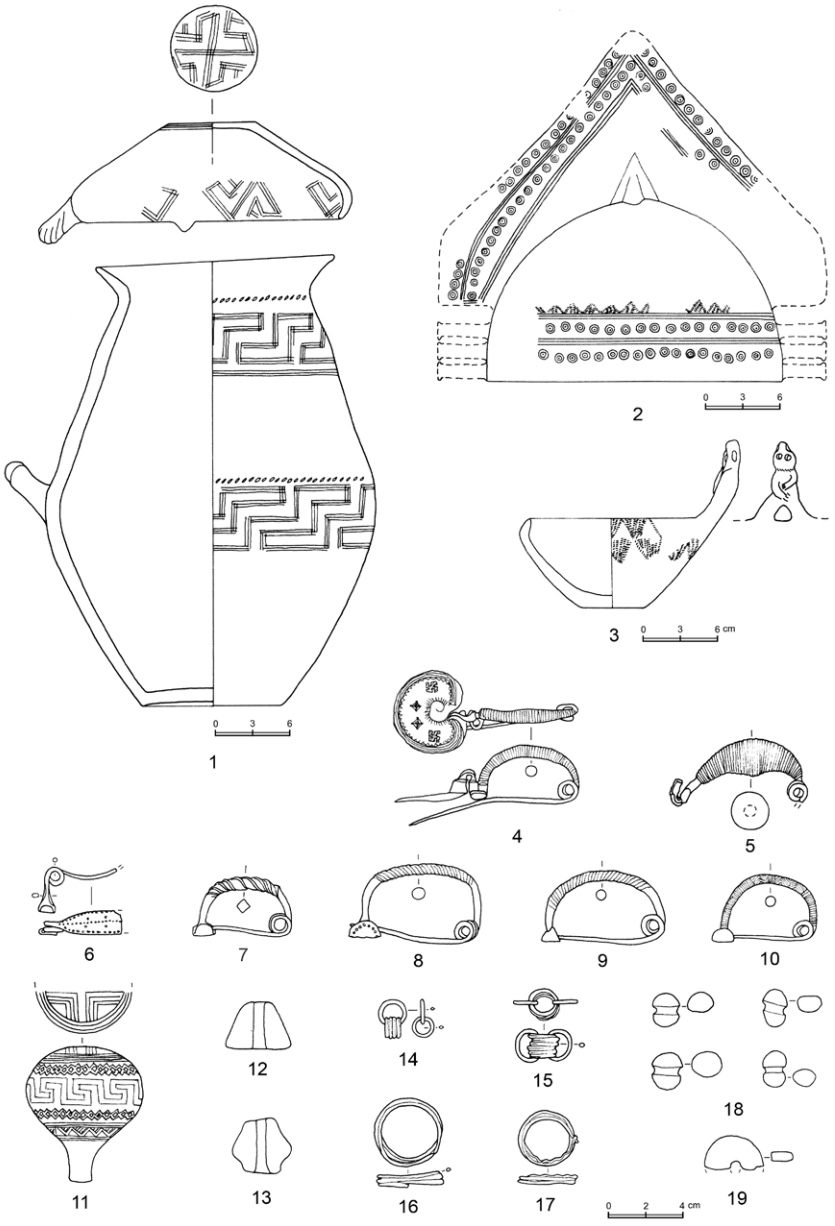

Figure 5.7. Selection of 9th century BC grave goods from the 'Lavatoio – Campo del Tesoro' cemetery (modified after Tamburini-Müller 2006).

Age (11th, 10th, and 9th century BC), although with unclear evidence of continuity between the different phases (von Eles and Pacciarelli 2018). According to this evidence, and considering the fortifications already described, the main 9th century BC settlement should hypothetically be located on the top of the Monte dei Gigli hill (fig. 5.5.1). Although this area is now a private garden, undamaged by modern building activities, unfortunately no archaeological investigation has been conducted there to date.

Further evidence comes from the northeastern slopes of the hill (via Nanni – Aie del Borgo), where a rescue excavation in 2009 brought to light the remains of habitation and artisanal activities, including clay pits, hearths, and ovens dating to the 9th and early 8th centuries BC (Bartolo 2018). Storage pits were also identified in via Nanni ('proprietà Clementi'), a few metres north of the fortifications (Gentili 1988, 89). Furthermore, a series of pottery kilns dating to the Early Iron Age period was discovered in the southern part of Pian del Monte. Apart from an unpublished kiln down the eastern slopes of Monte dei Gigli, the western high ground of Colle dei Cappuccini provided anthropic layers and kilns with products of remarkable quality (fig. 5.5.4). A specialised production of impasto cups, often with high handles and geometric decoration, can be assumed.

At the foot of the Colle dei Cappuccini hill is set the Lavatoio – Campo del Tesoro graveyard, excavated in the 1890s, whose grave goods are mainly dated to the

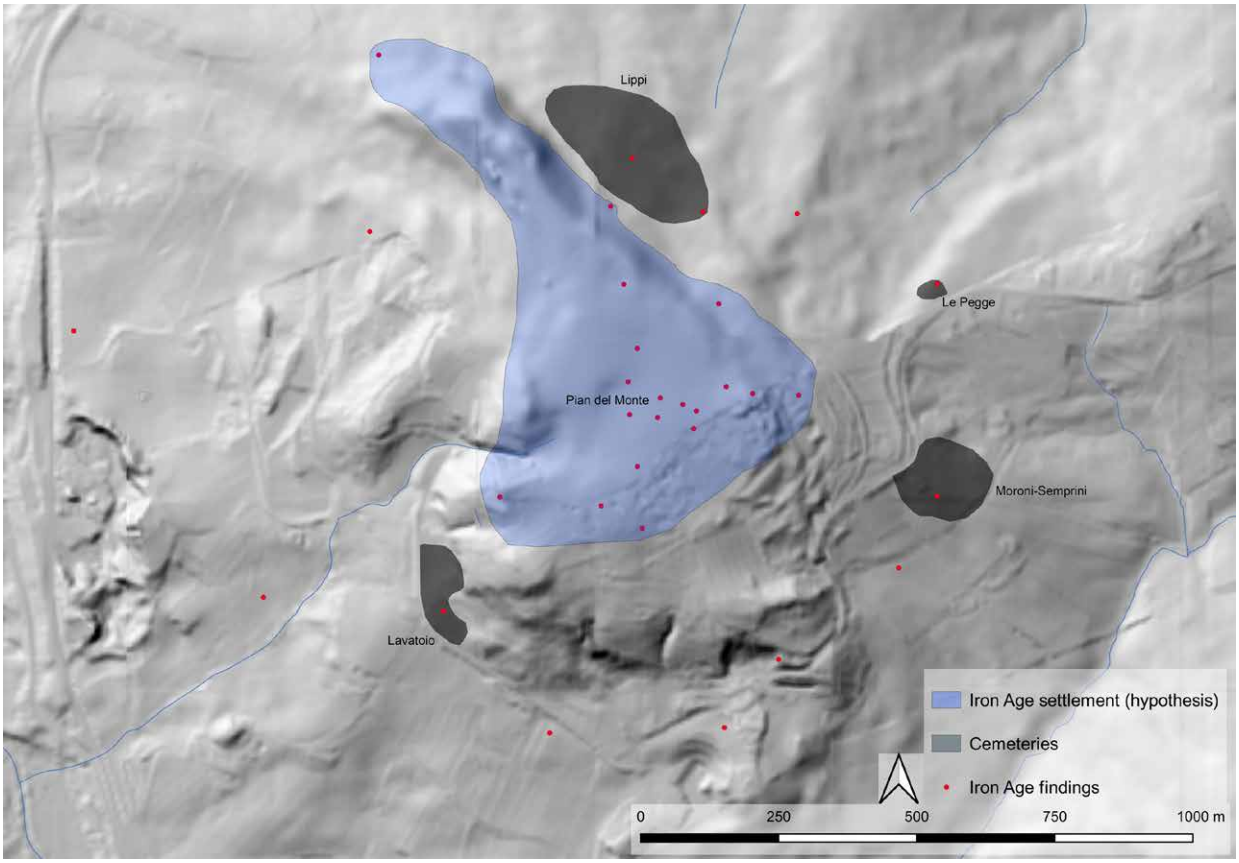

Figure 5.8. Map of Verucchio in the 8th and mid-7th century BC (elaborated by the authors, on GIS-based DTM 5x5).

9th century BC (Tamburini Müller 2006; von Eles 2015, 26). A second cluster of graves belonging to this early period has been recognised in the northernmost Lippi cemetery, at the base of the hill of the Malatesta castle (von Eles 2013). Here a reduced number of grave assemblages suggests the presence of another part of the settlement, although no excavation evidence is available in this sector of the plateau (von Eles and Baldelli 2017, 1459) due to the aforementioned continuity of occupation during medieval and modern times.

The 9th century society (phases I to early II, according to von Eles 2015), as represented through the funerary ritual, is simple and rather heterarchical (fig. 5.7), with grave goods usually comprised of few objects, often a single bronze fibula, without other accompanying pottery for the funerary banquet (Tamburini Müller 2006; von Eles 2015, 26-28). Following a late Bronze Age tradition (Cardarelli 2014), the unique funerary ritual is cremation, with the burnt ashes placed inside an impasto urn, usually a biconical vase (fig. 5.7). The grave structure is a simple ground pit. The introduction of the symbolic dressing of the cinerary urn has been documented – i.e. the typical Early Iron Age rite of wrapping the impasto dolium or biconical urn with garments fastened by fibulae and other bronze ornaments (von Eles 2015; see also Gleba 2014; Ruta Serafini and Gleba 2018).

Some gender distinction is also notable, with some female-type graves containing clay spindle whorls as well as a few amber beads and bronze rings. In this early stage, amber beads mainly belong to female-type grave assemblages, which are statistically dominant in the Verucchio cemeteries (von Eles 2015). Signs of social distinction and warfare are extremely rare in male graves, with the notable exception of a clay (*i.e.* symbolic) Villanovan helmet from the Campo del Tesoro grave 52 (fig. 5.7), imitating a bronze helmet of the 'Tarquinia type' dating to the early 8th century BC (Iaia 2005, 112-114; von Eles and Baldelli 2017).

After a previous episode of habitation in the Late Bronze Age, unclear in its characteristics, an early settlement was established on the Verucchio plateau during the 9th century BC, most likely around the southern high grounds of Monte dei Gigli and Colle dei Cappuccini, with a supposed secondary cluster somewhere near the Lippi cemetery (fig. 5.5.1). The settlement of Monte dei Gigli was enclosed by a moat and palisade fortification, at least on the western side, while its eastern slopes were likely steep and easy to hold. Artisanal and working activities, such as pottery production, woodworking, and other manufactured

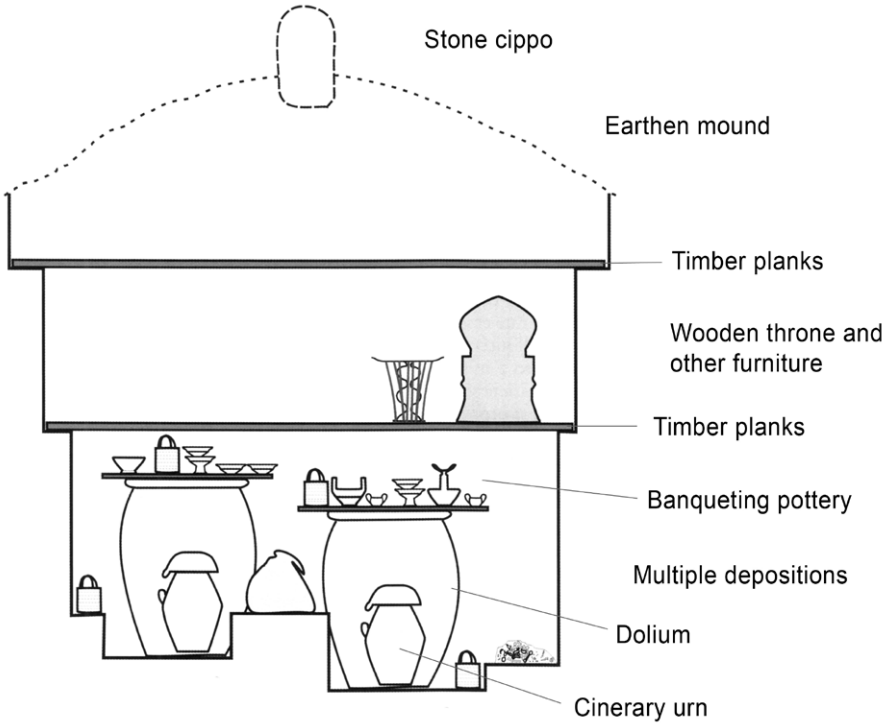

Figure 5.9. Reconstruction of a Verucchio complex grave structure (Lippi 40, 40bis/2006+84/2009 graves, modified after Manzoli *et al.* 2015).

goods, were placed outside the fortified residential area, which was supposedly located on the Monte dei Gigli hilltop. Its main cemetery, the Lavatoio-Campo del Tesoro, was placed on the western hillslope. Considering the Colle dei Cappuccini productive area, the early village of Verucchio could thus have covered an area of about 14 ha.

The first settlement was eventually reorganised after a few generations, most likely between the end of the 9th and the beginning of the 8th century BC, as suggested by the chronology of the fillings of the moat-and-palisade fortification of Monte dei Gigli, in parallel to the early grave assemblages.

P.R., L.Z.

5.6 Verucchio at its zenith (8th – 7th century BC)

After the abandonment of the first nucleation, during the 8th century BC, Verucchio was reshaped into a larger settlement. Preventive excavations and chance findings from the entire area (Poli and Rodriguez 2017) show an increasing occupation over the entirety of the hilltop of Verucchio from the 8th until the mid-7th century BC, covering an area of around 27 ha (fig. 5.8). As already suggested, the desertion and filling of the earthen fortification of the previous village of Monte dei Gigli could testify to an expansion of the site. Yet the scarcity of excavation data from other settlement areas regarding this period severely limits the reconstruction of this supposed centralisation process. Even the exceptional finding of a deposition of bronze shields dating to the late 8th century BC, accidentally discovered in the 1960s at the centre of Pian del Monte (the southern border of the 'Campo Sportivo'), remains of unclear nature (Gentili 1969; von Eles and Baldelli 2017).

The hegemonic site organised and controlled a territory extended along the Marecchia and adjacent valleys, although the precise borders remain uncertain. However, an increase in the occupation of several surrounding Late Bronze Age settlements, including Ripa Calbana, San Giovanni in Galilea, Borghi and Monte Titano has been documented (Bottazzi and Bigi 2008; Naso and Hye 2018). The presence of a harbour, or maritime landing, in Rimini has also been suggested thanks to Early Iron Age materials recovered under the Roman, Medieval, and modern layers (Naso and Hye 2018).

More substantial evidence comes from the funerary landscape of Verucchio during the 8th and mid-7th centuries BC (phases III to V, according to von Eles 2015), when the cemeteries reached their maximum splendour. While the Lippi cemetery increasingly expanded, two new burial grounds were brought into use along the eastern and southeastern hillslopes (Moroni and Le Pegge, see Huteau 2015), with more than 600 hundred excavated graves, belonging to at least 640 individuals. This is by far the most well-known aspect of ancient Verucchio, given the exceptional luxury of many of their grave assemblages. Now the hierarchisation process of the society, as reflected by the mirror of the funerary ritual, is rapidly growing. An elite class of powerful warriors and rich brides was perhaps ruled by high rank individuals, such as the 'prince'

Figure 5.10. 1. The wooden throne of the grave Lippi 89 (modified after von Eles 2004); 2-7 selection of wooden furniture from Verucchio grave assemblages (modified after von Eles 2007; Bentini *et al.* 2018).

of the famous grave Lippi 89, buried with a wooden throne and magnificent grave goods (Gentili 2003; von Eles 2002).

Cremation continues to be the exclusive funerary rite (except for a few, poor inhumation graves that appeared just before the abandonment of Verucchio, von Eles and Baldelli 2017). Yet during the older stage the grave structuring became more complex, with a deep chamber cut into the bedrock, sometimes containing multiple depositions, with timber planks separating upper and lower levels, and a stone undecorated *cippus* as a grave marker (fig. 5.9).

Plenty of weapons, metal horse harnessing and chariot elements, wooden furniture, banqueting vessels, and jewellery give us the vivid image of a highly self-conscious elite class that displayed their power and wealth through the exhibition of kin bonds and aristocratic ideals during funerals (Negrini 2018). Amber and horses in particular seem to have been goods available in large quantities, to almost every member of the upper class of Verucchio, in quantities not comparable to any other contemporary Villanovan centres, such as Veii or Tarquinia (Seubers 2008, 11-12).

Amongst other 'class-specific' activities, warfare seems to have played a crucial role inside the society of Verucchio, since in this phase the percentage of weapons in male-type graves, including shields and helmets (nearly 50 specimens), is remarkably higher than the contemporary funerary assemblages in nearby regions such as Bologna and Veneto (von Eles 2004). Furthermore, the selection of the weaponry items for funerary practices seem to share many similarities with the wider Adriatic region, from the Picenum to the Istrian peninsula (Bentini and Boiardi 2002). In Verucchio a tendency towards conservatism in the panoply of armour has also been noticed and linked to some ceremonial or ritual practices (Negrini 2018).

The role of women in the aristocratic society continued to be of primary importance, since several female-type grave assemblages in Verucchio after the mid-8th century BC display, in addition to ornaments and weaving tools of increasing complexity (Di Fraia 2018), signs of rank and power (Gentili 2003; Iaia 2007; Seubers 2008; von Eles 2012), including bronze axes (Iaia this volume), horse bits, carriages, and wooden thrones. Some of these symbols have been connected with the sacred (von Eles 2004) and the female

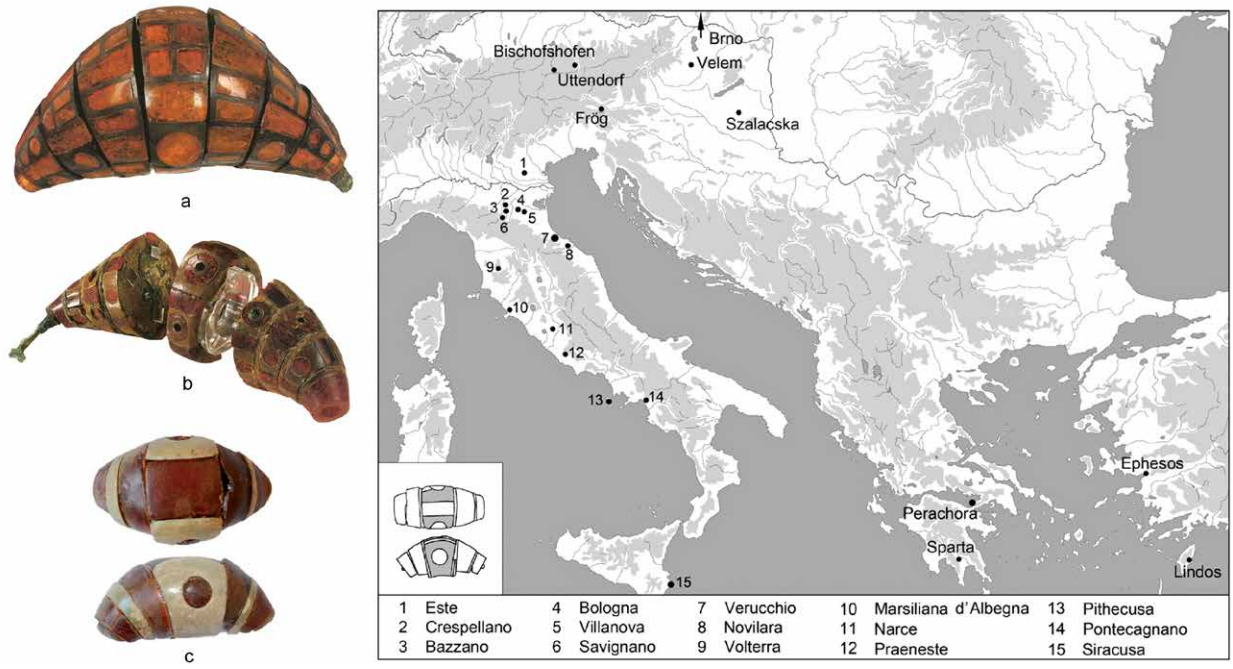

Figure 5.11. Fibulae coated with amber and bone segments from Verucchio (A and B, after von Eles 2007), and from Ephesus (C), with their distribution map (after Naso 2013).

high-status funerary costume shares common elements with the wider circum-Adriatic region (Iaia 2007). Moreover, the richness of many infants' and subadults' graves points to the transmission of hereditary ties and lineage within elite family groups, a phenomenon confirmed by the presence of grave clusters and several graves with multiple depositions (Manzoli *et al.* 2015; von Eles 2013).

Other social classes, such as craftsmen, tradesmen, and commoners are nearly invisible, since the funerary rite remains, during the Iron Age, an exclusive privilege of the elite class, and the burial customs avoid any other forms of social representation. During the final phase (mid-7th century BC), the deposition of sacrificed horses in separate pits appeared (von Eles 2013, 101; von Eles and Baldelli 2017, 1468-69) in parallel to a ritual costume that occurred in Veneto, Bologna, the Eastern-Alpine Hallstatt regions, and the Pannonian Basin (Bortolami 2018; Kmeťová 2018; Zaghetto 2017b).

L.Z.

5.6.1 Wooden thrones

Amongst many luxury items, the wooden thrones from Verucchio are remarkable elements. Sixteen entire or partially preserved wooden thrones have been recognised to date from the cemeteries, plus a clay reproduction in reduced scale from a local private collection (Bentini *et al.* 2018), thus the site has the largest concentration of this perishable furniture in Iron Age Europe. Albeit partially decomposed, their good state of preservation is allowed by the aforementioned waterlogged condition inside the deepest pit graves, cut to a depth of up to 6 m into the bedrock of the Verucchio hillslopes. In some cases of shallow graves, the presence of a deteriorated throne has been suggested by the traces of organic decomposition in the clay layer, or by the presence of wooden fragments or footstools (grave Moroni 24/1969).

All the thrones were discovered in high standard graves belonging to both male and female individuals, including subadults. They were usually separated from the urn, placed together with other wooden furniture in different positions: Above the clay urn, inside a niche of the pit grave, or over a wooden lid in more complex structures (Mazzoli and Pozzi 2015). The banqueting pottery could be placed together with the throne, or below inside the main chamber. Nine thrones are dated to the later phase of Verucchio, between the end of the 8th and the first half of the 7th century BC (Bentini *et al.* 2018; Mazzoli and Pozzi 2015).

The type of throne from Verucchio has a cylindrical base and curved backrest, carved from a single tree trunk (poplar in the case of the Lippi 89 grave), with an average height around 70/80 cm and a diameter of 50 cm (fig. 5.10.1). The best-preserved specimens bear traces of painted and carved decorations, as well as applied bronze studs. Usually the internal part of the upper backrest is ornamented with the so-called 'solar wheels', with other geometric elements and figurative scenes below, in an illustrative style that is similar to the situla art and could derive from a local tradition of elaborate wood carving (Leighton 2005, 365). The human

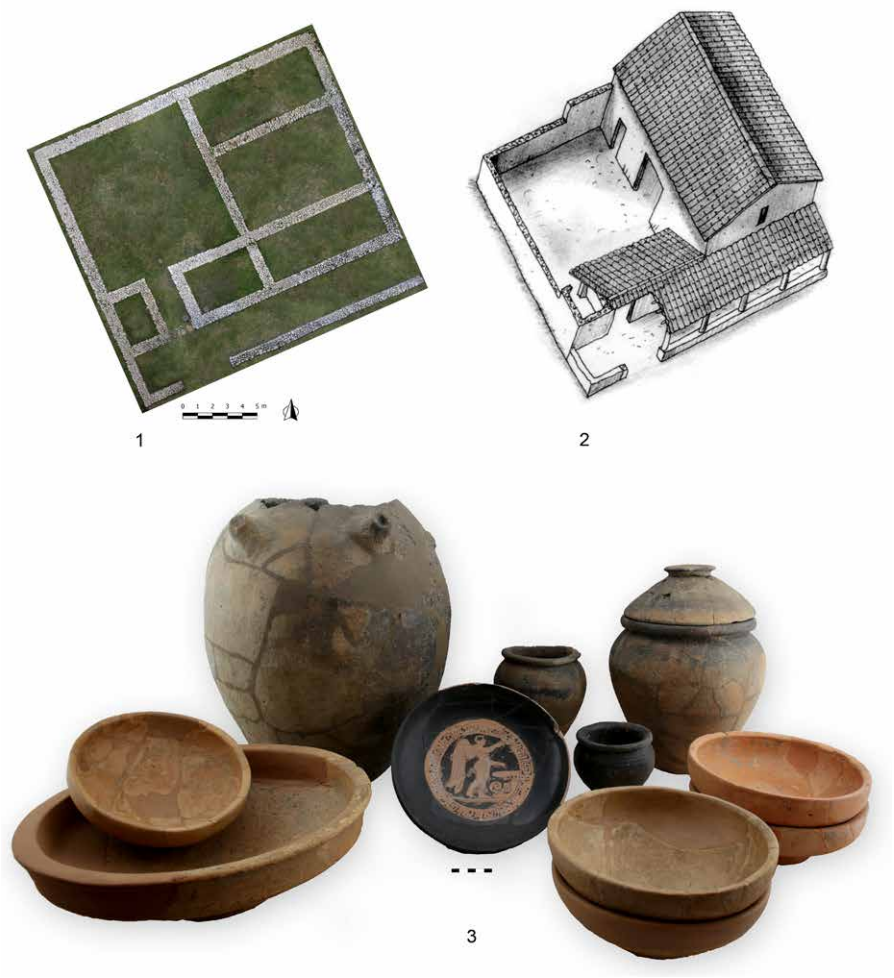

Figure 5.12. 1. Plan of the 'Casa etrusca' masonry building (authors); 2. Hypothetical reconstruction of the 'Casa etrusca' building (modified after Malnati 2008b); 3. Imported and local Late Iron Age pottery from pit "D" of the 'villetta Clementi' area, Pian del Monte (authors).

and animal figures are arranged in complex scenes, including duels and boxing, wedding processions, and household activities, with the iconography having been variously interpreted as a means to unravel the social structure, ceremonial activities, and symbolic beliefs of the Early Iron Age Verucchio (Bentini *et al.* 2018, 179-184; Torelli 2006; Verger 2011; von Eles 2002).

Similar wooden thrones have recently been discovered in Early Iron Age sites north of the Apennines, namely Bologna (via Belle Arti) and Imola Pontesanto (Bentini *et al.* 2018; Esposito 2018; 2019), while several bronze, ceramic, and stone variants are known from elite graves in Etruria and Latium. According to the representations on the situla art (Zaghetto 2017a, 87-89), between the mid-8th and 6th centuries BC these thrones are connected to the exhibition of individual power, prestige, rank, and the performance of ruling social roles and ceremonial activities (Torelli 2006).

L.Z.

5.6.2 Amber trade and the Verucchio connection

During its mature stage, between the 8th to the mid-7th century BC, Verucchio became a crucial node in the trading network between the Mediterranean and the rest of Europe. One of the key elements of its artisanal productions was certainly the Baltic amber. Hundreds of amber beads and artefacts of the finest quality were in fact manufactured in Verucchio. Ornaments such as the fibulae coated with amber and bone segments (fig. 5.11), or types with side borings, reached a wide area of influence including Central Italy, Central Europe, and even the Aegean world as well as the Adriatic corridor (Cellarosi *et al.* 2016; Naso 2013; Negroni Catacchio and Gallo 2018). The highly specialised workshops of Verucchio produced not only fibulae encrusted with amber inlays, but also ornaments such as breast plates, spindles, distaffs, and several types of pendants. From a long-term perspective, Verucchio seems to have inherited some of the trading contacts that were managed by the hub of Frattesina at the end of the Bronze Age, with particular regard to the import and working of

luxury raw materials, mainly the Baltic amber, but also metal, clay (von Eles and Trocchi 2015), ivory, and glass working (Koch 2018), as well as wood, textiles, and bone products, becoming the leading trading hub in the western Adriatic during the early 1st millennium BC.

L.Z.

5.7 Epilogue: Verucchio in the Late Iron Age

Despite these gilded premises, the entire power and trade network of Verucchio went into crisis during the 7th century BC. The rapid abandonment of the cemeteries, coupled with a general scarcity of data from the settlement area, suggests that the centralisation process ended in Verucchio right on the cusp of entering an advanced stage. In fact, all archaeological evidence known to date suggests an abrupt decline of Verucchio towards the middle of the 7th century BC (von Eles and Baldelli 2017). After the decline of Verucchio, around 650 BC, the amber trade suffered a decrease but did not collapse, as the southern region of Picenum inherited the role of the principal centre for amber working on the Adriatic coast (Naso 2013, 260), at least between the second half of the 7th century BC and prior to the foundation of Spina in the late 6th century BC (Mistireki and Zamboni this volume).

Moreover, the entire eastern Romagna population pattern changed after the end of Verucchio. No longer dependent on a single hegemonic centre, several new settlements were founded towards the Apennines foothills and in the low Romagna plain (Miari 2014; Pozzi forthcoming), with a shift in the material culture to that which is traditionally assigned to the Umbrians (von Eles and Baldelli 2017 with further references).

The reason for the decline of Verucchio could be identified in various factors. On the one hand, it is possible to assume a failure of the aristocratic model of the Early Iron Age society, unable to manage the broader changes in the Mediterranean world (Harari 2016; von Eles and Baldelli 2017). On the other hand, a new political setting was ongoing during the 6th century BC, with the foundation of new ports and trading places. Trade routes, especially concerning maritime trade, were completely rearranged with the new Adriatic seaports of Adria and Spina (Bonomi *et al.* this volume; Mistireki and Zamboni this volume). This factor was decisive in the subsequent activation of terrestrial and fluvial trade paths that led northwards through the Po Valley and into the Alpine passes. Within this new framework, it is likely that Verucchio remained isolated, entering into an economic crisis.

Moreover, a traumatic ending of the site could also be assumed, since Verucchio appears to remain almost completely abandoned for more than two centuries, spanning the late 7th to the early 4th century BC. Amongst the few and isolated materials of the 6th and 5th centuries BC, there are bronze artefacts, including statuettes and votive elements, thrown into the filling debris of a water well excavated in the 1960s in the Pian del Monte area ('Campo Sportivo'), possibly connected to an otherwise unknown cultic place (von Eles 2008; von Eles and Baldelli 2017; von Eles *et al.* 1999). Amongst several metal, fragmented artefacts filling in the well, some bronze ornaments dating to the 6th and 5th centuries BC were imported from distant regions, including Lombardy, western Emilia, Veneto, and Picenum (regarding the spoke-wheel pendant see Zamboni 2018, 181-184). Yet the well was filled and closed during the 4th century BC, according to the latest materials and the limited excavation data.

Moreover, it is only at the beginning of the 4th century BC that Verucchio shows some signs of revival. However, this late settlement appears now a minor place, with masonry buildings and a few smaller and secondary structures (Harari *et al.* 2017). The best-preserved evidence is a 4th century BC rectangular house in via Nanni, the so-called 'Casa etrusca' already excavated in the 1970s' (Gentili 1988) (fig. 5.12). The stone foundations of this building are directly superimposed over the 9th century BC fillings of the ditch and channels described above. Previous investigations have provided imported black-glazed, late Attic red-figured, wine and oil *amphorae* and a marble basin (Gentili 1988). More recent excavations documented a series of pits dug below the 4th century BC house floor (Harari *et al.* 2017). One pit was filled with domestic waste (including the severed head of a young dog), and two stone *cippi* were buried in a second pit together with local cooking and fine wares of the 4th century BC. During the 1970s' rescue works, other storage pits containing domestic pottery of the so-called 'etrusco-padana' type (fig. 5.12.3) were discovered a few metres further north (Gentili 1988).

No proper cemeteries of this period are known to date in Verucchio, except for isolated inhumations, without grave goods, from the northeastern slopes of Aie del Borgo (Bartolo 2018). It is assumed that during this later Iron Age period the population moved towards the Adriatic Coast, close to the modern town of Rimini and the seashore (Cristofani 1996; Malnati 2008a). In fact, on the Covignano hilltop several remains of settlements and religious places belonging to the 6th century BC onwards are known from 1960s and more recent investigations (Miari 2014, 223-224; von Eles Masi 1982, 292-328).

P.R., L.Z.

5.8 Final remarks

Recent discoveries support the scenario of an early occupation of Verucchio during the Final Bronze Age, between the 11th and the 10th century BC, as a part of a network of hilltop settlements controlling the main eastern Apennines' valleys and passes. At the beginning of the 1st millennium BC, however, the seat of Verucchio was chosen for the foundation of a new central place, able to inherit the role of main northern Adriatic hub, held by Frattesina during the previous period.

According to the scale settlement aggregation recently proposed by Michael Smith (2019), the late Bronze Age dwelling in Verucchio could be interpreted as an *Initial Aggregation*, while the 9th century BC settlement is likely an *Early Aggregated Settlement*. During this later stage, the end of the defensive structure enclosing the high ground of Monte dei Gigli, towards the end of the 9th century BC, suggests a reorganisation process involving the entire plateau of Verucchio. The site became a more complex and centralised place between the 8th and mid-7th century BC, ruled by a highly hierarchical society, although the archaeological reconstruction of this period is mainly inferred from the funerary record.

However, social and environmental instability, coupled with a shift in the wider political framework, must have led to an abrupt interruption in the centralisation process, causing the 7th century BC crisis and subsequent abandonment. Verucchio thus represents a case of delicate or fragile urbanism (Fernández-Götz and Ralston 2017; Stoddart 2017; see also Fernández-Götz this volume), a phenomenon not isolated to the context of Iron Age Italy, but less visible in respect to other 'successful' settlements with 3,000 years of uninterrupted occupation.

In more general terms, the early chronology of the settlement, if confirmed by further research, would suggest that Verucchio should no longer be considered an outpost, or even a 'colony', founded during the 8th century BC by newcomers from the mainland Etruria, as presumed in previous literature (*e.g.* Guidi 2008, 180; Sassatelli 1996), but rather the result an endogenous aggregation and centralisation process (von Eles 2013; von Eles and Baldelli 2017; Zamboni 2017). On the other hand, the material culture of Verucchio shows several inputs and influences coming from the local Late Bronze Age culture (certain pottery shapes, textile, and woodworking traditions), as well as from Central Italy and Bologna (the Villanovan pottery style in the Early Iron Age, the so-called Orientalising style art during the later 8th and 7th centuries BC phase), but also from Veneto, Slovenia, Picenum, and the circum-Adriatic regions, including the situla art, and the bronze, amber, and jewellery craftsmanship. The outcome is an original mixed culture, with growing complexity and increasing hierarchisation of the social body towards the later stages. The urbanisation process (although nuanced and scarcely visible after the superimposition of Medieval and modern layers) was led by a few powerful family groups, faithfully attached to their traditions and ceremonies, with an emphasis on warfare and competition. The rapid economic growth was based on firm control over natural transit routes, as well as the specialisation of high-level artisanal activities. The ephemeral nature of its short-lived success is still a matter of debate, yet a combination of internal conflict and collapse of the aristocratic society, environmental instability, and external macro-economic and political changes could be envisaged.

P.R., L.Z.

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Appendix. List of Iron Age findings from the territory of Verucchio

The following list includes a selection of sites derived from Poli and Rodriguez 2017:

1. via Serra Ventoso
2. Dogana Ca' Lazzara;
3. Dogana
6. West of Bruciato
7. Bruciato
8. Casalecchio di Verucchio
9. Doccio, Ca' Albini
10. Poderi Moroni e Semprini
11. Le Pegge
12. Pian del Monte – PEEP via de Gasperi
13. Monte dei Gigli
14. Pian del Monte – Casa della Musica
15. Pian del monte – Podere Clementi
16. Pian del Monte – via Nanni
17. Pian del Monte – fondo Pesaresi
18. Pian del Monte – via Coppi
19. Pian del Monte – Campo Sportivo
20. Pian del Monte – 'Capanne A-B-C' and 1960s' well
21. Pian del Monte – Piscina
22. Pian del Monte – Doccio
23. Convento Cappuccini
24. Colle Cappuccini

25 Lavatoio – Campo del Tesoro

26. Ponte Verucchio – Monte Campore
27. Ponte Verucchio – via Budrio
29. Podere la Vigiola
31. Pian del Monte – ex Convento Monache San Benedetto
32. La Fratta
33. Pian del Monte, via Nanni
34. Fondelli

35-36. Lippi

38. Borgo S. Antonio
39. Brardi – Fornace
45. Cella Nera
46. Villa Verucchio – Provinciale Nord
47. Villa Verucchio – Cimitero
54. Villa Verucchio – il Poggio, via Mondaini

55-56. Villa Verucchio via Valle – via Bosca

59. Pian del Monte

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Chapter 6

Archaeology of Early *Felsina*. The Birth of a Villanovan City

Jacopo Ortalli

Since its birth, the centre of Bologna, the ancient Felsina, appears somehow different and independent from the settlements of the Etruria region south of the Apennines. The variability involves the environmental setting, the settlement formation and layout, as well as the material culture. In this regard, the local early Orientalising sculptural production is a key feature, since it flourished in Bologna earlier than in other pre-Roman regions. This pre-eminence seems also consistent with Pliny's definition of Felsina princeps Etruriae, i.e. the 'first' city of all the Etruscan world. Other economic and social differences emerge from the absence of monumental graves for kinship celebrations and from the analysis of the grave assemblages which, while showing a widespread level of wealth and some class distinction, usually do not include 'princely' graves, as known in other societies of central Italy. This paper also highlights the presence of early and massive 'public' buildings, dating back to the mid-8th century BC, a period when the surrounding Villanovan villages were abandoned soon before the foundation of Felsina. The new settlement area was thus delimited by a complex network of streams and artificial canals, along with technologically advanced wooden palisades, suggesting both the presence of a strong administrative authority and the participation of the entire community. Regarding the latter aspect, there is remarkable evidence of public spaces, such as the massive wooden structure discovered in Piazza VIII Agosto, interpreted as a place for ritual and public activities, including recurrent meetings and voting assemblies. This study also explores the possibility that the urban society of Bologna experimented with early forms of collective polities and less hierarchical power structures.

Keywords: Po Valley; Bologna/Felsina; Villanovan culture; Early urbanism; Collective polities.

6.1 *Felsina* and Etruria. Affinity, diversity and originality

6.1.1 Grave assemblages and social structure

For a long time in Etruscology, the 7th century BC has been labelled with different terms when referring to the territories north or south of the Apennines, such as *Villanoviano IV* for Bologna, and *Orientalizzante* (Orientalising) for the Etruscan-Tyrrhenian area, implying that there were incongruities between the two areas (see Dore 2005; Locatelli and Malnati 2012 for the chronology of Villanovan Bologna). Once ascertained that a substantial cultural background, traditionally labelled as 'Etruscan', is shared between the societies north and

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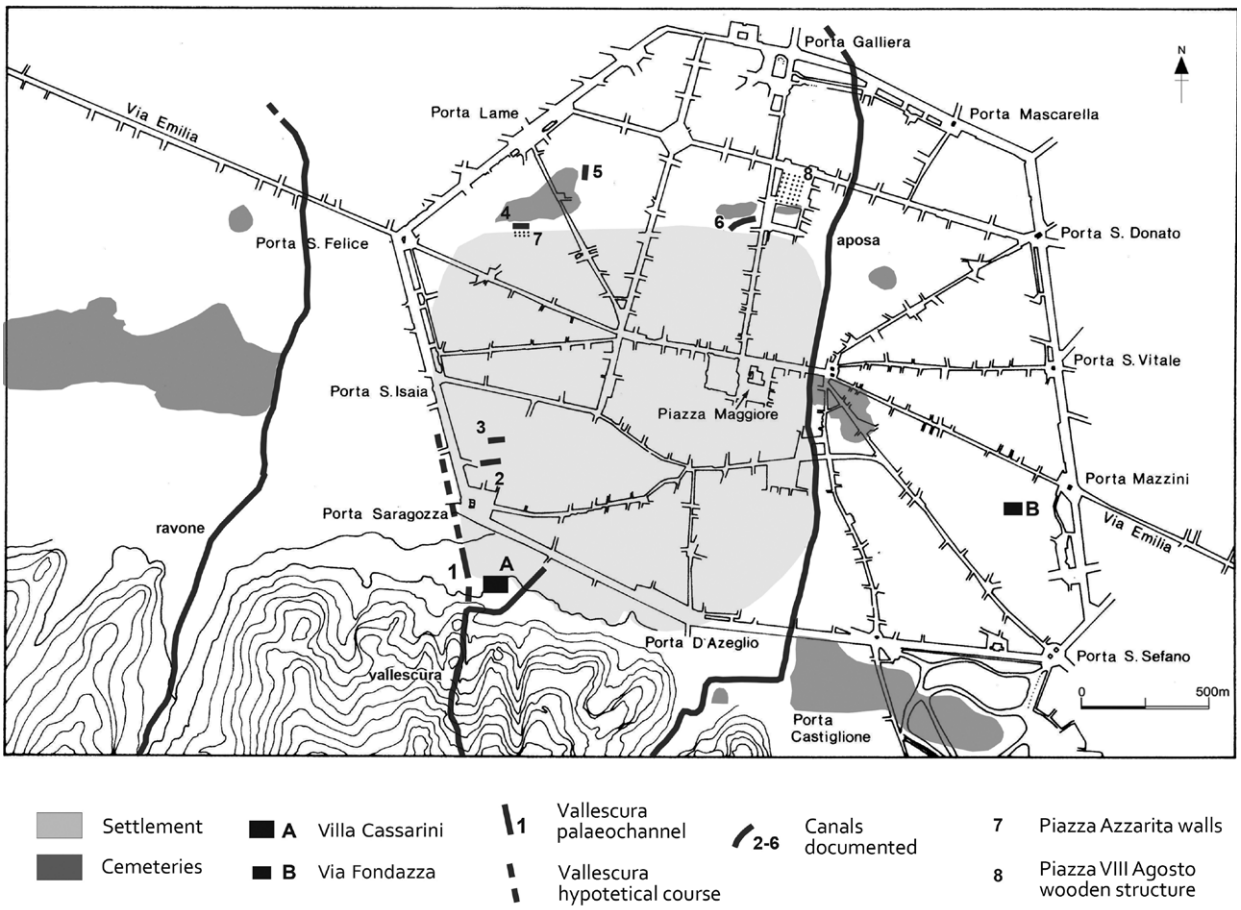

Figure 6.1. Plan of the Villanovan settlement of Bologna/*Felsina*.

south of the Apennines, it must however be recognised that significant differences remain, and that the Bolognese region, among other things, looks much more conservative regarding some of Early Iron Age traits. Moreover, the two cultural environments appear divergent in numerous aspects, whether in daily life practice or regarding monumental structures. Among the first, for example, we shall highlight pottery assemblages: in Emilia, in fact, there is little evidence of *bucchero*, not to be confused with the local polished black impasto (Malnati 2010, 212-213; Sassatelli 2008, 88 and note 41), and the Greek and oriental pottery, which is widespread in Central Italy, is scarce north of the Apennines. On the other hand, Bologna was a centre of production of characteristic shapes and decorative traditions, such as the splendid *a diaframma* vases and the refined *stampiglia* decorations, which are high-level products distinctive of a local artisan culture (Dore and Marchesi 2005a, 203-204; 2005b, 225-228; Morigi Govi and Marchesi 2000, 331-332; Neri 2007, 108-109).

Even more elaborate, and therefore significant, are the embossed bronzes of the so-called 'Situla Art', testified to in Bologna by the exceptional Certosa situla, amongst others, with production spreading between the 7th and 6th centuries BC between the Felsinean, Venetic, and Danubian areas (Dore and Marchesi 2005b, 229-230; Mansuelli 1961).

Equally evident is the difference between *Felsina* and Tyrrhenian Etruria with regards to the quality and quantity of orientalising objects in the funerary assemblages from the end of the 8th into the 7th century BC, when the social and economic leading model south of the Apennines was that of high-rank families and preeminent figures, the so-called *principes* (Bartoloni 2012, 112; Cerchiai 2012, 127; Menichetti 2000, 214; Naso 2000, 111; Torelli 1981, 58, 69, 76). The prince's taste for funerary splendour implied by the deposition and ostentation inside the grave of precious, luxury, extravagant, and exotic artefacts (paraphrasing Torelli 1986, 38-39). As already noticed several decades ago by Guido Achille Mansuelli (1970, 23), the grave assemblages from Early Iron Age Bologna suggest instead "the economic emergency of larger social groups, not confined to few powerful families", showing significant differences compared to the "economic-political dominance of an oligarchy" characteristic of the Etruria. The same concept was later reaffirmed by other

scholars, including Cristiana Morigi Govi, who wrote that in the Orientalising period of Bologna the formation of a ruling class did not follow the same path seen in Etruria, that is the wealth and accumulation of power in the hands of a few aristocrats (Dore and Marchesi 2005b, 228; Morigi Govi and Marchesi 2000, 330; Sassatelli 2004, 263)

Although a sort of social stratification is visible in the grave assemblages of Bologna dating to the mid-8th century BC (Locatelli and Malnati 2012; Malnati and Manfredi 1991, 80; Ortalli 2012, 279; Sassatelli 2005, 149), the grave goods are not remotely comparable in preciousness and refinement to those belonging to the Etruscan-Tyrrhenian *principes* (see Delpino and Bartoloni 2000, 221-229). With the exception of rare items, *Felsina*'s finest orientalising materials are usually limited to few bronzes, such as tableware, weapons, and objects related to horse possession for men, or splendid personal ornaments and tools for spinning and weaving for women (Locatelli and Malnati 2012, 335; Morigi Govi and Dore 2005a, 174-175; 2005b, 182-186; Morigi Govi and Marchesi 2000, 330).

Also in Bologna and its territory there is a marked absence of high-rank family, monumental graves, which are contrastingly very common south of the Apennines beginning in the early 7th century BC and serve as an affirmation of *principes* kinship: majestic burial mounds as well as chambered graves used for generations by the same family to enhance their mythical progenitor (Bartoloni 2000, 170-171; Cerchiai 2012, 128-131; Colonna 1986, 396-399, 426; Prayon 2000, 337; Sassatelli 2005, 150; Torelli 1986, 38-40). In Emilia, on the other hand, this kind of monumental funerary architecture is not attested, and there are only a few individual mounds of reduced scale known (Kruta Poppi 1977; Morigi Govi and Marchesi 2000, 329; Ortalli 2011b; Sassatelli 1988, 206).

This significant absence probably depends on the nuanced importance attributed in Bologna to the concept of *gens* and the worship of shared ancestors. What is more visible in *Felsina* is a tendency to gather groups of tombs belonging to the same family at the same location, sharing homogeneous traits and uniform levels of wealth (Malnati *et al.* 2010, 416-417), but without any external sign of power, thus suggesting more affective and personal agency motivations rather than the exhibition of status and rank. In other words, we can affirm that an aristocratic social structure is rarely visible in Bologna, although a few exceptions have been noted, such as a grouping of graves clustered around a warrior burial adjacent to a rich female tomb (Morigi Govi and Marchesi 2000, 330). On the other hand, the hypothesis of identifying several burial mounds for larger family groups in the Bolognese orientalising cemeteries appears less convincing (Locatelli and Malnati 2012, 323). Family plots, again without monumental signs, have been documented in Bologna but only in the Certosa period dating from the late 6th century BC onwards (Govi 2009, 27-33).

6.1.2 Stone sculpture

While grave assemblages and social structures alone can highlight the autonomy and diversity of Bologna with respect to mainland Etruria, further evidence could strengthen this scenario. The orientalising sculpture in sandstone, formerly known as "protofelsinea", has been affirmed in Bologna and the surrounding area, primarily starting during the last quarter of the 8th into the mid-6th century BC (Marchesi 2011; Meller Padovani 1977). This artistic tradition represents an original and characteristic expression of local figurativism, preceding by decades the spread of stone sculpture in Etruria. The precocity, complexity of these Po Valley monuments, and the scarcity of comparisons in the contemporary Etruscan-Tyrrhenian regions, are undoubtedly exceptional characteristics (Marchesi 2011, 219; Morigi Govi and Marchesi 2000, 336; Sassatelli 1988, 206-207).

The majority of sculptures were used as gravestones for individual tombs belonging to wealthy or meaningful social members. In the first stage, the anthropomorphic disc stelae were ornated with reliefs taken from the Villanovan repertoire (fig. 6.2.1), often mixed with astral symbols belonging to the protohistoric tradition of continental Europe (Ortalli 2011a, 161-162), and the oriental motives were introduced only in a later stage.

The oldest funerary monuments (late 8th century BC) with anthropomorphic figures primarily represented warriors, who belonged to the highest social class within the Villanovan culture (Bartoloni 2012, 99, 103-104; Cardarelli 2011, 253-254; Menichetti 2000, 215; Pacciarelli 2001 267-276). The highly ranked warriors, having created a solid political-military power beginning in the Early Iron Age, were able to contribute to the birth of proto-urban centres, as attested to, for example, in Tarquinia (Pacciarelli 2016). At that time, the most conspicuous ideological representativeness was in fact linked to war, during a period when the settlements became more stable, and hostility and internal and external warfare became more frequent. In particular, conflicts were quite often between neighbouring populations because the region was flat and free of natural, protective barriers (Cherici 2008, 220; Sassatelli 2005, 142-143; Torelli 1986, 34-35).

The first representations of armed men in the Bologna area from the stone Benacci and Idice stelae (fig. 6.2.1), are unknown in the artistic environment of the southern Apennines Etruria, where the warriors appeared only in small clay plastic or symbolised by the deposition of elements of armour as grave goods (Marchesi 2011, 202, 211; Morigi Govi and Marchesi 2000, 329; Sassatelli 2005, 150). Once again, anticipatory nature of the *Felsina* region compared to the central Italian is notable.

Regarding warfare, iconographic evidence, including the parades of warriors on bronze *situlae*, allows for the identification of further traits illustrating independence

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Figure 6.2. 1 Orientalising stelae disc with a warrior, from Idice; 2 Altar/*horos* of Via Fondazza.

within the Po Valley orientalising society. In fact, north of the Apennines several innovations were experimented with regarding military organisation, including a specialisation of certain weapons and armaments adaptable to different formations and combat styles. The early adoption of a more flexible maniple-type formation, characterised by the use of elongated shields, has been already suggested (Cherici 2008), thus preceding Central Italy, where a more rigid in-line hoplite formation with round shields persisted until the 6th century BC. If confirmed, this innovation could be a further clue to the autonomy and dynamism of the Iron Age Po Valley, in a sphere, warfare, which also implies and promotes political formations and social values.

In addition to the typical grave and long-lasting stelae, a series of larger monuments of probable public value are also attested in Bologna. These monuments are not only extraordinary in terms of shape and figurative quality, but also for their large dimension, which could reach 2 m in height. The Zannoni and via Tofane stelae, the Gozzadini head, and the Malvasia Tortorelli stone (known as "dei Vitelli"), are dated to the first decades of the 7th century BC (Marchesi 2011, 194, 220). The two Polisportivo stelae and, especially, the outstanding pair of altars/*horoi* discovered in via Fondazza, which are unparalleled throughout Etruria and of undoubted sacredness, are dated to the last thirty years of the 7th century BC (Neri 2018; Ortalli 1998; 2016, 18-22; Ortalli and Bermond Montanari 1986) (fig. 6.1B and 6.2.2).

Although the ritual interpretation of the two cylindrical monoliths of via Fondazza (already suggested in Ortalli 2016) has been questioned by some authors (Sassatelli 2015, 407-409), their use as altars has been demonstrated by recent archaeometric analysis (Baraldi *et al.* 2018, 98, 102-103). These investigations have highlighted residues of red paint on the sides and above the two monuments, a result that excludes their function as bases to support some artefacts. In addition, there were traces of coal and limestone concretions on the upper level, due to the flow of non-rainwater (Baraldi *et al.* 2018). Together with the signs of friction wear on the top (fig. 6.2.2), these data suggest that the two monuments were actually altars, used for ritual actions that involved lighting fires, probably the burning of sacrificial offerings, and their extinguishment with water sprays.

As already demonstrated by G. Colonna (Colonna and von Hase 1984), these high-quality monuments were locally made by foreign craftsmen who arrived in Italy from the Near East. However, less convincing is the idea that these artisans first reached Tyrrhenian Etruria and then moved north of the Apennines. If we consider the early chronology and advanced cultural environment of the Po Valley, it is thus possible to reverse the arrow, and suggest that the supposed oriental sculptors had first landed on the Adriatic coast, worked in *Felsina*, and only later moved to Etruria (see also Marchesi 2011, 191-194, 219-220).

6.1.3 Bologna and Verucchio

The material and cultural environment of Bologna is not only different from central Italy and Etruria, but also from other relevant centres in northern Italy, in particular Verucchio. This other preeminent Villanovan site in eastern Romagna (Harari *et al.* 2017; Rondini and Zamboni this volume; von Eles 2002; 2007; Zamboni 2017) has sometimes been compared to Bologna (Sassatelli 1996). Yet, unlike Bologna, Verucchio shows several analogies in the process of poleogenesis with the regions south of the Apennines, following the traditional model of the Etruscan urban development derived from previous Late Bronze Age settlements (Harari *et al.* 2017, 31, 39-40;

Zamboni 2017, 383-385). First of all, the topographical location must be highlighted: while Verucchio stands upon a high cliff controlling the Rimini hinterland between the Adriatic landing and the Marecchia Valley, it appears more a place of control for commercial traffic; *Felsina* was instead located at the mouth of a vast and fertile plain, managing thriving agricultural resources (Morigi Govi and Marchesi 2000, 335).

The scale of the site and population estimates also point to some differences between the two sites. If the maximum extension of Verucchio is calculated to be around 27 ha (see Rondini and Zamboni this volume), the Villanovan *Felsina* reached at least 175 ha (see below). From a demographic point of view, the overall number of Villanovan tombs is also significant: we know from Verucchio more than 600 singles graves, while in *Felsina*, some tranches in the Early Iron Age cemeteries of San Vitale and of Fiera yielded c. 800 and 1310 graves respectively (Bietti Sestieri 2010, 213; Buoite *et al.* 2017, 19; Malnati *et al.* 2010, 388, 416-417; Vanzini 2018, 23).

Moreover, the main difference lies in the social bodies. In Verucchio the community was structured following a strong hierarchical model, as inferred by the number and quality of orientalising burials equipped with sumptuous furnishings worthy of *principes*, very similar to the Etruscan-Tyrrhenian case, which conversely are nearly invisible in Bologna (Morigi Govi 2000; Morigi Govi and Marchesi 2000, 29). All the weapons buried in high-rank Verucchio graves are extremely rare in Bologna, despite the many depictions of warriors described above. A possible explanation for the lack of weapons in Bologna, as already proposed by Cherici (2008, 223), is that warfare was not an exclusive marker of aristocracy, but rather an element of civic representation and inclusion.

6.1.4 Felsina princeps Etruriae and the Zilath of Rubiera

The possibility that *Felsina* was not only an independent city, but even anticipated many of the institutions widespread in the Etruscan regions south of the Apennines, could be seen as supported by written evidence. As already noted by Colonna (1999, 289-292), Pliny's statement *Bononia, Felsina vocitata tum cum princeps Etruriae esset* (*Natural History* III, 15, 115) does not allude to the fact that the city was the capital of Padanian Etruria, but instead that Bologna held a chronological and genealogical primacy in respect to the entire Etruscan community, both north and south of the Apennine watershed. The same author also argues that such a scenario could be confirmed by the extraordinary Bolognese orientalising sculpture, such as the aforementioned large stelae and the *cippi*-altars of Via Fondazza (Colonna 1999).

According to this framework, the early presence of a *zilath* inscribed on a stone funerary *cippus* near Rubiera (province of Reggio Emilia, some 50 km northwest of Bologna) should not be surprising. The Rubiera inscription has been dated to around 600 BC, thus pre-empting by about one hundred years the emergence of the *zilath* authority in Etruria (Amman 2008; Maggiani 1996, 101; Marchesi 2011, 145-149; Sassatelli 2014; Tagliamonte 2017, 133; Zamboni 2012, 26). Being the apex of the city administration and the highest elective judiciary, the *zilath* would thus indicate a more "republican", rather than a monarchical, order. However, this circumstance has generally been rejected for its supposed historical anachronism, in a period (the late 7th century BC) for which it is commonly believed that only monarchic or oligarchic regimes existed, when no space was left for high, temporary offices assigned by voting.

Moreover, the traditional view in Etruscology acratically refuses the possibility that early, autonomous and multi-faceted socio-cultural innovations could have been introduced and elaborated anywhere but in the Tyrrhenian Etruria (Sassatelli 2010, 29; 2015, 413), and even less so in a supposed peripheral region such as the Po Valley. This old-fashioned prejudice (Cherici 2008, 222-223) led to the underestimation of the *zilath* from Rubiera as a supreme military commander. The equation of *zilath* with a military chief must instead be carefully revaluated and more likely rejected: not only because there are no comparisons in the Etruscan world, but also because the assignment of such a prestigious role would have been incompatible with a minor centre like *Misa* or *Misala* (the otherwise unknown place name in the Rubiera inscription). Ultimately, I believe that the term *zilath* should be better contextualised within the Po Valley cultural environment, and would have referred to the main civic elective judiciary, thus suggesting a type of "republican" order.

6.2 Villanovan infrastructures

6.2.1 Canals

Various infrastructure elements have been excavated and documented in Villanovan *Felsina*, designed to improve living conditions (Ortalli 2012, 272). One of the more urgent needs was most likely the control of surface water, which affected the local environment (Bentini 2005, 198; Bentini and Taglioni 2005, 188-190). Firstly, extensive works were carried out on the Vallescura stream, already active in the Bronze Age and located on the southwestern edge of the city. In the hills of Villa Cassarini, the original northward river course has been identified, with a large basin full of debris deposits, accumulated over time, that in the 8th century BC were partially excavated to reactivate and regulate the water flow (Ortalli 2002, 149-150) (fig. 6.1.1 and 6.3). This layout lasted until the 6th century BC, when during the reorganisation of the city, and the monumentalisation of

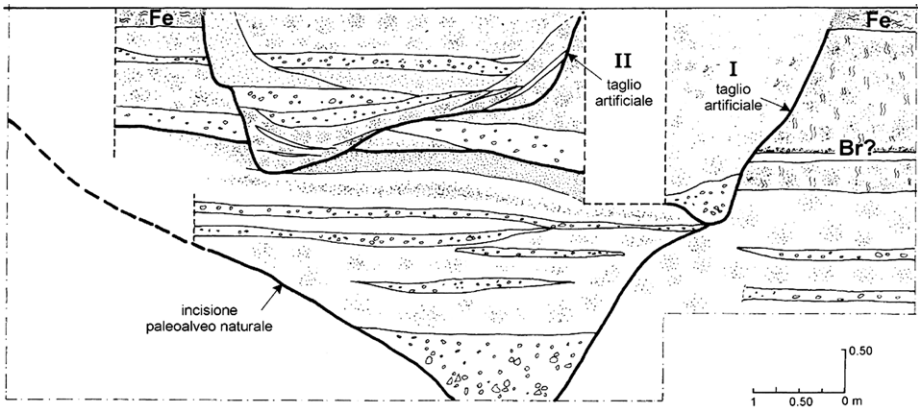

Figure 6.3. Villa Cassarini, section of the Vallescura palaeochannel.

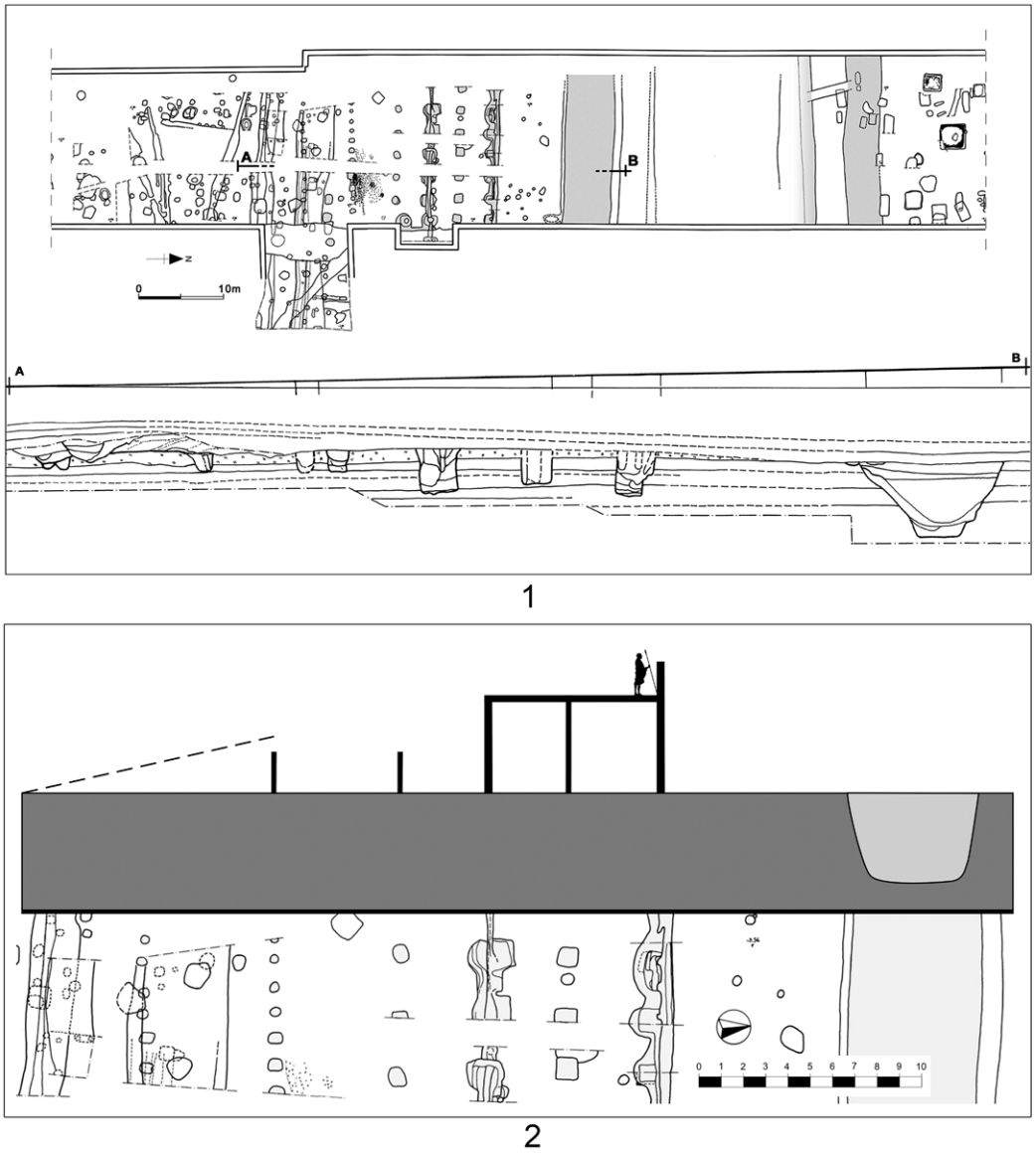

Figure 6.4. 1 Piazza Azzarita excavations, plan and north-south section; 2 Piazza Azzarita, reconstruction of the defensive system.

the early sanctuary (see below), the ancient course was diverted to the east and a new artisan area with kilns was established.

About 300 m further north, along Via Frassinago, two other parallel canals, orientated east-west, have been discovered (fig. 6.1.2-3). The southern one, the better known of the two, was about 10 m wide and dates to the 8th century BC. Both the large canals were draining the waters to the west, towards the edge of the Villanovan settlement, in connection with the former Vallescura River (Cremonini 2002, 119-121; Negrelli 2002, 17-21; Ortalli 2002, 143-145). Other canals were placed on the northern edge of the city, including just outside the defensive wall of Piazza Azzarita (fig. 6.1.4 and 6.4, see below). In Piazza Azzarita three parallel ditches were excavated close to the wooden front of the structure, including about 20 m of empty space.

All the described ditches and canals, together with other examples discovered in the Villanovan levels of via Azzo Gardino and the Arena del Sole (fig. 6.1.5-6), were part of larger drainage works for land remediation and soil stabilisation. Considering the amount of work required to excavate the defensive moats of Piazza Azzarita, and the artificial excavation of the Vallescura basin, which probably constituted the western urban boundary (see *infra*), careful planning as well as an enormous amount of labour commitment and organisation were necessary.

6.2.2 Fortifications

Even more impressing are the Villanovan wooden walls discovered in Piazza Azzarita (Ortalli 2008, 496) (fig. 6.1.7, 6.4 and 6.5.1). This fortification was erected on the bare soil, enclosing the northern urban border, thus separating a northern cemetery from the edge of the town of *Felsina* to the south, where for about 50 m there were only working activities, including sheds, kilns, water wells, and pits containing *dolia* and other food storage furniture. Outside the walls, the cemetery remained in use from the second half of the 8th century (Locatelli and Malnati 2012, 323, 327; Ortalli 2008, 497-498).

The fortification was composed by a robust wooden structure closed on the front by three ditches (although not all active at the same time). The main structure consisted of three parallel rows of large posts of round or quadrangular sections, and approximately measuring 20 to 45 cm wide. This alignment created a double walkable tunnel about 8 m wide, closed on the front by a wall and covered with a wooden planking, presumably used as raised floor with parapet. On the back of the gallery two rows of poles delimited a walkway with a low embankment behind.

At the corner of an internal tower, perhaps connected to a door, an impasto crater with multiple handles was probably buried during a foundation ritual at the bottom of a large posthole. The pot is typical of the Villanovan II and III periods (Pincelli and Morigi Govi 1975, 153, 289; Pini 1994, 88), confirming for the massive walls' foundation dated to around the mid-8th century BC.

The walls of Piazza Azzarita were repeatedly renovated over time. There was a significant intervention during the 7th century BC, when an embankment was juxtaposed behind the wooden gallery which, overhanging the original internal walkway, brought the fortification to its maximum extension of almost 80 m, for an estimated height of more than 6 m.

Given the scarcity of building stones in the area, the builders used perishable materials like timber and clay, widely available in the surroundings. The design and the technical skills employed were of exceptional quality, as demonstrated by the complex structure of the defensive buildings, including the covered tunnel and walkways. We can assume that this Felsinian structure was made possible thanks to the long-term expertise and knowledge of the Po Valley populations, already formed in the Bronze Age *Terramare* culture (Pearce this volume), both regarding woodworking and water management (Bernabò Brea *et al.* 1997, 187, 250, 257, 263). At the same time, the Piazza Azzarita monument recalls other Mediterranean proficiency in wall construction, such as the Mycenaean walls with internal gallery of Tiryns (Martin 1980, 26-30).

The walls enclosed not only the town's northern front, but its entire perimeter, adapting to the different morphology of the soil. To the other sides, a natural protection was offered by the Apennine foothills and by the Aposa and Vallescura streams, likely integrated by simpler structures: recent excavations near the Aposa course have documented a linear fortification consisting of a moat and palisade along its left bank.

Overall, the fortifications of Piazza Azzarita are of remarkable antiquity, dating back to the mid-8th century BC, thus one of the earlier defensive structures in the Etruscan world, in close parallel with the other 8th century BC fortifications in Veio, Vulci, and Rome (Paoletti and Bettini 2008), which, however, appear less complex and structured. It is assumed that only a community with a strong sense of cooperation and a strong government authority, with firm decision-making power, could realise such a project, which would have required a broad strategic vision, considerable technical knowledge, huge financial resources, and organisational skills.

6.2.3 The large public building in Piazza VIII Agosto

Another Villanovan wooden complex was discovered in the 1 ha preventive excavation of Piazza VIII Agosto, just outside the northeastern boundary of *Felsina* (fig. 6.1.8) (Ortalli 2013; Ortalli 2016, 26-31; Ortalli 2018). On semi-sterile soil, a wooden structure over 120 m long, which has been only partially documented, extended for about 6000

1

2

Figure 6.5. 1. Piazza Azzarita, section of the defensive structure; 2. Piazza VIII Agosto, rows of large posts, and other cut features.

m². Traces remained of hundreds of posts arranged in regular and parallel rows (fig. 6.5.2). These wooden posts, placed in foundation pits, more than a metre deep and ridged with clay, were square or rectangular with a flat cut end. Their average width was between 30 and 60 cm.

This huge structure was composed of two different blocks (Ortalli 2013, 17-22). The larger one, longitudinal, was made up of at least three rows of post, and was probably covered by walkable wooden planks (Ortalli 2013, 21). The second northern block, connected to the other, had an oblique development. The rows of posts found in the largest block formed paths about 10 m wide on two levels: the lower one with uncovered tracks alternating with three-aisled porticoes; the upper one, above the porticoes, with raised passages. The regularity and symmetry of the architecture suggest the existence of a fourth row of posts, and thus we can calculate for the entire building a dimension of about 70x140 m, with a rectangular shape, and closed to the north with an angular structure (fig. 6.6.Aa).

Just outside the two blocks, near a probable passage leading to an empty terrain flanked by the Aposa stream, there was a 4x13 m wooden building, orientated east-west. This minor structure has been interpreted as a secondary space with walls supported by a series of posts. The internal space was bipartite, and a probable portico marked the northern entrance. Unfortunately, there were no significant artefacts in association.

Equally rare were materials from all the surrounding area. However, thanks to a few objects, the overall use of the large wooden building has been dated to between the mid-8th and the first decades of the 7th century BC. The scarcity of pottery sherds is itself interesting because it suggests only the occasional use of this structure, a

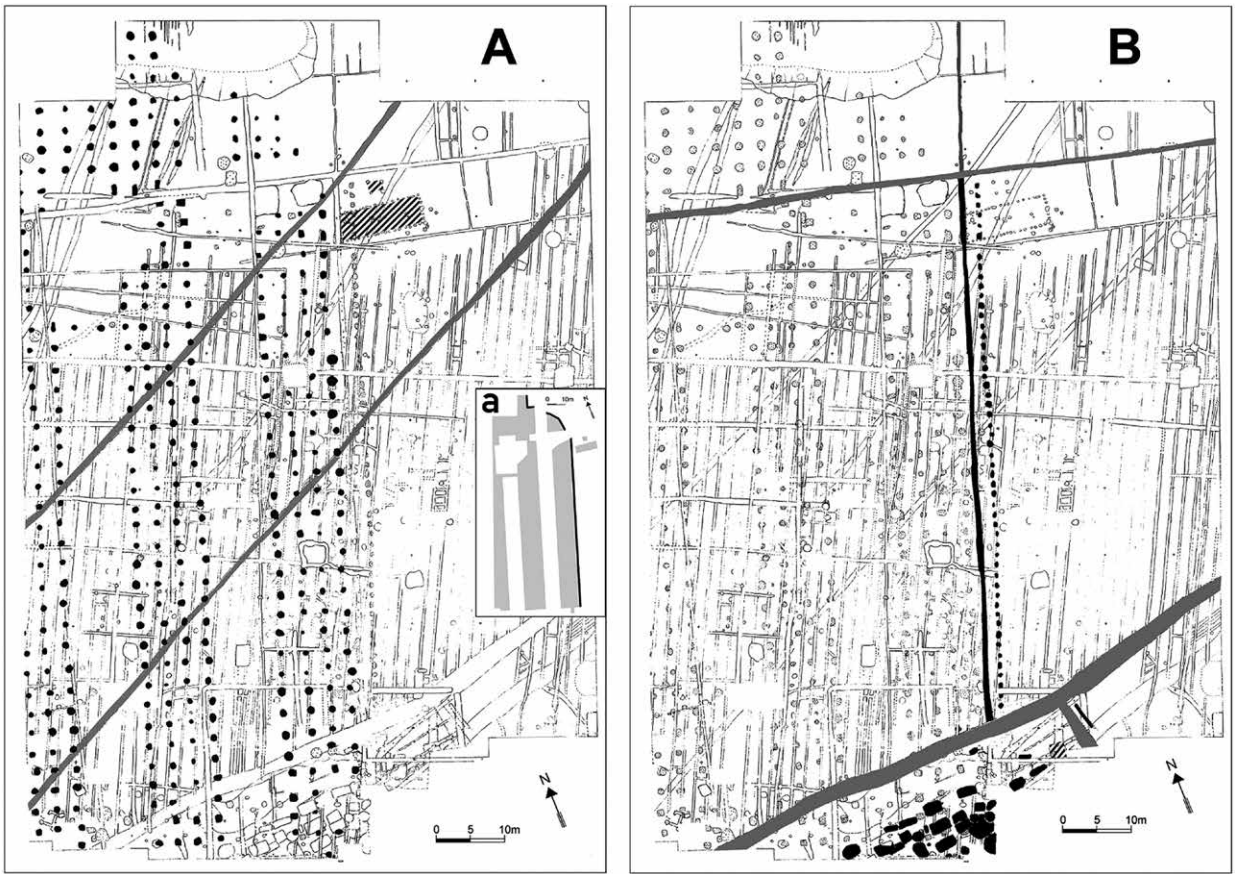

Figure 6.6. Piazza VIII Agosto: A. early phase, mid-8th century BC structure; a) reconstructive drawing; B. later phase: boundaries, ditches, and 7th and 6th centuries BC graves.

hypothesis confirmed by the filling of some ditches that crossed the area, consisting of semi-sterile deposits with few pottery fragments and organic residues.

After a while, the huge building of Piazza VIII Agosto was dismantled. The dismantling was carried out by digging up the foundation elements, removing the posts, and filling the residual holes with earth and debris, which mainly included pottery often deformed by heat, such as circular mobile ovens with perforated plan, large truncated conical basins, and clay tuyères, associated with carbonaceous remains and other baked clay (fig. 6.7).

The southern sector was thus completely transformed by creating an oblique unpaved road headed for the plain that probably came out from a nearby urban gate (on the axis of the present-day Via Indipendenza).

In the remaining part a ditch divided the area for about 80 m from north to south, perhaps for a wooden foundation flanked by a palisade, lasting more than a century (fig. 6.6B). These boundary lines follow the edges of the previous massive building, thus suggesting the persistence of a 'memoryscape' and an ideological

Figure 6.7. Piazza VIII Agosto, posthole filled with charcoals, heated and burned clay fragments.

conservatism even connected to a *locus inauguratus* (*i.e.* a public space consecrated with a ritual ceremony).

Finally, south of the road, a burial ground dating back to the 7th century BC has been identified and partially explored (R. Curina, personal communication; Locatelli and Malnati 2012, 323, 330, 336). Some graves of this cemetery were above the southern mid-8th century BC architectural complex, covering its remains and proving that it was abandoned after a hundred years.

6.2.4 What were the functions of the Piazza VIII Agosto structure?

The described massive building of Piazza VIII Agosto is unique for its dimension and characteristics, and its interpretation is not immediate and requires a thorough analysis, taking into consideration all the different elements brought to light during excavation. The huge size, structural autonomy, complex planimetric articulation, considerable capacity, and sacred nature of the place, all suggest that this structure was a public building. We can also speculate about the specialised although occasional use, presumably periodic, and characterised by ideological, religious, and practical meanings.

The location is also relevant, because this building was close but outside the defensive city walls, probably near an important road just outside a city gate. The position, adjacent but separate from the city, could be explained with an imperative prohibition for the *populus*, or *rasna* (the freemen capable of bearing arms) (Cerchiai 2012, 139; Pacciarelli 2017, 771) to enter the town armed, forcing them to gather and practice outside.

A few years ago, I had already suggested that Piazza VIII Agosto was a meeting place for the local community, where gatherings of the *populus* of *Felsina* were held for political and administrative deliberations, or for martial activities (Ortalli 2013): something similar to the Campo Marzio in Rome, which is traditionally attributed to Servius Tullius in the mid-6th century BC, perhaps after analogous structures in Etruria (Brizzi 1997, 31-33; Capogrossi Colognesi 2009, 65-70; Coarelli 1980, 268; 1997, 155; Colonna 1993, 347; 2000, 55; Nicolet 1980, 280-281; Torelli 1981, 160-161).

The massive wooden structure at *Felsina*, similar to the later *Saepta* in Rome, could have been used for assemblies and public voting, while the large extramural empty field near the Aposa stream, comparable to the Roman Campo Marzio (Borlenghi 2011, 93, 96; Coarelli 1997, 164-165, 169-171, 174), could have been suitable for military rallies and exercises. This comparison between *Felsina* and archaic Rome (Ortalli 2016, 28), however provocative, has not been contradicted to date by other alternative convincing interpretations (Santocchini Gerg 2016, 37; Sassatelli 2015, 414).

More recently I have proposed a further purpose for the complex Piazza VIII Agosto building has been proposed: the use as an endpoint for periodic religious processions, performed outside the city walls[1]. This scenario is compatible with the military exercises, assemblies, and voting, since a religious procession is usually recurrent and occasional, and the two events would not necessarily have been simultaneous.

In this regard, a surprising comparison is offered by the *tabulae Iguvinae*, a 3rd century BC epigraphical text mentioning an archaic ritual that originated in a much older age (Coarelli 1997, 176-177; Devoto 1974; Prosdocimi 1978). We refer in particular to the *lustratio* of the *poplo* of Gubbio, the annual purification ceremony of the city and the people, namely the young men in arms. That ritual consisted of a suburban procession around the walls (*circumambulatio*), which ended outside a city gate, in a field consecrated to Mars, namely the Campo Marzio of Gubbio.

Beside the similarities in the environmental and topographical settings of *Felsina* and Gubbio, there are other elements mentioned in the *tabulae Iguvinae*: the description of a "meetings forum", to be interpreted as a large open area for assemblies, and the sacrificial offerings that were made. Amongst the latter, in Gubbio milled and toasted grain, unspecified "cakes", and portable braziers were offered and used during the ceremonies: materials and object that recall the aforementioned findings recovered inside the postholes in Piazza VIII Agosto, including charcoals, baked clay fragments, impasto basins, and, above all, the mobile clay ovens.

Moreover, what we have described seems incompatible with an absolute and stable authority, such as an aristocracy or even a *rex*, as documented in late protohistoric and archaic central Italy. In *Felsina* there was more likely a form of government assembly that provided for the election of temporary magistrates, with an institutional structure similar to a "republican" type (Ortalli 2013; 2018). A social structure derived from the egalitarian tendency of the early Villanovan period (Bartoloni 2012, 99; Malnati 2004, 249; Morigi Govi and Dore 2005b, 181; Torelli 1981, 49; 1986, 22, 33-34). Of course, this would imply an unexpected degree of anticipation in *Felsina* compared to Rome and Etruria. An anticipation, however, which is not surprising considering what has already been described about how Villanovan Bologna autonomously acted and experimented in different cultural aspects and technical features.

6.3 Urbanism

6.3.1 Boundaries, size and settlement layout

In order to describe the urban planning of the first *Felsina* it is crucial to define its perimeter (Forte and von Eles 1994; Govi 2014; Malnati 2010; Malnati and Manfredi

1 I am grateful to Renata Curina, Cristian Tassinari, Luca Zaghetto, and Melissa Dellacasa for having shared and discussed this hypothesis.

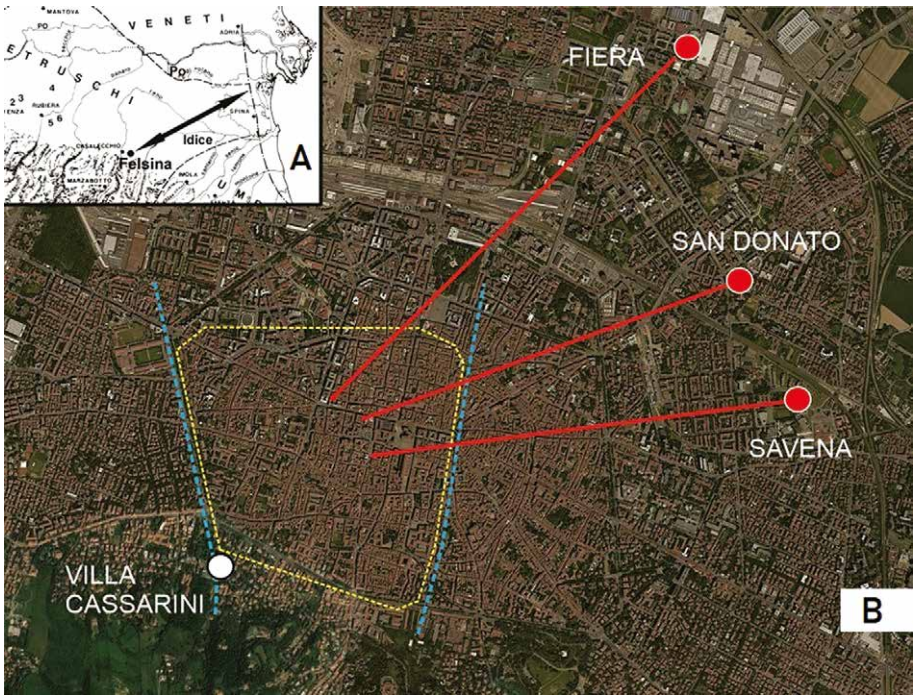

Figure 6.8. A) the northeastern Po valley, with the Bologna – Po Delta connection; B) the Early Iron Age villages surrounding *Felsina*, and the Aposa and Vallescura streams.

1991; Ortalli 2012; 2013; Ortalli 2016; Sassatelli 2005; Scarani 1963; Taglioni 1999; 2005). While scholars agree on the identification of the city's southern border with the Apennine foothills and the Aposa stream as the eastern limit, the western side is far more problematic due to the scarcity of archaeological remains between the Ravone and the Vallescura streams (fig. 6.1). The Ravone is traditionally identified as the western limit (Guidi 2015; Santocchini Gerg 2015, 36-37; 2016, 36; Sassatelli 2010), because few Villanovan huts have been discovered in the southern field between the two rivers, and above all because the western Iron Age cemeteries begin on the left banks of the Ravone stream (see the city plans in Taglioni 1999; Sassatelli 2015). However, such an extended perimeter would give the city an enormous surface area, between 200 and 300 ha (although the estimates have progressively decreased over time, from 300-330 ha in Sassatelli 1988; to around 200 ha in Sassatelli 2010). This extension would be almost twice the size of the main centres in Etruria south of the Apennines (Pacciarelli 2001, 115; Steingräber 2000, 293).

An alternative solution is to consider the Vallescura stream as the western boundary of *Felsina* (Ortalli 2016, 23-26; Ortalli and Bermond Montanari 1986). The flow of this secondary stream in the past was greater than today, as it was fed by smaller riverbeds such as the Rio San Giuseppe (Cremonini 2002, 125-128). The maximum extension of *Felsina* would thus be reduced to about 175 ha, an estimate compatible with other major Iron Age sites in Italy. This hypothesis is supported by some considerations. In the first place, it is assumed that the cemeteries were delimited by a body of water, in this case the Ravone, as the water was considered lustral and purifying and the separation avoided the contamination between living and the dead, but this did not necessarily mean that the settlement area should begin immediately beyond the watercourse and not at a distance. Secondly, the huts between the Vallescura and the Ravone streams were aligned with the south-eastern limit of the city, on the first low hills at about 65 m high (Giorgi 1999, fig. 11), probably along a road to Casalecchio and the Reno Valley on both sides of which some isolated buildings could have been arranged.

Moreover, for a large tract of land, where neither domestic buildings nor graves are documented, in the past the ground was lower with consequent hydraulic issues that hampered permanent settlements, apart from agricultural activities. The hypothesis that the western city boundary coincided with Vallescura stream was finally reinforced by the discovery of its Villanovan palaeochannel heading north at Villa Cassarini, on an axis that corresponds exactly to the dividing line between the remains of the Villanovan huts and the space free of archaeological remains.

As for the urban layout, it is also possible to point out a regular and astronomical orientation of gridded streets, buildings, and households not only inside the *Felsina* perimeter, but also in the satellite settlements, such as the suburban early Villanovan village of Fiera (Malnati 2010, 214; Malnati *et al.* 2010, 391; Ortalli 2013, 18, 25, 30; Vanzini 2018, 21). Finally, as in many other planned towns, the various functions were distributed in different areas: in Bologna specialised working activities were located in peripheral areas, as documented by the

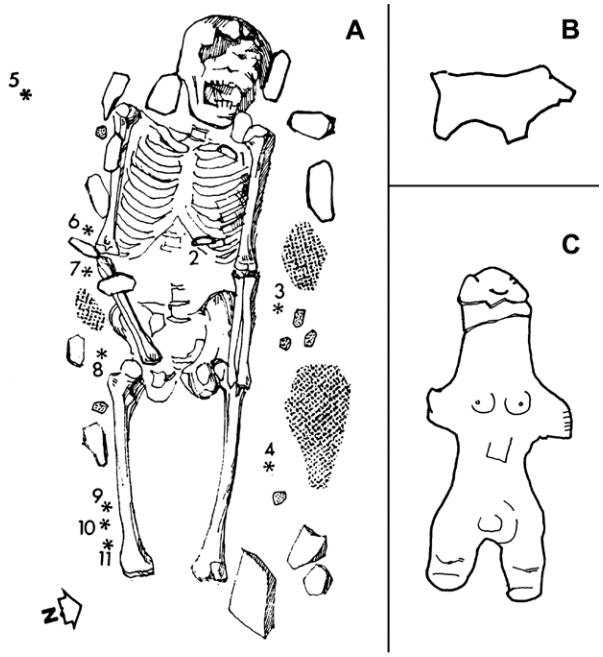

Figure 6.9. Villa Cassarini. A) Villanovan inhumation grave; B) zoomorphic clay figurine from the same grave; C) anthropomorphic clay figurine, without context (drawings out of scale).

excavations carried out in Piazza Azzarita (fig. 6.4) and in Via Frassinago where traces of artisanal activities were discovered, as illustrated by finds such as water wells, kilns and hearths, ditches, storage pits, and wooden sheds (Ortalli 2002, 146-148; 2008, 495-502).

6.4 The poleogenesis of *Felsina*

6.4.1 Villa Cassarini, a Villanovan sanctuary, not a village

At the beginning of the Early Iron Age, in the 9th century BC, several Villanovan sites were inhabited all around the city perimeter before the foundation of *Felsina*, especially in the northeastern sector (fig. 6.8). The site locations were strategic, in a high plain facing the mouth of the Po River and the Adriatic, a fundamental link since prehistory between the Mediterranean Sea, northern Italy, and Central Europe.

Some settlements were placed along the Savena River, others near the Idice River, between the present-day villages of Castenaso and Budrio (Forte 1994, 10), while other sites have been discovered further north, in the province of Ferrara. Near Bologna it is worth mentioning the large eastern sites of S. Vitale and Fiera, and to the south Villa Cassarini (fig. 6.1A), on the Apennine hillslopes that in later periods became the *arx* of *Felsina*, with the main sanctuary of the Etruscan city (Gualandi 1973; Romagnoli 2014).

Regarding Villa Cassarini the interpretation remains controversial. Although some authors believe that this site was an early Villanovan village (Santocchini Gerg 2015, 32-36; 2016, 34-36; Sassatelli 2005, 131-134), I argue instead for the presence of a protohistoric ritual place (Ortalli 2013, 8-9; 2016). If any, a profane settlement on Villa Cassarini is dated to the Late Bronze Age, without any hint of continuity during the Final Bronze and Early Iron Age (Ammirati and Morico 1981-82, 72, 78, 95; Kruta Poppi 1976, 329, 340-342; Vitali 2005, 112-114). Moreover, no materials are dated to before the mid-8th century BC, consistent with the rest of the city area (Ammirati and Morico 1981-82, 71, 95; Scarani 1963, 461-462; Taglioni 1999, 76, 142-143). In Villa Cassarini, only a few 9th century BC traces were discovered in 1973 during preventive excavations for the Faculty of Engineering (Kruta Poppi 1976, 332-340; Taglioni 1999, 40). An isolated pit was documented, without postholes and interpreted as a dwelling structure. Some hearths nearby contained pottery sherds of the 9th and early 8th century BC. Two inhumation burials were also discovered, dating to before the mid-8th century BC, one female and one, better preserved, belonging to an adult male (fig. 6.9A).

These findings alone cannot suggest the presence of a village in Villa Cassarini, and a different approach is needed to explain their presence. It is therefore necessary to underline the unusual practice of inhumation, at a time when cremation was the general rule (Morigi Govi and Dore 2005a, 176; see also the 9th and early 8th century BC Fiera cemetery excavation which yielded 1305 cremations and 5 inhumations, according to Malnati *et al.* 2010, 392, 396).

The male grave is also characterised by deviant anatomical characteristics (Brasili Gualandi 1976), as well as other contextual elements that suggest a non-ordinary burial rite. Firstly, the individual had a malformation of the head due to hyperdolicocephaly, and the skeleton was missing the extremities of the limbs, perhaps deliberately removed in ancient times. Secondly, several pebbles were placed alongside and above the body, possibly to lock down the deceased. Charcoals mixed with animal bones were placed alongside the pit, possibly for sacrificial rites: sheep, cattle, horses and above all pigs are attested, and a miniature clay figurine of a pig was also placed inside the grave (fig. 6.9B). Overall, the anomalies of these burials would suggest human sacrifice, a practice not uncommon in pre-Roman Italy between the 10th and 7th centuries BC (Belcastro and Ortalli 2010; Di Fazio 2017; Donati 2004).

Several loom weights come from the same excavation area (L. Kruta Poppi, pers. comm.), along with a second terracotta figurine, representing a human, perhaps a hermaphrodite (Kruta Poppi 1976, fig. 2, 10.4) (fig. 6.9C). This type of artefact can be dated to between the Late Bronze Age and the Early Iron Age (Bianchi and Bernabò

Brea 2012; Harari *et al.* 2017, 36), and is widespread in Northern Italy and other regions of the Central and Adriatic peninsula (Santocchini Gerg 2016).

To summarise, if we consider the absence of domestic structures, the presence of the two figurines, allegedly referable to some form of protohistoric religious belief, the loom weights, often used as votive offerings to female divinities, the abundance of spring waters in the surroundings, and the unusual burial rites, the entire 9th century BC context of Villa Cassarini is more likely to be interpreted as a place of worship, rather than a village (Ortalli 2013, 8-9). Perhaps, a shrine that was linked to some cults of health and fertility. Its importance is demonstrated in its long lasting cultic function until the 6th century BC monumentalisation, when Villa Cassarini became the main sanctuary of *Felsina*.

6.4.2 The birth of a great city

If the aforementioned scenario is plausible, and no village is attested inside the area of the forthcoming *Felsina* before the mid-8th century BC, we must search for the antecedents of the Villanovan town elsewhere, outside the city perimeter. In the 9th century BC major villages were in fact located nearby to the northeast, in S. Vitale-Savena, Fiera, and Caserma Battistini near S. Donato (Malnati 2010, 209; Ortalli 2013, 9). Archaeological traces in Via Terracini, which would belong to a further northwestern settlement of the Villanovan period I, are uncertain (Malnati *et al.* 2010, 390).

There were therefore at least three very populous and large villages, a few hundred metres away from each other, arranged in a ring about 3 kms from the site where *Felsina* would later arise (fig. 6.8B). It was during the 8th century BC that the birth of the "great *Felsina*" followed the rapid decline and abandonment of these early villages of the Villanovan period I. A massive immigration from these settlements to the new centre is dated to around 750 BC, as confirmed by the recent analysis of the materials from the Fiera village (Vanzini 2018, 35).

According to this framework, a large part of the local population suddenly unified into a single area which, as far as we know, was free of pre-existing Early Iron Age structures. The new site was carefully selected, not only for its economic potential, but also for its topographical position in a higher plain along the Aposa alluvial fan, which guaranteed favourable hydrogeological conditions and soil stability.

The 9th century BC villages located along the Savena-Idice route (fig. 6.8A) were fortified with a moat and palisade. This aspect suggests that, on the one hand, warfare was an urgent issue for the local population, but, on the other hand, their proximity points to a non-conflictual relationship between them. We can, however, deduce that these villages were in mutual peaceful coexistence, and eventually allied against common enemies.

It is now possible to envisage the genesis and rapid growth of *Felsina*. However, the origin of the tribes settled in the pre-*Felsina* villages remains undefined. The traditional scholarly viewpoint is of a preeminent role of Etruscan ethnic groups and assumes substantial uniformity and shared similarities between the two sides of the Apennines. The birth of *Felsina*, notwithstanding, follows a different scheme when compared to other Etruscan cities. In Etruria it is widely accepted that the major "proto-urban" centres stemmed from the union of several villages scattered throughout a vast territory, gradually aggregated into a dominant site that was already present inside the area of the future city (Bartoloni 2012, 88; Pacciarelli 2001, 126, 166; Torelli 1981, 106, 111; 1986, 44).

In Bologna, on the contrary, not only were the early inhabited settlements close to each other, but they were also all outside the area where, with a clear topographical discontinuity, they would then have joined simultaneously. Furthermore, *Felsina* was born after a sudden decision, thanks to the agreement and joint project between neighbouring allied communities. Without this fundamental agreement, from the very beginning of the town in the central decades of the 8th century BC, it would not have been possible to plan all the main public works and realise almost simultaneously: the water infrastructures, massive fortifications, regular planning, and monumental public space of the Piazza VIII Agosto. Overall, these activities, for their complexity and the scale, can be considered attributes of 'urban' forms. The Villanovan Bologna was never a "proto-urban" site, but instead was a central and great town from its very beginning.

6.4.3 Urban formation and institutions

The new centre was created after a shared and programmatic decision taken by the surrounding villages which led to the rapid growth and simultaneous construction of public infrastructures. Different aspects influenced the site location of Bologna (Camporeale 2008b, 12; Cristofani 1986, 135-136; Malnati and Manfredi 1991, 60, 85; Morigi Govi and Marchesi 2000, 330-331; Torelli 1986, 36-37). The first was the presence of a vast alluvial plain, rich in water and vegetation, particularly suitable for systematic exploitation of the soil both for agriculture and breeding. The abundance of free soil was granted by the fact that entire Po Valley near Bologna has remained rather depopulated, after the dramatic collapse of the *Terramare* system and the following Late Bronze Age crisis (Cardarelli 2018; Zamboni 2018, 35-36), thus, Bologna was able to control a large part of the plain between the Apennines and the ancient Po course.

Other scholars argue instead that the formation process of Bologna was mainly due to local people, without any external participation, and in continuity with the Final Bronze Age period, since in that period no demographic

decline would have been proved (Santocchini Gerg 2015, 14-33; 2016, 31-34; Sassatelli 2005, 128-130; 2008, 77-81). On the contrary, the population in the central Po Valley during the Late Bronze Age was clearly scattered and the demography inconsistent when compared to other regions in northern Italy (*e.g.* Veneto), or to situation in the Early Iron Age. It is in fact only during the early Villanovan period, in the 9th century BC, that new tribes arrived in the Bologna area and settled in the territory creating those populous villages that in the following century had a fundamental role in the birth of the city. Ultimately the poleogenesis of *Felsina* was substantially different from other 8th century BC centres founded elsewhere by single Etruscan cities, which were usually selected for their commercial, often maritime, potential (see the cases of Verucchio, Fermo, or Pontecagnano, an overview in Della Fina 2008; on Verucchio see Rondini and Zamboni this volume). Even if they were not decisive in the settlement choice, as already mentioned, the commercial opportunities were also boosted in Bologna by an exceptional strategic location.

To achieve these results in a short timespan we shall assume the populous tribes of the pre-Bologna villages were bonded by a sort of political union. A precondition that determined, after the city foundation, a strong social, economic, and administrative cohesion. A form of cooperation that in *Felsina* may have also influenced the early forms of power relations and governments.

In other words, an absolute and autocratic power, like the monarchic or aristocratic-princely models, may not have been effective in the cooperative social environment of *Felsina*. In particular, the city's formation process, as suggested by the evidence of Piazza VIII Agosto public building, seems to fit better with a "republican constitution", a form of government ruled by temporary magistrates elected by popular assemblies. For the early stage of the city we therefore hypothesise assembly-type political and institutional structures, based on an authority attributed to the *populus*, that is, the free and armed males, the only ones who could vote.

6.5 Appendix – The San Francesco hoard

The framework just outlined stimulates a review of one of the most problematic contexts of *Felsina*, the deposit of San Francesco, the largest metal hoard in Europe (Bentini 2005; Sassatelli 2005, 146-147; see also Iaia this volume). The hoard with thousands of metal items was closed around 700 BC. Nearly fifteen thousand pieces bronze objects and fragments are attested, with different types and origins, including Mediterranean imports, for a total weight that exceeded 14 quintals. The treasure was buried inside a large impasto *dolium*, in a central area of the ancient town. Since the 19th century discovery made by Antonio Zannoni, many scholars have tried to explain the nature of this deposit with various interpretations, none of which is fully convincing (Ortalli 2016, 31).

A recurring opinion is that the material had been accumulated and hidden by a single individual, as a form of hoarding, or perhaps by a single metalworker. Considering the impressive quantity and enormous value of the material, this is of course not a reasonable scenario. Other explanations are equally implausible: the hoard would have been the metal reserve of different artisans. In this case, how many management problems would have arisen with such an asset? Consider the impossibility of distinguishing the individual properties, but also how many people would have known the existence and location of the deposit. Consequently, after the abandonment probably due to some sudden fatality, someone would have certainly recovered it.

On the other hand, if we go back to the foundation of *Felsina*, the aggregation of different previous villages in a new central site, we can assume that the process inevitably involved various forms of sharing between people who agreed, including economic and administrative aspects. The union of all the goods previously belonging to the single villages, and the creation of a community heritage, is more than plausible. It can therefore be suggested that the San Francesco's considerable amount of bronze, collected around the mid-8th century BC with the contribution of all the pre-urban villages, is the *aerarium* of the first *Felsina*, that is, the public treasury of the new-born city. However, such a scenario is admissible only if we assume the existence of a larger community that, as we have argued, governed in the Villanovan period with a "republican" system that involved the whole citizenship. Less convincing is the ownership of the treasury by a single ruler, or a restricted elite circle.

However, it remains unclear why, despite its enormous value, the hoard has been completely forgotten for nearly three millennia. If we consider the numerous metal hoards that were abandoned in the protohistoric period, it is usually assumed that the cause was the impossibility of recovery by their owners who did not return to the area or after their death. In the same way, one might suppose that a couple of generations after the burial of the San Francesco *dolium*, a period of turbulence and political instability occurred in *Felsina*. The riots could have allegedly involved the few administrators in charge of the surveillance and management of the rich public heritage, which was previously carefully hidden for security reasons. If these administrators were the only ones who knew the place of burial, and if they were prevented from returning to their custody activity, this could explain the forgotten and definitive abandonment of the treasury.

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Chapter 7

Spheres of Consumption of Metalwork and Trans-regional Interactions at the Onset of the Urban Phenomenon in Northern Italy

Cristiano Iaia

This paper investigates aspects of consumption and circulation of metalwork in northern Italy in the framework of the first explicit appearance of the urban phenomenon (8th – 7th century BC), with special focus on a multifunctional and polysemous class of artefact, bronze axes. An analysis of the discarding/deposition, ritual treatment, and circulation of these objects allows us to outline the existence of different spheres of consumption in Villanovan north-central Italy: one that conceives of axes as functional tools/weapons, and as a key medium for bulk trade of metal; the other utilises some of them in the manifestations of self-aggrandisement of nascent elites during sumptuous funerary rituals. Different understandings of axes as working tools and weapons associated with swords emerge from mortuary rituals and votive offerings in Veneto and the Caput Adriae. The production and distribution of axe types suggests that two distinct trans-regional networks of communication were in action, respectively centred on Etruria and the southern Po plain (with Bologna and Verucchio as core centres) on one hand, and on northeast Italy and the circumalpine Hallstatt zone on the other.

Keywords: Early Iron Age; Bronze metalwork; Bronze axes; Trans-regional interaction; Italy-Hallstatt interaction.

7.1 Introduction

This paper is concerned with some aspects of the production, circulation, and consumption of metalwork in Early Iron Age north-central Italy, with particular focus on the 8th- early 7th century BC formative stage of the urban centres in northeast Italy. This area, and the historical timespan are considered crucial for understanding the relationships between Italy and transalpine Europe in the Early Hallstatt period. Furthermore, aspects of trade and cultural communication across the Alps, emerging in the 6th and 5th centuries BC, have some fundamental precedents in those earlier stages.

I shall focus on some aspects of consumption, that is, the ways artefacts are valued and socially appropriated and how they circulate accordingly (Appadurai 1986; Dietler 2010). This specific choice is partly due to two pragmatic reasons: firstly, the lack of an adequate corpus of analytical data on technological aspects and metallurgical installations dating

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to this period in Italy, that is on manufacture proper; secondly, the concentration of findings in burials, where artefact inventories may be the outcome of a strict ritual selection of elements. The consequence of this state of evidence is that the image we get from the surviving contexts privileges specific facets of consumption and discarding, which correspond to the end of the life cycle of finished objects. At the same time, these data invite us to investigate aspects of taste and consumption choices (*cf.* Bourdieu 1987) that are symbolically charged and determine the construction of both local and trans-regional identity patterns of specific social agents.

7.2 Metalworking in the context of early urbanisation northeast of the Apennines

The most explicit features of incipient urbanisation emerge in the east-central portion of the southern Po plain in the course of the period II of the Early Iron Age (hereafter EIA), traditionally identified with the 8th century BC. In that time, Bologna-*Felsina* developed as a vast agglomeration, surrounded by a network of smaller sites, some of which already existed in an earlier stage and hosted wealthy social groups (Manfredi and Malnati 1991, 23-51; Ortalli this volume). The core of the settlement area, of no less than 180 ha, saw the edification of monumental communal buildings and an impressive fortification (Ortalli 2013). A remarkable increase of minor sites is recorded for the nearby area between the rivers Panaro and Idice in the 8th and 7th centuries BC (Forte 1994), which is also indicative of the formation of a hierarchical settlement system and dramatic demographic growth. The nodal role of Bologna, at the junction of various east-west and north-south natural routes, is evident, connecting the area south of the Alps with the blooming milieu of the nascent cities in Etruria proper.

Given these prerequisites – centralisation of functions and demographic growth – during the 8th century Bologna's metal industry grew tremendously in terms of quantity and diversification, with a peak in the phase EIA IIB (Pare 1998, 299-313), or *Villanoviano III* according to a different nomenclature (Dore 2005), around 750 – 700 BC. The most significant quantities of high-value artefacts, especially bronze vessels, horse gear, and parts of wagons, were concentrated in a few top-level cremation burials deposited in monumental structures. The picture shows a more intense polarisation of status display with figures of paramount male leaders, such as those represented by the tombs Benacci Caprara 39 and Benacci 494 (Frey 1969, 30; Morigi Govi *et al.* 1996; Tovoli 1989).

A key context to understanding the production of metalwork in the advanced EIA at Bologna-Felsina, and in north-central Italy more generally, is the San Francesco hoard. It was found in the late 19th century, but remains substantially unpublished, except for collections of single artefact classes (Carancini 1984; Manfroni 2005; Ortalli this volume; Vitali 1985; Zannoni 1888). It includes nearly 15,000 bronze objects and three of iron, which were deposited in a huge jar within an area of the Villanovan settlement of *Felsina*. As with several other hoards, but on a grander scale, the San Francesco hoard contains, complete but worn out artefacts and an enormous number of fragmented objects, which encompasses nearly all the main categories of the bronze industry of that period, including about 4000 axes and 3000 fibulae. An unusual feature of the San Francesco hoard, which has not attracted much attention so far is the c.1050 ingots, mostly fragmented, of pure copper, which have highly diverse impurities, detected by physicochemical investigations in the 1980s, suggesting a widely assorted provenance of raw materials (Antonacci Sanpaolo *et al.* 1992).

This evidence throws some light onto the role that Bologna might have played in the 8th century BC both as an attractor of raw materials from various sources and as a centre of secondary metallurgical production. A direct relationship with metalworkers is also suggested by the occurrence of semi-finished objects, particularly fibulae, and rare metalworking tools (Bentini and Mazzeo 1993). The composition of this impressive accumulation of materials, including several artefact categories that are absent in coeval burials, and its substantial scale leads to the interpretation of it as a public reserve of metal, perhaps ritually deposited. This, however, presupposes the existence of a political power that identifies itself with the community as a whole.

A comparable burst of metal manufacture is observable at Verucchio in the same age, from the second half of the 8th and early 7th centuries BC. The publication of recently investigated burials by Patrizia von Eles and her team gives us a better idea of the whole picture than at Bologna (von Eles *et al.* 2015), even though the concentration of the evidence in mortuary contexts is an undeniable bias. Diversified and elaborate metal craft with various aspects of cross-craftsmanship between various materials (bronze, iron, gold, amber, wood and others) is characteristic of elite burials at Verucchio (Rondini and Zamboni this volume; von Eles and Trocchi 2015). Not unlike some situations of coeval northern and southern Etruria, the grave sets are highly varied, including sumptuous sets of weapons and status symbols, as well as plenty of metal luxury ornaments and banquet paraphernalia (von Eles 2014; von Eles *et al.* 2015). Considering the generalised diffusion of wealth and fine metalwork in burials, the Verucchio mortuary rituals demonstrate a typical manifestation of newly formed aristocratic groups in the competition for power and authority through forms of conspicuous consumption. To this end its aristocracy, exploiting a relatively advantageous geographical position close to the Adriatic, engaged in attracting intense flows of raw materials, such as amber, and polarised different forms of artisanal skills.

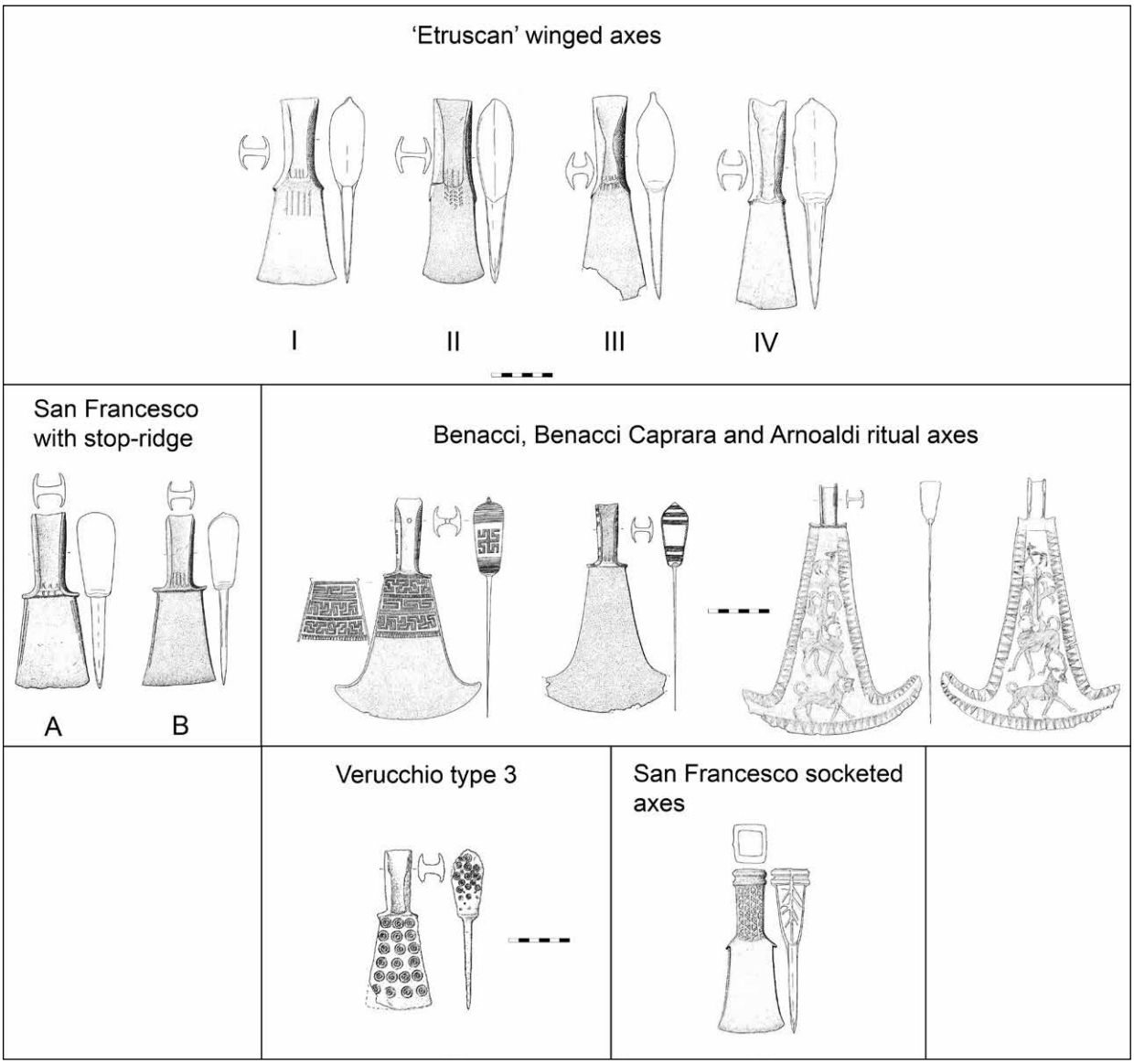

Figure 7.1. Main types of bronze axe-heads from north-central Italy, 8th – early 7th centuries BC (modified after Carancini 1984; Bentini and Di Lorenzo 2015).

In parallel to the development of Bologna and Verucchio in the 8th and 7th centuries BC, northeastern Italy witnessed the formation of a system of urban centres mainly located in the Po plain and strongly dependent on the main fluvial routes connecting the eastern Alps and the Adriatic Sea (*e.g.* Balista and Gamba 2013; Capuis 1993; Gambacurta this volume). Este and Padova take on a clear hegemonic role in this framework, but they are nonetheless part of a more extensive network of towns, from Oppeano and Gazzo in the west to Concordia in the east. The formation of this network of centres – some of which assumed the status of embryonic city-states – was a gradual and continuous phenomenon that embraced the entire 8th to 6th centuries BC. Characterising the nature and scale of metalwork production and consumption at the onset of this process is not an easy task. In what follows, I confine myself to sketching the evidence that indicates how the Venetic centres were part of an autonomous network of trans-regional connections encompassing a vast area north and east of the Alps.

7.3 Bronze axes/adzes in north-central and northeastern Italy

There is no space to detail the examination of the multiple EIA metalcraft categories from this area. Thus, I shall focus on a specific and often overlooked artefact class,

Figure 7.2. A selection of bronze axe-heads from the San Francesco hoard, Bologna, featuring different degrees of use-wear (after Zannoni 1888, with modifications).

bronze axes and adzes, which in the Iron Age assumed a multipurpose and polysemous role (Carancini 1984). In particular, two points are worth considering: as often suggested by scholars in the past, the value of bronze axe-heads as standard objects incorporating a considerable quantity of alloyed metal and subject both to being stored and amply circulated; and their significance as tracers of local workshops and stylistic idiosyncrasies. The advantage of analysing bronze axes also lies in their nearly ubiquitous presence in various contexts. On a hypothetical scale of values, they range between standardised bulk commodities and status-enhancing items.

At the moment, the only way to address the production and consumption of bronze axes in EIA Italy is by examining their typology, distribution, and contexts. This task can be accomplished thanks to the *Prähistorische Bronzefunde* volume on Italian axes by G.L. Carancini (1984), to whom we also owe a very detailed catalogue and classification system. On this occasion, I have simplified Carancini's typology and updated his catalogue of the Bologna axes to allow the major morphological and stylistic distinctions to emerge (fig. 7.1).

The axes from the San Francesco hoard raise many interesting questions relative to the economy and society of a proto-urban centre. It is apparent from the extremely numerous series of nearly identical blades that they represented serial production, making them particularly suited to utilisation as a standardised means for storing and exchanging considerable quantities of cast bronze. Even in the absence of a traceological analysis (cf. Dolfini and Crellin 2016), the different blade lengths of similar complete axes indicate varying degrees of wear (e.g., fig. 7.2). This gives us some clues about the extensive use of these tools in everyday life: for instance, as heavy-duty working tools, as well as weapons damaged in combat and repeatedly sharpened.

A more complicated picture emerges if we compare the massive evidence from the San Francesco hoard and the coeval record from burials. Separate spheres of the utilisation of different categories of axes are apparent. Dating to the first half of the 8th century BC several burials from Bologna feature axes with markedly thin blades, clearly non-utilitarian and ritual tools, which correspond to Carancini's winged axes of the Benacci, Caprara, and Arnoaldi types (Carancini 1984, 99-105) (fig. 7.1). The prestigious character of these tools is also frequently heightened by the elaborate decorations and the

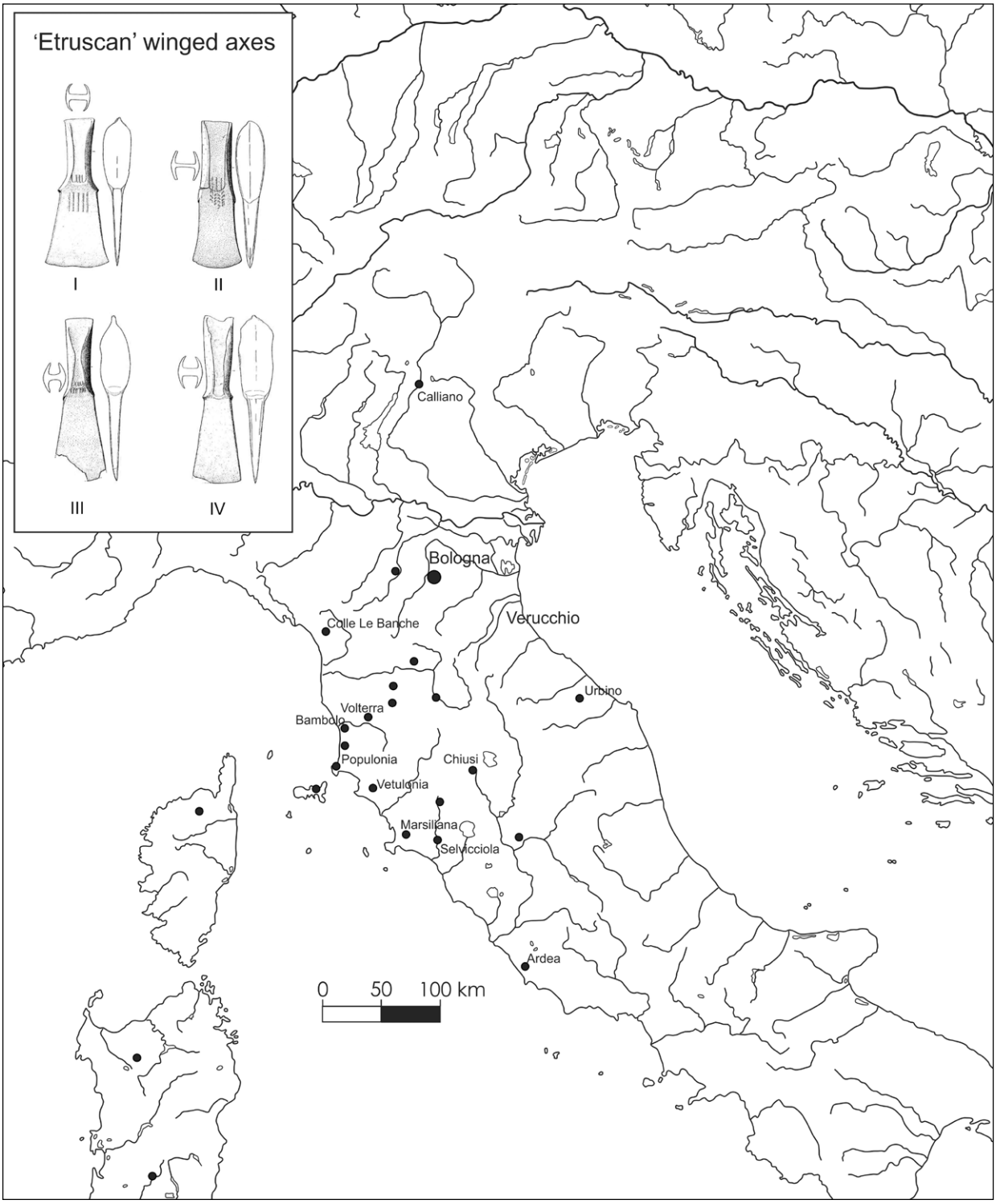

Figure 7.3. Distribution map of the bronze 'Etruscan' winged axes (author's drawing based on Carancini 1984; Lo Schiavo 1981; Lo Schiavo and Milletti 2011; Setti 1997).

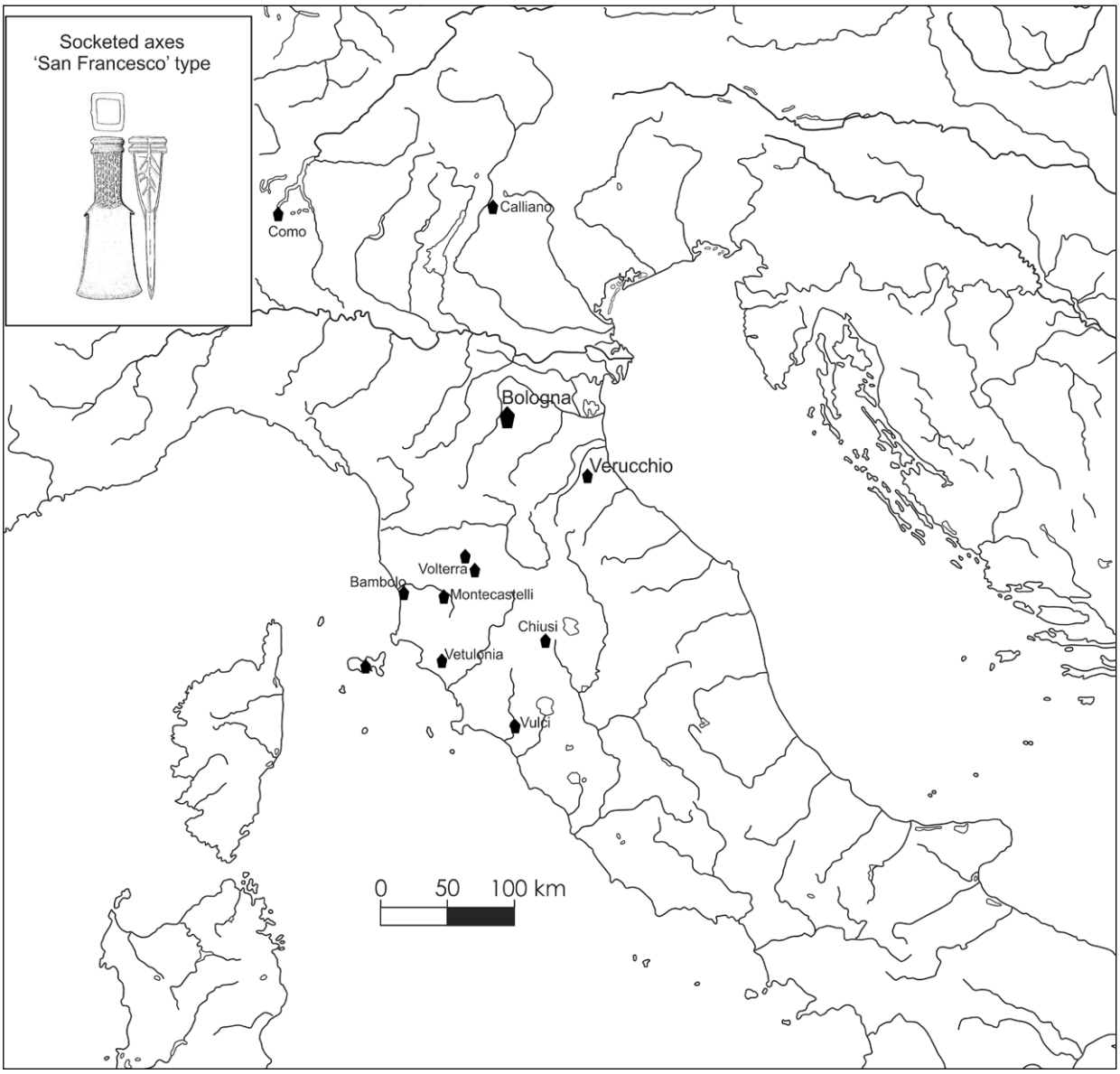

Figure 7.4. Distribution map of the bronze socketed axes with protruding shoulders, San Francesco type (author's drawing based on Carancini 1984; Delpino 1981; Nascimbene 2009).

association with other markers of rank, such as horse gear (*e.g.* von Hase 1969, abb. 2-5). Interestingly, these types are exclusive to Bologna's cemeteries, and no specimens of them are present in the San Francesco hoard.

In graves belonging to eminent members of the Bologna and Verucchio elites, mainly males but also females, sets composed of three axes included individual pieces burned and heavily damaged, while others had been left intact (Ossani and Pozzi 2015; Tovoli 1989, 136, 174; von Eles 2002, 151; von Eles *et al.* 2015). Thus, while some might have been weapons, others can be interpreted as tools for sacrificial ceremonies involving butchering practices or iconic objects. Behind these patterns, there is a complex symbolism of ritual acts performed during the funeral, with constant references to the spheres of power and status.

A look at the distribution maps of the main typological classes of bronze axes is necessary in order to grasp their economic and cultural role in the advanced EIA. The distribution map of axe types known in north-central Italy is highly significant. The winged axes include distinct series: by far the more numerous series includes what I have denominated as 'Etruscan' winged axes (fig. 7.1), as their distribution predominantly covers northern Etruria and Bologna, with minor occurrences in the Marches, Latium, and Trentino. They correspond to Carancini's Vetulonia, Bambolo, Grottazzolina, Marsiliana d'Albegna, Cignano, and

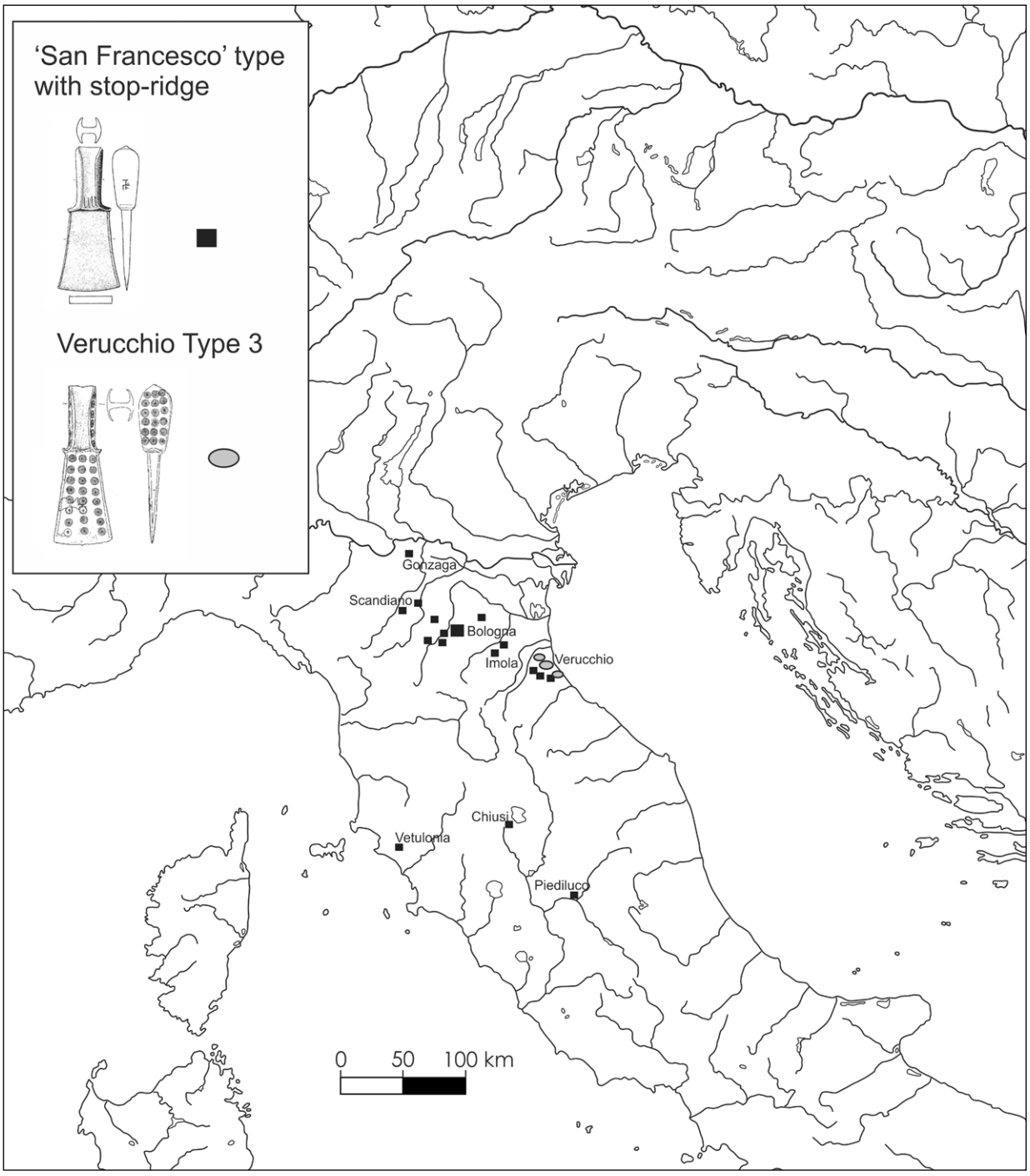

Figure 7.5. Distribution map of the bronze axes with large shoulders and stop-ridge of the San Francesco type and Verucchio type 3 (author's drawing based on Carancini 1984; Bentini and Di Lorenzo 2015; Esposito 2018)

Volterra types (Carancini 1984; Setti 1997), that, for the sake of intelligibility, can be sorted into four main groups. They may represent different series, possibly manufactured by distinct producers or workshops, that nonetheless operated within the same craft tradition. This homogeneity is confirmed by the recurrence of the same decorative features, a row of incised segments, placed between the heel and the blade. The San Francesco hoard contains hundreds of specimens belonging to these series, but the vast distribution in northern Etruria and the exports into Corsica and Sardinia (Lo Schiavo 1981; Lo Schiavo and Milletti 2011) makes it likely that manufacture took place south of the Apennines (fig. 7.3).

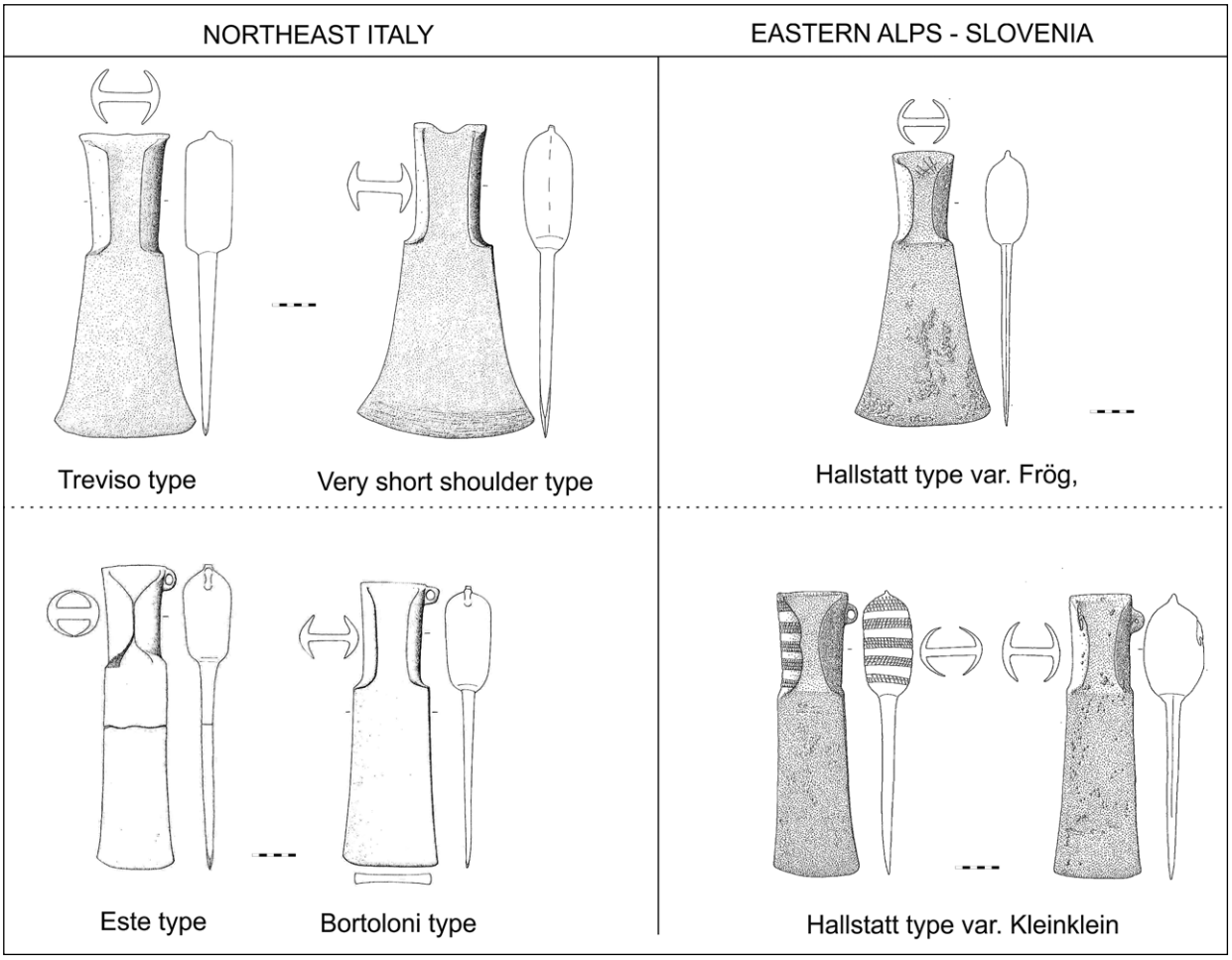

Figure 7.6. Comparison between the main types of bronze winged axes in northeast Italy, eastern Alps, and Slovenia in the 8th-early 7th centuries BC (modified after Carancini 1984; Mayer 1977).

The distribution of socketed axes with protruding shoulders of the San Francesco type overlaps with the previous one (Carancini 1984, 175-187; Delpino 1981; Nascimbene 2009) (fig. 7.1). This is a particular shape, frequently characterised by a net-like plastic decoration made by casting (Lehoërff 2007, 191, fig. 111). In light of the distribution map, the primary area of manufacture of this form was likely the metal-rich coastal Etruria (fig. 7.4). Some evidence suggests a different sphere of utilisation for these axes in Etruria proper and Bologna: while in the former region they are sometimes deposited as single occurrences in burials, which also included weapons and working tools, in the latter a considerable number of them (148 specimens including fragments and worn-out pieces) occur exclusively within the San Francesco hoard. This pattern could suggest an oscillation of the value of these objects between practical use and commodification, depending on local choices.

The axes with large shoulders and stop-ridge (fig. 7.1), Carancini's *asce ad alette con setto di divisione* (Carancini 1984, 69-90) indicate a completely different distribution pattern (fig. 7.5). They concentrate between Bologna and its surroundings, including the recently discovered aristocratic pole of Imola-Pontesanto (Esposito 2018, tav. 1.5), and could be considered products of the dominant centre which were redistributed to 'vassal' communities. Similar axes featuring a distinctive decoration with impressed concentric circles, type 3 of a recently published typology (Bentini and Di Lorenzo 2015), are instead exclusive to Verucchio and its closer environs, between the Marecchia valley and the Adriatic Sea (fig. 7.1 and fig. 7.5). Interestingly, the very restricted circulation of the latter is consistent with the whole mortuary record of this centre, where local elite groups utilised prestige artefacts of different quality in the framework of private ceremonies.

In northeastern Italy the types of bronze axes dating to the 8th-7th centuries BC are morphologically distinct from those of north-central Italy and follow exactly the models found around the eastern Alps (fig. 7.6). In particular, there is perfect parallelism between the winged axes of Treviso, 'very short shoulder' and Este Bortoloni types in northeast Italy (Carancini 1984, 115-116; 118), and the variants Frög and Kleinklein of

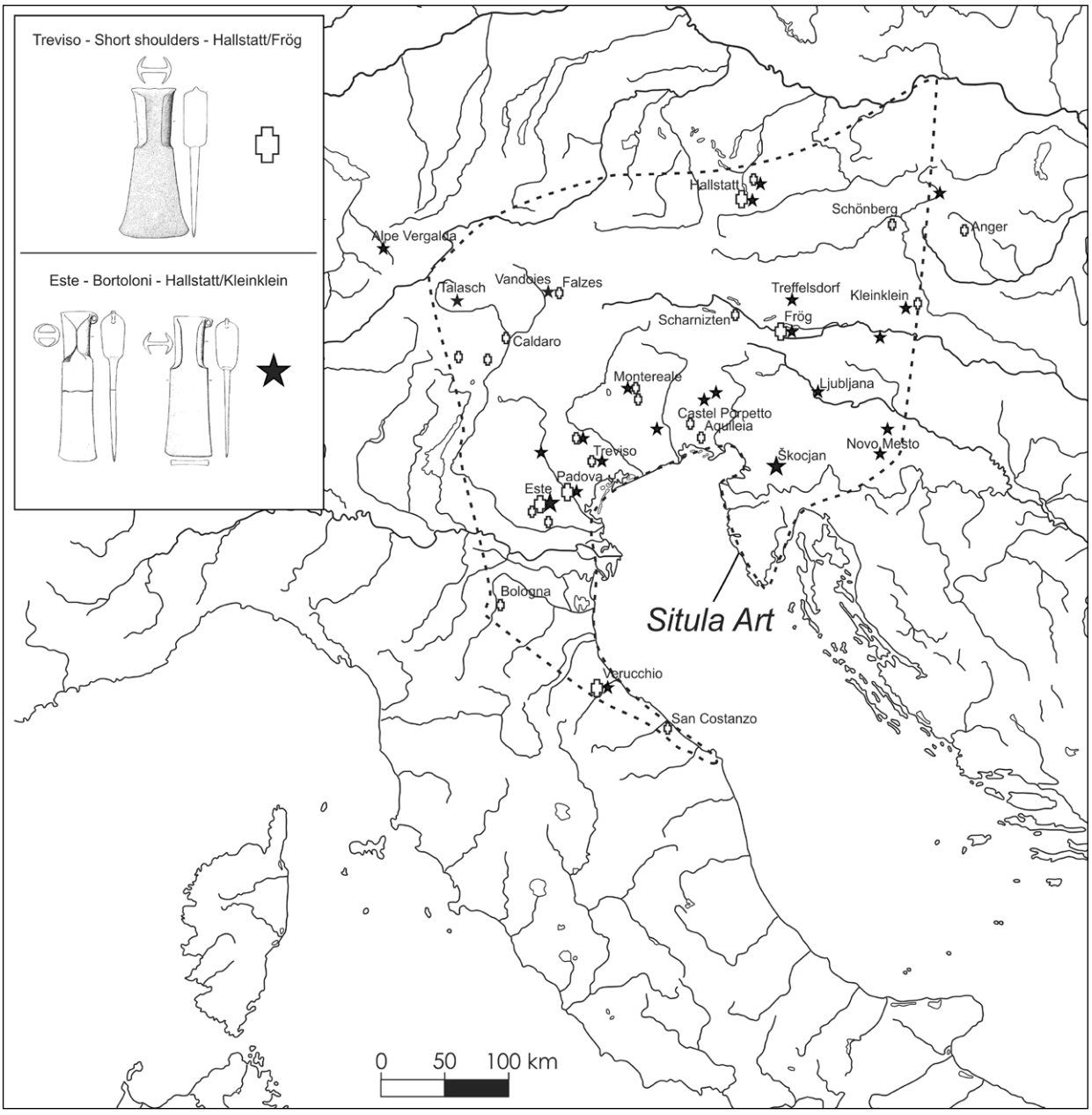

Figure 7.7. Distribution map of the bronze winged axes in northeast Italy, eastern Alps and Slovenia; in dashed line the distribution area of the Situla Art (author's drawing; sources in the text).

the Hallstatt type (Mayer 1977, 170-172). The distribution map of these two different series is extremely telling (fig. 7.7).[1] The Treviso – Frög series connects the *Venetorum Angulus*, including Friuli Venezia Giulia, with the northeastern Alps, while the Este-Bortoloni-Kleinklein series spread in a larger area including Slovenia to the south. It is worth stressing that these types of axes were systematically deposited as part of the most prominent male graves dating between the mid-8th and early 7th century BC in the entire area.

In Veneto, bronze axes oscillate alternatively between a ritual codification as working tools or as weapons. Some of the wealthiest male depositions at Este and

1 The catalogues of specimens from Italy and Austria pertaining to these types published in Carancini 1984 and Mayer 1977 is here updated with further additions from Slovenia (Božič 2015; Djura Jelenko and Božič 2015; Tecco Hvala 2017; Turk 2016, 113-115), and recent findings from northeast Italy (De Min *et al.* 2005, 157; Gamba *et al.* 2011; Gamba *et al.* 2013, 2.1.4, 209; Pettarin 1996), and from Verucchio (von Eles 2002, 151, n. 162).

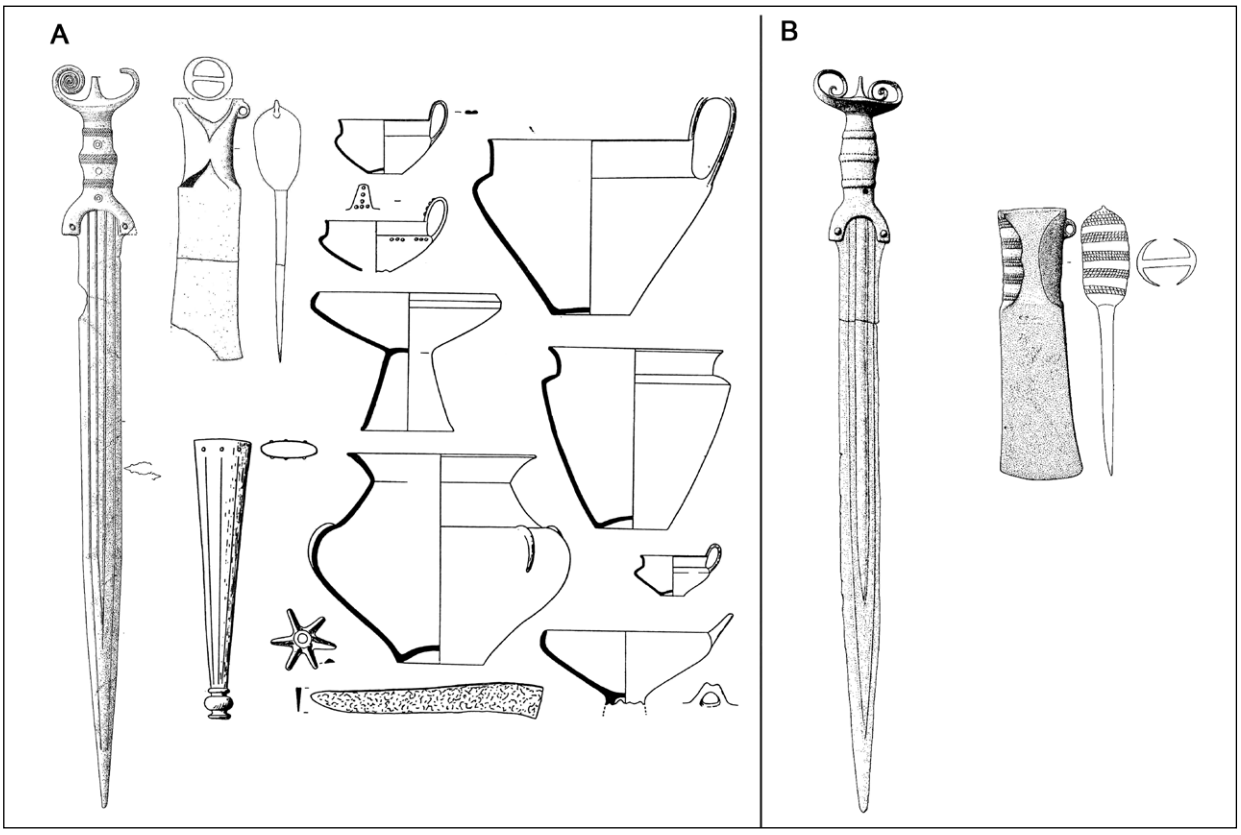

Figure 7.8. Burial grave sets including a Bortoloni – Kleinklein type axe and a sword. A: Este (PD, Veneto, Italy), tomb Candeo 302. B: Kleinklein (Leibnitz, Styria, Austria), Hartnermichelkogel tomb 1. No scale (after Bianco Peroni 1970; Müller-Karpe 1959; Egg 2004, with modifications).

Padova include a Treviso or Bortoloni type axe as part of a prestigious woodworking toolkit.[2] In the *Tomba dei Vasi Borchiati* at Padova (Gamba *et al.* 2011), c.700 BC, the Bortoloni type axe is associated with a sumptuous set for banqueting. Here, the illustrious individual is identified with someone capable of managing commensal hospitality, sacrificial practices, and craftworks. This understanding overlaps with the funerary use of axes of the Bortoloni – Kleinklein type as elements of weaponry. Over the entire space between Veneto and the eastern Alps in the 8th century BC, they occasionally occur in remarkable burials associated with old-fashioned bronze swords of the antenna type, weapons which they are also associated with due to their frequent voluntary damage and fragmentation. It is the case of the grave Candeo 302 at Este (Müller-Karpe 1959, taf. 91A) and the oldest deposition in the tumulus grave Hartnermichelkogel 1 at Kleinklein (Egg 2004, abb. 3) (fig. 7.8). The transcultural nature of this form appears manifest when considering the princely burial of Novo Mesto in southeastern Slovenia, dating to around 700-690 BC (fig. 7.9). Here the Bortoloni-Kleinklein axe is part of a panoply of weapons including elements extraneous to the Venetic context, such as the iron curved sword with T-shaped hilt and the pair of long spearheads (Božič 2015, 48-51; Knez 1993, 425).

Other evidence suggests the association with swords and the involvement of the Bortoloni-Kleinklein axes in cultic acts: the ritual deposition of heavily damaged specimens in rivers in Veneto, Friuli, and Slovenia, in continuity with the Late Bronze Age tradition of *Gewässerfunde* (Turk 2016, 113-115 with literature). Highly significant in this respect are the burned axes found in the cultic cave known as Musja Jama-Grotta delle Mosche at Škocjan-San Canziano (Turk 2016), which mark the last stage of the utilisation of the site after a long sequence of votive deposition started in the Late Bronze Age.

There is no doubt that all these areas formed an interconnected, yet highly diversified, world in which material forms with strong symbolic character were assuming increased significance as identity markers. This, in particular, is highlighted by the nearly total overlap of the distribution of these last types of axes and the

2 Este tomb Randi 14 (Frey 1969, abb. 7) and Ricovero 236 (Chieco Bianchi and Calzavara Capuis 1985, 300, tavv. 201-210); Padova tomb via Umberto I 318 (De Min *et al.* 2005, 154-157).

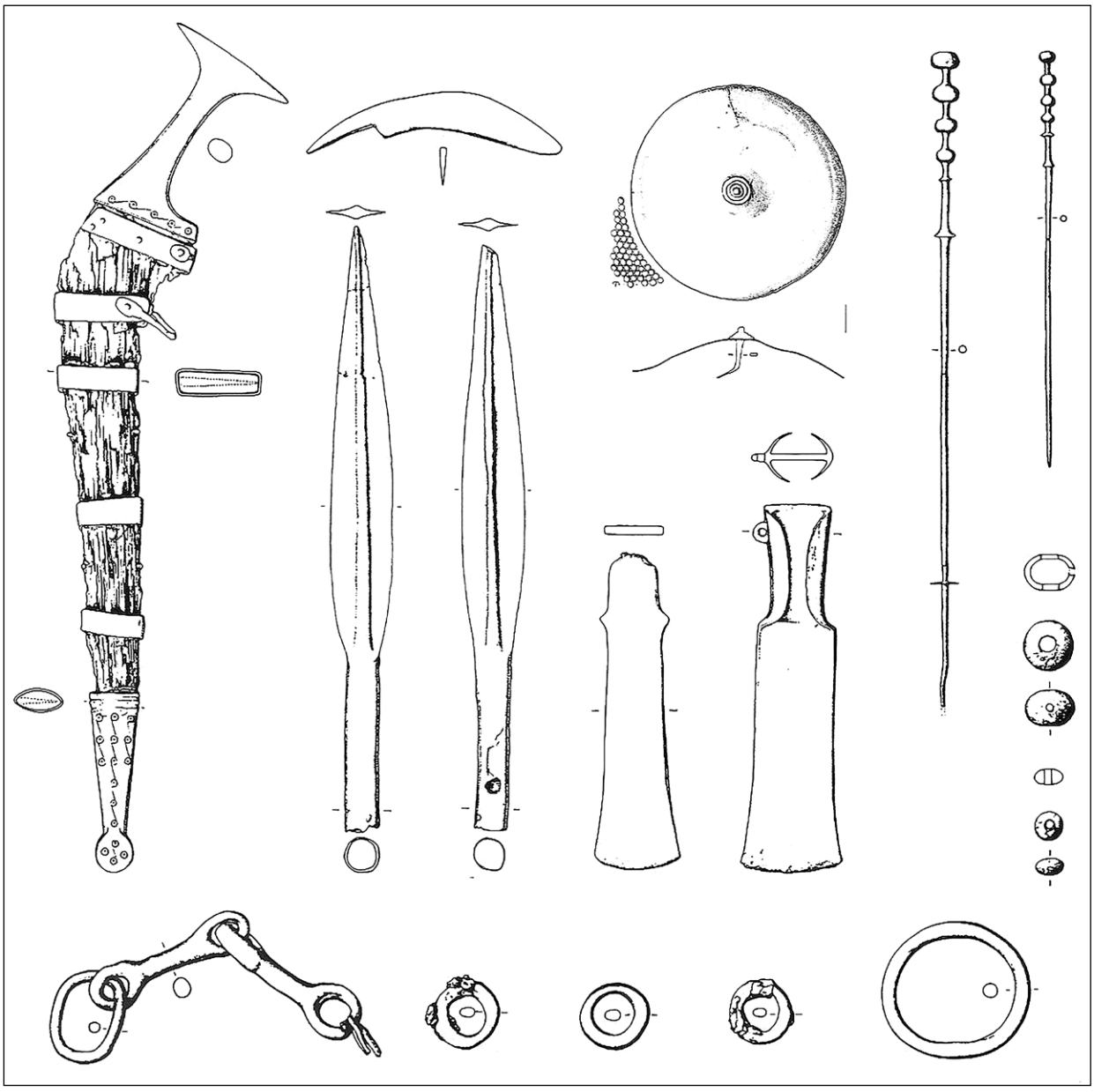

Figure 7.9. Novo Mesto (Dolenjska, Slovenia), Kapiteljska njiva, Grave 16, Tumulus I. No scale (after Knez 1993).

later Situla Art, as indicated by the dashed line in fig. 7.7 (where only the 'classical' manifestations of this style are considered). It seems as though, in the 7th to 4th centuries BC, the network of connections between the aristocrats around the eastern Alps was prepared and enriched by the intense relationships of the preceding period.

In about 700 BC, Verucchio acts as a key junction between the two different networks illustrated above. The isolated occurrence of a Bortoloni-Kleinklein type axe in the famous 'princely' tomb Lippi 89 at Verucchio (von Eles 2002, 151, n. 162, tav. 65) appears to be an exotic gift from Veneto or the southeastern Alps. This artefact is among the most prominent symbols denoting the paramount status of the deceased in this burial, and the bronze conical helmet, from the same context, adds a further element of connection to the eastern Alps and *Caput Adriae* (Mazzoli and Negrini 2015, 6).

7.4 Conclusions

Focusing on the consumption of a polysemous bronze item, the axe, has helped me to stress the existence of distinct patterns of consumption and circulation of symbolically charged artefacts. We should distinguish between spheres of consumption and circulation that coexist within the same

cultural and social environment on one hand, and networks covering different geographical spaces on the other.

In the southeastern Po Plain, the coexistence of different spheres of consumption is particularly evident. The San Francesco hoard gives us a glimpse at a utilitarian ambit of consumption and the economic strategies of an emergent urban centre, Bologna. Here, serially produced axes are understood both as working tools and standardised units of cast metal intended for storing and trading. I have not addressed the enormous and controversial topic of the possible use of fragmented axes as a form of proto-currency, but this is certainly an aspect to be taken into account in explaining this specific case. Moreover, the strong relationship in terms of axe types between Bologna and metal-rich northern Etruria suggests the central importance of metal trade in this scenario. In the end, Bologna provides strong signs of interest towards 'liquid commodities' (Bachhuber 2011, 170), in other words convertible items.

At the same time, both the Bologna and Verucchio mortuary records provide evidence of a different pattern of consumption. Axes of local production and restricted circulation (Benacci and Caprara ritual axes, San Francesco with stop-ridge and Verucchio type 3) were primarily conceived of as ceremonial tools involved in elaborate rituals of self-aggrandisement. At Verucchio, this takes place in the framework of particularly extreme forms of conspicuous consumption of valuable goods, including other precious materials, such as amber and striking polymaterial artefacts. The utilisation of luxury artefacts in Verucchio's mortuary context, including hyper-decorated axes, can thus be explained as a form of 'sacrificial economy' (Bachhuber 2011; Wengrow 2011), whereby great quantities of valuable objects were eventually taken out of circulation, and practically destroyed by depositing them on the funeral pyre and/or in the grave.

The geographic space between Veneto and the eastern Alps highlights slightly different patterns of consumption and partakes in a different network of communication. Extreme forms of conspicuous consumption are not unknown, but in general are very rare. In the case of axe types, the production/exchange network is utterly unrelated to the Villanovan (or Tyrrhenian-oriented) one and assumes the appearance of a distinct systemic contact. It is highly likely that in an earlier stage these axes were manufactured in emergent proto-urban agglomerations, like Este and Padova. Artisans residing in these centres strove to create new forms and stylistic patterns to respond to the increasing demand for idiosyncratic material culture by the local elites. Some specific type of axes, understood as either working tools or prestigious weapons associated with swords, assumed a marked transcultural character which linked the most prominent members of elites around the eastern Alps into a chain of connections. This east-west systemic interaction is nonetheless a highly significant phenomenon, which could have laid the foundations of the profound cultural amalgam overshadowed by the Situla Art in the ensuing period.

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Chapter 8

Urbanism and Architecture in the Etruscan City of *Kainua*-Marzabotto: New Perspectives

Elisabetta Govi, Chiara Pizzirani & Andrea Gaucci

This paper aims to analyse the Etruscan city of Marzabotto, the ancient Kainua, with an integrated approach which considers all the aspects, from the urban layout to sacred and domestic architecture, handcraft production, identity values, and social structure. The quality and variety of the data collected permit the virtual recreation of the whole Etruscan city, based on theoretical principles and a rigorous archaeological analysis. The virtual Kainua is first of all an analysis tool. As a matter of fact, through forms of interactivity and simulations the virtual model allows us to formulate important considerations about historical and social issues.

Keywords: Etruscans; Urbanism; Marzabotto; Kainua.

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8.1 Introduction

Marzabotto is one of the best-preserved cities of all Etruria. Nowadays, the cemeteries and only part of the urban spaces have been brought to light (Govi 2007). The city was preceded by a previous settlement about which unfortunately little is known, since it was obliterated by the rebuilding between the late 6th and early 5th century BC. The scarce traces found below the 5th century BC structures, together with significant imported materials, testify to a building phase which can be dated to the second half of the 6th century BC (Govi 2016, 203-211). These sacred craft and inhabited structures display an orientation that is not unequivocal and differs from the subsequent plan of the 5th century BC city (Govi 2017a, 88). Therefore, regarding this phase the main issue is understanding the dynamics of the building and rebuilding of the city in the absence of sources which could shed light on historical events. However, the foundation of the settlement around the mid-6th century BC, probably preceded by huts, appears to be part of the wider and well-known phenomenon of development in the Po Valley of Etruria (Sassatelli 2017). By contrast, the rebuilding of the city between the late 6th and the beginning of 5th century BC seems to have taken on the traits of a communal rebirth in a sacred and institutional manner, also reflected in the name *Kainua*, meaning "new". Besides, this new city does not change the functional destination of the spaces that remain where they were in the previous phase (fig. 8.1). Thus, the community was the same, but deeply renewed (Govi 2017b).

The 5th century BC city was founded on astronomical and geometrical principles and the urban layout stemmed from the observation of the movement of the sun (fig. 8.2;

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 123-136.

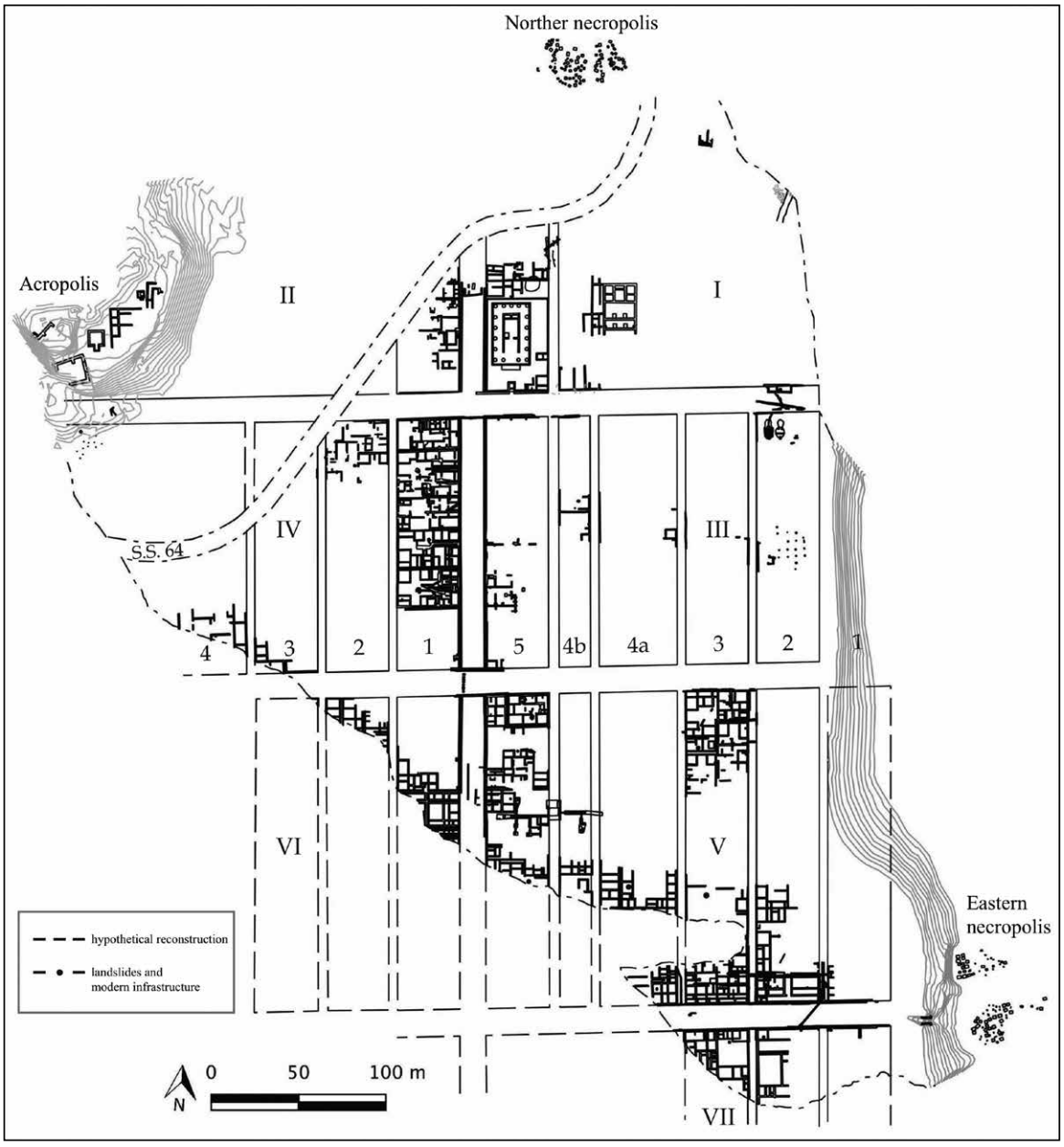

Figure 8.1. The city plan of *Kainua*-Marzabotto (authors).

Gottarelli 2005). It was not only a consecrated zone, but within the urban plan the religious dimension defined the distribution of spaces. In fact, the sacred areas are perfectly inserted in the urban geometry, demonstrating the incidence of this aspect in the foundation planning and the close relationship with the political space.

As we know, the acropolis has a fundamental role in this process of foundation, hosting the *auguraculum* and the *mundus* sacred to *Dis Pater* (Sassatelli 1989-1990). However, the urban layout was surely influenced by the sacred area of *Regio* I, where there are two monumental temples, dedicated to *Tinia* and *Uni*. First of all, this is a confirmation of the contiguity of the sites of these gods in the northeast quadrant of the *templum* (fig. 8.3).

So, in Marzabotto the "sacred geography" of the urban layout appears to perfectly mirror the principles of the *Etrusca disciplina*. Moreover, the Tuscanic Temple of *Uni* is placed at the centre of a space which influenced the pattern of the anomalous blocks towards the south (Govi 2017b, 168-169). This temple, dated to the last decades of the 6th century BC, can therefore be placed at the origin of the city and the whole northern development appears to have been arranged according to a sacred and institutional intention. The peripteral Temple of *Tinia*,

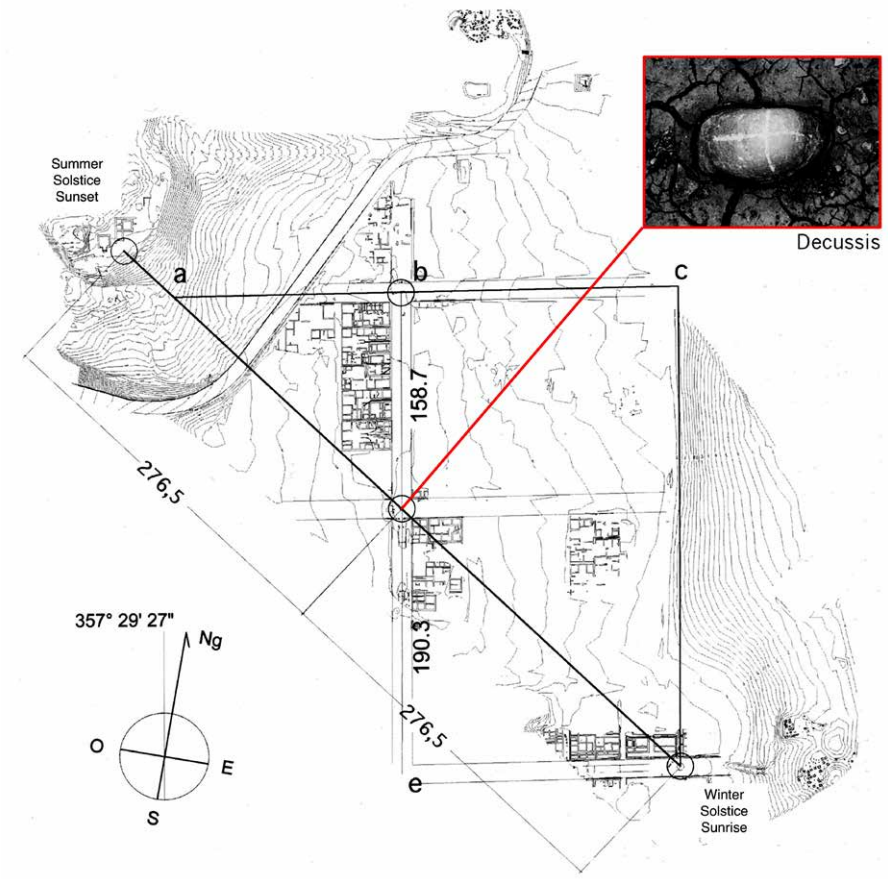

Figure 8.2. Scheme of the foundation rite based on astronomical principles: the *decussis* (cippus with an engraved cross) was found in the middle of the main crossroad (authors).

which has remarkable affinities with similar buildings of southern Etruria and *Latium*, was built a few decades after and was perfectly inserted into the urban grid and with its monumental structure had a strong visual impact on the city obscuring the sight of the nearby Temple of *Uni*.

Moreover, some new inscriptions allow for knowledge on political and religious aspects of the foundation rites of these temples to be gained. A solemn collective ceremony celebrating the consecration of the Temple of *Uni* can be assumed, as revealed by an inscription found among the stones of a foundation wall of the *podium* (Govi 2017). A large bucchero amphora containing wine with a text inscribed on the neck, after a ceremonial libation, was ritually broken and thrown into the foundation wall during construction, becoming forever inviolable and sacred. Just two Etruscan words have come to us from these sherds, **spura* which translated into Latin is *civitas*, and *Kainua*, the name of the city. The foundation rite of the Temple of *Tinia* is hinted at by a fragment of an inscribed bronze tablet, intended for a public exposition in the sanctuary (Govi 2015). The solemn text, dated to the second quarter of 5th century BC, recalls men who had an important role in the construction of a building, perhaps the temple itself. Again, we read the noun **spura*, and therefore can assume the institutional nature of the foundation act. If so, this is further evidence of something like a liturgy of the foundation of a sacred building. Except for the similar rite of the Temple B of Pyrgi documented by the well-known bilingual gold tablets, no other example comes from the Etruscan world, and, regarding the finding in the Temple of *Uni*, this is the first time that an inscription of this kind has been found *in situ*, hidden in a wall.

The implementation of the geometrical layout created by the city planning and the consequent division of internal spaces led to undeniable comparisons with the Greek world. In fact, in the same period in Greece and Magna Graecia, geometrical principles were developing and had an effect on urban planning, as demonstrated by the recent interpretation of the layout of *Neapolis*, organised in a circular pattern with the Temple of the Dioscuri at its centre (Longo and Tauro 2016). Marzabotto reveals just how close the intercultural dialogue was, as shown by the use of the Attic foot in the planning of the entire city and its buildings (fig. 8.4). But it is also important to note that in Etruria already since the 7th century BC a regular urban plan was developed, as evidenced by the city of *Veii* (Campana 2018).

Unfortunately, we do not know if there were city walls, but there certainly had to be some form of delimitation of the civic space, precisely because the city came into being according to the principle of the *templum*, which is a

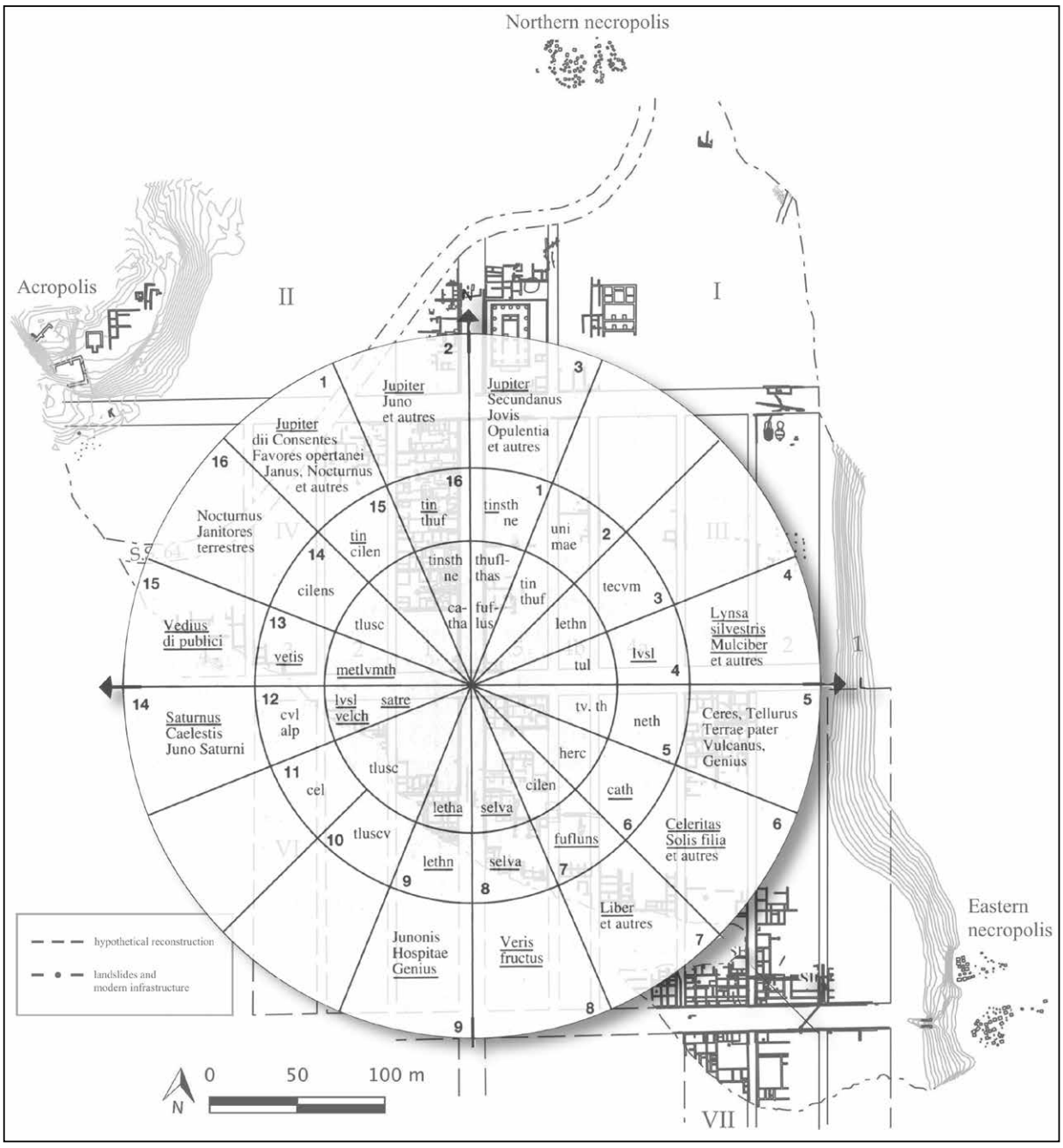

Figure 8.3. The celestial *templum* superimposed to the city plan (authors).

delimited and consecrated space. It has been suggested that an *agger* and a big canal delimited the northern sector with a curvilinear development which seems to follow the circular geometric shape within which the city's quadrangle was placed (Malnati and Sassatelli 2008). Were such hypotheses to be confirmed, the geometric principle on which the urban layout was based would appear clearer and the comparison with *Neapolis*, founded in precisely the same years, would be more significant. Marzabotto thus reflects a very high level of central planning and coordination between buildings and spaces, since formality and monumentality are applied here through the common orientation of infrastructure, the axiality and symmetry of buildings, the logic of accesses and internal networks[1]. Everything appears profoundly interconnected on a spatial and conceptual level. Therefore, this high level of

1 For theoretical approaches applied to the Etruscan town of Marzabotto, see Govi 2017a.

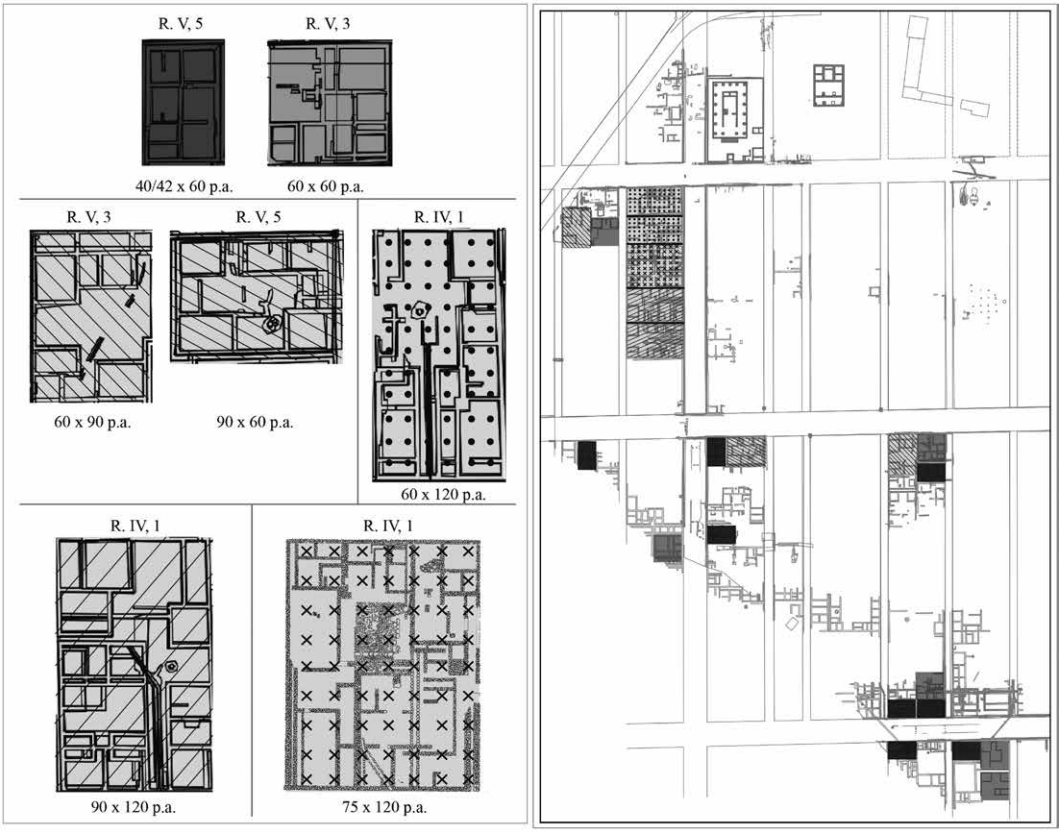

Figure 8.4. Different modules of the buildings based on the Attic foot (p.a.) and their distribution in the city plan (authors).

monumentality and the deep commitment of the community in public works testify the political ideology of power through wide streets suitable for processions, wide-open spaces for public ceremonies, imposing accesses and above all public and private architecture. For example, it is already known that the *plateiai* have the same dimensions, yet they seem to have differing degrees of importance and different functions: *plateia* B now appears to be a sacred road that connected the city to the acropolis and large workshops and atrium houses faced onto the *plateia* A. So, we can assume that there were precise modular and measuring criteria within the city and hierarchical distribution of the houses, based on position with respect to visibility (Govi 2016). Analysis of the different planimetric schemes adopted for the dwellings of the city allows us to observe the absence of any fixed architectural typology and conversely the variety of domestic solutions, which can begin to form a very articulated picture and testify to the complexity of the society.

E. G.

8.2 Workshops, *chaîne opératoire*, and building materials

A dense network of production activities characterises the urban space, where there is no manufacturing neighbourhood or functional area, but certainly the larger shops overlook the *plateiai*, which functioned as a genuine catalyst (fig. 8.5; Morpurgo *et al.* 2017, 116-117). It has been noted that the workshops of Marzabotto were extremely significant (*ibid.*), but the aspect most worth investigating is the social one. It remains difficult to understand by whom they were run and, from a political and social point of view, to define these structures which recall rural or suburban structures such as the Villa dell'Auditorium in Rome (Carandini *et al.* 1997; Gaucci 2016, 273), but transferred into a civil fabric. The archaeological remains of the several craft workshops allow us to give prominence to the *chaîne opératoire* too. Among the numerous furnaces, the craft system of House 1 in *Regio* IV-*insula* 2 has been studied in depth (Govi and Sassatelli 2010). The archaeological records, which are the product of a recent excavation with detailed documentation, have been examined in their entirety in order to reconstruct all the aspects of the life cycle of an ancient house-workshop. So, we are able to determine the location and typology of the craft installations, in particular the relationships between the walls, the position of the stake holes, and the width and depth of the foundation structures (Morpurgo *et al.* 2017, 118-120). In addition, pottery and architectural materials found in the archaeological layers

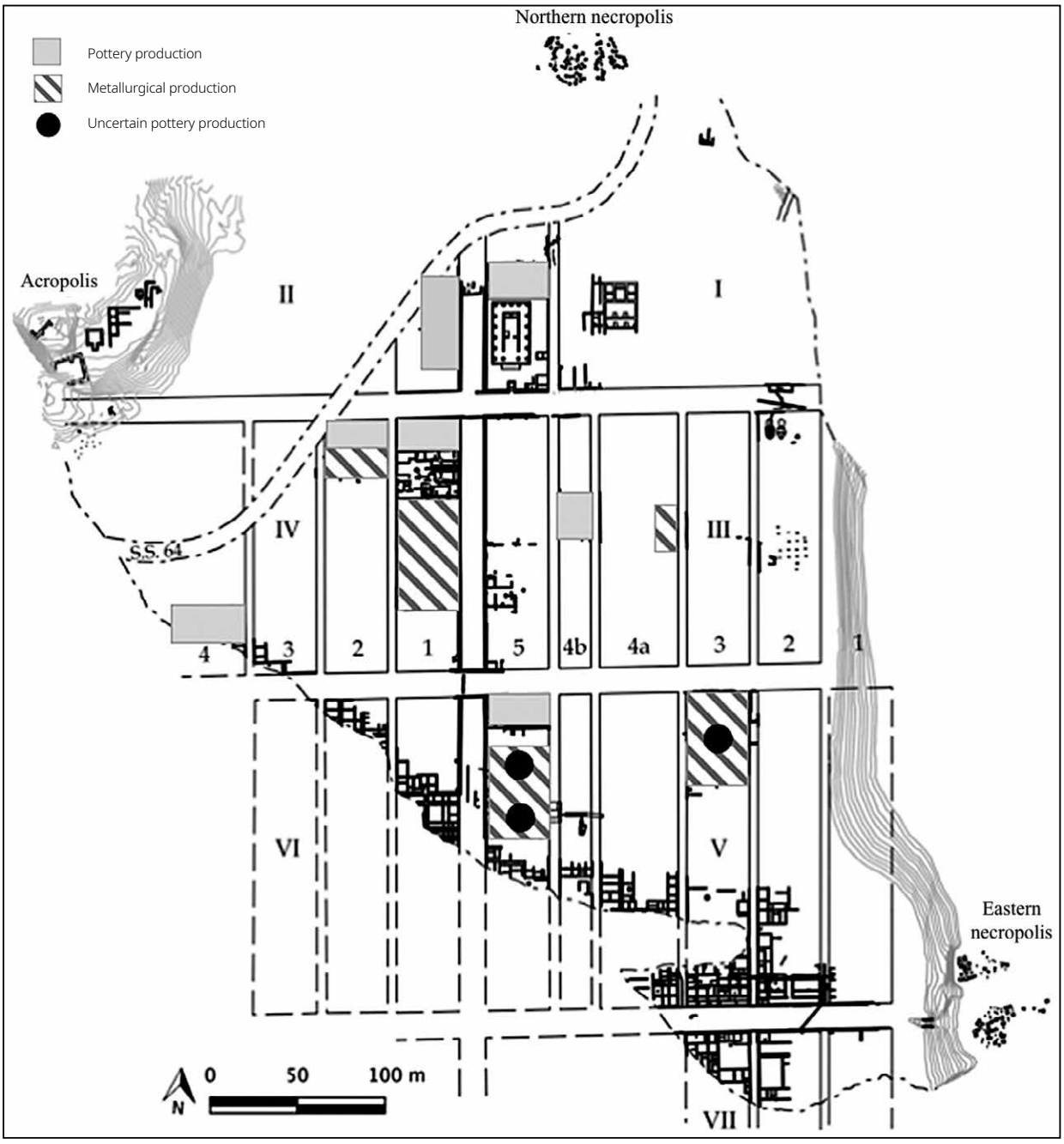

Figure 8.5. The evidence of pottery and metallurgical production in the Etruscan city (authors).

are thought to be products of the workshop itself or items used by people working or living in the building.

Thanks to the integrated analysis of all these aspects, it has been possible to reconstruct the structural phases of the house-workshop, which underwent some radical modifications during the time of its activity, from the end of the 6th to the middle of the 4th century BC (fig. 8.6; Govi and Sassatelli 2010, 179-203). Probably, most of them were the consequence of the life cycle of each kiln, whereby the creation or dismantling of an installation must have determined the general reorganisation of the area in which it had been built. The greatest revelation of House 1 is constituted by the real possibility of reconstructing the whole productive process of ceramic items that could be used for storage or everyday use such as vases, along with bricks and tiles used to make walls, roofs, or even in the construction of the kilns themselves. There were tanks for the provision of the

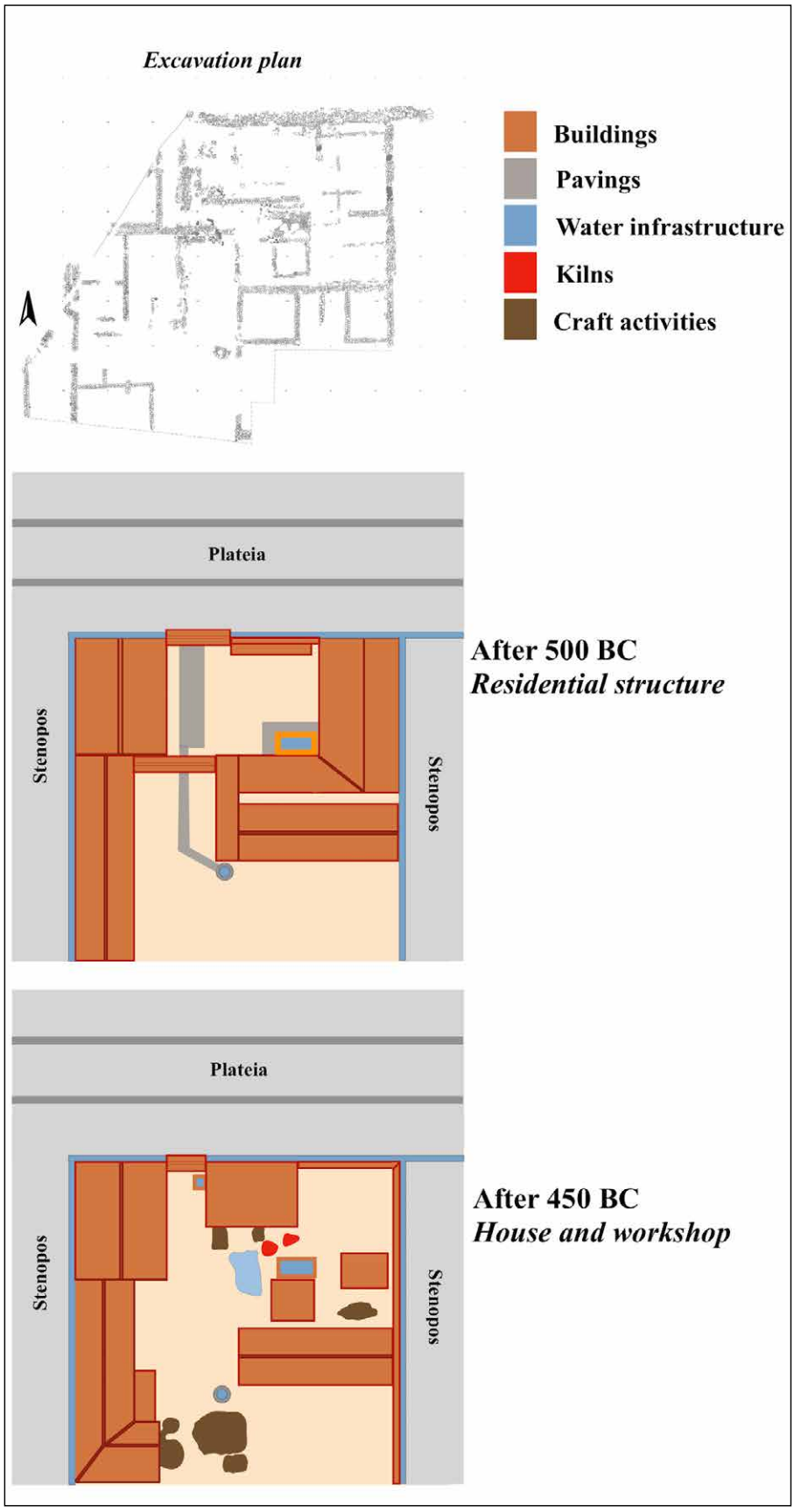

Figure 8.6. The main structural phases of the House 1, *Regio* IV-*insula* 2 (authors).

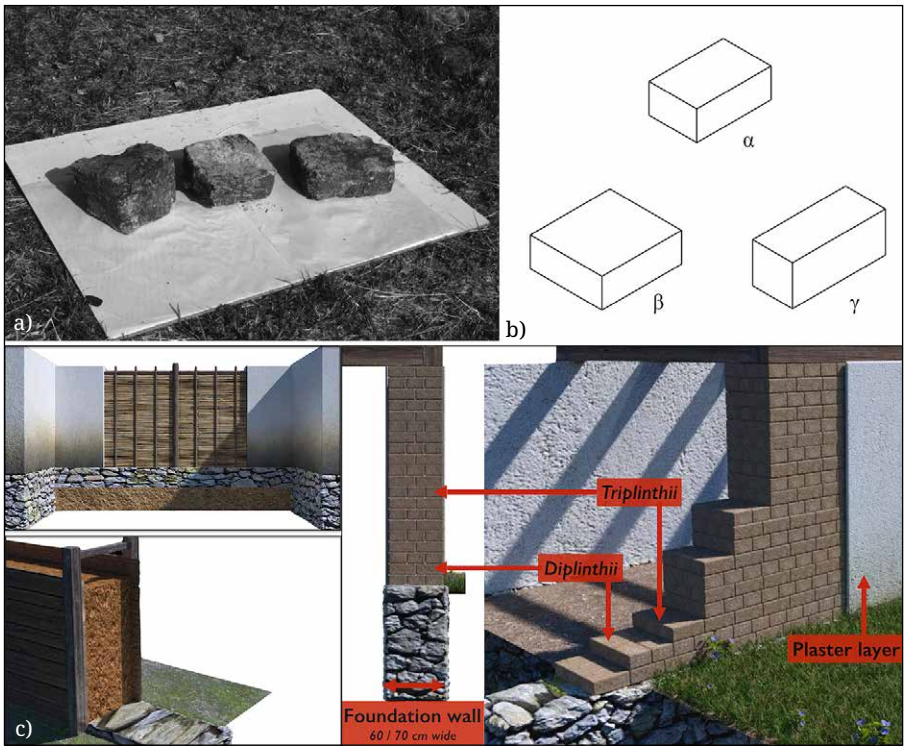

Figure 8.7. a- Examples of mud bricks from the House 1, *Regio IV-insula* 2; b- the three main modules of mud bricks (after Pizzirani and Pozzi 2010); c- building techniques: mud bricks, wattle-and-daub, *pisé* (after Gruška *et al*. 2017).

water, basins made of tiles for the refinement of clay, a porch for drying vases before firing, and, in addition, large holes in the ground have been discovered in the southern area of the workshop. This discovery has permitted the conservation of a class of materials, namely mud bricks, which are normally lost because of their perishability. Besides the preservation of the bricks, which we know belonged to the walls of the building of this house and more generally to the architectural structure of the whole city as well, many fragments of tiles have been discovered. As a result, it is possible to state that the bricks and tiles from House 1 have finally given an answer to the longstanding question about the architectural materials and features of the city's buildings.

The measurements of the House 1 bricks are essentially standard and fit perfectly with the most common width of the building foundations in Marzabotto (fig. 8.7a-b; Govi 2010, 215; Pizzirani and Pozzi 2010, 305). According to Vitruvius, foundations as large as those which were built in Marzabotto, with walls made of mud bricks, used alone or as filling of a timber frame structure, were able to support a two-story building, even if the maximum height of the drywalls, made with these techniques were without other substructures and avoided static problems of any kind, has been estimated to be around 2.8 m (Gaucci 2016; Gruška *et al.* 2017, 167). Among the multiple brick modules documented in Marzabotto, the most common one in housing areas seems to be a small rectangular brick (fig. 8.7b, α), which is probably based on the Attic foot (Pizzirani 2019; Pizzirani and Pozzi 2010, 305). These dimensions fit the stone foundations so they could be constructed either with three bricks fixed closely together lengthways or two aligned bricks placed sideways, as mentioned by Vitruvius (fig. 8.7c). It may be presumed that the two building techniques were associated and alternated in the wall texture, in order to improve the static behaviour of the structures. The scarce clay portions with signs of canes indicate the usage of wattle-and-daub or *pisé* technique (fig. 8.7c; Govi 2010, 213-214; Gruška *et al.* 2017, 167; Massa Pairault 1997, 90-96). The gap between the foundation's width and the wall thickness was necessary not only for static reasons, but also to apply a plaster layer.

The tiles are extremely relevant as well. The roofs were made by a combination of Laconic-Corinthian elements (fig. 8.8), the semi-cylindrical cover-tiles as found in the Laconic covering, and flat shingles as in the Corinthian one (Ciaghi 1999, 1-5). The study of the findings has led to the recognition of a precise size of tile, which was likely used all across the city (Pizzirani and Pozzi 2010). This tile format was surely used for the construction of the house roofs and for part of the roof of the Temple of *Uni* (Govi 2017b; 2018). Finds in the cistern near the more recent Temple of *Tinia* (Govi 2017b; 2018; in press; Sassatelli and Govi 2005) belong to a larger format of tile, that can be assumed to represent an improvement in building techniques, commensurate with a temple which dominates the whole city.

C. P.

Figure 8.8. Tiles found in the Temple of *Tinia* and virtual reconstruction of a roof (after Garagnani *et al*. 2016b).

8.3 The virtual *Kainua*

Kainua is a perfect case to investigate, in a unified manner, a complex urban context and to start research in the field of Virtual Archaeology. Since 2014, the Chair of Etruscology and Italic Antiquities of the University of Bologna has developed the *Kainua Project*[2], explicitly based on the theoretical principles of VA and chiefly aimed at the virtual recreation of the Etruscan city (Garangnani 2017; Gaucci 2017; Govi 2017a). The aim of the project implies dealing with architectural, historical, and social issues which clearly defined the workflow. Indeed, the virtual *Kainua*, analysed as a network of infrastructure, buildings, and open spaces in a complex urban plan, represents a tool to investigate social issues too.

The modelling process has been founded on rigorous archaeological analysis, starting from the collection of all available data for each context documented by excavations. Regarding the digital simulation of the ancient buildings and environment, which is a cutting-edge issue for VA (Gaucci 2017, 101), we started defining a methodological process named ArchaeoBIM (fig. 8.9), aimed at the reconstruction of the Lost Heritage and thanks to which the final model presupposes the validation of the reconstruction itself (Garagnani 2017, 145-148; Garagnani *et al.* 2016a; 2016b; Garagnani, Gaucci, Moscati and Gaiani in press). The highly innovative aspect of this method, which complements a more traditional and historical approach, is the application of reconstructive technology to formulate reflections on the architectural credibility of the virtual model and the

2 The project has been funded by the Italian Ministry of Education, Universities and Research (MIUR) concerning the "Future in Research" program FIR 2013, under Grant RBFR13X8CN.

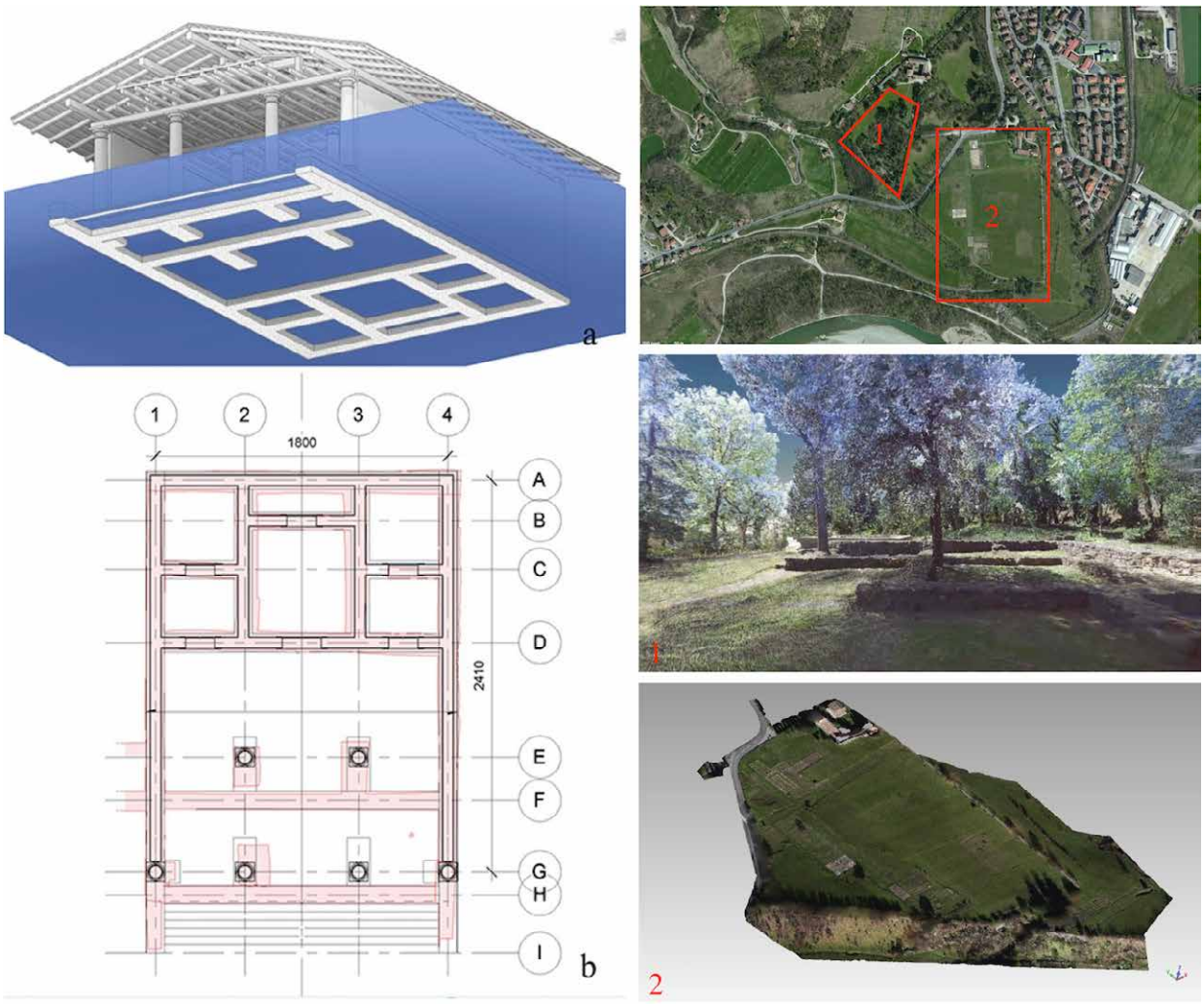

Figure 8.9. On the left, the ArchaeoBIM model of the temple dedicated to *Uni* (after Garagnani *et al*. 2016a); on the right, the Digital Terrain Model (after Gaucci *et al*. 2015).

reliability of its elements, facilitating control of all the steps of analysis, from the starting data until the final simulation. As a matter of fact, we can simulate static and resistance of an ancient building in the presence of different conditions (weather, thermal, lighting, etc.), with respect to the context and the diachronic perspective. It is therefore a big step not only within the internal debate on the purposes of virtual applications, but also towards the entire archaeological process of analysis.

It is worth drawing attention to the interdisciplinary nature of the whole interpretative process, not limited to interaction with disciplines more closely related to VA as informatics, but involving the entire complex of studies which contribute to the understanding of the lost structures (*e.g.* palaeobotany, archaeometry, etc.). For example, in the case of *Kainua*, this has made it possible to evaluate the building material of the elevations, mostly based on mud bricks, as confirmed by archaeometric analysis, and on oak beams, as confirmed by palaeobotanical samples found during excavations (Gaucci 2017, 105; Gruška *et al*. 2017).

Collecting all the information at our disposal, the reconstruction of the urban texture started from the Digital Terrain Model, elaborated using Structure for Motion techniques for the lower plateau and range-based techniques for the acropolis, characterised by irregular ground and dense vegetation (fig. 8.9; Gaucci *et al*. 2015). Then, the DTM was modified in order to reach the morphology of the ancient terrain. During this phase, we had to deal with important issues, namely the borders and

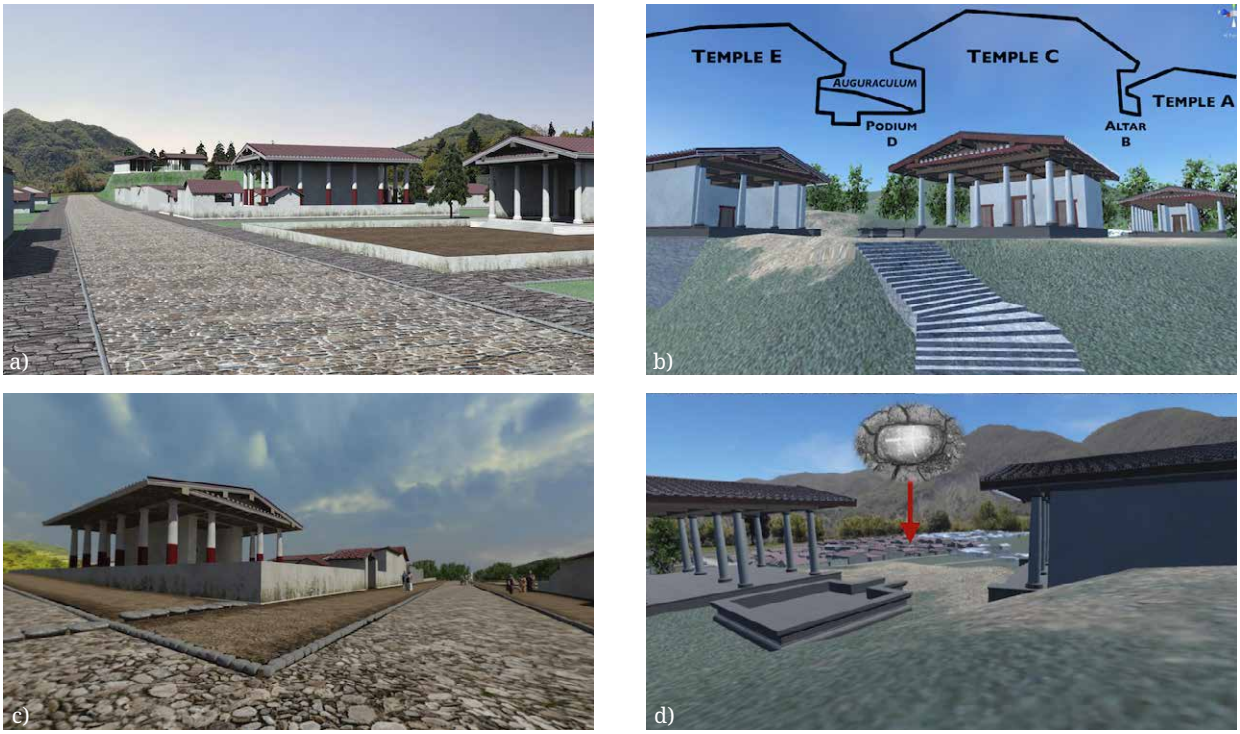

Figure 8.10. a- View of *plateia* B from the east; b- View of the acropolis from the *plateia* B (the reconstruction of the staircase is based on an uncertain hypothesis); c- View of *plateia* B from the crossroad towards the east; d- View of the lower city from the *auguraculum*: the arrow points to the crossroad, where the *decussis* was found (authors).

the southern part of the city affected by river erosion, and the connection between the lower city and the acropolis[3].

Kainua, where the investigated buildings are fewer compared to the entire city, is a case of elaboration of virtual models starting from scarcely known inhabited areas (*e.g.* the case of the Iberian town of Ullastret: Codina *et al.* 2017). This objective has been supported by a campaign of geophysical surveys in the plateau (Boschi 2016, 91-93; Govi 2014, 90-94). The results of this campaign, put together with the archaeological data known from the excavations, led to the formulation of an interpretative scheme of the modules of the buildings based on the Attic foot and their allocation within the blocks (fig. 8.4; Govi 2016). We used that scheme to recreate broad areas of the city with a satisfactory approximation. However, the city is mostly made up of areas which have not yet been investigated and we suspend judgment on these, as in the cases of *Regio* II at the slope of the acropolis and *Regio* III on the eastern side of the plateau. The eastern side of *Regio* II is occupied by the Great Furnace (Sassatelli 2009), whereas the middle part of the area was cut in the 19th century AD by the work for the new Porrettana road (today SS 64) and the western side is privately owned. The *insula* 5 of *Regio* III is occupied by houses similar to that of *insula* 1 of *Regio* IV, whereas the rest of the area towards the east is currently more difficult to understand (De Maria *et al.* 1974; Govi 2016, 198, 208).

Based on all this information, the urban eco-system has by now been virtually elaborated for the period of the city's peak, dated to the 5th century BC. The insertion of the digital models of the buildings in the urban plan has defined critical issues related to the use of public and private spaces. In this regard, viewshed analyses can give interesting perspectives on the ancient built environment. Indeed, the study of the spaces within the virtual environment allows us for the evaluation of social events for which we know the actions within the environment.

For instance, the crossroads between *plateiai* A and B was surely an important focal point (fig. 8.10a-b), visually dominating the two accesses to the city from the north (the route to Bologna/*Felsina*) and from the south (the route to the Apennines and Tyrrhenian Etruria). Indeed, it afforded full visibility of the urban sacred area with the Temple of *Tinia* in marked evidence, of the hill of the acropolis on the west and of the houses along *plateia* A towards the south. Moreover, the virtual environment allows us to appreciate the impressive aspect of the Temple of *Tinia*, visible from

3 The huge difference in height (around 11 m) between the street, currently 4.5 under the ground level, and the higher terrace where the sacred buildings arose, has never been inserted into a spatial model, which brings to light the way to cross the once steep slope (Gaucci 2017, 104).

all sides from a great distance, in contrast to the Tuscanic Temple of *Uni*, completely hidden by the other one from the crossroad and visible only from a frontal perspective.

Another example regards the acropolis (fig. 8.10c), where the archaeological study led to the delineation of a sequence of occupation of the sacred space starting with Altar B, dated to the second half of the 6th century BC (Sassatelli 1989-1990, 605-606). Probably after the foundation rite of the city around 500 BC, the high terrace was occupied by other sacred buildings, among which were the Tuscanic Temples C and E (Govi 2017b, 148-156). The latter was a considerable constructive effort since it was raised on a partially artificial platform above the northern side of *plateia* B. Inside the virtual environment, the volume of these temples occludes the view of the lower part of the city from the *auguraculum* on the top of the hill (fig. 8.10d). The huge mass of these probably saved only a narrow window oriented towards the southeast, which visually connected the *auguraculum* and the *decussis* at the centre of the urban grid. Therefore, the virtual environment leads us to suppose that the entire space of the terrace was planned in order to save that visual line, which was at the base of the foundation rite.

A.G.

8.4 Conclusion

To conclude, the sequencing of the investigations requires a vision beyond the city to the wider context of the network of the settlements of the Po Valley in Etruria. In this territory there is evidence for a standardisation of urban structure with the common use of certain aspects, such as measurements using the Attic foot, also recognised in other sites (*i.e.* Forcello di Bagnolo San Vito, San Cassiano in the territory of Adria, and Spina), astronomical orientation, and urban layout. However, it still remains to be understood how common the level of monumentality found in *Kainua* was and certainly present in Bologna, as well as how diffuse the spatial model so evident in our case was. Indeed, the lack of data on public spaces in the other main cities of this territory makes analysis very difficult and future research more stimulating.

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Chapter 9

Relationships between City and Necropolis in Northeast Italy

Giovanna Gambacurta

This paper attempts to identify the relationships between cities and necropoleis, primarily at the moment of city-making. After a brief introduction, a group of relevant and recurrent features is identified and a group of different cities in northern Italy (mainly in the Venetian area) analysed, in order to highlight similarities and differences. The description moves from west to east and from the earliest examples to those of the Iron Age. Finally, the paper looks at the two main cities in the region, Este and Padua. The analysis includes a topographic perspective with an evaluation of the monumentality and ritual choices. Using these methods, it seems possible to underline relationships between cities, necropoleis, and shrine or worship places as well.

Keywords: Northern Italy; City; Iron Age topography.

9.1 Introduction

The international meeting in Milan gave me the opportunity to deepen the topic of 'making cities,' with a new perspective. In May 2016, I addressed this theme in Cambridge with the purpose of identifying the features we must consider as 'standard,' or markers in a settlement for being a city, something like shareable 'criteria' (Gambacurta 2020). Nevertheless, I will not try to resume these subjects in this paper, although new perspectives and compelling points of view have recently emerged, as pointed out by M. Fernández-Götz, H. Wendling, and K. Winger in the introduction of the book *Paths to Complexity: Centralisation and Urbanisation in Iron Age Europe* (Fernández-Götz *et al.* 2014, 2-14; see also Fernández-Götz this volume).

When I was requested for a new personal reflection on this topic, I realised how often we have focused the attention on recurrent factors, such as the features of the place, the number of inhabitants, the opposition between city and country, or the relationship between city and state.[1] Considering the stage of discussion, I think that it is convenient and

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1 For the topic of making cities the references are almost endless. However, I would like to recommend some fundamental papers, mostly focused on general problems or on northern Italy: Ampolo 1988; Balista and Gamba 2013; Bintliff 2006; Bowman and Wilson 2011; Capuis and Gambacurta 2015; Colonna 1988; Cowgill 2004; Creekmore and Fischer 2014; De Polignac 1991; Donnellan 2019; Fox 1977; Frankenstein and Rowlands 1978; Fulminante 2014; Gleba *et al.* in press; Greco 1994; Guidi 2008; Liverani 2002; Lomas 2017; Malkin 2017; Malnati and Sassatelli 2008; Pacciarelli 2001; Peroni 1989; Riva 2010; Robinson 2014; Smith 2004; Stoddart 1999; Vitri *et al.* 2013.

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 137-152.

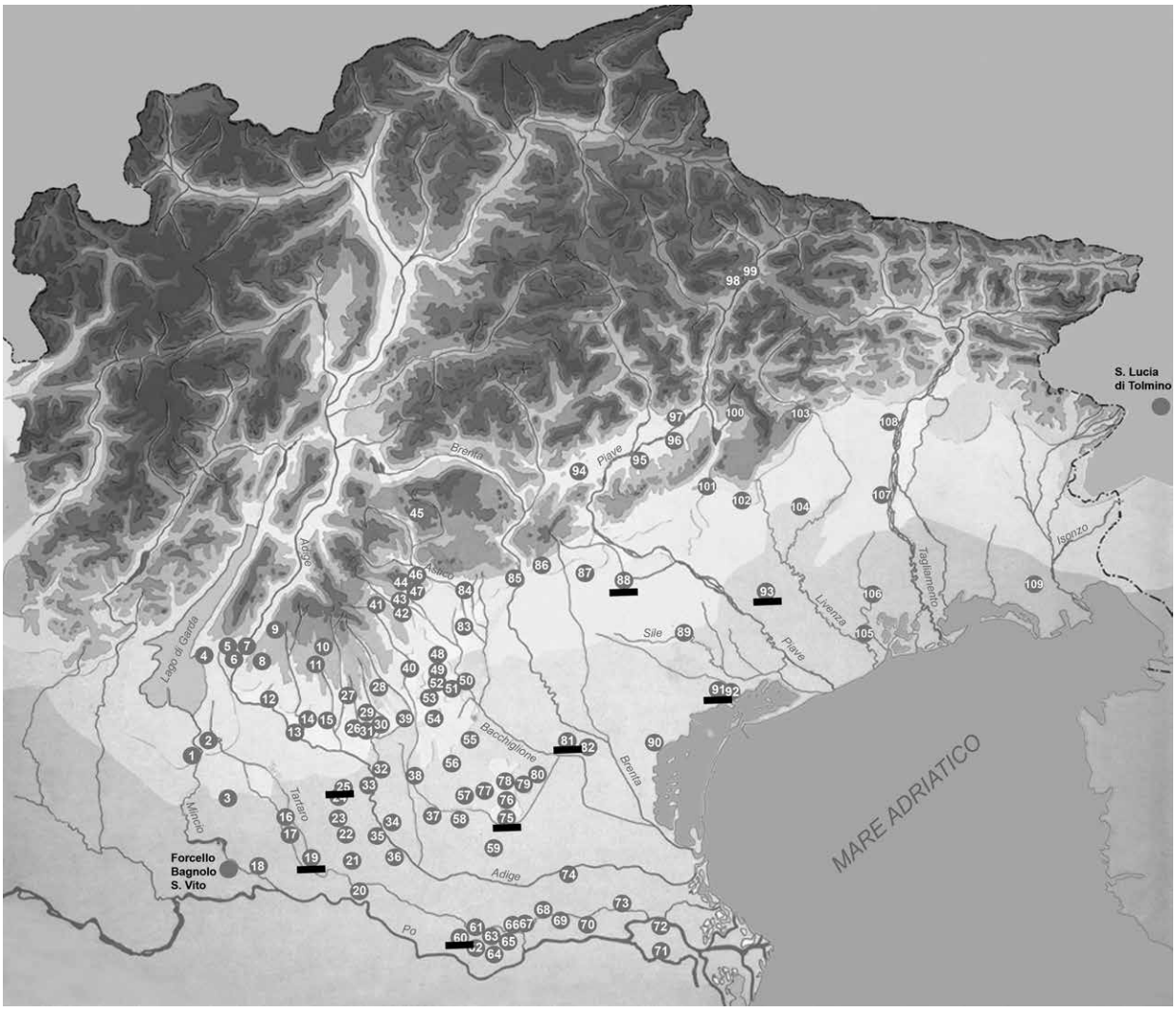

Figure 9.1. Map of the Venetic and Northeast Italy areas during the Iron Age. Numbers underlined show the cities considered. From West to East: 19. Gazzo Veronese (VR); 25: Oppeano (VR); 60: Frattesina di Fratta Polesine (RO); 75: Este (PD); 81: Padova; 88: Montebelluna (TV); 91: Altino (VE); 93: Oderzo (TV) (modified by the Author from Capuis and Gambacurta 2015).

helpful to underline and deepen the relationships between the city of the living and that of the dead, for this reason I will try to show, through selected examples in Northern Italy, how this perspective could be useful for our aims.

9.2 Cities and necropoleis: where and when

In Northern Italy, the morphology of the landscape offers natural boundaries: the Alps to the North, Tagliamento River and the Venice lagoon to the East, and the Adige fluvial basin to the West and South, however, it is important to remember that at that time the Adige river flowed 15 km further North than now. Within this territory, between the end of the 9th and the beginning of the 8th century, the collapse of numerous villages was verified, and, primarily in the plain, new settlements grew into cities within a short amount of time (fig. 9.1).[2]

According to the famous statement by Thucydides if it were true that "only the citizens make the city" (Thucydides, VII, 77,7), then the "dead citizens" could have played a relevant role in this phenomenon, too. Moreover, according to Pseudo-Scymnus (Pseudo-Scimno di Chio, *Periplous*, vv. 387-388, cfr. Pezzelle 2016, T29b, 411-413), in the inner part of the region, there were fifty Venetic cities. While the number sounds quite incredible and is unable to be verified by archaeological evidence, to avoid quick, redundant, and useless descriptions of many such cases, only the most significant will be discussed.

2 For the borders, see de Marinis 1999; Vitri 2013; for the population dynamics and the growth of the cities, Capuis and Gambacurta 2015.

The complex and not univocal relationships between necropolis and city have been masterfully underlined by Bruno D'Agostino (1985) in the paper "Society for the living, community of the dead: a difficult relationship". Since then, it has become evident through this perspective that nothing is inevitable nor entirely linear.

9.3 Recurrent features and analysis of some contexts

Now I will highlight the recurring features or abnormal behaviours and situations, starting from the topographic choice to the organisation and the rites which provide this kind of evidence. I will share links depending on particular features and relationships pertaining to social, political, or religious life. For the first:

- Topographic choices and relationship with water
- Organisation of burial space and common ritual choices
- Correspondence between inhabited units and necropoleis
- Relationships with main routes incoming and outgoing from the city
- Necropolis border signs
- Paths and secondary or ceremonial roads

For the immaterial features:

- Uncommon ritual choices
- Abnormal graves
- Relationships with a place of worship and shrine

Topographic choices allow for an accessible overview. It is plausible that many different factors had been considered in the making of the city and the link with the necropolis. To mention some of them, such as the presence of small bumps, connections with the main roads, visibility, the need to prevent foul odours from reaching the city centre as well as other unpleasant aspects connected with funerary rituals, and, finally, safety from the main flood areas.

However, in almost every case a river, canal, or scarp divides the city from the necropolis, as seen at Padua, Este, Gazzo Veronese, Oppeano, Oderzo, Montebelluna, and so on. These examples would imply that citizens were compelled to proceed through the water in order to follow the funerary procession or to visit their beloved dead. Loredana Capuis underlined how this transition could have a metaphoric meaning for the Venetic society and the dead, by crossing the water, would have started their journey to the beyond (Capuis 1993, 62; 75-75; 114-120). It seems a tradition with deep roots in the Late Bronze Age, as Frattesina di Fratta Polesine clearly shows. Here two funerary areas were placed to the southeast and north beyond the Po river (Bietti Sestieri *et al.* 2015; Bietti Sestieri *et al.* 2019; Cardarelli *et al.* 2015).

Planimetry of the necropoleis areas shows the different organisations of the burial space. In many cases circular, oval mounds, or tumuli gather family groups together, while in others we lack clear evidence of the relationship between the tombs. The necropoleis of Padua provide a good and perspicuous example: in the eastern necropolis some mound-structures are visible, dating from 8th to 5th centuries BC, while in the southern funerary area it is impossible to identify similar mounds. However, it is relevant to emphasise that in this area the stratigraphic remains were badly compromised, thus it is difficult to state if the mound structures were adopted as burial models or not[3].

Another relevant consideration is regarding the most common funerary ritual: while cremation is the most common rite, there are several inhumations, ranging between 10% and more than 40% of the total number of burials, depending on the different contexts, with variances seen even within the various necropoleis of the same city (Gamba and Voltolini 2018). On the whole, of the cremation graves, the most common behaviour is the repeated re-joining of the cremated bones of family members, within the same coffin or ossuary (Balista *et al.* 1988; Gambacurta and Ruta Serafini 1998a; 1998b; Millo and Voltolini 2015; Vanzetti 1992). Hence, I begin with just a few reflexions about Gazzo Veronese and Oppeano, the main sites in western Veneto, with a significant role as border-towns. Moreover, both cities have been known since the late 800s, but recent projects and research opportunities lead us to specify better some features connected with my subject.

Starting with Gazzo Veronese, we now have a more precise idea of the dimensions of the site and the kind of settlement, thanks to the team of Federica Gonzato, Luciano Salzani, and Alessandro Vanzetti (2015; see also Vanzetti *et al.* this volume). The authors suggest a relevant chronological evolution of the site. According to them, three groups of graves correspond to three inhabited areas between the 10th and 9th centuries BC, while in the following centuries, the number of populated areas is lower than the groups found in the necropolis (Gonzato *et al.* 2015, figs. 5 and 7). Between the 10th and 9th centuries BC, the funerary areas were Colombara to the north and Turbine S. Pietro and Ponte Nuovo (a-c) to the south, while the settlement areas were Cop Roman, Cascina Giordano, and Coazze. In the following two centuries six funerary areas (Colombara, Core, Dosso del Pol to the north and Ponte Nuovo (c), Turbine Chievo, and Turbine S. Pietro to the south) are known, but only one new settlement (La Teza) near Coazze and Cascina Giordano has been found. It is conceivable that with the growth of the urban centre, the link between

3 For the organisation of burial space in Veneto, see Capuis 1993, 76-84; 117-121; 162-164; Gamba *et al.* 2014; 2015a; Gambacurta *et al.* 2005; Ruta Serafini 2013. For a different opinion about the funerary mound structures, see Leonardi and Cupitò 2011.

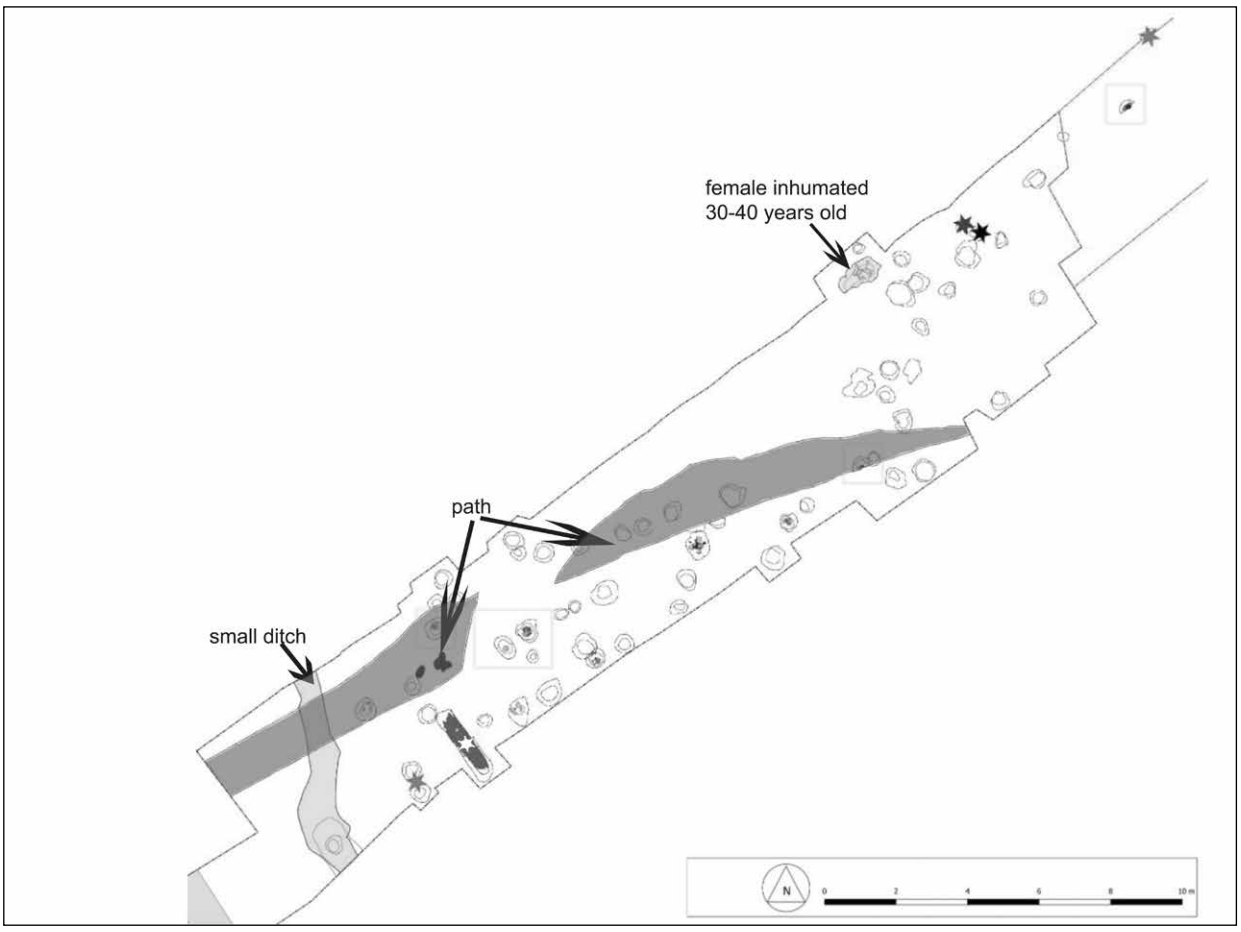

Figure 9.2. Oppeano (VR): map of the Northern necropolis (modified by the Author from Gonzato 2018, fig. 6).

the city and the 'city for dead' would be influenced by more transversal social reasons and the original groups could have been profoundly changed and mixed.

Oppeano is a significant proto-urban and urban centre, well-known thanks to research by Alessandro Guidi, Luciano Salzani, and their team (Candelato *et al.* 2015; Guidi and Salzani 2008; Guidi *et al.* 2008; Saracino and Guidi this volume). The necropolis of the Iron Age is to the south of the settlement, where two large areas were devoted to graves from the 8th to 4th centuries BC, with few older sections (Salzani 2018, 171-179, fig. 106). The discovery of a new group of graves to the north of the settlement represents a new way for understanding Oppeano in the period between the Late Bronze and Early Iron Age. The northern necropolis probably correlates to the oldest settlement areas, on the north side of the terrace (fig. 9.2).

This small group of graves (59) shows a low level and a chronological extension between 11th and the early 9th century BC (Gonzato 2018). It is notable that on the western side a small ditch seems to mark the border, suggesting the use of a system of signs to underline the limits of the urban and funerary spaces. In the northern area, only one inhumation has been found, that of a 30-40 years old woman lying in a prone position with fractured and, probably, partially burned femurs. This burial should be considered abnormal based on its attributes and perhaps represents an example of human sacrifice used to consecrate the necropolis (Gonzato 2018, 96-100).

Nonetheless, it is important to emphasise that other anomalous inhumations were discovered in the northern area inside the city. One, in Ex Fornace, was a male prone burial in a massive waste pit (Candelato *et al.* 2015, 522, fig. 5; from the same place, a female grave with bronze earrings and three bobbins, 518-519, fig. 4). From Oppeano, Montara (Guidi and Salzani 2008, 23) came the grave of a prone person with disjointed lower limbs (see also Perego 2016 for a general overview). The difference between abnormal burial inside the necropolis versus ones inside the urban area, and if there was a link (ideological, ritual, social?) between them is yet to be understood. Furthermore, the burial of the woman in the northern necropolis was strictly connected with a

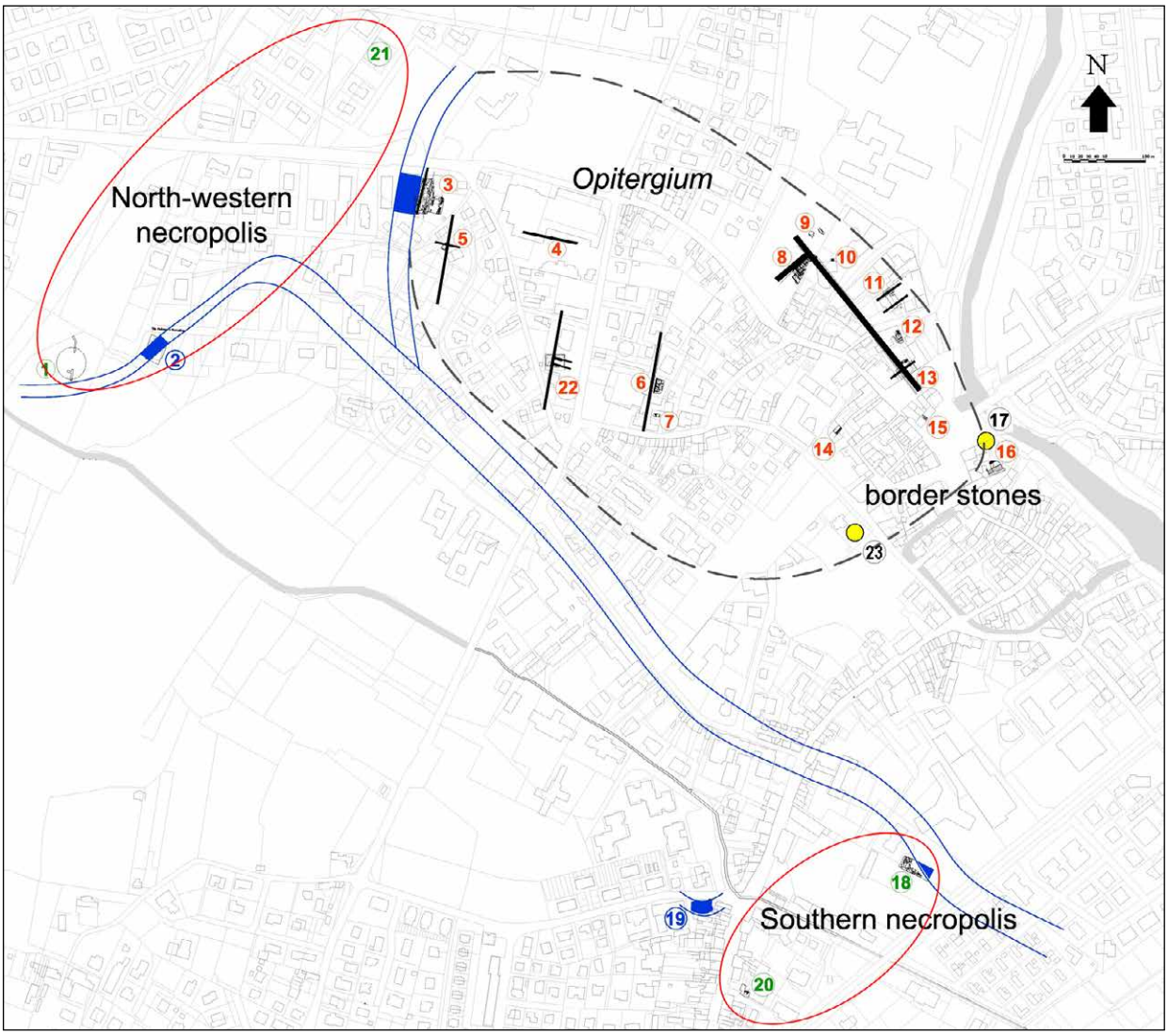

Figure 9.3. Oderzo (TV): map of the city (modified by the Author from Gambacurta and Groppo 2016, fig. 1).

cremation grave and a *dolium* contained the cremated bones. The relationship between cremated and inhumated remains has also been identified in Padua and other Venetic contexts and is a question of deeper social and anthropological relevance[4].

Towards the eastern region, we find a *facies* on its own in terms of pottery production and development of the urban centre, showing relevant features at least up to the river Tagliamento (Gambacurta 2007; Gambacurta and Nascimbene 2008; Vitri 2013). These characteristics are a confirmation of Louis Nebelsick's statement, "there was no dark age hiatus in the maintenance of social complexity development" (2018, 363). Thus, it is a crucial location in order to speculate about different kinds of urbanisation processes. Thinking about a non-linear development with different degrees of settlement complexity, within a process that includes cycles of centralisation and decentralisation, quoting Fernández-Götz, could be a good resource for further research (Fernández-Götz *et al.* 2014, 9; see Fletcher 2011; Moore 2017).

However, for our aims, there are two significant examples: Oderzo in the plain and Altino at the edge of the

4 Padova, southern necropolis (Gamba *et al.* 2015b): grave 579 (buried, female, 26-35 years old) near the 552 (cremated); grave 613 (buried, female, 8-12 years old) near the 673 (cremated, male, adult); grave 643 (buried, male, 54-68 years old) above the 649 (cremated, female, adult) and so on; Padova, Eastern necropolis, grave 100 (buried) and grave 104 (cremated with a *dolium* as a coffin) (unpublished); Altino, Western necropolis Fornasotti, grave 12 (buried) above a cremation (Gambacurta 1994, 98-99); Este, Casa di Ricovero, *Adige ridente* 1998, fig. 1, grave 43 (buried curled up, probably female), two little urns, grave 58 and 59; grave 37 (buried) above coffin 62; grave 55 (buried) near coffin 79.

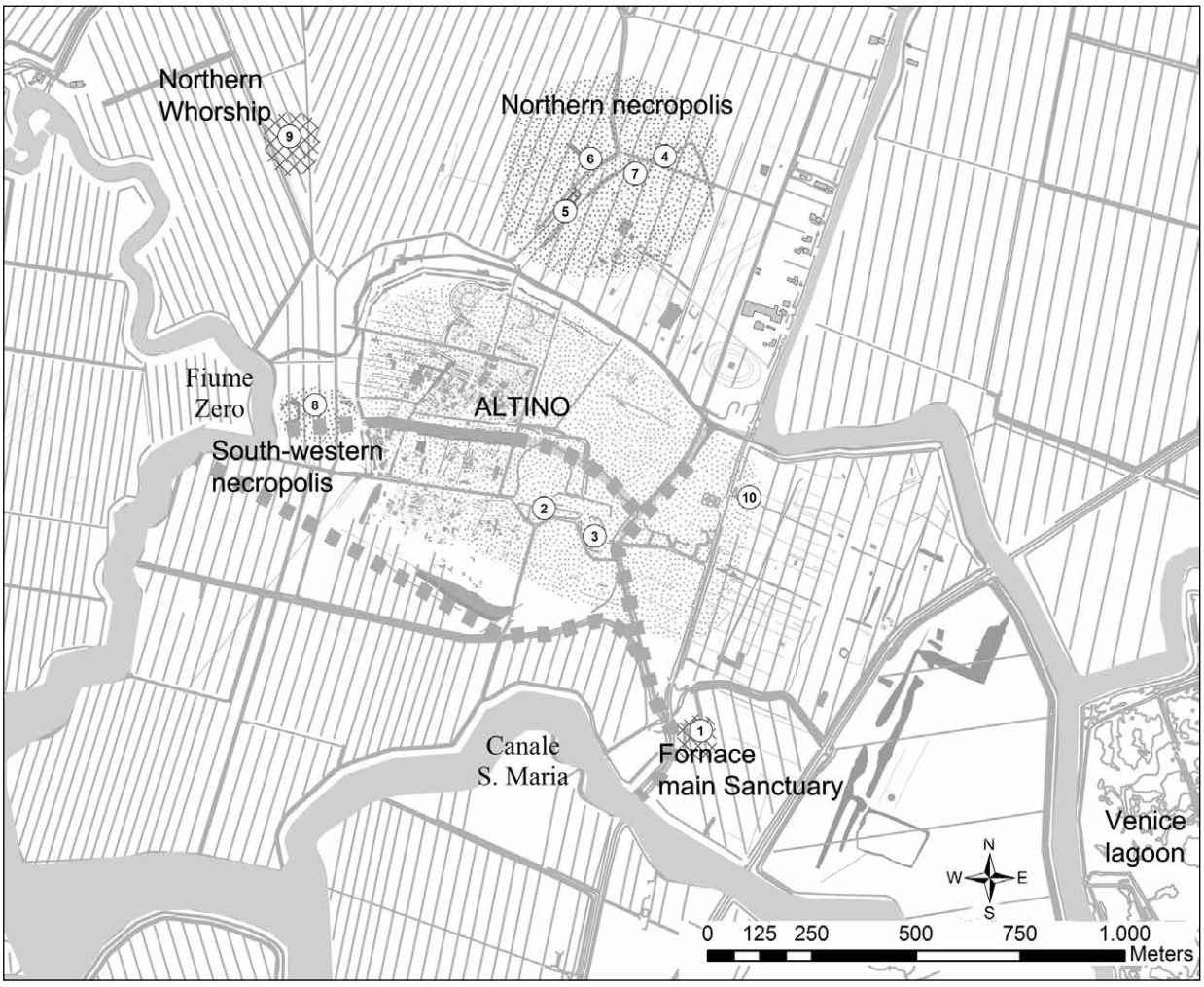

Figure 9.4. Altino (VE): map of the city (modified by the Author from Gambacurta 2011a, 54, fig. 1).

Venice lagoon. We know two necropolis areas in Oderzo, one to the northwest of the town and the other to the south (Gambacurta 1996; Ruta Serafini and Balista 1999). Concerning the urban area, the settlement shows two well-identified residential districts marked by different orientations. They could be related to the different cores of the necropolis, according to a system of diversified use of cemeteries, dedicated by the inhabitants of the various districts (Gambacurta and Groppo 2016) (fig. 9.3).

It is likely that burial areas were arranged close to the major transit routes that were outgoing or incoming to the city: the north one towards the northwest and the Piave valley, the southern one was probably the principal traffic director, since it would have been retraced by the via Postumia from the 2nd century BC (*Tesori della Postumia* 1998). Those routes connected Oderzo not only with the hinterland but also the broader landscape. From that point of view, we must consider the importance to traders as evident from the toponym *Opitergium*. The name of the city can be broken down into its different parts: the prefix *op* (like Latin *in* or *ad* and English *to*) and the Indo-European root *-terg* that means something like 'market', so the name of the city should mean '*to the market*' (Gambacurta and Groppo 2016; Prosdocimi 1988; Ruta Serafini and Balista 1999).

Moving to the south, we find Altino on the edge of the lagoon, probably the main harbour on the Adriatic Sea for Venetic people (Gambacurta 2011a). There is a vast necropolis in the north of the town, close to the route towards the Northeast part; a small nucleus (less than 30 graves) positioned to the west side of the city, towards Padua, maybe with a relationship with the several districts of the town (fig. 9.4). Nonetheless, this link remains a mere hypothesis, due to the fact that our knowledge concerning the city centre is still rather minimal.

It is noticeable that a relevant number of horses' graves (about 30) lay in the northern necropolis, in combination with human graves, while none have been found in the Western part (Gambacurta 2003). Even if horses' graves

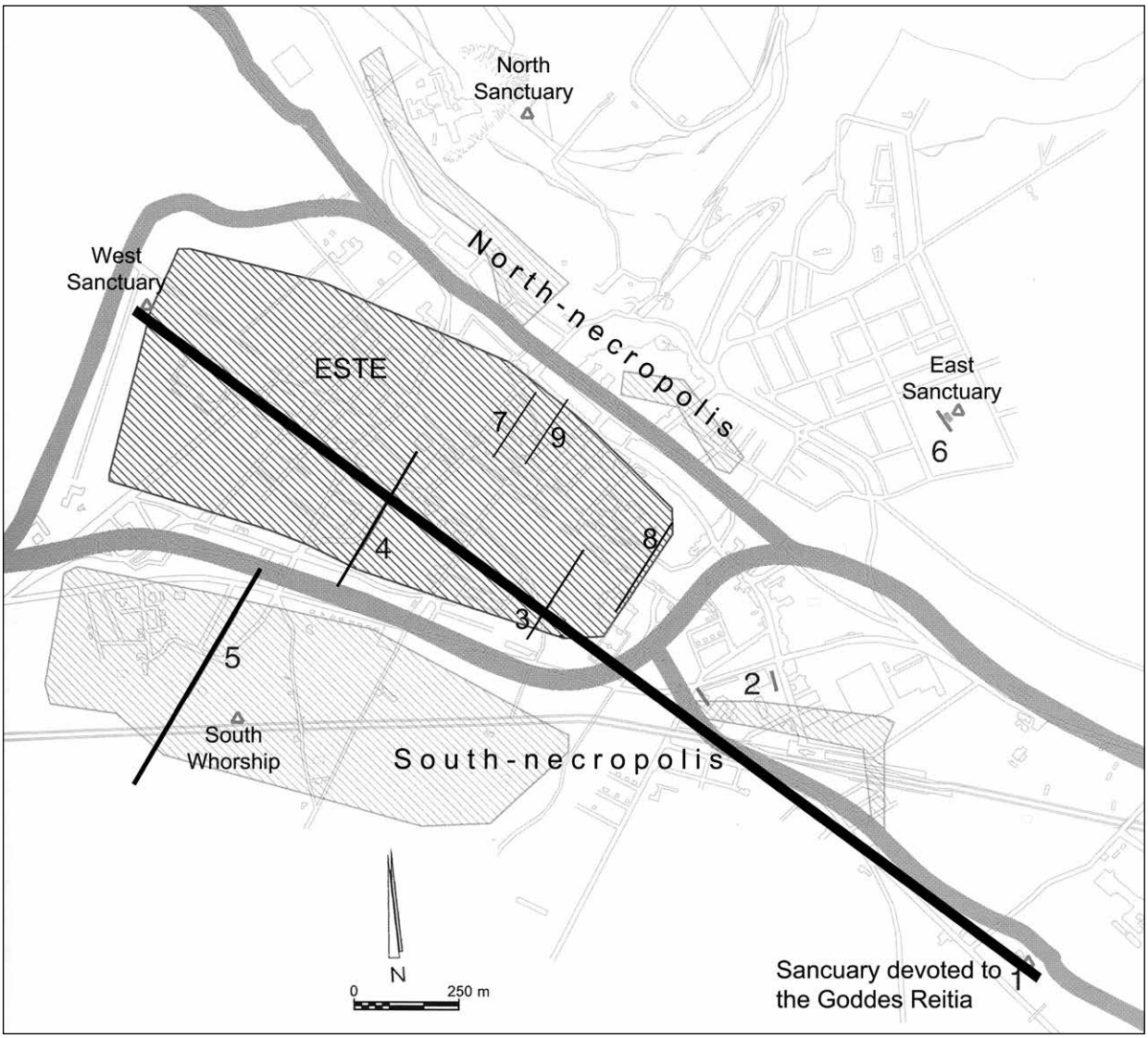

Figure 9.5. Este (PD): map of the city (modified by the Author from Ruta Serafini 2002, 117, fig. 35).

are well known in the majority of Venetic necropoleis, in Altino we found more horses than in other sites, likely due to the breeding and trading of these animals that took place there[5]. However, we should consider that such outstanding evidence of horse sacrifices could be the connection between the northern necropolis and the main worship place of the city, devoted to the eponymous deity. Among all of the horses' inhumations in Veneto, this is the only example of horses offered in a shrine (*Altnoi* 2009; Fiore and Tagliacozzo 2009, 182-183). The deep connection between city, necropolis, and shrine is evident through horse offerings and graves in association with the attribute '*ekvopetars*', which appears in the Venetic inscription on a funerary stele dated to the 5th-4th century BC for two women called *Ostiala* and *Fremaistna* (Scarfì and Prosdocimi 1972; Marinetti 2011, 26). All across the Venetic region the term '*ekvopetars*' appears in some inscriptions as the title of a relevant social class (Marinetti 2003).

Finally, I proceed to the last two cities, Este and Padua, the most important and famous, perhaps the capitals. In these instances, links and relationships are more clear[6].

5 Only in Este we have a similar number of horses, but in a necropolis without humans, only devoted to animals (Balista and Ruta Serafini 2008).

6 For Este see *Adige ridente* 1998; Bondini 2016; Calzavara Capuis 1986; Capuis and Chieco Bianchi 2006; Chieco Bianchi and Capuis 1985; Gregnanin 2002-2003. For Padua see Cupitò and Leonardi 2015, 550-551; Gamba and Gambacurta 2011; Gamba *et al.* 2014; Gamba and Tuzzato 2008; Gamba and Voltolini 2018; Michelini and Ruta Serafini 2005, 130-143; Ruta Serafini 2013; Zampieri 1975.

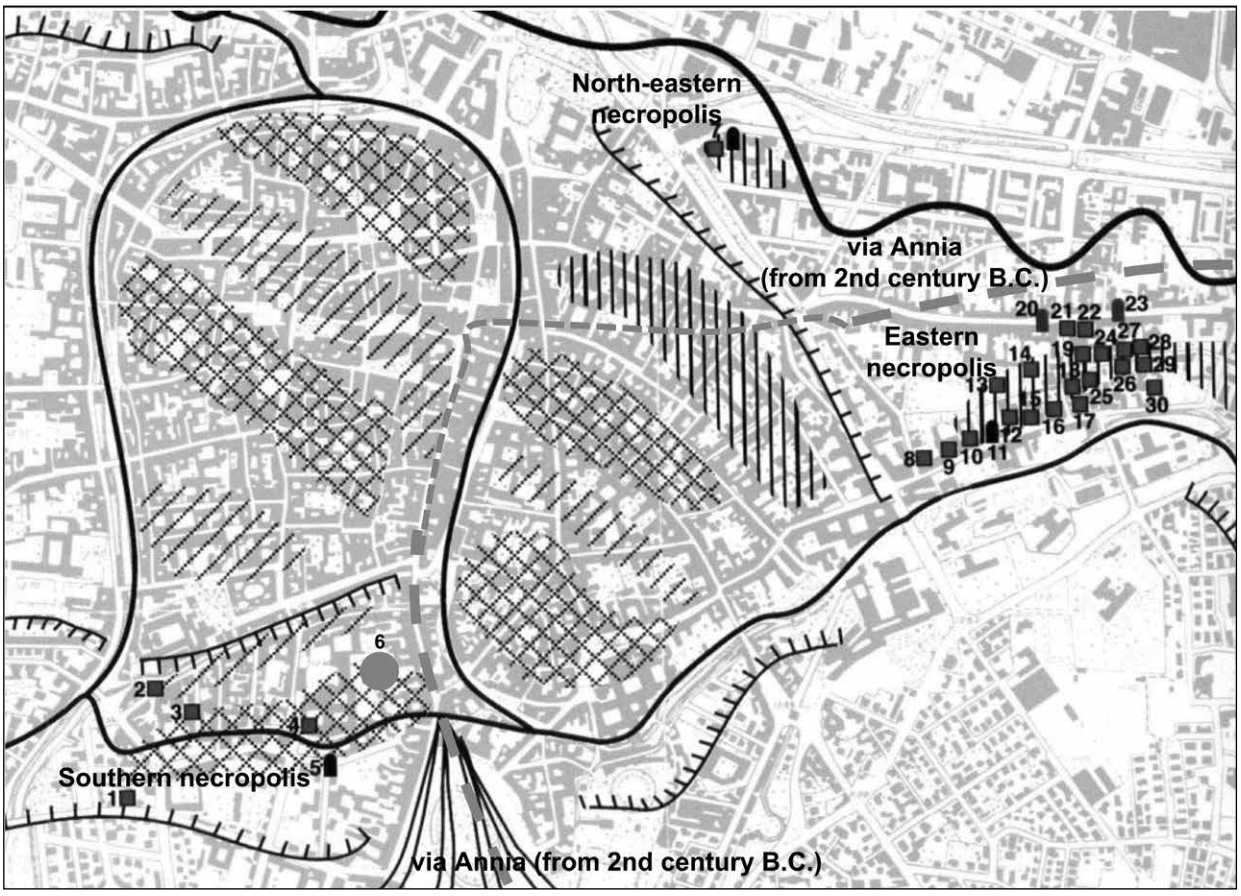

Figure 9.6. Padua: map of the city (modified by the Author from De Min *et al.* 2005, 132, fig. 160).

Starting from the site and the routes, we can consider that, in Este, the northern necropoleis are situated on the hillside with an open and extensive view of the plain (fig. 9.5).

It is remarkable that, from the city, these graves and tumuli should be well visible, with some of the richest and most famous contexts positioned in the highest area. The southern necropoleis are in the plain south of the Adige River. On this side, there were routes for travelling southwards to Adria (southeast) and the western border with Etruria. Although the southern necropoleis are less known, (they are still awaiting editing), we can see that, compared to the northerners, they likely refer to different social classes or groups.

As we far as know today, it is difficult to state the existence of some connection between the oldest areas of the city and the oldest groups of graves as well as the way in which people selected the first areas for burials, both north and south, but this is a topic for later research. For our purpose, it is notable that at least by the end of the 6th century BC a broad road in the southern necropolis had the same orientation as four other stretches of roads in the city, showing a coherent system (Balista *et al.* 2002, 104-120; fig. 35). Moreover, a road 10 m wide was found near the southeast shrine, devoted to the goddess Reitia. This road was probably a processional way going out from the city (Ickler 2013, Abb. 90, Taf. 18). From this perspective, if we extend the orientation of this road, it is perfectly orthogonal to the previous ones. Thus it seems essential to emphasise that the whole system involving the city, city of the dead, and a shrine is regular and coherent.

A different, but no less attractive, situation can be found in Padua (fig. 9.6). There, four areas for burial related to the city, even in distinct ways and levels, have been found (Gamba *et al.* 2005; Michelini and Ruta Serafini 2005). The main areas are situated to the south and east and are linked to the two areas of the city, in the northeast, a little group of graves and further from the city to the east a fourth necropolis. Both the main areas lay along a road: the eastern area, used from the second half of the 9th century BC, was placed along the way to Altino, the lagoon, and the Adriatic Sea, while the other, towards the south, was located near the approach from Este and the Etruria Padana during the 9th century BC. The path was probably the same and the most critical traffic director since it would have been removed by the *via Annia* from the late 2nd century BC (Veronese 2009; 2011). The different location and topographic relationship

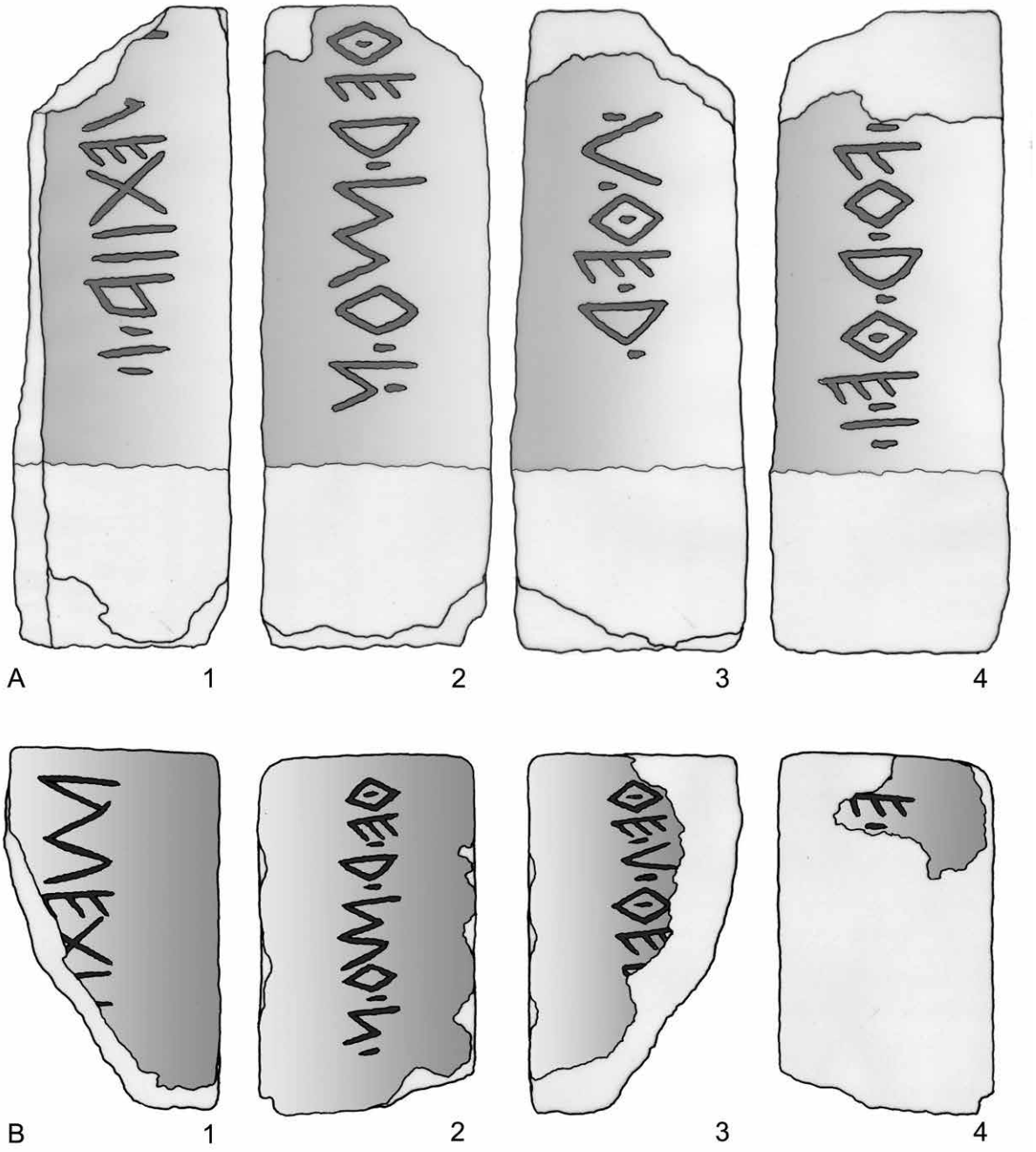

Figure 9.7. Padua, two stones with Venetic inscriptions: A: via C. Battisti, Palazzo Dondi Dall'Orologio; B. via San Biagio 35 (after Gamba *et al.* 2013, 230).

between the necropolis and this relevant road help us to understand the different means of development and exploitation of the two areas. In the first case, the oldest graves along the extension of the necropoleis let us speculate that the area was entirely, or almost, occupied from the beginning, the second half of the 9th century. In the most extensively excavated area, about 300 graves were found within more than 4,000m^2, and about 600 graves in total (Gamba *et al.* 2014, tav. 23; Gambacurta 2011b, 125; Ruta Serafini 1990, fig. 3).

In the second case 800 graves in 300m^2 were situated near the road and the other areas spread to the west just after 6th century BC. The area near the road shows an intensive use of the space that had caused several activities of restoration and damages of stratigraphy (Gamba *et al.* 2014, 23-23; Gamba and Voltolini 2018). It is clear, in my opinion,

that there was a desire to be near the road and to assure the visibility of the funerary structures.

Speaking of visibility, Este and Padua show a different way in which to highlight the monumentality and necropoleis borders. In fact, in Este we found pyramidal *cippus*, even with inscriptions, to highlight some graves, and other signs to underscore the border for example a group of big *cippus* to the southern edge of the northern necropolis, and two undecorated stelae between the city and the southern necropolis (Gamba *et al.* 2008).

Otherwise, in Padua from the end of the 6th century BC to the Romanisation Phase we found figurative monuments, stelae with a Venetic inscription. We recognize about 30 monuments, but only for a limited number, can we identify the location it was found. With most being placed near the edge of the necropolis, to assure the visibility of the monuments from afar (Gambacurta 2016, 116-117; Michelini and Ruta Serafini 2005; Zampieri 1994). In Padua, we can gather these funerary monuments with the stones at the border of the city, a good group of ancient and new findings, most of those with the relative inscription. Three of these inscribed stones have the word '*termon*' that is the Venetic version of the Latin '*terminus*', and from this point of view the boundary stone function is clear and undoubted (fig. 9.7). In this way, the monumentality of the city is well defined (Gamba *et al.* 2008; Gambacurta *et al.* 2014; Prosdocimi 1979).

In Padua, the study of rituality and abnormal situations present in the necropoleis has been contributed to by new amazing discoveries, primarily in the southern necropolis. Here, about 50% of inhumations have been documented from the earliest phases, between 9th and 8th century. Mariolina Gamba and Diego Voltolini have recently emphasised this peculiar evidence including the presence of abnormal burials (Gamba *et al.* 2015b; Gamba and Voltolini 2018). For these reasons, I believe that investigating this relationship will lead to a deeper understanding of the social implications, especially at the time of making city. In the southern necropolis, the authors have ascribed about twenty graves to the phase dated to the 9th century, in the midst of them there are three inhumated females next to a cremated male (Gamba and Voltolini 2018, graves: 579 and 552; 613 and 673; 664 and 653), an inhumated male laid over a cremated woman (Gamba and Voltolini 2018, graves: 643 and 649), and two inhumated women, one next to the other (Gamba and Voltolini 2018, graves: 678 and 679). The inhumated women are mostly supine, with only one in a flexed position. Some of these burials also contained funeral equipment, like an amber necklace from the grave 664, a bronze fibula from 678, and a bronze earring from 679. From this perspective the ritual choice should not be related to a matter of ranking. Even in the eastern necropolis two inhumated women, one with a fibula, an earring, an amber pearl, and a clay spindle-whorl and the other with a bronze pin, seem to start family groups of graves (Gamba *et al.* 2014, grave 305: 137-140; Gamba *et al.* 2015b, 502-503). It is notable that at the time of city-making, women were often buried sometimes with good quality equipment, perhaps suggesting that they started the family groups.

While the supine position is the most common, there is no lack of children and adults found in flexed positions, and a significant number of prone inhumations, both male and female, young and old age (from 17-25 to 63-72 years old). In four cases the inhumations were disjointed, including three males and one individual too young to be determined. It seems possible that disarticulated skeletons or partially preserved remains were condemned for gross negligence, victims of diseases, or deformities (Gamba and Voltolini 2018). This kind of evidence is well preserved in the western funerary site of the eastern necropolis too (Ruta Serafini and Michelini 2013). Here, during the 8th century a group of small pits were filled with charcoal, vegetable remains, and bones, both burnt and not, perhaps the remains from meals. Later large pits contained fire remains with vegetable and animal offerings, and other disarticulated animals, mostly horses and dogs, as well as whole and partial human remains were buried. It seems conceivable that the men were killed in a ritual ceremony or were perhaps condemned to a horrible death. A surprising and disturbing finding is perhaps the mirror of a ritual, which had been repeated over time with the aim to purify and sanctify the area allotted to the necropolis with several chthonic rituals. This kind of evidence reflects political and legal organisation.

Finally, I would like to highlight the relationship between city, city of the dead, and shrines. We know in Este and Padua there was likely a shrine inside or near/beside the necropoleis. At the end of the 19th century a little group of votive offerings was discovered in Este, in the southern necropolis, for the most part composed of bronze sheets symbolising sexual organs, dated to the 3rd century BC. It is possible to suppose that a small worship site was located in the southern necropolis and that it was devoted not only to funerary ritual, but also to agricultural and liminal cults (Gambacurta 2002, 270-275).

At Padua, some colleagues and I have recently suggested a place of worship or a shrine located in or near the eastern necropolis based on the presence of some devotional offerings (Di Filippo Balestrazzi 2012; Gambacurta and Marinetti 2019; Gambacurta and Ruta Serafini 2009). Moreover, Michele Cupitò has posited that it could be identified with the Giunone shrine, quoted by Livy, never identified before. While this is very difficult to determine, the two hypotheses are that the shrine is located either under St. Antony Basilica or near the eastern necropolis, both of which are very interesting for forthcoming research (Cupitò *et al.* 2019, 116-117). Maybe we should be very careful, but these hypotheses are quite interesting for our subject. In the end, the topic of relationships between cities and necropoleis at the moment of making cities seems to have interesting and amazing research angles, worthy of being further explored.

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Chapter 10

The Proto-urban Phenomenon in Veneto: A Review of the Population Dynamics of the Settlement of Oppeano (Verona)

Massimo Saracino & Alessandro Guidi

to our friend Giovanni Modena (1939-2009)

This paper focuses on the historical-archaeological importance of the evidence in the municipality of Oppeano, confirmed by the research carried out discontinuously from the 18th century to the present day. Archaeological work on the proto-urban settlement placed on the fluvial ridge has allowed us to chronologically trace the diverse phases that, from the Final Bronze Age to the Late Iron Age, saw the formation of an urban settlement extending about 80 ha. This evolution confirms de facto *a new settlement model, observed also in other parts of Italy (Etruria primarily), and the new socio-political scenario shows an increase in the dimension of the sites surviving or being settled* ex novo *during the Final Bronze Age – Early Iron Age along the main waterways, such as Este, Montagnana and Gazzo Veronese. However, unlike these three centres, Oppeano, due to its geographical location between the upper and middle plains of Verona, seems to reflect, on the one hand, all the characteristics of the phenomenon that will lead to its urbanisation and, on the other hand, that the level of material culture seems to be less affected by the dynamism and socio-economic vivacity that is seen in other major towns in the Veneto region. This is also confirmed by data from the necropoleis located to the north and south of the centre.*

Keywords: North-eastern Italy; Veneto; Oppeano; Urbanisation; Bronze and Iron Ages.

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10.1 Introduction

Following the publication of the special issue of the *Quaderni di Archeologia del Veneto* about the proto-urban centre of Oppeano (Guidi and Salzani 2008), the historical world of the ancient Veneti has been explored far and wide thanks to the organisation, in 2013, of an exhibition (Gamba *et al.* 2013) and conference session as part of the XLVIII Scientific Meeting of the Istituto Italiano di Preistoria e Protostoria (IIPP) dedicated to the Veneto (Leonardi and Tiné 2015, 449-557). Since then, a whole series of archaeological discoveries have taken place, one after the other, with little changes

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 153-170.

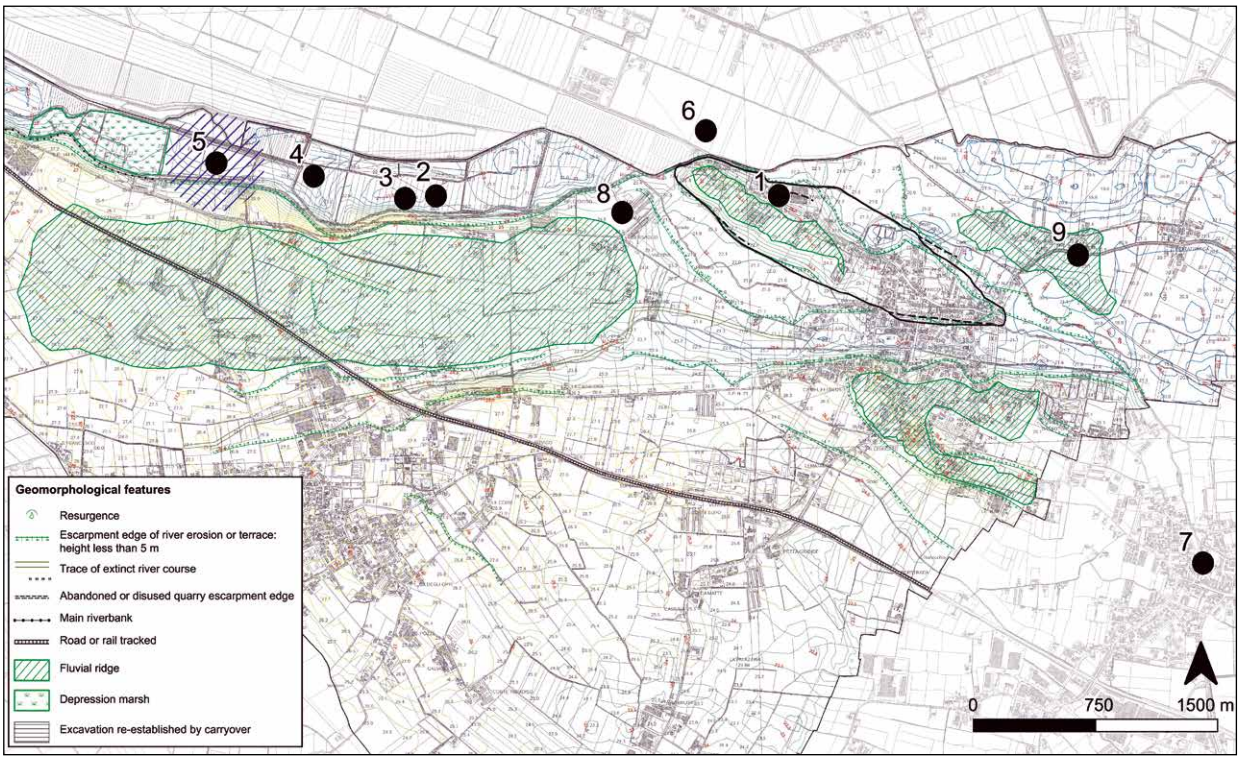

Figure 10.1. Geomorphological map of the area under investigation: 1. Oppeano-Ex Fornace (the black line refers to the limits of the Iron Age settlement), 2. Site 4C, 3. Site 4D, 4. Site 4E, 5. Feniletto pile-dwelling (the circular area refers to the hypothetical location of the associated necropolis), 6. Via Da Vinci necropolis, 7. Isola Rizza, 8. Belgioioso, 9. La Piletta (after Matteo Bertoldo and Massimo Saracino).

to the overall vision of the so-called '*Venetkens*' in terms of history, culture, socio-economics, and religion.

In light of the topic of the present volume, the paper by Loredana Capuis and Giovanna Gambacurta (2015), from the proceedings of the IIPP Veneto Scientific Meeting, marks well the climax of the synthesis on the dynamics of population between the 10th and 6th centuries BC with an eye to the phenomenon of urbanisation. Specifically, it is a paper that, whilst acknowledging the contribution of 30 to 40 years of research in the field and beyond, lays out the articulated population dynamics. From the very beginning the latter occupies all areas following a well-expressed and polycentric strategy, a prerequisite for the future city-states.

The settlement of Oppeano, which has been the subject of research for about 140 years (Ferrari 2008) and has become a case study for the possibilities and potential offered by the limited anthropisation of the archaeological sites, fits well into this scenario (Candelato *et al.* 2015; Guidi and Salzani 2008). In recent years, the territory surrounding the centre has also provided a whole series of useful data for understanding the population dynamics that have seen human presence in a discontinuous mode from at least the final phases of the Neolithic to the Roman period.

The aim of our paper is to illustrate the close relationship between the geomorphological features of the area and the population dynamics and to offer a detailed update on the occupation of the ridge and the necropolis in order to understand the ways the centre urbanised.

10.2 Geology and geomorphology

Oppeano is located about 20 km southwest of Verona and 6-7 km from the northwestern present-day course of the Adige River (fig. 10.1). Currently the town is bordered by the channels Bussè, Piganzo, and Menago, all tributaries of the Tartarus. As the geological report drawn up on the occasion of the PAT[1] shows, the municipality is characterised by typical forms resulting from river processes such as:

1. River ridges: slight convex reliefs rising a few metres above the surrounding plain.
2. Edges of slopes with river erosion or terracing divided into those of less than or more than 3 m in height: they represent morphological limits of the alluvial plain

1 http://www.comune.oppeano.vr.it/c023055/zf/index.php/servizi-aggiuntivi/index/index/idtesto/164

no longer active as a result of the carving processes of ancient river courses.
3. Resurgence incision head: typical areas of alluvial plains where the water table intersects with the topographic surface.
4. Marshy depressions or areas of low topography where stagnant water is present; the most evident example in this sense is represented by the boggy area of the Feniletto.
5. Traces of extinct river course, at plain level or slightly depressed.

The most evident geomorphological characteristics of the municipal territory are the river ridges delimited by river erosion escarpment edges (Sorbini *et al.* 1985). The area under investigation, within the ancient alluvial fan of the Adige River, is located in the highest part of the middle plain of Verona, delimited to the north by the upper plain and the Adige River, to the south by the lower plain, to the east by the province of Vicenza, and to the west by the moraine belt and the province of Mantua. In particular, the area of the Iron Age settlement corresponds to a morphological relief a few metres higher than the surrounding plain, consisting of a large terrace with an elliptical contour the surface of which has moderate convexity. From a general geological-geomorphological point of view, it is located at the boundary between the Holocene flood plain and the alluvial fan of the Adige (Rioda 2008). The morphology of this portion of the Veronese plain is characterised by the ancient and modern deviations of the Adige River, with alluvial steps, often clear, that identify an ancient network of riverbeds. The latter may be abandoned, oversized, and now the seat of watercourses. In the territory of Oppeano there are at least two areas characterised by palaeochannels: one to the north near the already mentioned edge of the alluvial terrace and within which numerous ditches and drains flow into the channel Bussè and the second bordering the southwestern edge in the locality Mazzantica, in which the River Menago flows (Sorbini *et al.* 1985).

The Oppeano ridge is elongated in the NW-SE direction, with a major axis of about 2 km and a minor axis of about 500 m. The most prominent part of the ridge along its major axis has elevations between 26 and 30 m a.s.l. The northern margin is clearly defined where the edge of this morphological prominence coincides with the erosive escarpment enclosing the plain of digression of the Adige in the area called Vallese, where the altitudes are around 22-23 m (Balista 2004). In the SW, the edge of the ridge is less pronounced, but well-marked in aerial photos and there is a palaeochannel current site of the Fosso Peccana with an average height of about 25 m a.s.l.

This area was supposedly suitable for some animal species that could provide a useful resource for the inhabitants of the edges of the terrace. Moreover, the initial part of the Subatlantic (800-300 BC) corresponds to a strong cooling that leads to the establishment of a fresh humid climate in the area (Orombelli 2005). This made the most depressed areas less favourable for settlement and made it likely that the parts of the river ridges were favoured already in the previous period. The Oppeano ridge is also located to the south of the so-called "resurgence line", from which a wide network of rivers originates (such as Tione, Tartaro, Menago, Tregnon, and Bussè) crossing longitudinally the entire territory to the south, allowing for finer sandy-loamy floods that sometimes show marked altimetric variations. This hydrogeological arrangement makes the lowered areas less suitable for settlement, while the settlements tend, now as in the past, to be located on the morphologically raised sandy ridges with better drainage.

10.2 Settlement dynamics between the Neolithic and the Final Bronze Age

Over the years, the area surrounding the proto-urban centre has brought to light a number of different archaeological remains, discontinuously embracing a rather wide chronological time span: from the Late Neolithic/Early Copper Age (on the ridge) to the period of Romanisation[2] (fig. 10.1).

Although the archaeological evidence relating to the final phases of the Neolithic and Early Copper Age is modest, it is proved on the ridge by some ceramic sherds found in residual layers from the Ex Fornace area. A ceramic fragment was found in the same area, although out of context, which was decorated with impressions/fingernails made with local raw materials and dated, for the time being, to the Late Neolithic (Saracino 2014, 105). Arrowheads come from surveys in Field 28 (Morandini and Saracino 2008, where the two arrowheads found by Claudio Isotta are cited), from contexts dated to the Early Iron Age in the Stalle locality (Salzani 2008) and from the Ex Fornace area (unpublished from UniVR excavations 2004-2007), an indicator of a probable re-use of the artefact.

A recent rescue excavation carried out by the local Superintendence has brought to light two new pile-dwellings in the Bussè Valley (Gonzato 2018, 12-14) about 1 km east of that of the Feniletto peat bog, first mentioned by De Stefani (1869).

These two new sites are separated by a more recent palaeochannel that has cut the stratigraphic relationships:

2 In particular, there are 10 graves from the Montara locality and unclear information about tombs with big swords from Belgioioso, dated to the Romanisation phases, and a tomb from the locality Piletta, destroyed in 1967, containing bronze vessels, including a ladle of the Pescate type and an attachment for the handle of a situla of the Eggers 18 type (Salzani 1982a).

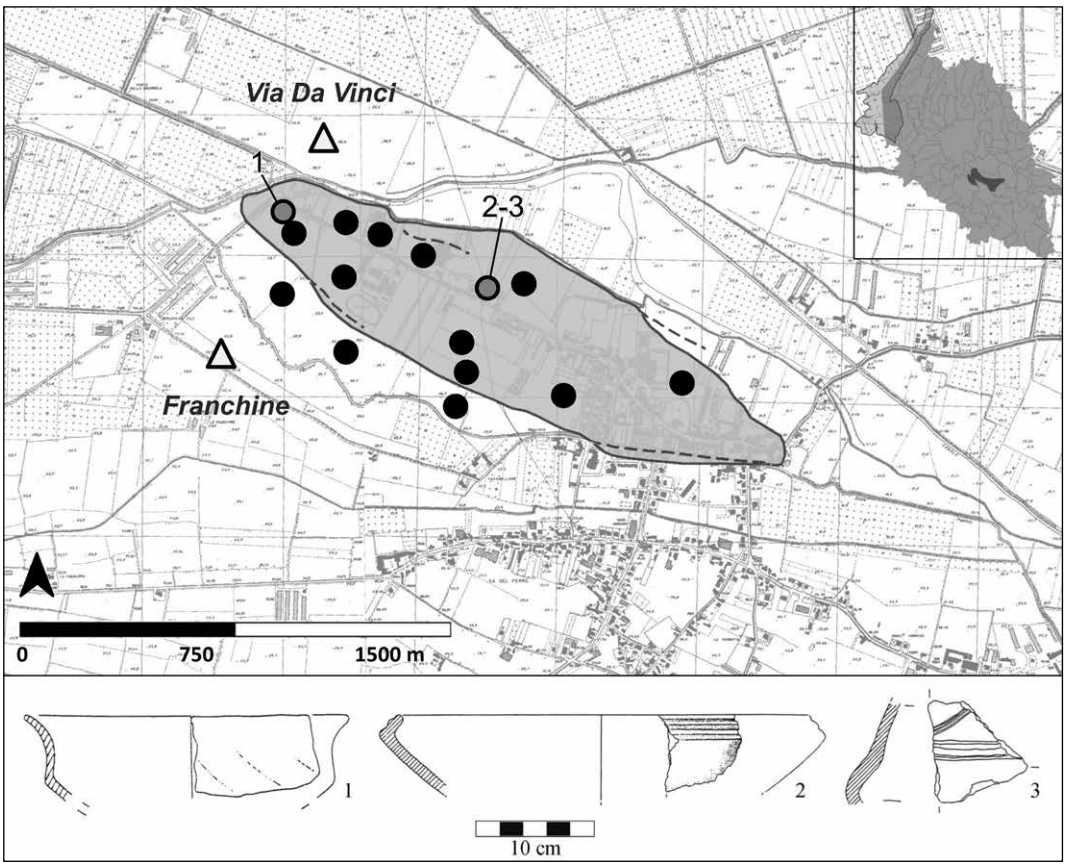

Figure 10.2. Distribution map of Final Bronze Age evidence: full-circle ● refers to settlement records, triangle Δ refers to necropoleis (elaboration by Massimo Saracino).

the first site (called 4C) is located further east and is dated to the Early Bronze Age, while the second (4D) is refers to the Middle Bronze Age. With regard to site 4D, from a first study on pottery, it seems to emerge that the settlement started at the beginning of the Middle Bronze Age 1, continued during the Middle Bronze Age 2, and ended at the dawn of the Middle Bronze Age 3 (Gonzato 2018; Gonzato and Nuvolari 2019, 87).

The construction of a roadway (Site 4E), which used the wicker technique could also be dendrochronologically and radiometrically dated to the Middle Bronze Age 3 – Recent Bronze Age 1 (Gonzato and Nuvolari 2019). The "life" of the road identified between site 4D and the above-mentioned Feniletto pile-dwelling, also on the basis of the available publications, would therefore be contemporary. The village of Feniletto was investigated between 1917 and 1918 by Alfonso Alfonsi (1919), under the direction of Giuseppe Pellegrini. The settlement is also associated with a probable cremation necropolis near the *Dosso al Feniletto* at "*about three hundred meters in a straight line, where ploughing is underway*" (Alfonsi 1919, 26), but of which we have general information and little material evidence (Alfonsi 1919; Salzani 1980; 1982b; 1987, 66-68). The toponym *Dosso al Feniletto* has unfortunately been lost, on the basis of this poor information, we believe that the necropolis was located south of the pile-dwelling along one of the river ridges of the area[3]. This was unfortunately largely flattened by the agricultural works and the most recent construction of the highway 434. To the north, the area has always been characterised by marshy depressions not suitable for a necropolis.

Patrizia Frontini (2011, 154), based on the published data, suggests the hypothesis of the beginning of the settlement of the Feniletto in the Middle Bronze Age due to the presence of lunate handles and also confirms the overall chronological attribution of the site to the Recent Bronze Age 1 because of the absence of exclusive pottery types belonging to the following phase. The butt fragment of polished green stone and a flint arrowhead found on a level below the plough line are attributed to the Bronze

3 According to the information reported by Alfonsi (1919, 26) and to a study carried out on the historical documentation by Luca Faustini (Councillor of the Municipality of Oppeano), the property in which material evidence relating to the necropolis has emerged was not owned by Benedetto Zambelli, but by the heirs of Callisto Zorzi.

Age based on the excavations on the ridge in Montara (Rosi 2008) and Field 28 (Morandini and Saracino 2008).

Within this chronological and geomorphological scenario, it is important to point out what has already been remarked upon: the abandonment of areas fed by groundwater and characterised by stagnant water or very weak currents, the repeated phases of drought causing the depression of water levels in lakes and terraced valleys fed by the rivers certainly played a destabilising role and encouraged people to prefer environments less influenced and dependent on regional and local water regulation and seek contexts with better settlement quality (Balista and Leonardi 2003; Balista *et al.* 2005; Baraldi 2003; De Guio *et al.* 2010).

The change in settlement patterns and the physiographic placement of the sites is particularly significant: from the need to build houses near ponds and rivers on decking and raised to avoid the variations in water levels, to the transfer to the banks of large lowland rivers (Balista 2015) with the placement of huts directly on the walkway level resulting in less timber usage. From this point of view, the relationship with water and its vital, defensive, and waterway potential changed also in relation to a subsequent and different climatic period, characterised by a return to renewed and more persistent cool and humid conditions, prompting a new phase of deep changes in the palaeohydrographic structure of most of the Po Valley (Bondesan *et al.* 2013).

Following the *Terramare* / pile-dwellings crisis, which saw the abandonment of several areas, there was a reorganisation of the territory witnessing a hyper-selection and hyper-concentration of sites in the territory of southern Veneto (Bianchin Citton 2015; Dalla Longa 2019; Leonardi 2010a; 2010b; Leonardi and Cupitò 2015, 228-229). Even at the hydrographic level a number of transformations took place including the autonomous outflow of the Adige to the Adriatic Sea (Piovan *et al.* 2012).

During the Final Bronze Age 1, it can be observed that:

- Some of the sites in the upper and middle plains of Verona remained in use (*e.g.* Sabbionara, Bovolone, Fondo Paviani, perhaps Fabbrica dei Soci and Mariconda).
- The emergence of sites to control the Atesino River area (Montagnana, Este, Monselice).
- The emergence of Frattesina as the central place of the territory.

We think that the settlement of Oppeano could be added to these, even if the evidence dated to the Final Bronze Age 1, coming from the excavations at Montara, is poor (US 2: grey silt-sandy layer, below the arable level, rich in ceramics, bioturbated, pedogenised, covering all the structures found; the layer has been partially removed from levelling and ploughing). This evidence comes in the form of a carinated bowl with a flared rim, a light throat, and oblique ribs on the carination made using a fine mixture and with a polished surface of a dark grey colour (Rosi 2008), dating back to the second half of the 12th century BC (fig. 10.2.1).

In Friuli-Venezia Giulia, this form is very common during the Recent Bronze Age despite some imperfect similarities. It is comparable to examples with ribs of the Recent Bronze age 2[4], such as the one from Grotta delle Gallerie (Cardarelli 1983, tab. 27A1)[5], or the undecorated ones from Codroipo (Moro and Tasca 2010, fig. 10.76), Pozzuolo del Friuli (Borgna 1994, fig. 45.139) and in the Po Valley from Cop Roman with a less flared rim (Salzani 1976, fig. 4.6-7) and from Santa Rosa di Poviglio (Bernabò Brea *et al.* 1989, fig. 10.5). The type with carination and sometimes with ribs accentuated is also similar to findings dated to the Final Bronze Age 1-2 at San Marino (Bottazzi and Bigi 2008, 56; Bronzoni 2008, tab. 8.1), Pianello di Genga (Bianco Peroni *et al.* 2010, fig. 7.12), Monte La Rossa (Lollini 1960, fig. 7.7), and Monte Primo di Pioraco (Ritrecina 2014, fig. 3).

Other material found on the surface by the local Superintendence in the Isolo locality (Salzani and Lavarini 2008), in the centre of the ridge, also dates to the Final Bronze Age 1-2 (fig. 10.2.2-3). This includes a bowl with a very retracted, angled rim decorated with a band of horizontal lines on the external surface and a fragment of biconical ceramic decorated above the shoulder with a band of horizontal lines and a zig-zag motif (Salzani and Lavarini 2008, figs. 85.5 and 88.16), both dated to the Final Bronze Age 2 (Colonna 2008). Tomb 48 of the northern necropolis of Via Da Vinci (Palù), considered the oldest of those identified and published so far (Gonzato 2018, 86-88), was also dated to between the end of the 11th to the 10th century BC. The necropolis consists of more than 60 burials and was a surprising find as it has always been thought that the burial areas were located outside the settlement, to the south of the ridge. Our surveys identified some ceramic materials in Fields 34 and 35, located to the north and dated respectively to the 9th to 8th and 6th to 5th centuries BC. (Guidi 2008, 169-171; Morandini 2014, 173-175; Saracino 2008, 126).

The Final Bronze Age 3 (fig. 10.3) is instead more documented in a large section of the ridge despite the fact that there are often attributional difficulties because of the presence of formal and decorative features also present on the pottery during the beginning of the Early Iron Age (Morandini 2014) (fig. 10.4). The necropolis of Via Da Vinci itself is also documented in this phase and at the beginning of the Iron Age and, despite the scarcity of grave goods, the funerary assemblages are based on the tradition of the evolved Protovillanovan or Este I types (Gonzato 2018,

4 For the occurrence and distribution of oblique or "helical" ribbed decoration on some types of open forms, see Dalla Longa and Tasca 2018.

5 We would like to thank Giovanni Tasca (Museo Civico "Federico de Rocco" – S. Vito al Tagliamento) for the suggestive indications.

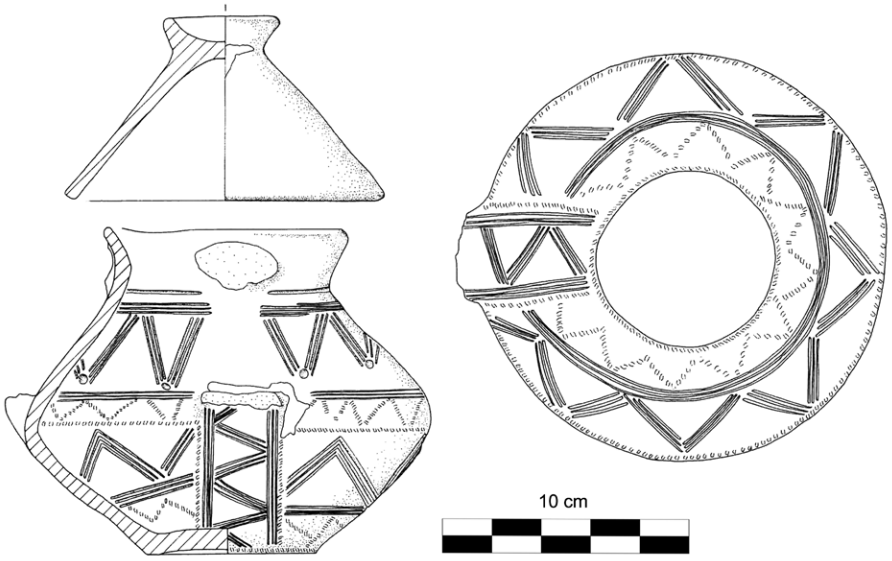

Figure 10.3. Final Bronze Age cremation tomb 48 from Via Da Vinci (Palù) necropolis (from Gonzato 2018, 89) (elaboration by Massimo Saracino).

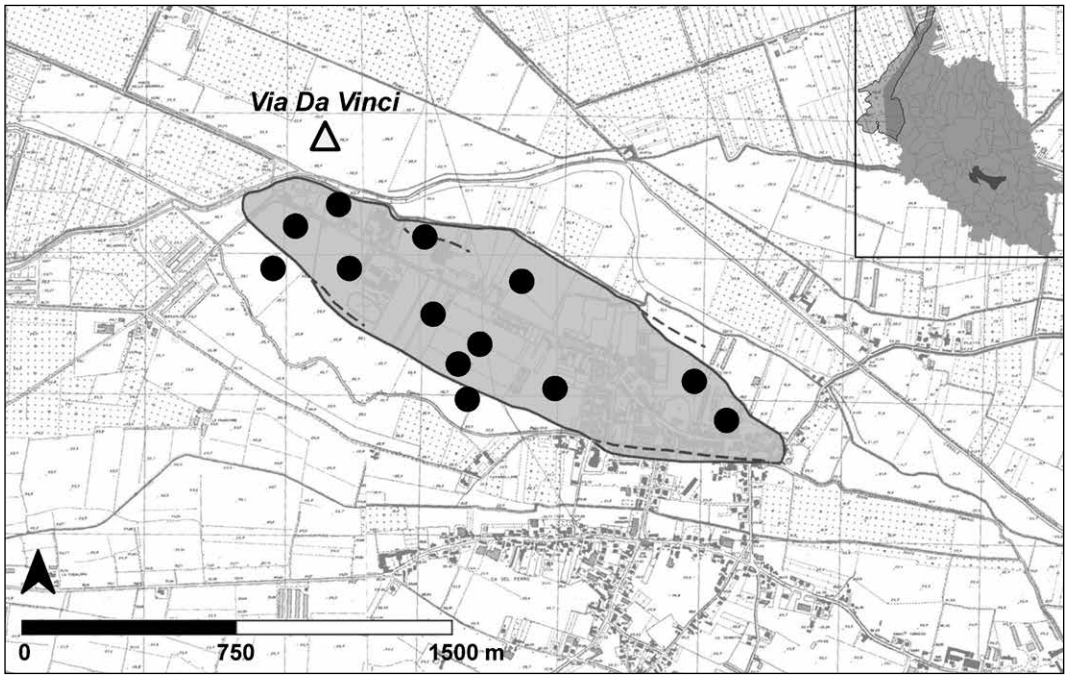

Figure 10.4. Distribution map of Final Bronze-Early Iron Age evidence: full-circle ● refers to settlement records, triangle Δ refers to necropoleis (elaboration by Massimo Saracino).

117-118). This chronology is confirmed by a radiometric date calibrated 2σ taken from a bone sample from the only inhumation, tomb 31 (Gonzato 2018, 96-100). Evidence of habitation structures from this period has been identified in the Ex Fornace area and concerns a probable ground-plan hut (Candelato *et al.* 2015, 520-522) and what, at an ethnographic level, is called a pot-in-pot (Guidi *et al.* 2008, 32-40; Saracino and Sboarina 2010, 40): an evaporative cooling device particularly used nowadays in arid areas (Yahaya and Akande 2018).

10.3 The Iron Age

It is impossible to evaluate correctly the settlement dimensions of Oppeano during the Final Bronze Age 3; a distribution map of findspots dated between the Final Bronze Age and Early Iron Age 1 seems to display the typical situation of a unitary centre with scattered diffusion of inhabited portions of the site (fig. 10.4). Some graves from Via Da Vinci necropolis (tbs. 27 and 38) and its *ustrinum* are also datable to this period (Gonzato 2018, 80-85, 73, fig. 7-8).

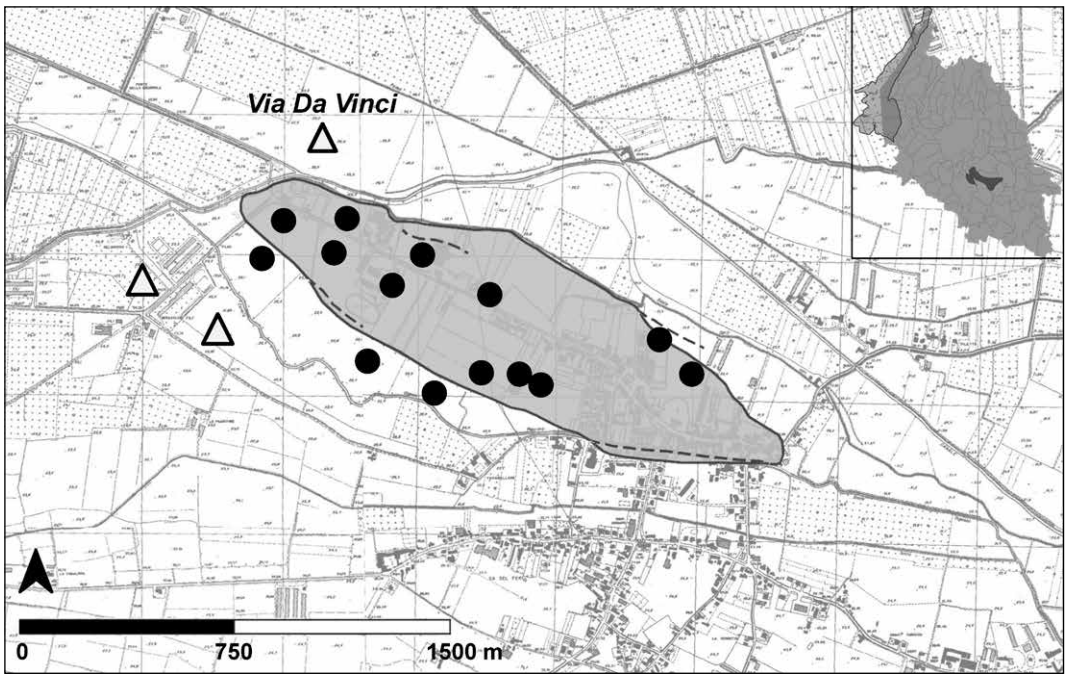

Figure 10.5. Distribution map of Este I (9th century BC) evidence: full-circle ● refers to settlement records, triangle Δ refers to necropoleis (elaboration by Massimo Saracino).

Conversely, if we analyse the distribution map of Este I findspots (9th century BC), we can clearly note a similar picture (fig. 10.5). Due to the extent of the ridge, it is difficult to deny in this phase the existence of a full scale proto-urban centre of more than 80 ha, an interesting indication also for the chronology of other Final Bronze-Early Iron Age settlements in Veneto like Montagnana (Bianchin Citton *et al.* 2015) and Este-Canevedo (Bianchin Citton 2015, fig. 4), respectively 65 and 70 ha, with nearby sites included.

Apart from the three graveyards of Via Da Vinci, Montara and Franchine, we can notice on the inhabited ridge the presence of at least three areas of concentrations of big pits related mainly to sand extraction like at the Cimitero and Le Fratte sites (Salzani 2008, 30-31) and Ex Fornace area (Guidi and Saracino 2010). At this early phase, these sites could also be exploited as a quarry of selected raw material (mainly sand), suitable for pottery production and building materials. The chronology of an inhumed female burial with grave goods found by the Superintendence at Ex Fornace area (Candelato *et al.* 2015, 518-520) is uncertain. This and other graves found in settlements are not rare in other centres of Veneto (Perego *et al.* 2015; Saracino 2010) sharing this characteristic with other Italian proto-urban centres like Rome and Tarquinia (Guidi 2010) (fig. 10.6).

During Este II period (8th century BC) (fig. 10.7) we finally see many burials around the centre (fig. 10.8.1), especially in the two main southern graveyards of Franchine (Salzani 2018, 176-178) and Ca' del Ferro (Salzani 2018).

Other characteristics of this period are:

- Specific anthropic engraving works of the southwestern slope with "defensive" function of the settlement in connection with an earlier ditch, identified by Claudio Balista (2004, tav. XXVI.1) (fig. 10.9).
- Evidence of bone and antler working areas at Ex Fornace (see structure E in Candelato *et al.* 2015, fig. 3) and at Le Fratte (Candelato *et al.* 2015, 523).
- A kiln at Le Fratte, the function of which is still under study (Candelato *et al.* 2015, 522-523).
- A bronze hoard consisting of a fragmented bronze situla with double handles placed originally in a pot and found nearby a structure during our Ex Fornace excavations, and interpreted as the result of ritual fragmentation, a sort of private votive deposition (Saracino *et al.* 2013).
- At Le Fratte (SE of the site) one or more huts with a rectangular plan or a hut divided into several rooms, inside which there are traces of fireplaces. On the south-west side of the dwellings there is an open area, perhaps a roadway that divides them from other structures with the same alignment (Salzani 2008, 31-33). The road could be related to the activation of the eastern necropolis of Via Roma as shown in other settlements of north-eastern Italy (Gambacurta this volume).

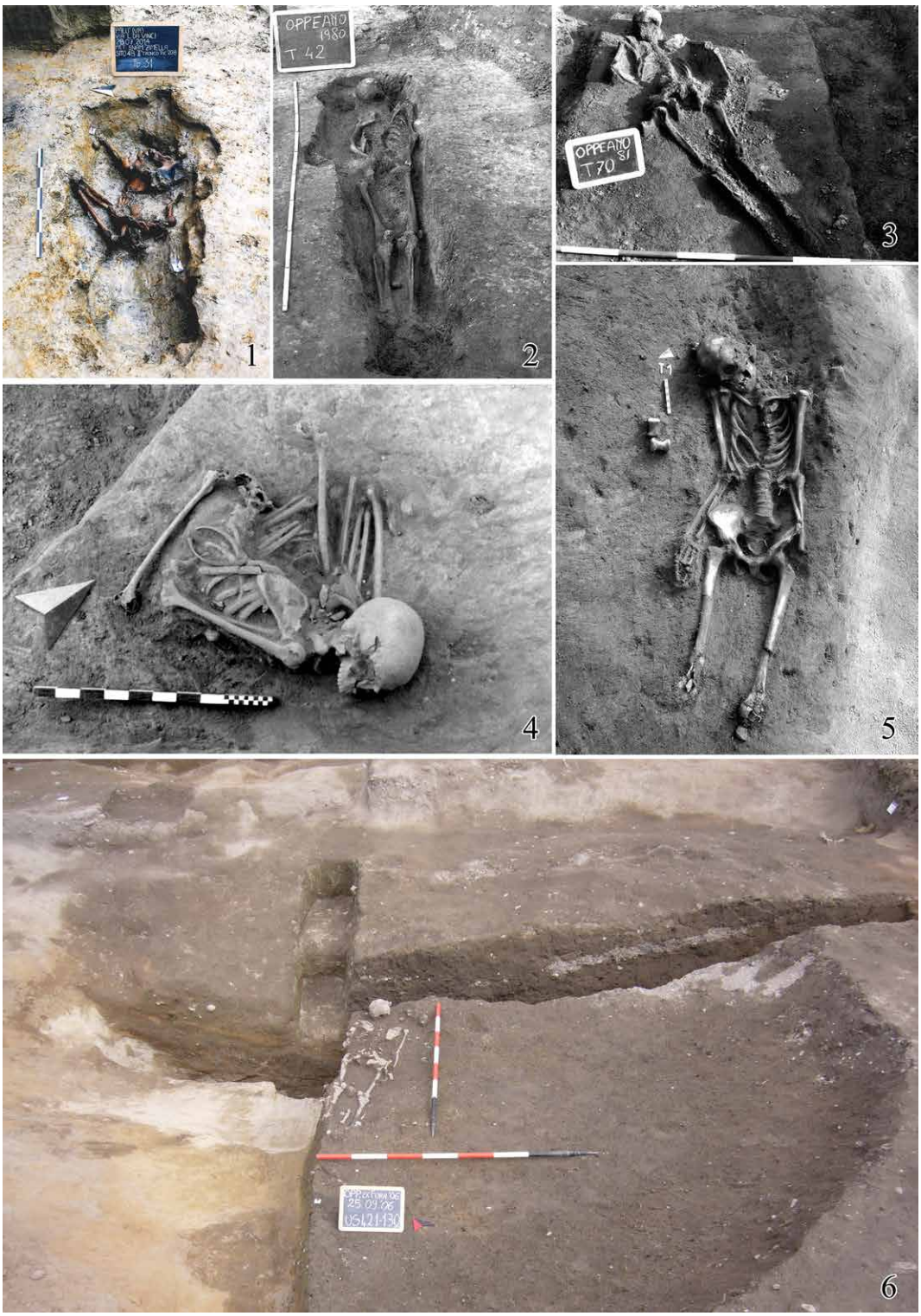

Figure 10.6. Exemplification of atypical burials from Oppeano necropolis (1-3) and settlement (4-6): 1. Via Da Vinci (from Gonzato 2018, 58), 2-3. Le Franchine (from Salzani 1987, p. 74), 4. Montara (from Salzani 2008, 24), 5-6. Ex-Fornace (after Candelato *et al.* 2015, 519; Guidi and Saracino 2010, 48) (elaboration by Massimo Saracino).

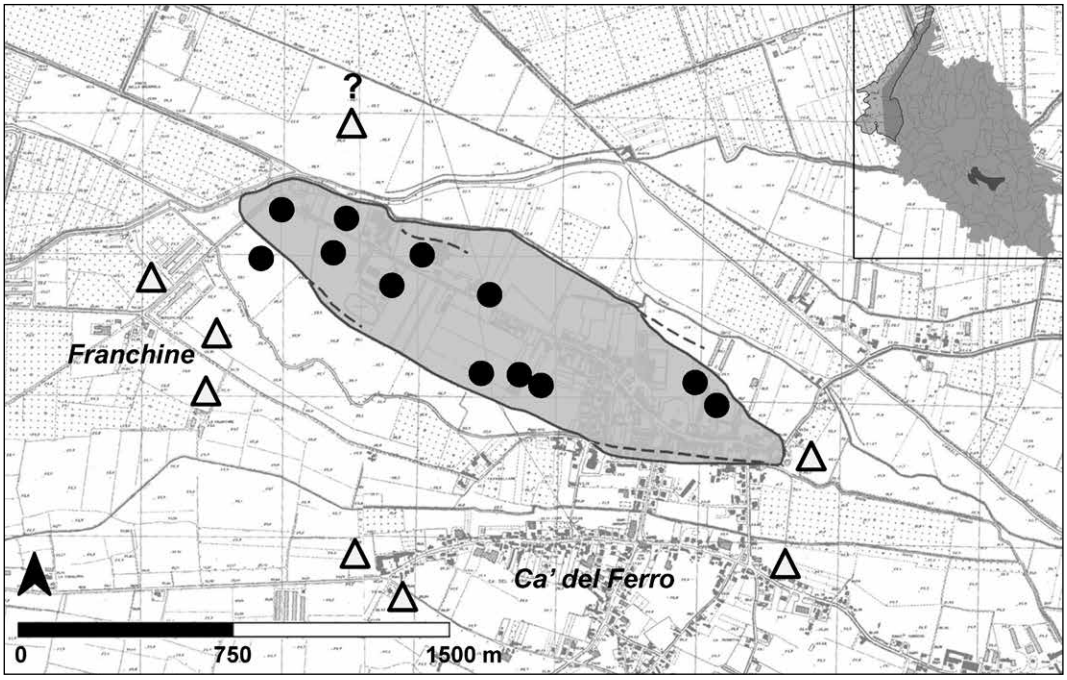

Figure 10.7. Distribution map of Este II (8th century BC) evidence: full-circle ● refers to settlement records, triangle Δ refers to necropoleis (elaboration by Massimo Saracino).

- A decorated "firedog" made using local raw materials from Campo 28 (Morandini and Saracino 2008, fig. 81,2; Saracino 2014, 135) and some ribbed fibulae from the settlement and Le Franchine necropolis (Pigorini 1878, tav. VI,4; Salzani 1985, fig. 104; 2008, fig. 92.6 and 96.1) are comparable to evidence from the Golasecca area (since first Castelfranco 1878, tav. V; Casini 2011; von Eles 1986, n. 328), and indicate long distance connections between the west and east (Salzani 2008). As suggested by Stefania Casini and Bruno Chaume (2014), the presence of this type of fibula, which are interpreted as a characteristic female good, leads to the proposal of exogamic marriages in order to facilitate alliances with neighbouring areas and establish long-distance relationships.

A similar widespread diffusion of findspots and the utilisation of the same graveyards (now it is possible to appreciate the strong differences of richness in the grave goods) characterises this period and reinforces the idea of a unitary organised proto-urban centre.

During the Este IIIA-IIIB1 (7th century BC) phase (fig. 10.10), other traces of a road (Salzani 2008, 23, fig. 7B) are detectable at the Montara area, not far from a ploughed field (Candelato *et al.* 2015, fig. 2), the presence of which demonstrates the existence of open spaces not occupied by houses, another characteristic of many Italian proto-urban centres.

Two other important finds are the disjointed portion of a male skeleton buried or thrown close to two dogs at Montara (Salzani 2008, 23, fig. 6) (fig. 10.6.4) – maybe a sacrifice or a disturbed burial (for these problems see Saracino *et al.* 2017, with previous bibliography) – and a first complex defence structure on the southwestern slopes, characterised by a timber palisade structure followed by a stone revetted rampart (Balista 2004, 34, tav. XXVI/2-3).

The last phase, Este IIIB2-IIID (6th to 5th centuries BC) is the most complex (fig. 10.11). The concentrated distribution of finds and the large quantity of graves gives the impression of a progressive "withdrawal" of the agricultural activities from the site. The graves are now characterised by an evident hierarchy, with grave goods referring to a probable aristocratic class (fig. 10.8.2). At the same time, it is now possible to identify more "workshop quarters", with pottery kilns and indirect evidence of metallurgical activities (such as a hoard, casting moulds, tools, bronze/copper ingots) from Isolo Ex Fornace areas (Neri 2008; Salzani and Saracino 2015; Saracino 2014; Saracino *et al.* 2013) and from Via Roma (Gonzato *et al.* 2019).

Our excavations at Ex Fornace have also brought to light the remains of an underground warehouse belonging to a dwelling, the stratigraphy of which has not been fully preserved (Candelato *et al.* 2015, 520-522), but which shows similarities with analogous buildings found south of the Po (see for example Baggiovara-Casa Vandelli in Malnati 1988). The defensive structure now

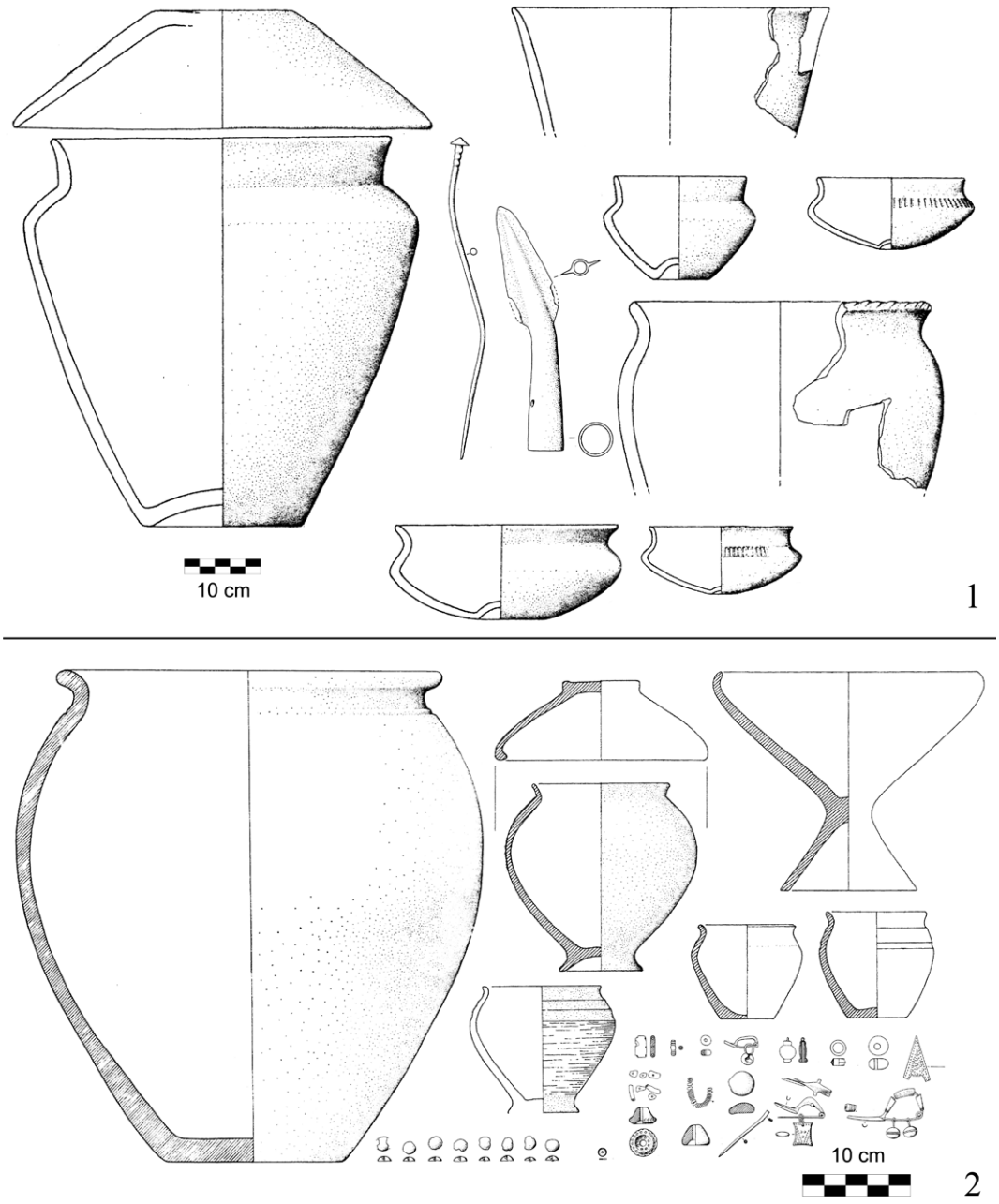

Figure 10.8. 1. Este II incineration tomb from Via Napoleonica (after Salzani 2018, 166), 2. Este IIIB2 incineration tomb 9 from "Dosso del Baldo" (1st excavation) (after Salzani 2018, 67) (elaboration by Massimo Saracino).

Figure 10.9. Stratigraphic trench no. 3 located at the southwestern edge of the ridge in the locality of Montara and (bottom right) reconstruction of the evolution of the "defensive system" (after Balista 2004) (elaboration by Massimo Saracino).

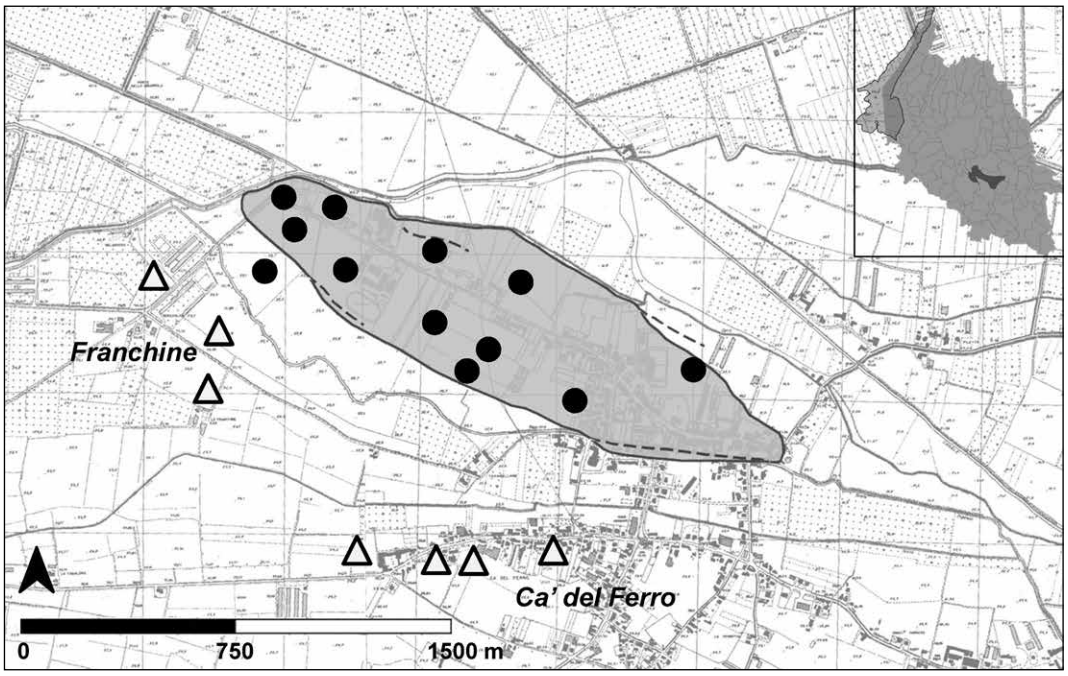

Figure 10.10. Distribution map of Este IIIA-B1 (700-625 BC) evidence: full-circle ● refers to settlement records, triangle Δ refers to necropoleis (elaboration by Massimo Saracino).

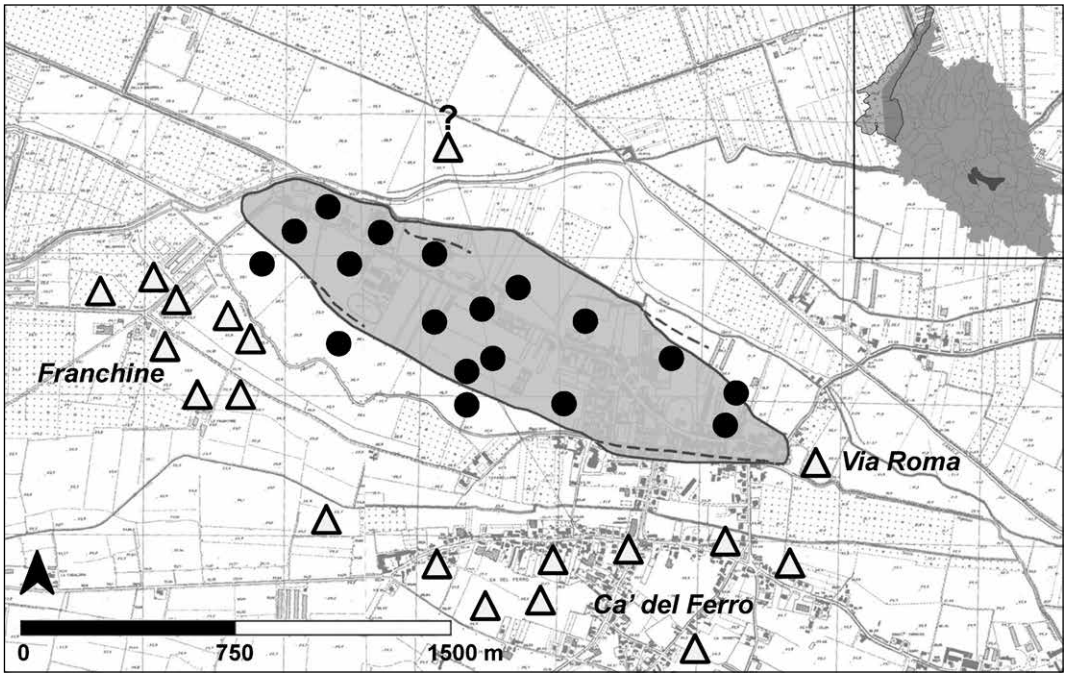

Figure 10.11. Distribution map of Este IIIB1-IIID (625-450 BC) evidence: full-circle ● refers to settlement records, triangle Δ refers to necropoleis (elaboration by Massimo Saracino).

shows a much more complex configuration, built mainly by alternating vertical and horizontal wooden beams (Balista 2014, tav. XXVI/4.5) (fig. 10.9).

The fragments of *aes signatum* made with copper, likely from Tuscany or Trentino (Neri 2004; 2008; Fenzi *et al.* 2009), are the first evidence of the use of currency, perhaps used in trade activities with products of foreign origin, such as Atestine or Attic pottery (Wiel-Marin 2015, 48). The typological study of about 36 sherds of Attic pottery found in the settlement showed a predominance of black-painted ceramics over the figure. The most common types are, instead, the *kylikes* as compared to the *skyphoi* (Wiel-Marin 2015, fig. 5). The use of the potter's wheel is now attested and proves a level of full-time craftsmanship.

A 30-35 years old man found prone and seriously wounded in the refuse of a big pit in the Ex Fornace area has been interpreted as a punishment (fig. 10.6.6): a kind of *damnatio memoriae* or overkilling example for those who violated the law, whose existence is further proof of growing social complexity (Catalano *et al.* 2010; Guidi and Saracino 2010). There are also a number of finds that prove the development of cultural activities: bronze statues, metallic *astragalus*, burials of horses, and most of all the famous helmet (Salzani 1985) which together with a belt from a tomb from Ca' del Ferro (Salzani 2018, 154, tav. 4-50) testifies to the high quality of metallurgy. The typology of the helmet has most specific iconographic comparisons with the coeval situla Certosa of Bologna and in the one of Providence (most recently on the topic see Marchesini and Zaghetto 2019). Last but not least, we have some examples of writing on pottery and on a lead spindle whorl (Marchesini 2010). In light of these data we can define this phase as an "urban" one, characterized here as in the rest of Veneto by the existence of a social system comparable to other archaic early states.

10.4 Conclusion

When analysing in detail the different settlement phases that occurred discontinuously in the territory of the city of Oppeano, we cannot fail to take into account what has been shown at the regional scale. The poor traces of Neo-Eneolithic presence on the ridge where the Iron Age village was later to settle are testified by some arrowheads and a few ceramics made of a coarse mixture completely different from that of the following periods. At the moment, the scarcity of finds does not allow us to make considerations, but only to highlight the antiquity of the human presence.

A similar consideration, while waiting for the publication of the data, concerns the pile-dwelling sites 4C and 4D located near a small pond-lacustrine basin westwards from the above-mentioned ridge. The former (4C), based on dendrochronological data, seems to belong to the final stages of the Early Bronze Age (Nicoletta Martinelli pers. comm.). The latter (4D) appears to have seen the succession of settlements on wet and dry soils (Gonzato 2018, 13), over a period of time between Middle Bronze Age 1 and Middle Bronze Age 3 (Gonzato and Nuvolari 2019, 87). At the end of this period, both the construction of the road (4E) and the first phases of the Feniletto pile-dwelling, as documented by Recent Bronze Age 1 materials (Frontini 2011, 154; Gonzato and Nuvolari 2019), should be dated back to this period. After the lack of documentary evidence in the territory during Recent Bronze Age 2, within the so-called crisis of 1200 BC, during the Final Bronze Age there was a relocation, with the preferred occupation of sites near riverways, such as the ridge of Oppeano. The period is also marked by a climate tending to remain unchanged with hot-dry conditions characterised by peaks of aridity and accompanied by adequate general geomorphic stability and watercourses with reduced flow capacities (Balista 2015, 31).

While the human presence during the Final Bronze Age 1 and 2 is limited, as in the rest of the Veneto territory, the following phases are more numerous, with true exploitation starting at least from the Final Bronze Age 3 to the Iron Age. This period also corresponds to the beginning of the northern necropolis of Via Da Vinci (Gonzato 2018), while the sites of Isola Rizza located 2-3 km east of Oppeano are framed in Este I. It is a funerary urn from the locality of Pieve (Fasani 1965-66) and the settlement materials dated to Este II, in the locality of San Fermo (Salzani 1987, 85; Zaffanella 1979, 146), whose connections with the centre of Oppeano suggest a satellite centre.

In this period, Oppeano and Gazzo Veronese, with their necropoleis (Vanzetti *et al.* this volume), were attractive and receptive centres for populations of the river-territorial node Adige-Tartaro-Mincio-Po, becoming in fact two polities culturally and socio-economically linked to each other, Montagnana and Este. It is therefore possible to speak of a very important period and formative one for the socio-cultural and economic assets of those centres that soon would start to assume a connotation first of proto-urban and then of real cities.

The analysis of survey finds, linked to that of excavations and from the necropoleis published so far, allow us to reconstruct a hypothetical sequence of three moments of development of Oppeano (Guidi 2008):

- A "pre-urban" phase at the end of the Bronze Age in which the occupation of different areas of the ridge is recorded and at least one of the necropoleis (the northern one) existed.
- A "proto-urban" phase of the Early Iron Age (9th to 7th centuries BC), which saw the uniform (though not extensive) occupation of the ridge of about 80 ha, with dwellings alternating with agricultural areas and/or sites used for production activities, with some burials in the inhabited area, the presence of road tracks, the first defensive structures, and the use of more necropoleis

(Via Da Vinci, Montara, Ca' del Ferro, Via Roma, and Franchine) in which, at least from the 7th century BC, it is possible to find evident elements for social stratification.

- The "urban" phase of the 6th to 5th centuries BC was characterised by a widespread occupation of the ridge, probably due to a demographic increase. This is also demonstrated by the occupation in this phase of areas immediately close to the ridge and therefore to the progressive displacement of agricultural activities outside the inhabited area (while the occupation of the northern part of the ridge where the artisan activities seem to have been concentrated remains important). Other important elements of this phase are the reconstruction of a more complex form of defensive structures and the presence of deaths inside the inhabited area, whose conditions of discovery make us think of "executions" and therefore, indirectly, of the presence of a "*corpus*" of laws accepted by the entire community. Finally, we must remember the discovery of the famous helmet, perhaps linked to the presence of a cult place.

In conclusion, Oppeano demonstrates that the birth of the proto-urban centres in this part of Italy answered to autochthonous needs and times overcoming the old diffusionist idea of a sort of "decalage" between the middle Tyrrhenian area, Bologna, and the North. However, a difference with Etruria and Latium is evident in the timing and ways of transformation in urban centres. Here the process was slower, with ever growing complexity between 9th and 7th centuries BC and an impressive leap toward a mature urban and state system in 6th century BC.

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Chapter 11

Coazze near Gazzo Veronese, on the Fringes of Veneto and Etruria Padana, NE Italy

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The archaeological site of Coazze, near Gazzo Veronese (NE Italy) is located at the southwestern border of the Palaeovenetian territory, during the Final Bronze 3 and through the Iron Age. The systematic study of the finds resulting from almost 150 years of rescue and chance finds, planned excavations and surveys are allowing the proper definition of this proto-urban settlement, even if it has been hardly damaged by subsequent agrarian use. Its favourable geomorphological location, directly on the important riverine routes of the Tartaro and Adria Po Rivers, contributed to its relevant connective history, with testimonies of long-lasting contacts from the Alpine area to the Mediterranean, through deltaic emporia, such as Frattesina, San Basilio, and Adria. The relationship with the Etruscan sites founded in the Mincio Valley since the late 6th century BC, like Forcello, is particularly complex. Immediately before this period, between the end of 7th and early 6th century BC, there are clear signs at Coazze of the presence of a multiethnic community, in an expanding phase of the site, extending at least 61 ha. It is proposed that Coazze was then the crucial settlement of a polity that extended north-south along the resurgence rivers Tione and Tartaro. The asymmetric position of Coazze inside the polity is coherent with its role as a gateway community (sensu Hirth 1978). A crisis for the settlement is thought to have started in the 4th century BC, approximately at the time of the Forcello abandonment; the lowland area of Le Basse was in use during this phase, and the site continued to be involved in relevant trade and craft activities. The presence of Celtic materials in the 3rd to 2nd century BC is somehow still elusive. Coazze is an important case of a minor, but apparently independent town in the Palaeovenetian settlement network, with a peculiar history of interaction and connectedness.

Keywords: Coazze near Gazzo Veronese; Palaeovenetian culture; Iron Age; Etrusco-padana ware; Proto-urban; Multiethnic community; Gateway community.

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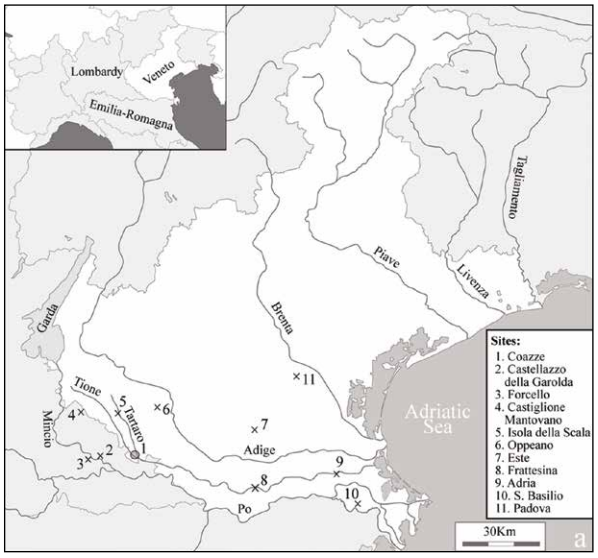
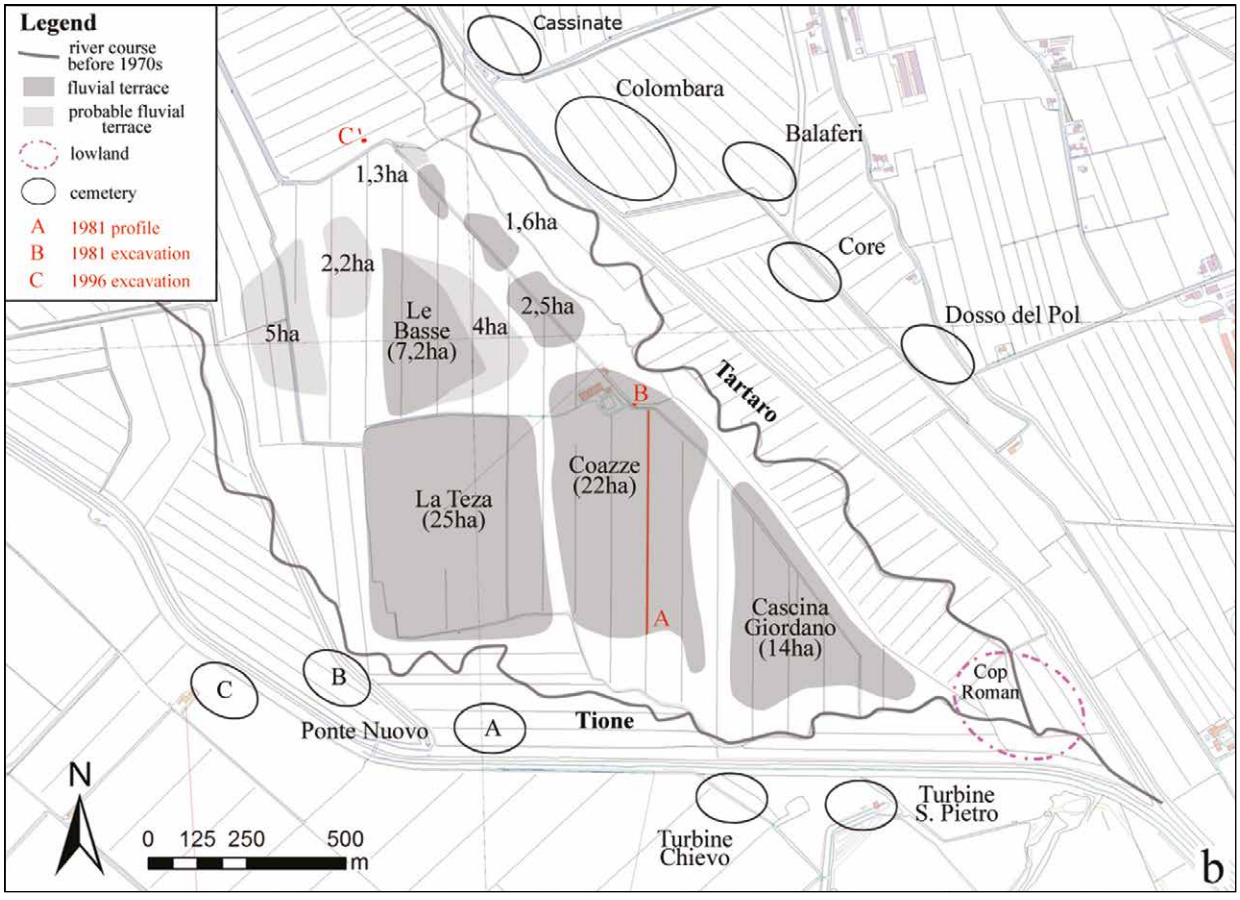


Figure 11.1. a) Coazze and the main quoted sites; b) the site of Coazze at the confluence of the Tione and Tartaro Rivers; the different topographical units and explored areas are highlighted (illustration by F. Saccoccio).



11.1 Introduction

The settlement of Coazze,[1] municipality of Gazzo Veronese (Verona Province, Veneto, Italy) has been known since at least 1876 (Goiran 1876), thanks to a long series of chance discoveries, often by amateur archaeologists, rescue excavations by the Verona Museum and the Ministry of Cultural Heritage Offices, and eventually, the Ga.Ve. survey project (Gonzato *et al.* 2015).

1 Locally named also "Le Coazze". The toponym is properly attached to the main farm building and to its fluvial terrace.

The size of the protohistoric settlement (fig. 11.1), extending through time over at least 60 ha, the distribution of the cemeteries, surrounding the settlement on almost every side, and the relevance of the finds, with evidence of extensive connections with neighbouring and more distant regions, point to the existence of an important centre, in the frame of the urbanisation process of Veneto during the Final Bronze and Iron ages (FBA-IA).[2] We qualify here Coazze as a case for a town smaller than the main centres of Este and Padova (Fogolari 1975), in the proto- and urban landscape of the Palaeovenetian[3] culture, lasting from roughly the 10th to 5th/4th centuries BC.

11.2 Coazze and the urbanisation of Veneto

The urbanisation of Veneto is a process that was discussed at the present conference by Gambacurta (this volume), and whose characteristics have only recently started to be based upon precise and detailed excavations of settlements, as the main proto- and urban sites are often buried under thick stratigraphies, like in the case of the most important centres of Este and Padova (Mozzi *et al.* 2018). The study of chance finds and the careful control of building activities through rescue and planned excavations has resulted in significant knowledge of the ancient settlement layers, which can be connected to the study of the cemeteries surrounding them. In the major centres of Padova and Este, both settlements and cemeteries were in use from the Early Iron Age to the Roman period, a fact that has enforced the long-held perception of strong continuity as a crucial factor of the protohistoric development of Veneto (De Min *et al.* 2005; Peroni 1989; Ruta Serafini 2002).

In any case, to understand the birth and characteristics of the (proto-)urban phenomenon in Veneto, and the role of Coazze in this process, it is important to resume how we define a centre as properly 'urban', in the Venetian context.

A. V., F. S.

11.2.1. What do we mean by (proto-)urban in protohistoric Veneto

The evidence used to identify the growing complexity of Palaeovenetian settlements is mainly a by-product of their size, and of a teleological interpretation, ultimately leading to the historical Roman, medieval, and modern towns, through settlement continuity typical of Veneto. In fact, few details are known of the local urban texture and real density, apart from that houses were arranged in orderly laid rectangular plots, defined by drainage channels, since at least the Early Iron Age (Bianchin Citton 2004; Salzani 2002), and that they were not tightly packed (De Min *et al.* 2005). This applies to both major and minor centres. Almost nothing is known of public buildings and infrastructure, apart from water management and fortification works. Sanctuaries are evident, in particular at Este, at least since late 7th/6th century BC, but often with scarce monumentality (Ruta Serafini 2002).

For a definition of (proto-)urban sites, we find it useful to quote the historical paper by V.G. Childe (1950), not just in his well-known list of elements that should characterise cities, but the general features of what we can call "urban". Childe says that the 'urban revolution' is "*the culmination of a progressive change in the economic structure and social organisation of communities that caused, or was accompanied by, a dramatic increase in the population affected*". Therefore, we should admit that a city is characterised by the adoption of social norms, warranting aggregate life by managing internal conflict, an increase of specialisation, and an increase in population that "*was mainly accounted for by the multiplication of the numbers of persons living together, i.e., in a single built-up area*" (Childe 1950, 3-4). The theoretical premise by Childe is definitely a Marxist one, both economically and organisationally, that we think can be maintained as fully valid for the birth of urban centres of Italy. In Italy, the influential proposal by R. Peroni (1989, 21) is consonant with Childe's, and stresses the clustering of the population, the political nature of borders, a growing market economy, and the formation of a class society, even if in proto-urban centres architecture and formal institutions are not very evident or developed. The distinction between proto-urban and urban is a progressive matter of scale and institutional organisation, and thence we will often use the locution (proto-)urban.

These loaded characteristics fit properly with the fundamental transformations that we observe in the FBA and EIA1 Veneto, as: 1) since at least the early 8th century BC cemeteries displayed a strong continuity in use, apparently mirroring an enduring social structuration of the communities and 2) specialised and wide-scale production started in the same period, at the beginning of 8th century BC, as shown by Michelini (in press) in the case of Padova.

There are two further and connected aspects to be considered: the relation of the (proto-)urban centre with the surrounding settled landscape and the general Veneto settlement dynamics.

In protohistoric Italy, it has often been observed that the formation of populous centres, that are generally defined as proto-urban, is accompanied by a collapse of the surrounding dispersed settlement structure, with smaller

2 The period labels FBA and IA are used; phases FBA1-2-3 and EIA1 extend between about 1150 and 850 BC, but the precise chronological borders have still to be agreed upon (Bartoloni and Delpino 2005). The traditional calendrical dates are used since EIA2 = 8th century BC onwards.

3 The term 'Palaeovenetian' is here used. In Italy it has been mostly replaced by "Ancient Venetian", because of the disturbing 'palaeo-' prefix for an Iron Age society, and in order to stress continuity from past to present, but this creates some confusion. The use of (Palaeo) venetic (*e.g.* Blake 2014) should be limited to the ancient language.

centres disappearing, rather suddenly, while the apparent nucleation of the population in or around the major centre takes place (Vanzetti 2002). This is a typical, rather general urban process (*e.g.* Pumain 1997), even in modern times, as population is attracted into the growing urban site. Whether nucleation in protohistoric Italy was caused by compulsion, or free choice, or a combination of both, we cannot say, and it could even change from case to case. In Veneto, the collapse of the settlement system has been noticed in the FBA or, following Leonardi (1992), starting in the 11th century BC, and lasting until the 8th-7th century BC, when a dispersion of satellite settlements starts again. This renewed dispersion would stem from (proto-)urban centres. Indeed, the progress of studies is resulting in a more complex situation of the Veneto settlement lattice.

As for settlement dynamics, the process of selection of the core sites of the Palaeovenetian urbanisation (and thence local State formation) was not coincident with the start of the nucleation process described above, but it resulted only later in the development of structured, long-lasting (proto-)urban centres. In fact, the most impressive sites emerging in the Early FBA, Frattesina and Montagnana, were abandoned or contracted toward the end of 9th century BC, when both Padova and Este gained dominance. Furthermore, at the same end of 9th century, the settlement at Este faced considerable reorganisation, moving from a location south of the Adige River to the "island" inside the Adige branches, whose courses were possibly modified by human action (Ruta Serafini 2002). At Oppeano, a settlement with an early growth in size in the Late FBA (Guidi 2010; Guidi and Salzani 2008; Saracino and Guidi this volume), the settlement is still growing during these early phases. During EIA1, Coazze eventually abandons the valley bottom location to move exclusively over the river terraces, as we shall see. That is to say, the genesis of a nucleated permanent power structure was not straightforward, but required instead some time in Veneto, with contradictions and possible conflicts (abandonment of some sites while other ones grew in size). Climatic-driven impacts, hampering the development of lowland sites, could stimulate this selection of suitable centres, which appear to us as basically human-driven.

Generally speaking, albeit Guidi (2010) stressed that the proto-urban phenomenon is as early as in Central Italy, it is since the 8th century BC that the Palaeovenetian settlement pattern acquired a proper nucleated structure, centred on sites that occupied up to 120 hectares (Capuis and Gambacurta 2015), a size similar to proto-urban sites in Central Italy (Pacciarelli 2001). By the early-mid 6th century BC, further changes in the continuous development of the Palaeovenetian centres marked the transition to a clear urban status, particularly evident in the use of writing, but also in the widespread use of sanctuaries, as some of the features advocated in Childe's list (1950, 9-16).

Most aspects of the Palaeovenetian proto-urban development are represented at Coazze: the growth in size; the change in social and economic/productive structure; the grave goods circulation pointing to a market organization; the urban changes occurring in 6th century BC. The trajectory of Coazze in the Palaeovenetian regional settlement pattern and its relations with the neighbouring Etruscan world, will help us to refine our comprehension of its role in the Veneto urban lattice.

A. V.

11.3 Natural setting and human transformations

The Iron Age settlement of Coazze is located precisely at the confluence of the Tione and Tartaro resurgence rivers, in the southern Verona province, close to the modern regional boundary between Veneto and Lombardia (fig. 11.1A).

The occupation of the Coazze site lasted at least from an advanced FBA (end 11th-10th century BC), through the Iron Age, until the end of the 4th-early 3rd century BC. It came to extend over a marshland (Cop Roman; Salzani 1976a),[4] three fluvial terraces divided by erosional hollows (Cascina Giordano, Coazze proper terrace, La Teza), and a mixed morphological area (Le Basse) (Di Maria 2018-19; Gonzato *et al.* 2015, 512-513; Monti 2016-17; Saccoccio 2016).

11.3.1 Geomorphology and environment

In geological terms, the site and the confluence coincide with the southernmost outcrop of the so-called "main level of the Po plain" (hereafter: MLPP) (Marchetti 2002; Castaldini *et al.* 2019), a complex of sandy-clayey deposits that accumulated until Late Glacial Maximum, as a megafan (sandur) originating mainly from the Adige outflow, and adjacent to the western megafan of the Mincio River, deriving from the Garda moraines. The raised fans gradually sloped down toward the south/southeast and were subsequently incised and terraced during the final glacial and Holocene age by the courses of the Adige to the north and east, the Mincio to the west, and in-between them by the valleys of rivers originating from the Garda moraines and from the middle plain groundwater-fed spring line. The rivers Tione and Tartaro, joining at Coazze, change their directions from a NW-SE course to a mainly

4 The area of Cop Roman is characterised by a stratigraphic sequence, excavated in 1962, of which no description is known, but only the provenance of archaeological finds from 3 superimposed layers; the beginnings of the Final Bronze Age (FBA 1-2) seem to be missing, representing a chronological gap in the local sequence of Coazze, confirmed also by cemeteries and single finds: in the whole area the phase is not documented so far (Salzani 1976a).

W-E course, flowing toward the Adriatic Sea and ultimately join the then active Adria Po branch. This created a direct riverine connection to the Po Delta, an area characterised, since at least the Recent Bronze Age (RBA), by specialised workshops and trading posts with the Mediterranean Sea.[5]

The east-west course of the Tione and Tartaro Rivers coincides with a geomorphological limit, separating through a sort of shallow erosional scarp the MLPP terraces from the lowland area extending toward the main course of the Po River (Balista *et al.* 2016).[6]

The area of Gazzo Veronese, although located in the low plain, is characterised by rather stable flood conditions, as testified to by the remarkable settlement continuity through prehistoric,[7] Roman, and medieval times, continuing into the present. Conversely, immediately to the east the *Valli Grandi Veronesi* (VGV) underwent swinging phases of settlement vs. flooding and abandonment: the patterned polity centred on Fondo Paviani during the Middle and Recent Bronze Ages (De Guio 2000) was abandoned during the Final Bronze Age, and during the Palaeovenetian period the area hosted only limited and marginal settlement (Balista *et al.* 2016).[8] Reclamation of VGV occurred again in Roman times.

The specific location of Coazze benefitted from the stable regime of the rivers (Balista 2009), the defensive position naturally defined by the river confluence, and likely riverine boat communication. More uncertain are the soil, cultivation, and grazing conditions, which are dependent on the water table elevation and local environmental data are lacking, so far. It is likely that the expansion of the settlement during the Iron Age was based on extensive agrarian resources in the higher reaches of the terraces located west, north, and east of Coazze and on wet lowlands, possibly also suitable for seasonal grazing and fodder production.

In fact, in the VGV, located to the east, the pollen samples from Ponte Moro suggest the coexistence of widespread deciduous broadleaved woodlands and cereal agriculture, horticulture, and plant tree cultivation over the raised terraces and of wet woodlands and wet meadow-pastures and peatlands in the lowlands (Balista *et al.* 2016). The regularity of the resurgence rivers could have provided water even during the dry spells of the Late Bronze Age (Cremaschi *et al.* 2006). After the end of the Terramara settlements of the VGV Polity (here not a sudden event as seen south of the Po River, but a process stretching through the Recent and Final Bronze Ages), flooding episodes characterized the Iron Age, before Roman Age reclamation (Balista *et al.* 2016).

In the Mincio Basin, the environmental study around the Etruscan site of Forcello (near Bagnolo S. Vito, Mantova Province: Ravazzi *et al.* 2013) confirms the presence of a rather thickly forested landscape of deciduous broadleaved woods during protohistory. The local evolution of the Mincio course, the major river flowing as emissary of Lake Garda to the Po River, is characterised by flow changes. A transition occurs from a marshy valley bottom that formed in the Recent and Final Bronze Ages,[9] to a pond environment around the end of the Final Bronze Age and the formation of a proper lake (Lake Bagnolo) during an early phase of the Hallstatt plateau,[10] before the Etruscan settling at Forcello. The lake lasted through all the Iron Age and until 17th century AD, with only a limited retreat in the Roman Age. The cause in the change of flow regime, from marsh to pond and lake, is seen in a northward migration of the Po River, or at least in increased crevasse deposits (Bruno *et al.* 2018), that would have taken place between the Final Bronze and the Early Iron Ages, thus hampering the Mincio water discharge. Climatic worsening since the end of the Bronze Age (Göschenen I glacier advance in the Alps, since ca. 1000-950 BC: Le Roy *et al.* 2015) has been seen as triggering such changes (Holzhauser *et al.* 2005; Ivy-Ochs *et al.* 2009; Ravazzi *et al.* 2013). More generally, authors in both west and east of Gazzo Veronese support the impact of worsening climate since late FBA, likely pushing conditions to become unfit for settlement in the valley bottoms.

F. S., A. V.

5 The most relevant sites are Campestrin, with a specialised RBA amber workshop (Bellintani *et al.* 2015), Frattesina, with eastern Mediterranean connections and multiple industries, among which glass was prominent, from Late RBA to EIA (De Guio *et al.* 2009), and the Adria port of trade from the 6th century BC (Bonomi *et al.* this volume). These specialised sites were likely connected to the Coazze area through the Tartaro-Adria Po branch (Balista 2019).

6 In this intermediate zone, the role of the Fissero River, flowing from close to the Mincio (and Mantova area) to the Tartaro River is uncertain, at that date (cf. Ravazzi *et al.* 2013).

7 Human presence in the area has been recorded at least as early as the Neolithic (Salzani P. and Salzani L. 2006), generally as pits truncated by agrarian activity. Both Early, Middle, and Late Neolithic, as well as different phases of the Copper Age (Salzani, L. 1996a; Salzani, P. 2005; Salzani, L. and Salzani, P. 2001) have been recorded in the Gazzo Veronese area, testifying the geomorphological stability, and the continuous activity by humans on the same soil surfaces, through pre- and protohistory, with scarce sedimentation on higher grounds. During surveys at Coazze, prehistoric materials (mainly flint and polished axes) have come to light. Since the Late Copper Age, and during the Bronze age, settlement seems to focus on lowlands and river valleys, like at Cop Roman, where evidence from the Bell Beaker, Middle, and Recent Bronze Ages is present (Salzani, L. 1976a; 1987a; 1996b).

8 The site of Perteghelle shows occupation in FBA-EIA and during 7th-6th century BC; a secondary flood deposit at Torretta contained moderately worn potsherds of 6th-5th century BC testifying some occupation (Balista *et al.* 1990).

9 Terminus post quem 3025±35 BP (Ravazzi *et al.* 2013), *i.e.* 1396-1131 cal BC; calibrated with Oxcal 4.3, 2 sigma max. interval.

10 2530±35 BP (Ravazzi *et al.* 2013), *i.e.* 799-541 cal BC; calibrated with Oxcal, 2 sigma maximum interval.

Figure 11.2. Top- Coazze in the 1816 Austrian cadastral map: in black, modern features (major channels, ditches); in colour, former features (cf. Legend); river courses as dating to the 1970s (illustration by M. Bertoldo). Bottom- elevation map of the Coazze area, 1 m contour lines (data: courtesy Consorzio di Bonifica Valli Grandi Veronesi, DTM 2013; illustration by M. Bertoldo).

11.3.2 Formation processes of the landscape and of the surface record

The Coazze site has been under cultivation continuously since at least the early 1800s, but likely since before (Bertoldo 2018-19). Its exploitation led to its discovery, while at the same time, significant agricultural transformations caused significant damage to the site and its environs: quarrying, cutting, levelling, as well as reclamation and regimentation of the river valleys of Tione and Tartaro have generated a heavily modified landscape. Historical cartography and modern geographic information systems can help to unravel its history.

The high quality Austrian land map and register of the Lombard-Venetian kingdom, dating to 1816, has been integrated into GIS with a series of aerial orthophotos spanning from 1955 to today,[11] thus making it possible to reconstruct the main infrastructure changes that the archaeological site has undergone (fig. 11.2).

In 1816, the Coazze terraces were emerging above the surrounding valleys, crossed by a clear network of small and major drainage ditches; a marsh extended in the northern part of the Tartaro valley, including "Le Basse" and along the remaining river valleys of Tartaro and Tione the land was left uncultivated. Two building clusters were present, the farm complex at Coazze and another building in the western part of "La Teza". A country road led to Coazze coming from the north and included a bifurcation, ending in lower-lying lands close to La Teza. From Coazze a southern road ran across the Cascina Giordano terrace, almost reaching the terrace limit above the valley of the river Tione.

The first orthophotos are from the Italian Aerial Group (GAI) flights of 1955. Since then, a series of aerial photos allow for the reconstruction of the changes in the agricultural structure over the last 70 years, in a precise way. In 1955 agrarian divisions consisted of small land areas partitioned by many (about 40) shallow ditches and a number of country tracks, generally beside some major ditches. Cascina Giordano farmstead had been built, but the general pattern was still rather similar to more than one century before. By the 1970s,[12] the courses of the Tione and Tartaro had been regimented, and their discharge brought into the Canalbianco channel, located southwards and artificially inserted into a former course of the River Fissero-Tartaro. Additionally, ground levelling expanded the Cascina Giordano terrace toward the south. These works transformed the Tione and Tartaro from meandering rivers to straight channels, arable land expanded into the valley sides and the valley bottom settlement of Cop Roman and the cemeteries in the lowlands started to emerge (cf. forward). By the end of 1970s, the agricultural plots over Coazze increased in size, drainage ditches were reduced to a total of 28 and the country roads to only 3: the access road, a track going east-west from Coazze to La Teza, and the southern road. At the same time, the Cascina Giordano building appears to have been demolished. This drainage simplification could be obtained thanks to the drier environment due to former regimentation works.

In 1981, after a change in land property, the Coazze terraces underwent a radical change, acquiring the agrarian structure which holds still today. The agrarian plots got a definite N-S axis, while formerly a NW-SE orientation prevailed, and were significantly increased in size: some became over 600m long. Drainage ditches were excavated anew, and reduced to about 20 in number, while the southern road, and its flanking channel disappeared. The Coazze farm was expanded and the access road moved eastwards by a few dozen metres, almost aligning it with a southward track running on the edge of the Tartaro Valley. The building in "La Teza" was demolished in 1990s (Bertoldo 2018-19).

Summing up, the agrarian transformations led to significant impacts on the site stratigraphy over time and therefore the ploughzone spread of archaeological materials cannot always be straightforwardly related to a subsurface local root-layer (Balista and Vanzetti 1990). In many cases, surface dispersions can derive from levelling and filling activities, which occurred during the agrarian transformations. The site interpretation is therefore particularly difficult.

M. B., F. S., A. V.

11.4. Discovery and debate

In 1763 a pair of bronze firedogs with lion head terminals and a bronze situla lid, certainly part of conspicuous funerary goods, dating to 5th-4th century BC (Salzani 1987a, 24) were recovered in the property of Ercole Giusti, Count of Gazzo Veronese. Later, in 1841, they were acquired by the Verona Civic Museum, and listed in its catalogue in 1865 (*Catalogo* 1865).

In 1868-1876 Vincenzo Giacometti, physician and prehistorian from Mantova, priest don Vincenzo Masè from Casteldario (Mantova), and Pietropaolo Martinati, notary and prehistorian in Verona, identified the Coazze site. This led to its presentation in the Verona Prehistoric Exhibition in February 1876 (Goiran 1876) and its listing in the archaeological map of the province. The site was afterwards investigated by other researchers, like Stefano De Stefani (in 1880-81), chemist, botanist, and prehistorian (Facchi 2005; Trevisan and Saccoccio 2015).

There is little evidence of further research conducted in the area before World War II. However, in 1929, research by the archaeologist Alessio De Bon left pictures of a now lost horse-shaped ceramic firedog with stamped

11 The aerial photos are available through the Veneto and Lombardia regions' websites.

12 A very important document is represented by the aerial photo "Regione Lombardia Tem. 1 (1980)" realised by CGR Parma and published in Tozzi and Harari (1990, fig. 32).

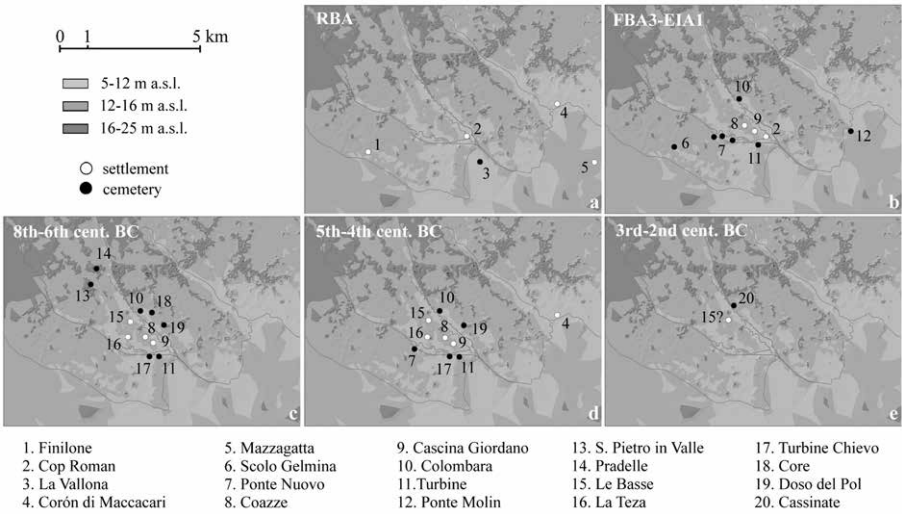


Figure 11.3. The evolution of the settlement pattern and cemetery areas around Coazze between the RBA and Late Iron Age (illustration by F. Saccoccio).

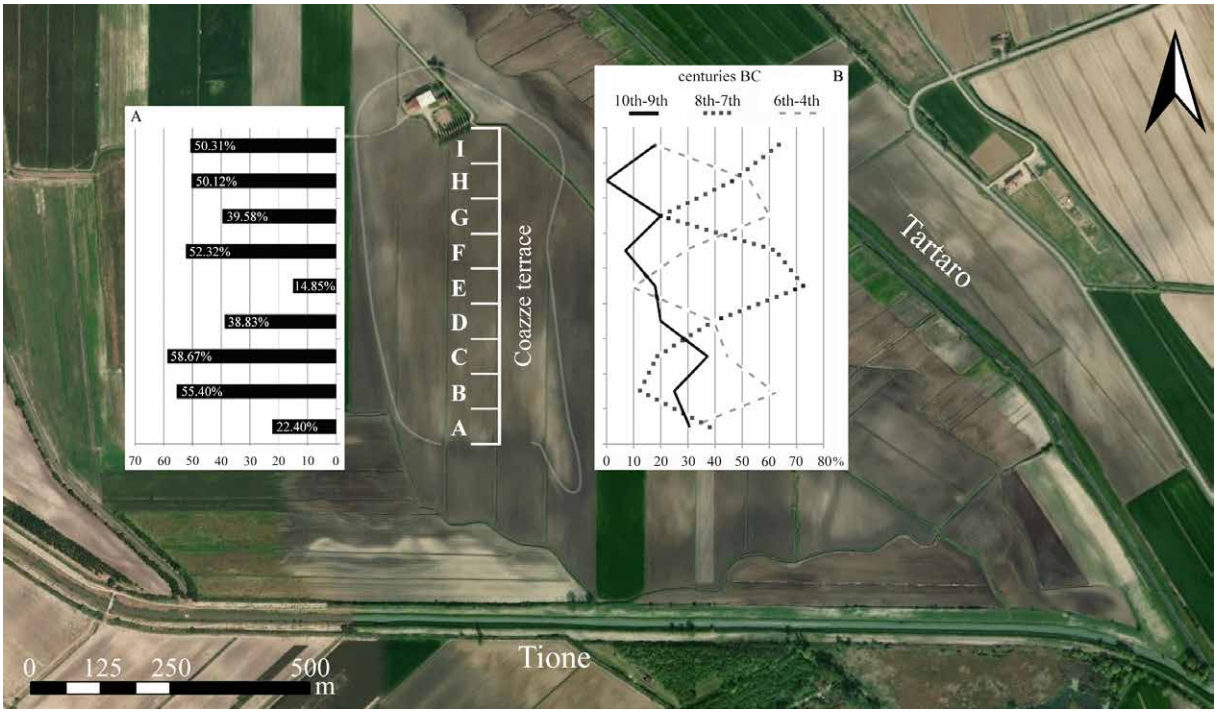


Figure 11.4. Site preservation and dating of the finds in the 1981 profile. The profile has been subdivided into 9 blocks (A – I) of ca. 60 m in length each. Bars on the left represent the percentage of the profile section hosting archaeological structures, per each block; the right line chart marks the percentage of archaeological structures divided by chronological period, per each block (after Gonzato *et al*. 2015, fig. 6; illustration by F. Saccoccio).

(*stampiglia*) decoration, showing connections with the northeastern Etruscan world, *e.g.* with Bologna (Salzani 1987a, fig. 14). In the 1930s the *Museo Civico di Storia Naturale di Verona* led some research, as proved by box labels in the museum storerooms (Saccoccio and Biondani 2019, note 11). This is also the period of the excavations (1932) in the cemetery of Dosso del Pol, located east of Coazze (Saccoccio 2014-15; Salzani 1987a; 1988).

In the 1960s amateur archaeologists Bruno Chiappa and Franco Soriani started surface collections at Coazze and the nearby territory in cooperation with the Veneto Heritage Office (then *Soprintendenza Archeologica del Veneto*; Saccoccio 2014-15). In 1962, under the direction of Francesco Zorzi, the *Museo Civico di Storia Naturale di Verona* explored the marsh area of Cop Roman in the Tartaro Valley, finding a stratigraphic sequence dating

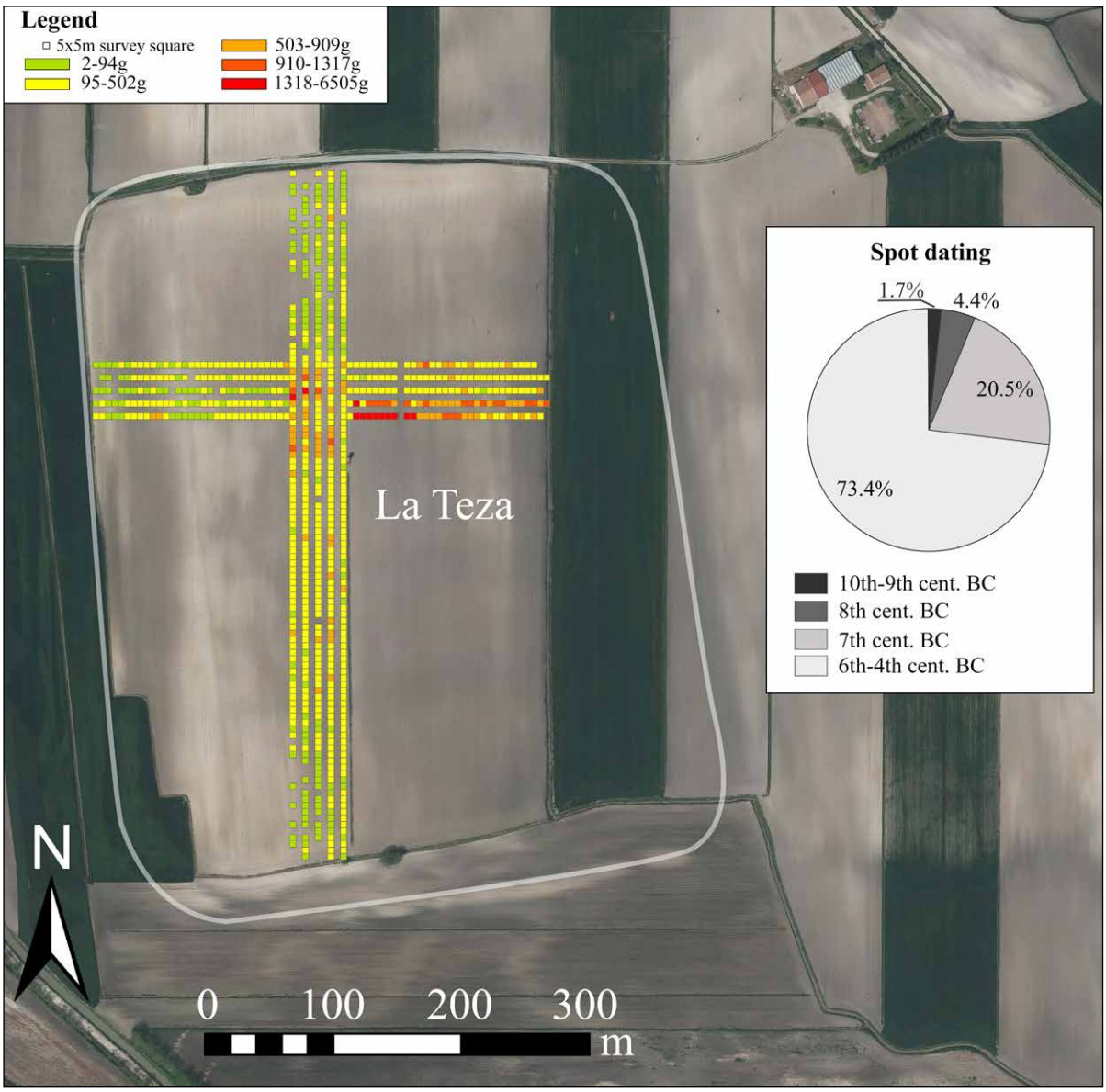


Figure 11.5. La Teza survey, 2015. Left- Preliminary results of the sampling collection, based on 5x5 m squares: quantity of cultural remains, as total weight, in grams. Right- Pie chart based on the spot-dating of 87 potsherds, showing increase in frequency by 7th century BC (illustration by F. Saccoccio).

from the Middle Bronze Age (15th-14th century BC) to the Early Iron Age (10th-9th century BC) (Gonzato *et al.* 2015, fig. 1; Salzani 1976a). In 1963, other box labels at the *Museo Civico di Storia Naturale di Verona*, testify to excavations on the terrace of Coazze. Unfortunately, details of this have thus far not been published (Saccoccio and Biondani 2019).

From 1970s to 2000s, the local archaeological group of Gazzo Veronese surveyed, tested, and excavated in the settlement and in the nearby cemeteries, assisting the *Soprintendenza* in the control of landscape modifications due to agrarian and hydraulic works (Di Maria 2018-19; Rizzetto 1979; Saccoccio 2014-15; Salzani L. 1976b; 1987a; 1987b; 2001; 2005).

In 1981, following the already described agrarian structural change, the most relevant stratigraphic research on the terrace of Coazze took place. The side wall of a major drainage ditch that had been newly excavated through the site, from Coazze farm southwards, on the proper Coazze terrace, allowed for the observation of a continuous profile measuring 560 m in length. Complete graphic and photographic documentation were recorded, and 7,475 finds collected. The complete record of finds has been recently studied,

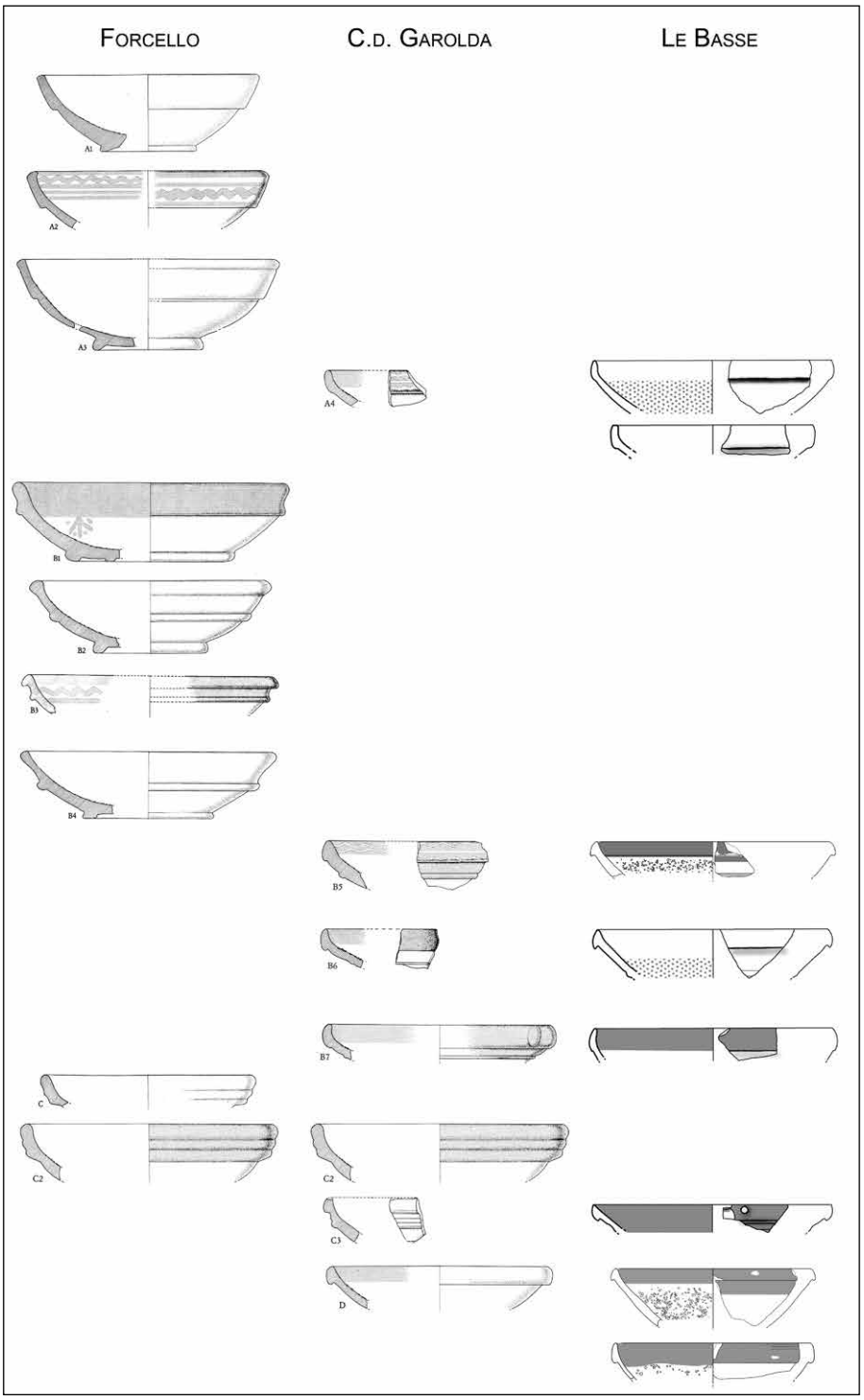


Figure 11.6. Typology of mortars, showing links between Castellazzo della Garolda and Coazze, and the differences with Forcello's pottery (Forcello after de Marinis and Rapi 1987; Castellazzo della Garolda after Casini *et al.* 1987; Coazze, original drawings by F. Di Maria, D. Monti; illustration by A. Vanzetti, not to scale).

providing the most accurate estimation for the site damage and its chronology of use (Gonzato *et al.* 2015; Saccoccio 2014-15; Salzani 1987a; Villari 1981).[13]

In 1996, following chance discoveries and surveys by local amateurs (Di Maria 2018-19), excavation in Le Basse lowland brought to light secondary evidence dating mainly to the 5th-4th century BC (Monti 2017-18).

Since 2014 the Ga.Ve. project has begun a systematic archaeological study of the territory of Gazzo Veronese, involving the Veneto Heritage Office (now *Soprintendenza Archeologia, Belle Arti e Paesaggio per le province di Verona, Rovigo e Vicenza*), the University of Verona, working on Roman and medieval ages, and the University of Rome "La Sapienza". The latter has been targeting the comprehensive evaluation of the settlement pattern of Coazze and its surroundings, through high intensity field survey (Bertoldo 2018-19; Di Maria 2018-19; Monti 2016-17; Gonzato *et al.* 2015; Saccoccio 2014-15; Saccoccio and Vanzetti 2016; Saccoccio *et al.* 2017; 2018; Vanzetti and Saccoccio 2015).[14]

L. S., F. S.

11.5 Development of the site

The study of archaeological materials from the different collections, surveys, and test excavations shows a diachronic evolution of the site and its surroundings, with changes in settled areas and size (fig. 11.3). Around Coazze, the raised fluvial ridges inside Tione and Tartaro Valleys, and the MLPP terraces beyond, are dotted by cemeteries, thus giving a remarkable image of the centrality of the settlement.[15] The pattern of a (proto-)urban site surrounded by its cemeteries is typical of the Italian cases, as it happens in the early proto-urban centres of Southern Etruria, at the dawn of the Iron Age (or even in FBA3), or in Veneto, at Este or Padova (De Min *et al.* 2005; Pacciarelli 2001; Ruta Serafini 2002). Such a clustered distribution of cemeteries has usually been interpreted as reflecting a varied lineage and/or residential structure of the communities (Peroni 1989). The cemeteries fully correspond to site's occupation, and span from the (advanced) Final Bronze Age to the 3rd-2nd century BC.

11.5.1 Coazze through time

At the beginning of the Final Bronze Age (De Guio *et al.* 2015; Gonzato *et al.* 2015), no traces of settlement or graves are known within a wide area around Coazze, while they are present in VGV. In the Cop Roman sequence, FBA 1-2 is marked by a gap in archaeological materials.[16]

In the FBA3-EIA1, a clear clustering of data around Coazze is visible on a regional scale, which corresponds to a typical trend of the earliest proto-urban sites of the Veneto region, Oppeano being the closest parallel (Guidi and Salzani 2008). Traces of occupation extend both in the Tartaro Valley site of Cop Roman and over the terraces of Cascina Giordano and Coazze proper, where data from the 1981 profile indicate a higher density of pottery from the southern part of the terrace, closer to Cop Roman (fig. 11.4). The extension of the site could reach up to 40 ha, but this is a maximum estimation, as both the size of Cop Roman is uncertain, and the average density of the settlement.

Since the 8th century BC, the Cop Roman lowland site is clearly abandoned, while pottery from the terraces of Cascina Giordano and Coazze is more abundant; it is particularly at Coazze that the central area of the terrace shows a pre-eminence of this phase in the 1981 profile study (Saccoccio 2014-15). It is possible that climatic factors had some influence in moving the settlement over higher terraces, but the choice is coherent with proto-urban development, in terms of compactness and natural defence. In the 1981 profile, at the southern end of the Coazze terrace, the possible remains of an embankment require further study.

Scarce materials from the FBA to 8th century BC occur also on La Teza terrace, but we can hypothesise that the real start to the occupation of this terrace began in the 7th century BC, as 2016 field survey has shown (fig. 11.5). At some point during the 7th century BC the site had therefore reached a size of at least 61 ha.

In the 6th to 5th (and maybe 4th, cf. further) century BC the settlement seems to be flourishing, as shown with the abundance of pottery dating to this period, among which the classical Palaeovenetian red-and-black painted ware is widespread (cf. further): Cascina Giordano, Coazze, and La Teza are occupied. In the 5th century BC, the nearby site of Corón di Maccacari shows the likely presence of a small rural hamlet most likely dependent on Gazzo, located inside an abandoned MBA embanked settlement (Salzani and Fredella 2004). At Dosso del Pol conspicuous graves of the 5th and 4th centuries BC are present (cf. further and footnote 18; Salzani 1987a; 1988). The time between the 5th and 4th centuries BC, in which the northern area at "Le Basse" also came to be settled, is somehow problematic, and will now be treated in more detail. In fact, scarce surface protohistoric pottery is present in the 700 m long stretch of land between Le Basse lowland and the main terraces of La Teza and Coazze. This intermediate

13 Luciano Salzani, as officer of the *Soprintendenza* worked with a small team including Alberto Zardini and geoarchaeologist Claudio Balista.

14 Luciano Salzani is working on the cemetery publications.

15 Dispersions of burnt bones, likely human and referring to cremation graves, occur in some surveyed areas, suggesting that the distribution of cemeteries could have also included part of the terraces of the Coazze area, in some phase of development.

16 The distinction between FBA1 and 2 is not straightforward in this area. A complete Allerona sword, from the Gazzo Veronese area, dates to the Late RBA/Early FBA (Salzani 1987a, 63).

area measures ca. 14 ha of terrace segments and 10 ha of lowlands and was apparently directly impacted by Roman Age road construction (Basso 2019; Saccoccio *et al.* 2017). The low density of the materials collected in this intermediate area do not clearly represent a settled area. Therefore, it is not clear whether Le Basse was a small separated spot, likely directly connected to the river Tartaro; its functional interpretation is also matter of discussion. The inclusion or subtraction of the area significantly affects the site's size estimation, from 61 to more than 70/80 ha.

F. S., L. S., A. V.

11.5.2 Le Basse

Le Basse is a lowland area (it was a wetland in the Austrian cadastral map with the Italian name itself meaning 'lowlands') that is characterised by *etrusco-padana* fine pottery, a ware particularly frequent in northern Italy between the end of 6th and 4th centuries BC (Mattioli 2011).

The pottery found in the 1994 surface collections and the 1996 excavation[17] includes single *bucchero padano* sherds, a considerable quantity of *etrusco-padana* pottery (ca. 800 sherds; Di Maria 2018-19; Monti 2016-17) and complementary typical local earthenware (*impasto*) production: the *etrusco-padana* ware as fine drinking and tableware, the earthenware as kitchen and domestic ware. *Etrusco-padana* pottery, made of typically pale/orange levigated clay, with banded or solid red-orange, or brown paint, has been used as a marker to evaluate the 'Etruscanisation' of the Po Valley (Mattioli 2013) or Etruscan trade from the second half of the 6th century BC (Sassatelli 2008). In Veneto it appears toward the end of 6th century BC, apparently with the adoption of a selection of shapes (Monti in press). The start of local Palaeovenetian productions has been suggested, in later phases (Gamba and Gambacurta 1987; Mattioli 2011).

While the earthenware products (mainly jars) have shapes substantially shared by the Etruscan and Palaeovenetian world, the kitchenware does not match the Forcello products, and the *etrusco-padana* has better matches with the Castellazzo della Garolda assemblage than with Forcello. This is particularly evident in the so-called mortars, or grinding bowls, but also in common bowls (fig. 11.6).

The site of Castellazzo della Garolda (de Marinis 1999), 13 km west of Coazze, is located on a ridge on the eastern margin of the Mincio Valley. After a Bronze Age phase (Bianchi 2004), and abandonment, it was occupied as a Palaeovenetian site related to Coazze, likely in the early 8th century BC, and occupied until approximately the mid-5th century BC. A gap would partition this phase from Etruscan reoccupation, occurring after the abandonment of Forcello, *i.e.* in an early phase of the 4th century BC, with an assemblage rich in *etrusco-padana* pottery (Casini *et al.* 1987; Frontini 1987). On the contrary, from Coazze, Cascina Giordano and La Teza only few dozen sherds of *etrusco-padana* were recorded (Saccoccio *et al.* 2016; 2017; Saccoccio and Vanzetti 2015; Vanzetti and Saccoccio 2014), matching well with Forcello, since its early phase H (dated to 530-520: de Marinis and Rapi 2007, 45). Accordingly, *etrusco-padana* pottery matching with the products found at Forcello, features in high status graves of the Dosso del Pol cemetery, on the fronting side of River Tartaro.[18]

The Palaeovenetian red-and-black painted ware is almost absent at Le Basse, but for one *situliforme* vase of a shape dated late (no earlier than 425 BC, cf. Bondini 2008, 315, fig. 6) and one rim, likely from a jar. Grey *cinerognola* ware is almost absent, while since the late 4th century BC it is expected to be a widespread product in Palaeovenetian and Celtic contexts (Bondini 2008).

A limited number of black gloss pottery sherds have also been recorded, dating between the end of the 5th and the 3rd century BC. Fragments of Corinthian B *amphorae* (variant B, following De Luca De Marco 1979, mid-5th to mid-4th century BC; cf. also de Marinis and Rapi 2007, 45, early 4th century BC) and Greek-Italic *amphorae* (4th-3rd centuries BC, Toniolo 1995) are also present (Monti 2017-18).

Surface collections by the local amateurs in the same area brought to light a relevant number of bronze *aes* specimens (*i.e.* small ingots), fragments of bronze ornaments (fibulae and pendants), and at least three "*fibulae simulacra*", that is unfinished and non-functional arches of leech-shaped (*sanguisuga*) fibulae, which have been interpreted as votive elements (Castelfranco 1882; de Marinis *et al.* 2016). They occur in relevant numbers (some hoards count a hundred or so *simulacra*, *e.g.* Monte San Zeno, Chaume *et al.* 2017) in the Golasecca area of the central-western Po Plain and Ticino, during Golasecca III A3 phase (mid-5th to 4th century BC), but two more come respectively from Castellazzo della Garolda, and Marzabotto House 1, in the hinterland of Bologna (de Marinis *et al.* 2016). The evidence from Le Basse could be votive,[19] but, given the abundance of bronze

17 Cf. fig. 11.1. Unfortunately, the excavation only retrieved disturbed secondary contexts, without functional or structural associations.

18 A good example of associated grave goods is tomb 3/1980, likely dating to late 5th century BC, where *etrusco-padana* pottery occurs together with a classical Palaeovenetian red-and-black *situliforme* urn and, among other items, a small bronze situla, a red-figure Attic *glaux*, dating to around mid-5th century BC, an early openwork iron belt-hook of Celtic type, fibulae, and amber beads (Salzani 1987b; 2002). One of three *etrusco-padana* bowls had been restored in ancient times.

19 In fact, de Marinis *et al.* (2016) proposes a votive interpretation at Castellazzo della Garolda, where the context is characterised by *aes* and finished ornaments, similarly to Le Basse.

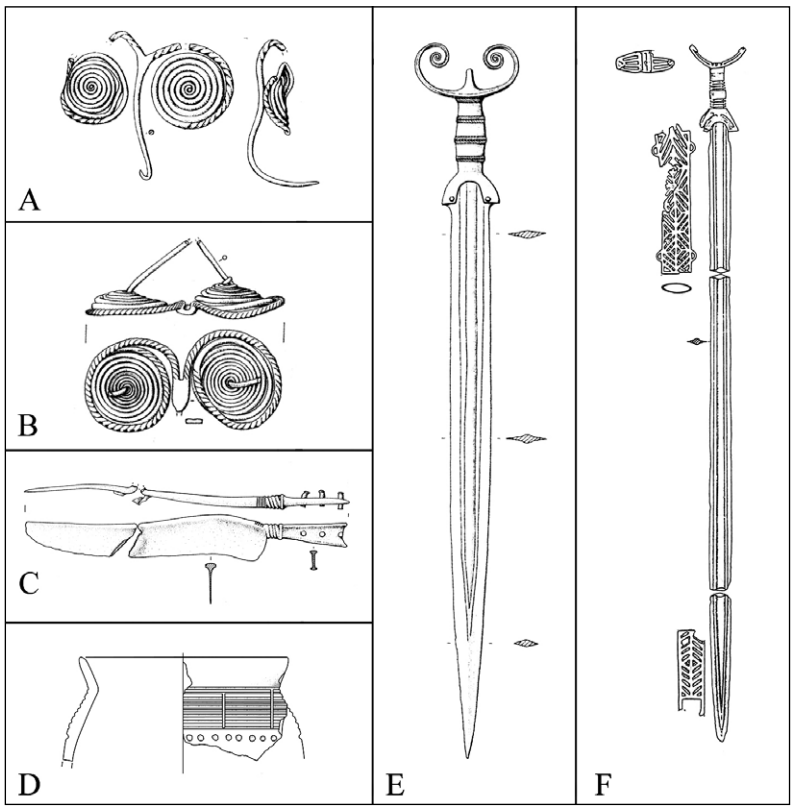


Figure 11.7. Finds reflecting connections with neighbouring and distant regions. A-B) Vadena-type pins from Colombara tb. 170 and Ponte Nuovo tb. 74 (scale 1:5); C) Vadena-type knife from Ponte Nuovo tb. 5; D) Luco/Laugen B pottery from Coazze, 1981 profile (scale 1:5); E) *antenne*-sword of Tarquinia type from Ponte Nuovo tb. A (scale 1:5); F) long sword from Core (scale 1:10) (after Gonzato *et al*. 2015; Saccoccio 2014-15; Salzani 2001; 2002; 2005; illustration by F. Saccoccio).

fragments from the area, they could also be metal scraps in an area of smelting workshops.

As for the interpretation of Le Basse, R.C. de Marinis (1999, 556-558) hypothesised it to be a sort of port-of-trade, existing in parallel with Palaeovenetian Coazze, but with a strong Etruscan character; he likely thinks of a trading enclave, with Etruscan residents.

Given the evidence, it is not easy to decide whether Le Basse site could reflect either a specific specialised trading post, characterised by metalworking,[20] used in parallel with the Coazze complex or -so far this seems more likely- a shrinking phase of the site, with a substantial abandonment of Coazze. Anyway, the continuity in use of the cemetery of Dosso del Pol during 4th century BC (Gambacurta and Ruta Serafini 2014) seems to mark a persistence of lineage groups.[21]

Finally, at Le Basse, materials dating to the 3rd century BC are sporadically present (such as black gloss pottery).[22] In the cemeteries, at Dosso del Pol single 3rd century BC materials occur, out of context (Salzani 1987a); at Cassinate, north of Dosso del Pol and precisely on the other side of Tartaro in front of Le Basse, the latest pre-roman funerary cluster is located, dating to the 3rd-2nd centuries BC and apparently consisting only of graves reflecting a dominant Cenomane Celtic character. (Biondani 2018; Gambacurta and Ruta Serafini 2014; Rizzetto 1979; Salzani and Mazzetto 2004). A gap seems to exist between the 2nd century BC and the end

20 At Oppeano, Biondani (2017) has remarked on the association of *etrusco-padana* pottery (with characteristics similar to Forcello) and metalworking.

21 The interpretation of the shrinking of the site is different from what was formerly proposed (Gonzato *et al.* 2015); should this hypothesis be correct, the maximum size of the Coazze complex would have been about 61 ha, reached in 7th century BC, and lasting until the end of the 5th/beginning of the 4th century BC. The shrinking would have taken place more or less at the same time as Castellazzo della Garolda re-occupation, and the question of the ethnicity of the inhabitants could be relevant. Anyway, while at Castellazzo plenty of Etruscan inscriptions occur on pottery, at Le Basse only a few pseudo-*chi* marks occur, both realized before and after pottery firing, and scarce Palaeovenetian pottery is present.

22 In 2nd century BC, Romanisation of northern Italy took place, and the Coazze area eventually became rural, later to be crossed by the Via Claudia Augusta (Basso 2019).

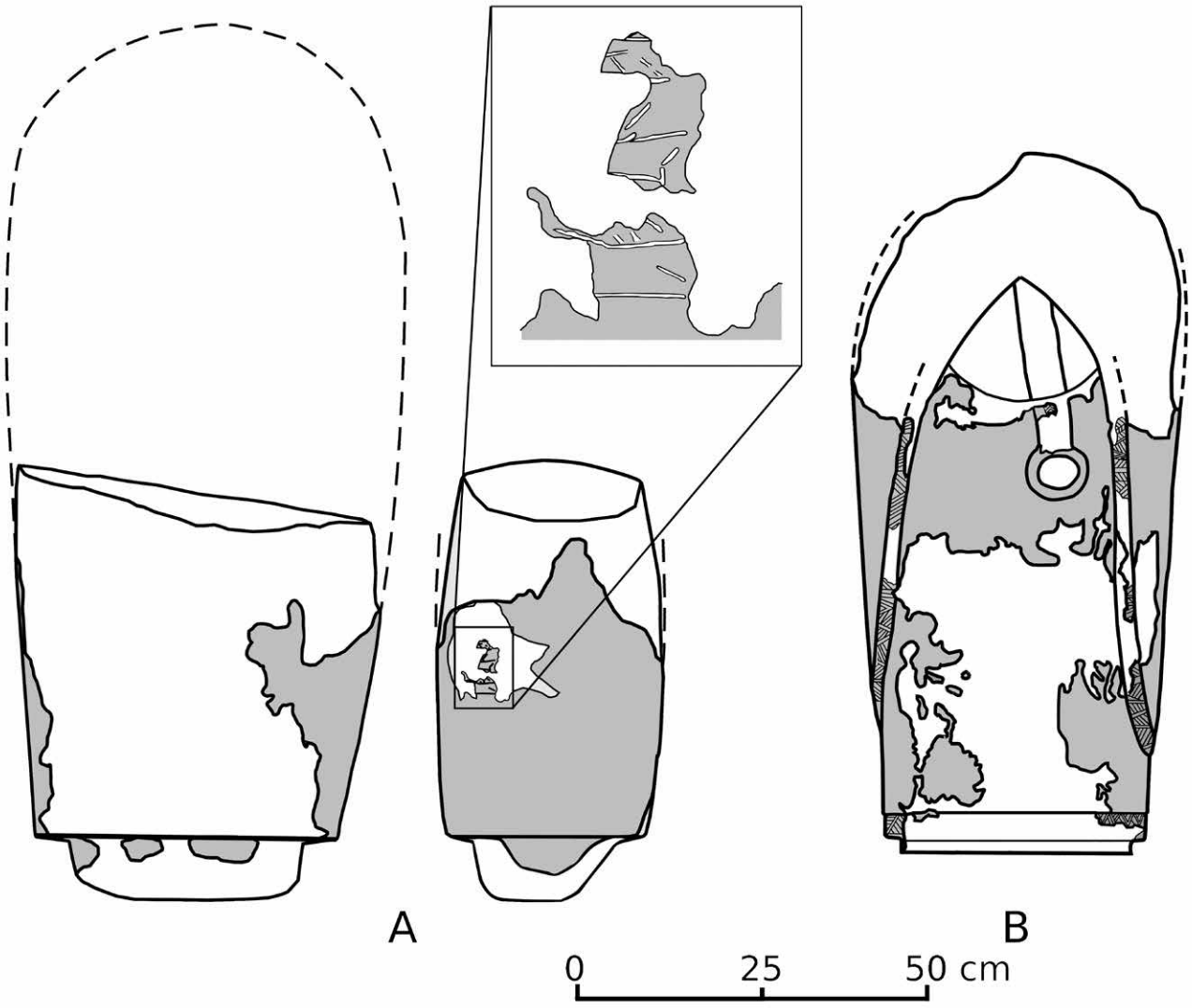


Figure 11.8. Statues A and B from Balaferi, showing the different size; statue B has some remains of finely carved clothing. Dark grey: preserved surface; White: abrasions and fractures. The inscription on statue A is highlighted (redrawn after Gamba and Gambacurta 2011, figs. 3, 5, 12; illustration by D. Monti).

of 1st century BC, when a major Roman road was traced, crossing the area between Coazze and Le Basse, on the way from Ostiglia and the Po River to Verona (*Via Claudia Augusta*, Basso 2019).

D. M., F. DiM., A. V.

11.5.3 Connections, power and identity

Connectivity has always been quoted as a crucial element of Coazze (*e.g.* de Marinis 1999; Salzani 1987a; 1987b), and it certainly has to be considered for the site interpretation. The site maintains a strong basic affinity with Palaeovenetian cultural aspects, at least until early 4th century BC. In FBA3-EIA1, objects like knives[23] and ornaments from cemeteries, as well as pottery from the settlement show connections with the Alpine area and the Adige Valley (Gonzato *et al.* 2015), *i.e.* a crucial mining area in Italy (fig. 11.7). A persistent connective axis has been proposed for sites on the Tartaro-Adriatic directory, like Fondo Paviani (in VGV) in the RBA and

23 Knives are not straightforwardly weapons, nor simple tools. Indeed, the Vadena-type, present at Gazzo (Ponte Nuovo tb. 5), with strong alpine and transalpine connections, has been convincingly proposed as a development of the Matrei type, rooted in Veneto-Trentino (de Marinis 1999). Another knife (Ponte Nuovo tb. A), of intermediate Hadersdorf-Este shape, confirms the alpine links (Salzani, L. 2005).

Early FBA and Frattesina (on the Adria Po branch) in the FBA-EIA1. Other possible connections point southwards (de Marinis 1999; Saccoccio and Biondani 2019; Salzani L. 2005), maybe through Bologna, and are based both on bronzes (*antenne*-sword of Tarquinia type from Ponte Nuovo tomb A; more generally, razor and fibula typology, *e.g.* fibulae from Ponte Nuovo tombs 57B, 61 and 71B and pottery decoration (*e.g. rosette* motif during FBA or Villanovan EIA decorations; *e.g.* tombs Colombara 34 and 143, Salzani 2001). Early connectivity of Veneto through Frattesina with Bologna and Tyrrhenian Etruria has been particularly stressed by Bietti Sestieri (2005).

The 8th-7th centuries BC mark a consolidation phase: the connections with growing centres of Etruria Padana are clear, but apparently less marked. Fibulae of the Mörigen family (*e.g.* tomb Colombara 138, Salzani 2001); pottery decorated with *stampiglia* impressions or incised geometric meanders recalling Bologna and Etruria Padana, as well as the *stampiglia* pottery firedog found by De Bon (Salzani 1987a); the long sword from Core cemetery, a unique specimen, so far, but recalling wider traditions (Salzani 1987a; 2002)

As for the early 6th century BC, we will discuss later the monumental statues from Balaferi and the double axe from Colombara tomb 2/1980. Later in the 6th and 5th centuries BC the strong connectivity is confirmed, likely mediated, in part, through the Etruscan *emporium* at Forcello: *etrusco-padana*, Attic black-figure and black gloss pottery; metal items from Dosso del Pol cemetery, like the abundant Late Hallstatt fibulae, or the *syrinx* player figurine and bronze vases of Etruscan affinity (Gambacurta and Ruta Serafini 2014; Salzani 1976b; 1987a; 1987b; 1988).

The 5th-4th centuries BC (and also later) show further evidence of connectivity; the presence of fibulae *simulacra* and a pottery beaker from the minor site of Corón di Maccacari, reminiscent of typical Golasecca IIIA specimens, point to wider western connections; to this we can add *etrusco-padana* pottery again, black gloss pottery, and *amphorae*.

More generally, setting apart a fossil *Strombus* from Dosso del Pol cemetery, the high number of seashells found at Coazze highlights the connection with the coast, likely through the Tartaro-Adria Po route (Salzani 1976b, 170, 172, fig. 38).

As for the social and power structure at Coazze, we have some hints from funerary data: graves are arranged in groups, as typical of any cemetery of the period, likely reflecting a lineage structure (Salzani L. 2001; 2005; Peroni and Vanzetti 2006). Since the earliest phases, the presence of weapons in graves has not been insignificant, and a hierarchical organization, with a notable relevance attributed to some sword-bearing warriors, can be traced (tb. Ponte Nuovo A, EIA1; Core sword grave, likely 8th century BC).[24] Some graves with spears have impressive associations of grave goods as well, *e.g.* tombs Ponte Nuovo 5 (FBA3) and 61 (EIA1) (Salzani L. 2005). This points to a complex organisation of top-level warriors.

After the 8th century BC, during the period of maximum expansion of the proto-urban settlement, and its flourishing in the 6th-5th centuries BC, we have no more such military hierarchical indications, a fact generally shared throughout the Palaeovenetian world, and we cannot be sure whether it reflects a social or a ritual change.[25] In any case, conspicuous burials endure, and relevant evidence from the early 6th century BC highlights the complexity of the power structure, connectivity, and likely ethno-cultural components of the Coazze community.

Fragments of at least four monumental statues were found in the cemetery area of Balaferi, between Colombara and Core, on the MLPP terrace east of Tartaro. The accurate study by Gamba and Gambacurta (2011) date them to the early 6th century BC. They are made of calcarenite extracted from the Parma-Bologna Apennine, in the Etruscan territories, and the only stylistic comparisons are in the Etruscan world. The best-preserved statue could be feminine and might be dressed in a Palaeovenetian fashion (fig. 11.8). Another, more massive, statue bears at least five letters of an inscription, likely in the Etruscan alphabet, older than any Venetic inscription so far known. While characters seem Etruscan, the text could not be referred to a precise language (Marinetti 2011). They might be funerary markers, although divine characters have also been considered (Gamba and Gambacurta 2011). In the contiguous cemetery area of Colombara, a bronze double-axe with a slender (broken) handle came to light as a grave good in a context dating to the early 6th century BC, as well (tb. 2/1980). The closest reference for double axes in this period are weapons, ritual objects, and insignia of the Etruscan world.[26] This combination of elements marks a strong, maybe even institutional, relationship with Etruscan personages, embedded in the local community. In this period, apparently the site of Forcello had not yet been founded, and the Etruscan presence had started at the end of 7th century BC along the Rivers Mella, Oglio, and Chiese, west of the Mincio Valley (de Marinis 1999). Nor had the

24 Tomb Ponte Nuovo 6, heavily damaged, was possibly connected to an important weapon-bearer as well (Salzani L. 2005, 14-16).

25 The presence of sheathed knives, generally associated with conspicuous graves of males, maybe warriors, suggests the enduring relevance of the military component (Gambacurta and Ruta Serafini 2014; Salzani 1988). La Tène B2 swords appear in the Cassinate graves, associated with fully Celtic attire (Gambacurta and Ruta Serafini 2014).

26 On the double-axe: Cherici (2008, 221), quoting the comparison with the Murlo frieze, roughly contemporary, where the double-axe is likely held by the underworld god, Hades (Briquel 2017, 121-122); Malnati (2003) proposed it to be booty taken from Etruscans.

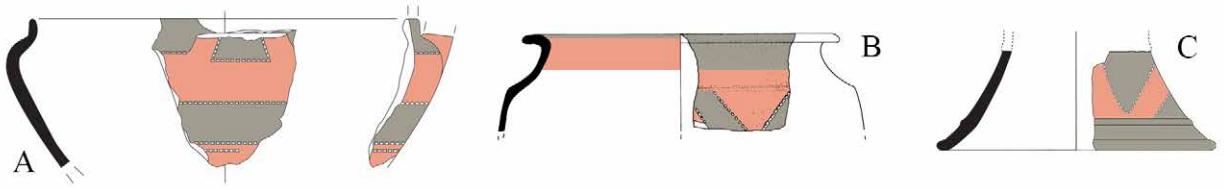


Figure 11.9. Red-and-black painted ware with Garolda-Coazze style, from: A) Coazze, 1981 profile; B) Isola della Scala-Palazzina; C) Castellazzo della Garolda (scale 1:5) (resp. after de Marinis 1999; Gonzato *et al*. 2015; Saccoccio and Biondani 2019; illustration by F. Saccoccio).

emporium of Adria been founded, although the Tartaro-Adria Po waterway could have been active, in reference to the early foundation of San Basilio (near Ariano Polesine, Rovigo), as maritime trading post, characterised by mixed Palaeovenetian and Etruscan elements (De Min and Iacopozzi 1986; Salzani and Vitali 2002).

A significant component for the definition of the peculiar network of Coazze is the variant of the red-and-black Palaeovenetian decoration (fig. 11.9) defined as Garolda-Coazze style (Gonzato *et al.* 2015). The thorough study of this style, characterised by a creative syntax of geometric and meander decorations, conducted by Saccoccio and Biondani (2019) has outlined a core area, between Coazze, Castellazzo della Garolda, Castiglione Mantovano, and Isola della Scala-Palazzina, while a more scarce presence at Oppeano (Salzani 2018) has been interpreted as a marginal influx, and a reflection of exchange or mobility. The floruit of this style was in the 6th-5th century BC, *i.e.* the moment of the maximum expansion of Coazze. This is in accordance with the many elements that point to Coazze as an autonomous major site of the westernmost polity of the Palaeovenetian world, including the above-mentioned sites, as it was strengthened by Saccoccio (2016) through an X-Tent model. Coazze was big enough to be the main site of a polity independent from Oppeano since its widening to at least 61 ha, since the 7th century BC. Indeed, these evaluations would need to consider more elements than simply size, as Coazze's role could have been relevant even earlier, but certainly the premises for 6th-5th century BC success and specific identity suggest the site autonomy had by that time been acquired.

F.S., A.V.

11.6 Conclusions

Our knowledge of the site of Coazze is still limited, but the evidence is growing, even if proper settlement excavations are nearly absent, and the site has been badly damaged by centuries of agriculture.

At present, its development as a (proto-)urban site is mainly recorded in terms of its size, its being surrounded by cemeteries in a typically urban way, by the presence of strong and multiple authorities, and lineage traditions. The range of traffic and the likely definition of a territory of influence could have, through time, included smaller sites like Castellazzo della Garolda, Sorgà, Castion di Erbè, Castiglione Mantovano, and Isola della Scala-Palazzina. If the Garolda-Coazze style can be used as a marker of the polity, aside the X-Tent model based on site size, the polity would extend in a south-north direction, along the resurgence rivers. This makes it difficult to use the notion of "central place" in technical terms for Coazze, whose crucial role in the polity would be explained precisely by its connective status, linked to the Tartaro-Adria Po waterway. This suggests a definition of the site as a gateway community, *sensu* Hirth (1978, 38), serving a dendritic market network, hierarchically organised by the gateway community, whose location is on a decentralised natural connecting route (such as the Tartaro waterway): "*hinterlands look much like elongated fans, which radiate outward from their respective gateway*", as in our case.

These characteristics represent a dynamic settlement rooted in the Palaeovenetian *milieu*, but open to interaction with other political and ethnic realities, such as *Etruria Padana*, with possible forms of mobility, interference, and multiethnic composition. This has been shown by the strong Etruscan connections at the beginning of the 6th century BC, including statues, writing, and possibly symbolic items, such as the double-axe. After the foundation of Adria and Forcello, in later 6th century BC, the role of the site was still strong, but likely reduced in scope.

The end of the settlement is still problematic, as it is not clear whether Le Basse settlement could mark a shrinking of the site, or whether the damage could have limited our knowledge of the last occupation phases at Cascina Giordano-Coazze-La Teza. In any case, the cemetery of Dosso del Pol still shows continuity in use, and the settlement maintained an attitude open to connectivity. Whether the local domain in the 4th century BC was still Palaeovenetian or Etruscan is difficult to say, given the prominence of *etrusco-padana* pottery together with the persistence of some Palaeovenetian characters. Eventually, the cemetery of Cassinate in the 3rd-2nd centuries BC, with its strong Celtic Cenomane characteristics, testifies a likely change in the nature of the site.

Therefore, the location of the Coazze settlement, at the edge of a raised drier landscape, but surrounded by marshes in the river valleys and facing southwards towards a major lowland, fits well with the description of a typical inland Palaeovenetian town given by Strabo (V, 1, 5), either "*forming an island*" or "*being partly washed by water*", and connected to navigable rivers. Riverine connectivity must have played an absolutely fundamental role in the development of Coazze.

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Chapter 12

The Etruscan Settlement of Adria (Italy, Rovigo): New Data from the Excavations in Via Ex Riformati (2015-2016)

Simonetta Bonomi, Maria Cristina Vallicelli & Claudio Balista

At Adria (province of Rovigo, Italy), in Via Ex Riformati, recent excavations at 5m below the surface have revealed a sector of the ancient settlement from around the mid-6th century BC, providing significant information on the Etruscan town. This paper presents the preliminary data from the last investigation (2015-2016), during which the excavation of the "house-workshop" was completed. This Late Archaic building has an elongated rectangular plan and foundations composed of long horizontal wooden beams and was set above an embankment delimited by canals. The building, dated from the end of the 6th to the beginning of the 5th century BC, has a large hearth used for metallurgical activities, which together with numerous "aes rude", indicates both a craft and housing function. The construction techniques and the materials are suitable for the control of a humid environment, near a relict palaeo-channel of the Po di Adria and a secondary Po Valley branch corresponding to the current Via Retratto, which guaranteed a connection with the sea and hinterland. The orientation of the structures corresponds to that found in other sectors of the ancient town, testifying to a regular urban layout, which was also maintained in the later stages and into Roman times. The rationally planned urban layout gives Adrias the characteristics of a foundation town rather than an emporial agglomeration (the polis Adrías mentioned by Hecataeus of Miletus): its strategic position is linked to great economic interests, being connected to both maritime traffic and overland routes to the Alps. The beneficiary was probably that Etruscan hegemony whose affirmation is reflected in the prestigious burial contexts and in the epigraphic documentation of the late 6th-early 5th century BC, in a period of flourishing prosperity of the river port of Adria.

Keywords: Adria; Etruscan settlement; Palaeohydrography; Ancient Po River Delta.

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12.1 Introduction

The excavations during the 1800s and 1900s did not allow for a full understanding of the organisation of the Etruscan Adria settlement (fig. 12.1). In 1800 the Bocchi family led excavations in the southern sector of the city, in the Tomba district (Bocchi 1879; Bonomi 1993; Donati and Parrini 1999; Schöne 1878; Vallicelli 2018; Wiel-Marin 2005).

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 193-206.

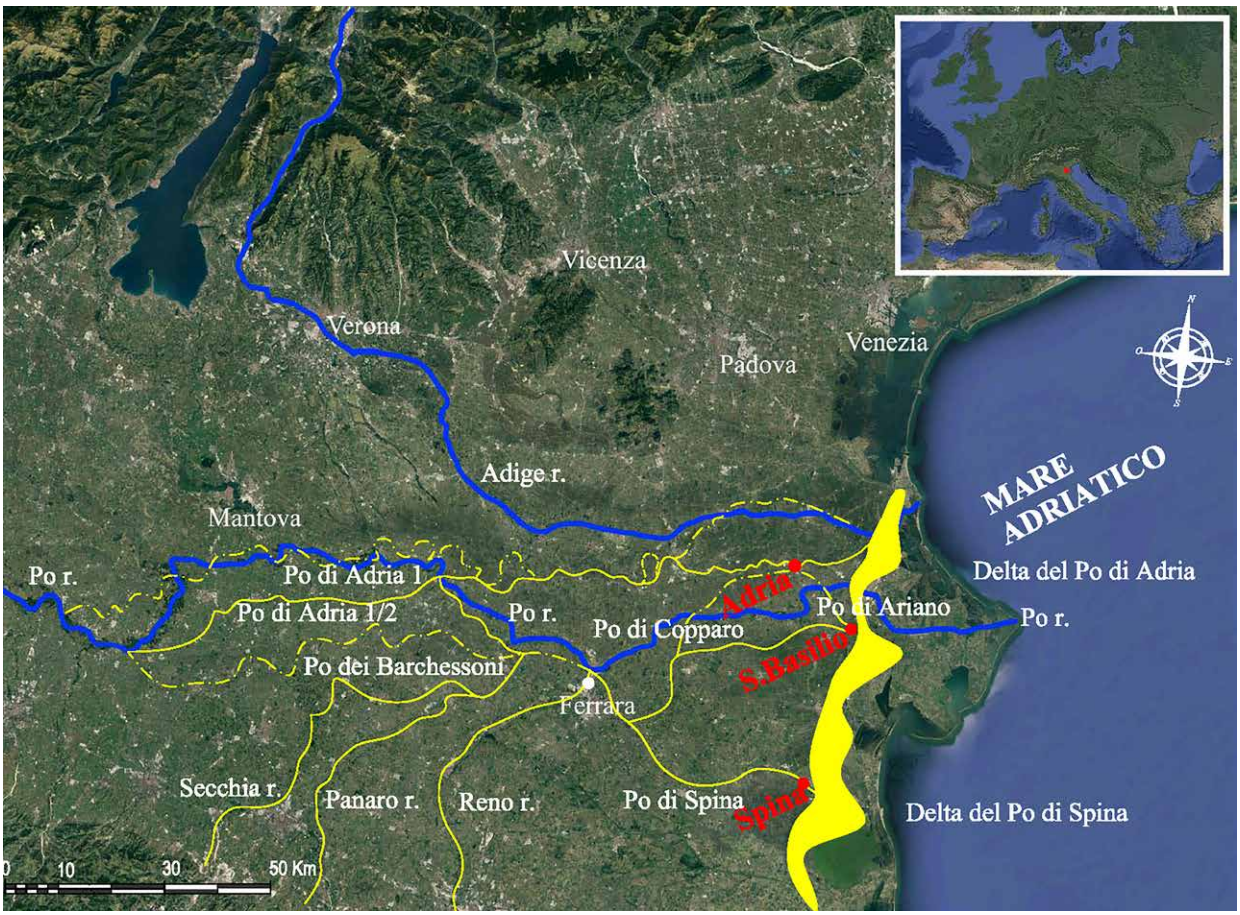

Figure 12.1. The ancient Po Delta with the settlements of Adria, S. Basilio, and Spina and the main palaeohydrographies: the senescent Po di Adria and the Po di Ferrara-Po di Spina in the reactivation phase (authors, reworked by C. Balista).

From them came the first information on the ancient city and the prestigious collection of fragments of Attic pottery belonging to the family collection, now part of the city archaeological museum (Gambacurta and Vallicelli 2011). Other surveys were carried out in the first half of 1900 behind the S. Maria della Tomba church and in the "Pubblico Giardino", where there is now the museum. In 1993 the archaeological excavation of Via San Francesco intercepted part of the oldest stratigraphy (Bonomi *et al.* 2002; Camerin and Tamassia 1999; see also Bonomi and Gambacurta 2017, 69-70 for a summary of the history of the excavations and previous bibliography).

Only since 2004 has it acquired a clearer definition, when an undeveloped property, to the west of Via Ex Riformati, was possible to excavate. At 5m below the surface, some structures were uncovered linked to the stratigraphic context associated with the middle of 6th to the 5th century BC (Bonomi and Gambacurta 2017). The eastern area was investigated in 2004, while the central-western section was explored in 2015-2016, when the investigation of the so-called "house-workshop" was also completed, and other new structures were discovered further to the west. The investigations involved an initial area of ca. 500 m^2 and reached a maximum depth of about 3.50 m from ground level in an area of ca. 120 m^2.

Here we present the results of this latest excavation campaign relating to the end of the 6th-5th centuries BC and propose a review and development of the data from previous excavations. A more complete stratigraphic approach allowed us to understand not only the Late Archaic urban planning system, but also to clarify the alluvial origin of the layers that buried the buildings. These data highlight new evidence useful in defining the urban evolution during the Classical Period, when the transition from a wet to dry settlement organisation occurred, while maintaining the same urban layout.

12.2 The embankment and the "house-workshop"

The 2005 excavation yielded the earliest settlement phase, dating to the middle of the 6th century BC, located more than 5 m below the surface (fig. 12.2). It consisted of layers

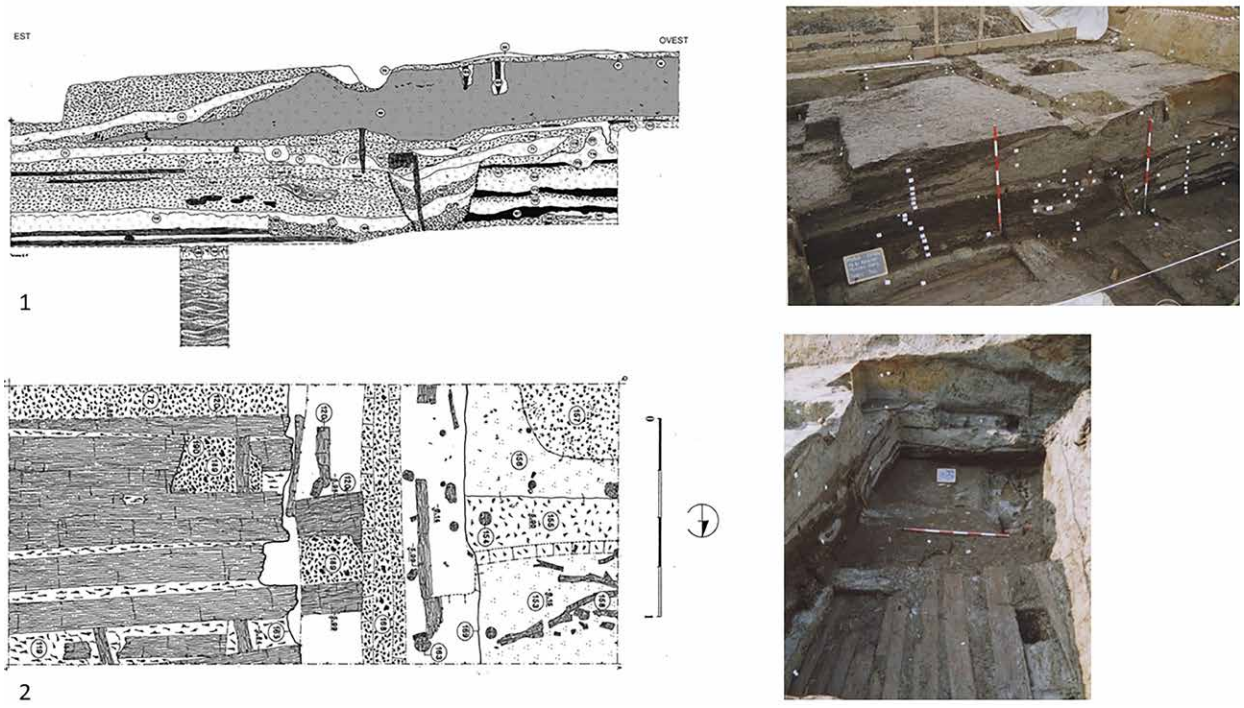

Figure 12.2. Excavation 2004: cross section E-W (1) with the double planking (2), the reclamation layers towards the ditch and the embankment, on which the "house-workshop" is placed (authors).

of loams mixed with branches that, in the northeastern sector of the excavation, were enhanced by double planking in juxtaposed wooden beams (US 120 A,B,C) with E-NE/W-SW orientation; the same as the urban axes of the ancient city already found by Bocchi in the 19th century excavations at the "Pubblico Giardino" (Bocchi 1879; Bonomi 1993; Donati and Parrini 1999).

These first occupation levels were set in dense sequence of wooden structures and platforms, also dedicated to metallurgical activities, and collateral dumping levels. A flooding episode with the presence of clean and laminated sandy silts, partly reshaped in the area (US 71), seals this second phase that can be placed within the last thirty years of the 6th century BC, followed by a further inhabitation episode and a subsequent partial abandonment of the area.

The investigations carried out 2015-2016 reached the late 6th-early 5th century BC settlement phase. This phase is characterised by the construction of an embankment with a maximum thickness of 60 cm, for the installation of a new building. This embankment, which went beyond the western and southern boundaries of the investigated area, was delimited, to the north by the banks of a ditch and to the east by the slope of a major canal. The embankment was progressively eroding towards the bank of the N/NW-S/SE canal, where it is contained by a reclamation of branches, wooden debris, and alluvial sediments. This work responded to the need to counteract the fluctuations of local water levels by raising and stabilising the soil of the upper layers in order to isolate the houses from the damp. A N/NW-S/SE oriented fence separated the reclaimed section from an open area linked to the house. This distinction appears to be confirmed by the presence of an anepigraphic boundary stone (trachyte: 122x17x40.6 cm) found in a horizontal position, aligned with the fence line at the confluence of the northern ditch and the eastern canal. The coexistence of the two elements suggests a distinction between living space and a path along the canal bank (or perhaps an urban crossroad?).

The construction of the embankment was completed with the arrangement of a secondary N/NW-S/SE oriented ditch. This one, with a drainage function, had a maximum width of about 1 m and a depth of about 40-50 cm, and flows into the adjacent northern ditch. The ditches' banks were lined by wooden boards supported by vertical pickets inserted at the base.

On the levelled and pounded surface of the embankment, there was a timber building called the "house-workshop" (fig. 12.3). The foundations of the building consisted of short beams laid on the ground (about 20-25 cm wide, 15-20 cm thick, and 90-100 cm long), on which the long horizontal "sleeper beams" that marked the foundation frame of the building were placed (about 17 cm wide, 10-15 cm thick, and 635-645 cm long). The "perimeter beams" were also joined together at the corners, where they were blocked by vertically arranged poles, of which only the base is still preserved (fig. 12.4). These poles also served to support the

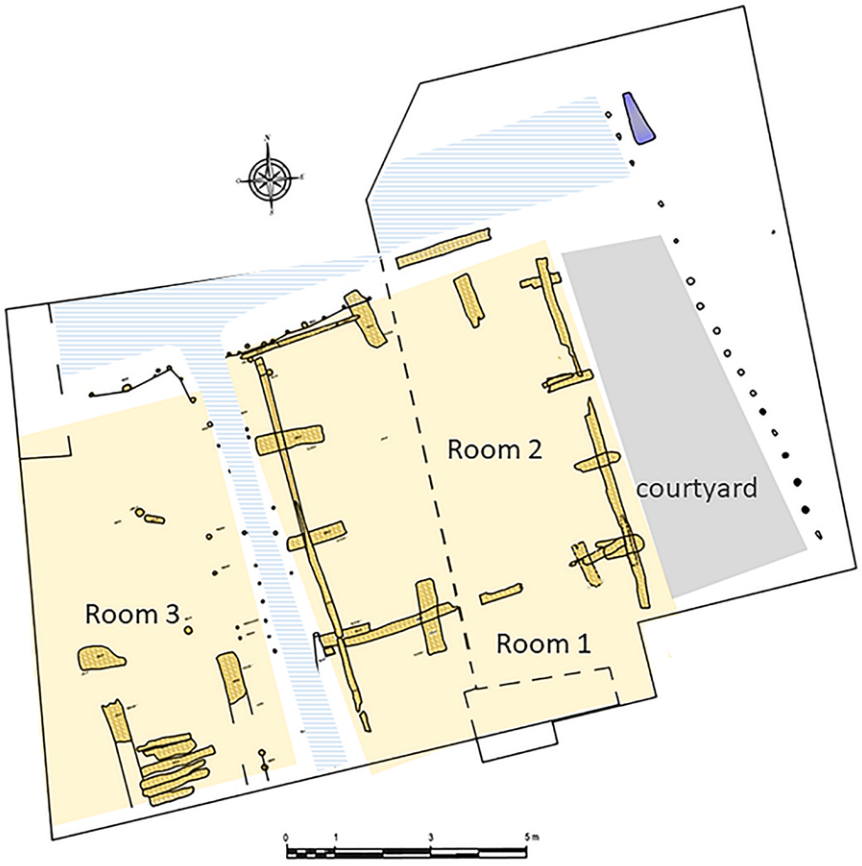

Figure 12.3. Excavations from 2004 (eastern sector) and 2015-2016 (western sector) – rooms 1-2 ("house-workshop") and room 3: wooden foundation with the long horizontal "sleeper beams", trachyte boundary stone, W/SW-E/NE wet ditch and N/NW-S/SE drainage channel (authors).

Figure 12.4 (top right). Excavation 2015-2016: the system of channels and ditches that control the drainage of the embankments and wooden foundation of the "house-workshop" (after Archive of the Soprintendenza Archeologia Belle Arti e Paesaggio per le province di Verona, Rovigo e Vicenza).

roof. A long E-W beam divided the building into two rooms, the southern room (room 1) was partially excavated, and the northern one (room 2) entirely excavated. A break in the beam seems to suggest the presence of a passage between the two rooms.

The building, investigated for a maximum length of 10 m, has an elongated rectangular plan, which extends southwards beyond the boundary of the excavation. The building has an orientation of N-NW/S-SE, the same as the drainage ditch that cuts the embankment in two sectors. Room 2 is 6.30x6.30 m (on the centre line of the perimeter beams), revealing the adoption of the measurement unit of 88.8 cm, equivalent to three Attic feet of 29.6 cm, the same that has also been identified at Forcello di Bagnolo S. Vito near Mantua (Komp *et al.* this volume; Quirino 2012) and other Etruscan cities of new foundation like Marzabotto and Spina (Zamboni 2017, 54-57; see also Govi *et al.* and Mistireki and Zamboni this volume). Therefore, it would correspond to the 7x7 module, with a gap of less than 10 cm.

Inside the foundation frame, a fine greenish-grey, sandy-silt layer makes up the floor of the two spaces on which are set hearths with handcrafting and domestic functions. Around the external walls, in a single 2.5 m section on the western side there was a partially preserved section of the latticework. It was formed by a trellis of vertical stacks fixed in a series of grooves in the centre of the perimeter beam: the trellis is composed of sprigs of small dimensions, with variable diameters ranging from 1.5 to 2 cm. On the remaining perimeter there were no further traces of joints. This suggests a mixed construction technique, which could be timber-framed or *Blockbau* with overlapping beams, also attested at Spina (Zamboni 2017, 54). The same technique has also been proposed for the Late Archaic house at Forcello near Bagnolo San Vito (de Marinis and Rapi 2007, 39-40).

Unfortunately, the absence of materials linked to the roof does not allow us to formulate a more detailed reconstruction of the house elevation, which we presume was partly constructed of wood and reeds lined with clay. To the west of the drain, a minor structure (room 3) was found, built using wooden beams on the ground with a central plank floor, and had the same orientation as the eastern building (rooms 1-2). It could be seen only partially because of an extended spoliation. Given the limits of the investigated area, it is impossible to establish whether the room 3 area was a sort of yard belonging to the eastern building, or if it was connected to another cadastral unit.

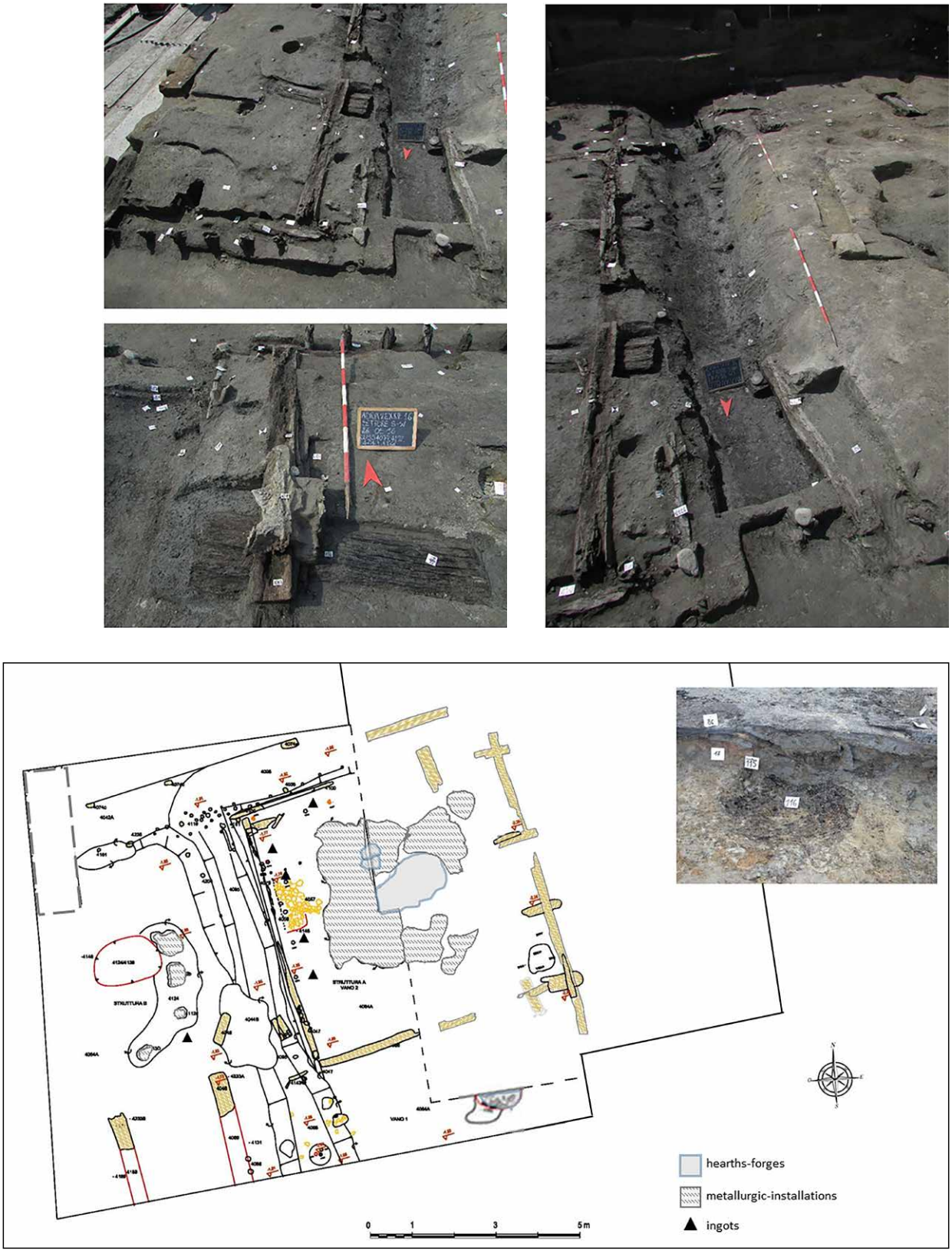

Figure 12.5. Metallurgic-installations (smelting-pits and hearths-forges) and domestic-hearth active in the "house-workshop" (rooms 1, 2) and in room 3 (authors).

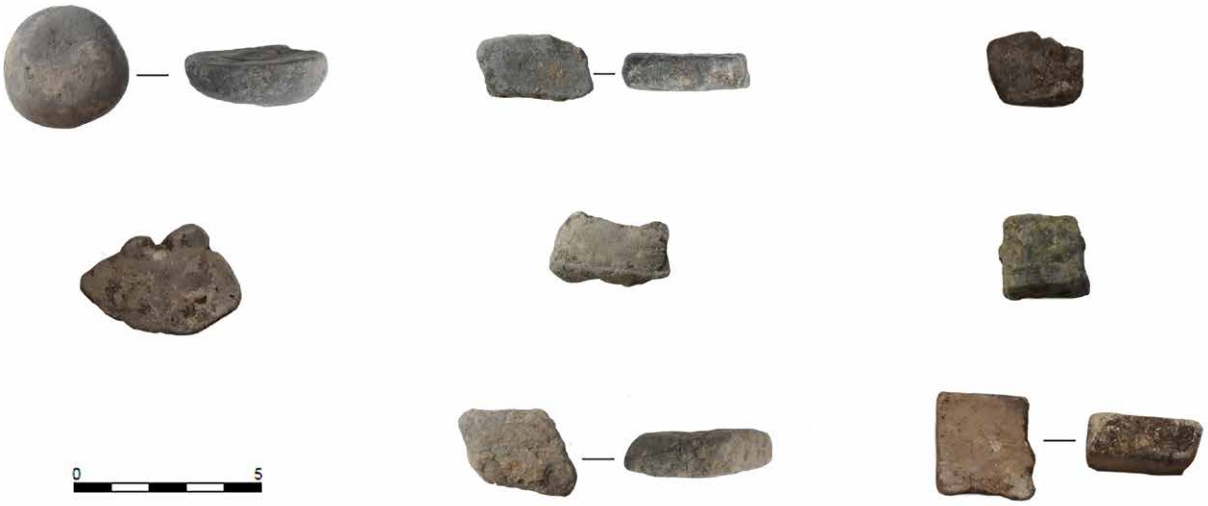

Figure 12.6. Ingots from room 2 of the "house workshop" and from room 3 (authors).

Figure 12.7. Excavation 2015-2016: selection of Attic figured pottery (n. 1-2: from the "house-workshop"; n. 4: from the reoccupation phase after the first flood; n. 3, 5: from the reoccupation phase after the second flood) and tile slabs (n. 5) (authors).

12.3 Housing and craft phases (Phases I and II)

In both sectors, two consecutive occupation layers were found above the hard-packed soil. In the first phase, room 2 was occupied in its central part by smelting pits connected to a fireplace reserved for metal work. In room 1 there were other metallurgical installations referable to forge hearths. The second phase is linked to a structural and functional restoration of the hearths, which was also accompanied by the partial restructuring of the drain and the northern ditch (fig. 12.5). In this phase, room 2 shows a change of purpose: the morphology of the hearth changed, now extended over a wider surface. These fireplaces are highlighted by numerous reduction halos delimited by very oxidised inert silty-clay walls, while the smelting pits are no longer present.

Room 1 seems to lose its craft connotation to take on a domestic purpose, as suggested by the presence of animal bones, numerous sherds of tableware and kitchenware, and fireplaces on a bed of pottery fragments. In addition to the great development of the area involving the metallurgical hearths in room 2, the metalwork activity extended to the western sector, in room 3. This second

phase had seen intense metallurgical activity, proved by two lead ingots hemispherical in shape, which were found on the floor of room 2, together with numerous "*aes rude*" or portions of metal ingots or sheets (at least 6 in room 2 and 3 in room 3). The weight values are between 13 and 84.7 g, with a higher percentage within the 40 g (8 of 11). The archaeometallurgical analysis of one hemispherical ingot and three *aes rude* in the bar section has been performed by Dr. Ivana Angelini[1]: the three *aes rude* are lead and copper compounds with a high lead content (30-70%), while the hemispherical ingot is lead.

These materials could provide further confirmation of an "on-site performance" of secondary metal processing, particularly related to bronze. The three alloyed items, other than their function as currency, would also suggest use for recasting (fig. 12.6). Such a composition of copper and lead have comparisons in *aes rude* from Marzabotto (Burgio 2010, 237; Locatelli 2005, 221-223) and from the votive deposit at Lake of the Idols, Mount Falterona, Stia-AR (Chiarantini *et al.* 2007, 100-101, where it is proposed that the presence of lead had the purpose of weighing the exchange object and increasing its value).

As for the domestic section, the ceramic material associated with the two phases consists mainly of raw kitchenware ceramic and Etruscan fine pottery bowls of the Po valley, as well as fragments of Corinthian and northern Aegean trading *amphorae* and Attic figured pottery (fig. 12.7.1-2). From the plans of use for room 2 and from the first fills of the drainage channel N-S originated fragments of two black-figure cups-*skyphoi* of the Haimon Group (US 4076 and 4149) and an Attic red-figure *kylix* (US 4164). The layers can thus be dated between the end of 6th and the first decades of the 5th century BC.

This coexistence of metallurgical activities and housing functions characterises the building as a "house-workshop" (Bonomi and Gambacurta 2017, 73): it confirms the presence of craft contexts in the urban area, which had also been found in the excavation of Via San Francesco, in a phase dating to the 3rd-2nd centuries BC (Camerin and Tamassia 1999).

12.4 The onset of alluvial floods (Phase III)

Following a first flood in the area, the described situation suddenly changed: a thin laminated layer covered a part of the trampling surface surrounding the hearths and filled the drain. On the surfaces of this deposit, extensively stripped previously, a new building phase developed called phase III. This can be dated to the central decades of the 5th century BC, and reveals a new spatial organisation, no longer connected with the previous buildings, nor with the N/NW-S/SE ditch now completely occluded. The function of the area is less defined. Tile slab fragments are found on the surface, the same ones already used in the hearths of room 1. Furthermore, there are some quadrangular foundations filled at the bottom by fragments of the same slabs probably with the aim of supporting a light canopy held aloft by wooden pillars.

The tile slabs, about 2.5/3 cm thick with a surface characterised by thin parallel grooves (fig. 12.7.6), are also widely attested in the previous phase, but always in secondary use. These slabs are also documented in the settlement of San Basilio (Salzani and Vitali 1988, 37) and Spina (Zamboni 2016, 215-216, nn. 1446-1447; Cappuccini and Mohr 2017, 22, interpreted these as possible slabs for protection and isolation of the pits for housing the foundation beams; see also Mistireki and Zamboni this volume). Their original function remains uncertain, but they were perhaps wall panels or, more likely, parts of lattice ceilings.

This short reoccupation phase of the area is followed by three powerful episodes of alluvial deposition, which we can place between the final decades of the 5th and mid-4th century BC on the basis of ceramic finds (fig. 12.7.3-5). Ceramic materials are present in occupation surfaces associated with residential-functional structures interspersed between the major flood episodes. A Fat Boy *skyphos* fragment dated to the first half of the 4th century BC (fig. 12.7.4) comes from US 3264, between the second flood (US 4004) and the third (US 3156).

These thick layers of alluvial deposits significantly raised the level of this district of the city and put to an end the wet phase of the settlement, which, from now on, seems to have reached greater hydrogeological stability. On these deposits, extensively remodelled, a new E-W ditch was arranged precisely over the previous one, maintaining the same orientation, but performing only the function of a dry ditch, connected to a net of secondary dry drainage ditches, dug between the new housing platforms.

12.5 Final considerations

In the 2004 excavation the deeper archaeological stratifications revealed the first evidence related to settlement organisation in the area: the layout shows close analogies with what was documented in the "Pubblico Giardino" in 1936 (Bonomi 1993, 78; Bonomi and Gambacurta 2017, 70-71) and perhaps also with the planks found in 1878 by F.A. Bocchi. In the excavation of "Cortile Ornati", at a depth of 5.5 m, F.A. Bocchi (1879, 96) unearthed: "*a plan, paved by an oak plank met in large pieces. 0.12, half wide. 0.40, half long. 0.80, pieces of which was covered much of the excavated pit*". It therefore seems to identify a generalised primary remediation method to be attributed to a specific urban planning project.

During the 2015-2016 excavation, the following artificial embankment phase and its ditch system were defined in greater detail. The former organisation of a

1 National Inter-University Consortium for Science and Technology of Materials, Florence, Italy.

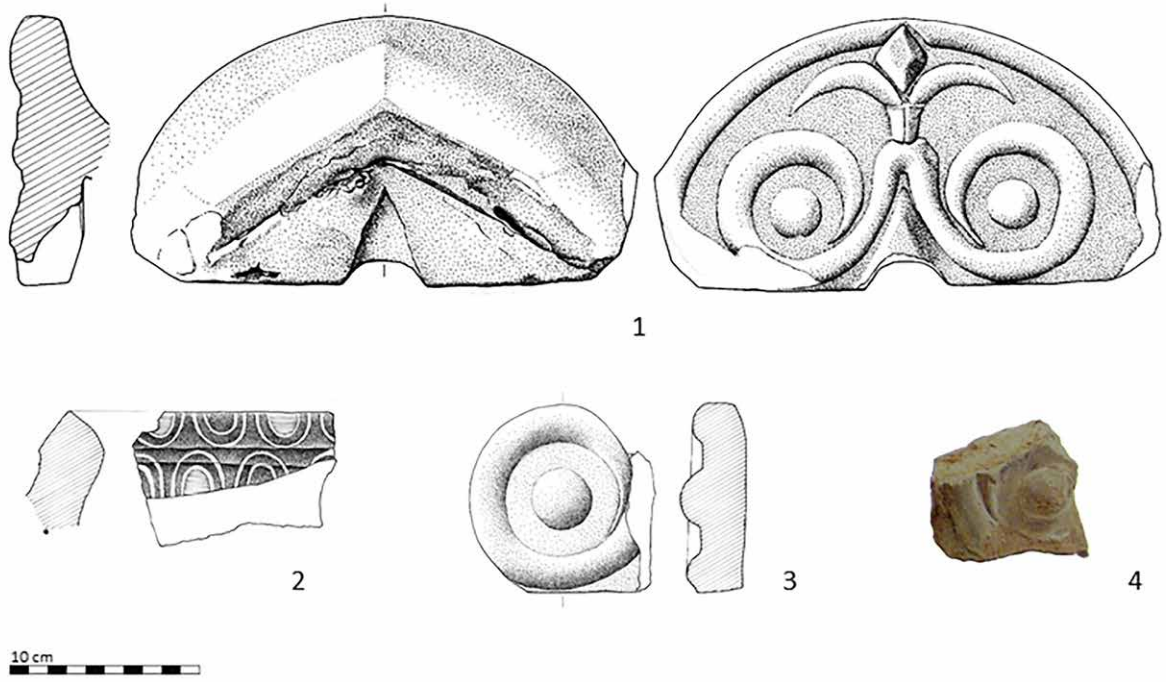

Figure 12.8. Terracotta architectural decorations: 1. from Collezione Bocchi; 2-3. from excavation 2015-2016; 4. from excavation 2004 (drawings by Leonardo di Simone, Museo Archeologico Nazionale di Adria).

"wet settlement system", of housing layers in balance with water levels almost stable in the channels, was utilized from the foundation of the city. Then it transitioned to an innovative solution with the construction of thick earth platforms, drained by a ditches net. However, the new solution of building houses on artificial embankments was insufficient to counteract the three following main episodes of river flooding (completely unforeseen) that discharged sediments on the banks of the previous canals, on the settled platforms, and filled the drainage ditches. These floods seem to originate from unexpected entries of sediment-laden waters from fluvial branches due to the establishment of a new river track south of the site.

Until the "pre-embankment" phase the water levels were controlled naturally by the almost stable flow rates diverted from the Tartaro River (a spring-water fed river). Then, something began to change and a new discharge regime (derived from a river with a mountain basin prone to annual floods) was resolved with the construction of the embankments. These interventions appear to portend the effects of the insertion of a new fluvial course in the area, characterised by increased excursion flows and especially by a higher solid load (sandy-silt deposits). Thick alluvial episodes have also been identified in the sequences of the deposits of Via San Francesco 1993 dated to the beginning of the first half of the 4th century BC (Camerin and Tamassia 1999, 209-210, 231).

Following these events the townscape of Adria adapted to the new environmental conditions, reshaping alluvial layers and recovering the previous settlement grid based on the network of ditches, and so passing from the "amphibious" system of the preceding phases to a system with "dry ditches" dating to the 4th century BC. These massive flood events that occurred over several decades starting from the end of the 5th century B.C., could likely be the cause of the abrupt setback in the development of the city. That is reflected by poor material documentation referring to most of the 4th century BC (Bonomi 2000), followed by a new phase of stability and prosperity beginning in the Early Hellenistic Period.

12.6 Conclusions

At Adria, the most recent investigations (2004 and 2015-2016) confirm the specific type of urban organisation already partly identified, with ditches, wooden boards, and reclamation platforms. The construction techniques exploit light materials and local sources, such as wood and mud. Wood-cutting analyses of all the wooden materials used in the buildings showed a situation very similar to that of Spina (Gennuso *et al.* 2019; Marchesini and Marvelli 2017). Elm and oak (Farnia above all), particularly tough and durable, are the most commonly used woods, especially for beams and wooden boards, while the use of ash, alder (used for example in the double basal table, the lattice, and the vertical posts in support of the ground beams) and poplar (for vertical reinforcing posts) was more sporadic. The taxa found are compatible with a local supply of the timber, belonging to species

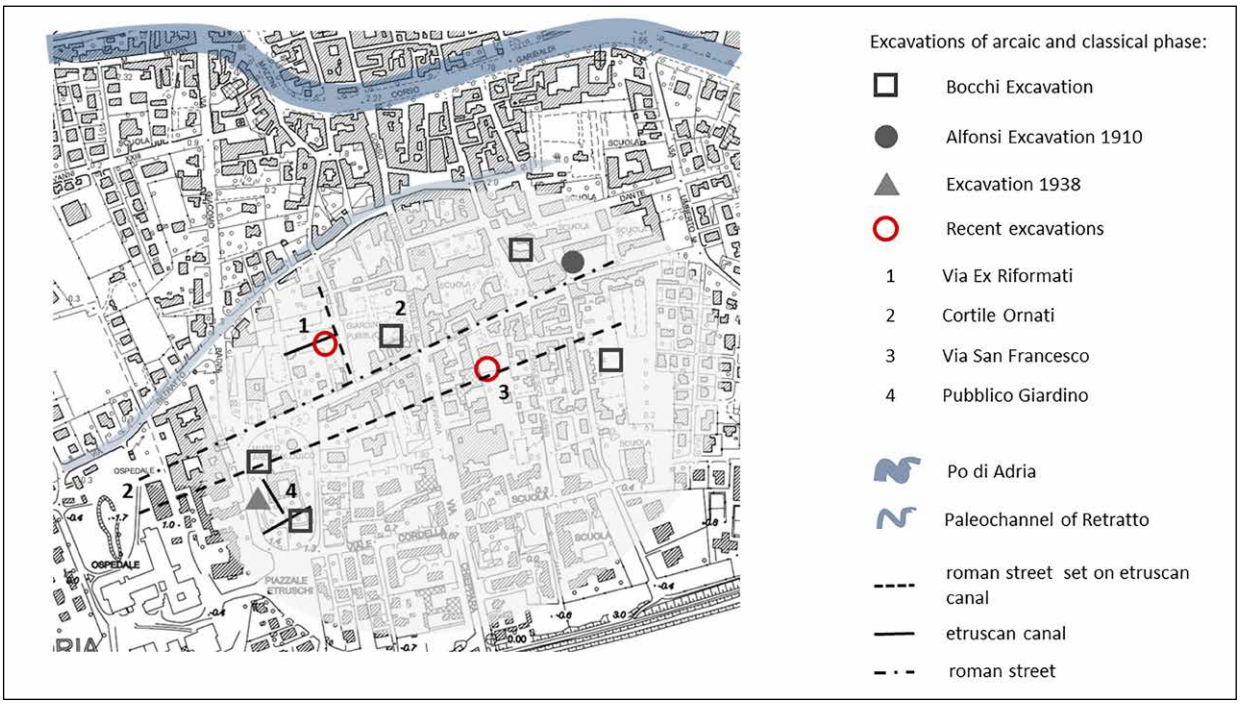

Figure 12.9. Hypothesis concerning the extension of the ancient settlement of Adria and its canal system (authors).

typical of the hygrophile and mesohygrophile plantations that surrounded the settlement.

However the discovery of few terracotta building elements (fig. 12.8), such as brick and tile fragments, as well as fragments of antefixes and an architectural *sima* with black painted decoration on a red background[2] in stratigraphy dating to the late 6th-5th centuries BC, suggests the existence of conspicuous buildings, perhaps for public use which still remain undiscovered.

It is worth remembering that another volute antefix of the Archaic period is displayed in the Bocchi collection, attributed by M. Josè Strazzulla to Etruscan artefacts from Marzabotto and dated to the 5th century BC, while Giovanni Colonna considered it Greek and dated it to the second half of the 6th century BC (Strazzulla 1987, 337; Colonna 2003, 162-163); an identical antefix fragment in size and type was found in Via Ex Riformati in 2004 in the US 72, which is dated to the last decades of the 6th century BC, during the phase preceding the podium-house system (Bonomi and Gambacurta 2017, 71). The fragment from the 2016 excavations, with a similar large volute, comes from the US 4044, in the last phase of the "house-workshop" (half of the 5th century BC); it presents in the centre signs of residual red slip.

The extension of the centre now appears to be less than 5 ha in size and does not appear to undergo significant variations in place and limits. From the earliest stages, the settlement is featured by a N-NW/S-SE orientation, which will be maintained in all phases of the ancient city, even throughout Roman times, when some streets were set on buried Etruscan canals (fig. 12.9). The practice is documented in the excavation of Via Ex Riformati in 2004 for a *cardo* and in the excavations of Via San Francesco (1993) and "Ospedale Civile" (2010-2011) for a *decumanus* of the Roman city (Bonomi and Gambacurta 2017, 69-70; Bonomi and Robino 2007; Robino 2008, 17-18).

To put in place land reclamation and consolidation and water control systems require precise planning and an organised community. Within this drainage net, that ensured hydraulic control and at the same time delimited the settlement space, the city developed according to a precise urban layout, that gives it the character of a foundation town rather than a mere emporical agglomeration.

This specific pattern of urban organisation is adapted from the beginning to the particular palaeohydrographical setting that occurred in this terminal stretch of the Po's lower delta plain (Peretto 1986, 1999 and 2007), a marshland that involves hydraulic risk and requires constant reclamation works of water control and interventions with soil consolidation.

The settlement area was characterised by the presence of the wide abandoned palaeo-channel of the ancient Po

2 It comes from the US 4011, in the next step of the abandonment of the "house-workshop" and the first US 3268 flood, which seems datable to the late 5th century BC.

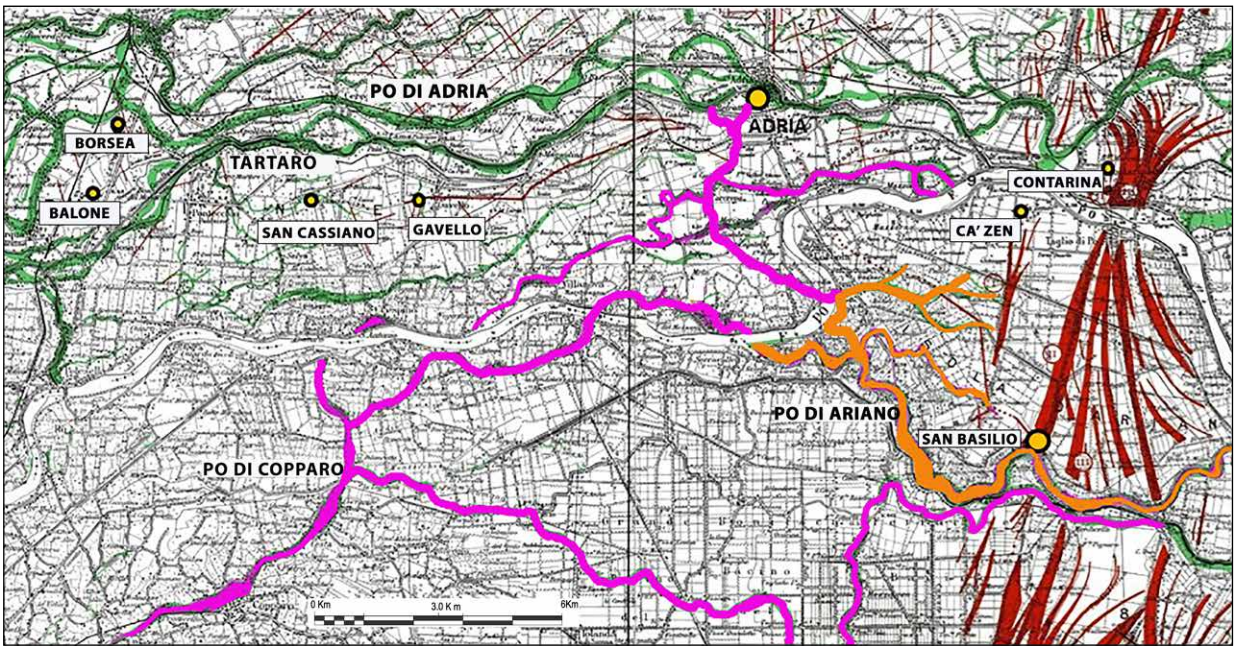

Figure 12.10. Red: The delta-coastal area southwest from Adria with the main Etruscan sites and the ancient palaeohydrography in connection with the alignments of the coeval coastal cords. Green: Palaeo-channels of the Po di Adria, abandoned during the Iron Age and reoccupied by the drains of the Tartaro River; Pink: Palaeo-channel of the Po di Copparo, active in the Bronze Age and the Iron Age; Yellow: Palaeo-channel of the Po di Ariano, coinciding with a branch of the Po di Adria in the Bronze Age and reoccupied by the drainage of the Po di Copparo in the Iron Age (cartographic base from Peretto 1986, reworked by C. Balista).

di Adria, which was active until the transition between Bronze and Iron Age (Balista 2013, 2019; Mozzi *et al.* 2018). This large relict palaeo-channel (corresponding to the current Canal Bianco, an historical age channel), which following the diversion of its upstream course had lost his original discharge rates, captured the waters of the Tartaro River, a resurgence stream from the Great Veronese Valleys, which now came to constitute the main river route in the area (Balista in Baldo *et al.* 2015-2018).

But also another watercourse should be considered in the growth and development of Adria. The data collected in excavation, compared with previous palaeohydrographical studies, seem to attest the coexistence of a minor Po branch coming from the SW, roughly corresponding to the current Via Retratto track. This new channel was detached from a bend in the Dragonzo riverbed, to achieve the bed of the previous Po di Adria, creating a secondary river channel that ran through the town of Adria. This new hydrographic situation led to a bipartition between the two sectors of the Canal Bianco Necropolis (Peretto *et al.* 2002). This path -coinciding with the historic route of the "Retratto di Adria"- would be active at least until the Early Roman period, as attested not only by excavations of the Adria Civil Hospital Area (Peretto *et al.* 2002), but also especially by the thick sandy deposits documented in the excavation area of Ex Riformati (2015). Here the road embankment of the Roman period was raised, to adapt to the presence of significant fluvial deposits. This extended alluvial outcrop has been further documented in the sections of the excavation of Adria-Via Ex Riformati (2015-2016) and subsequently subdued to sedimentological and petrographic analysis, that have definitively established its origin from a Po branch. This has been shown by the results of petrographic analyses conducted on a sequence of anthropic and alluvial levels of the 6th-5th centuries BC.

This track of riverbed was connected to southwestern Po Valley river courses, in particular to the "Po di Copparo", a secondary branch with intermittent flow rates, until it received more substantial flows from the south, from a main bifurcation node formed by Po di Spina and Po di Copparo branches (Balista *et al.* 2015-2018) (fig. 12.10).

This palaeo-channel seems to border the southern outskirts of Adria and to continue to the southeast until it joins the ancient paleo-river track of the Po di Ariano, already active by the 13-12th century BC, which now receives new water supplies from the diversions of the "Po di Copparo" (Balista *et al.* 2015-2018). This same reactivation should probably also be connected to that of other minor Po Valley branches that crossed the southern hinterland of Adria and along which, in the 5th century BC, many small settlements constituting the *chora* were set up. The small necropolis of Ca' Zen di Taglio di Po (CAV IV, 123 n. 83) and of Balone (Peretto 1994), the settlement of San Cassiano of Crespino (Paltineri, Robino, Smoquina 2018 with previous bibliography), the

so-called tomb of Borsea (CAV III, Modena 1992 F.64 – Rovigo, 158 n. 413.1) and the finds near Contarina (CAV IV, 123 n. 86), Vallona di Loreo (CAV IV, 123 n. 84) and Gavello (CAV III, 166 n. 470) are well known and together with numerous sites related to an Etruscan presence at the south end of the Canal Bianco, now known thanks to surveys conducted by GAV (Archaeological Group of Villadose) in the last decades, compose the fertile hinterland of this tract Adriatic Coast (an overview on the settlement system in Peretto 2007).

The presence of these two waterways, which guarantee a connection with the coast and the inland region (the Tartaro River that points towards the Mantua area and Forcello di Bagnolo San Vito and the Po branch, which leads to the Emilia sector) could be the attraction of this delta area and the key to the flourishing of Adria, that in the 6th century BC would have been planned at the confluence of these two river axes, on which a network of orthogonal ditches was established.

This corner of the delta was equipped with strong economic and commercial attractiveness, near the Venetic lands, and open to the Adriatic Sea and its maritime traffic, but connected too by waterways to the fertile centre of the Po valley and to the overland routes to the Alps. This was a coastal environment already frequented by the ephemeral, multi-ethnic community of San Basilio, where its competitor Spina would soon be founded. Why and by whom was this great endeavour planned?

The archaeological documentation allows for some considerations. Between the end of the 6th and the beginning of the 5th century BC, in the necropolis of Ca' Cima the appearance of rich grave goods, including bronze tablewares of Etruscan production and Attic pottery, highlights the emergence of an Etruscan cultural hegemony (Bonomi 2003b, 142; on the necropolis of Ca' Cima: *Etruschi Adriati* 2002; Bonomi 2003a). At the same time the Etruscan inscriptions of the Late Archaic Age testify to the arrival of groups of Tyrrhenian origin, among which a central role was played by Orvieto (on Etruscan inscriptions Gaucci 2012; 2017). To this Etruscan group can be attributed the landscaping of the city, in a phase of renewal and growth reflected also by the number of the Attic ceramics and Greek *amphorae* traded in the river port of Adria, which at this time reached its maximum peak (Ascari Raccagni 2012; in press; Bonomi 2004; Sacchetti 2011; 2012, 115-147; Vallicelli 2013, 139-140; Wiel-Marin 2005, 61), and by the gradual occupation of the hinterland for agricultural purpose.

The importance of the city in Mediterranean trade is also confirmed by the presence of a group of Aeginetic merchants, as suggested by the well-known Greek votive inscriptions dated to the first half of the 5th century BC (with dedications to Apollo and Iris, see Antonetti 2005; Baldassarra 2013). This was the *polis* that, between the end of the 6th and the beginning of the 5th century BC, as mentioned by Hecataeus of Miletus (at Steph. Byz. s.v. *Adrías*), was set along the river of the same name and near the sea from which it took its name.

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Chapter 13

Exploring Spina: Urbanism, Architecture, and Material Culture

Aleksandra Mistireki & Lorenzo Zamboni

Spina was a leading emporium in the Upper Adriatic between the late 6th and 4th centuries BC, one of the main trade partners of Athens in the West Mediterranean, and a bridgehead of the Greek interests towards Central Europe. Newly founded towards the end of the 6th century BC inside a wetland landscape, Spina was a commercial centre ruled by a wealthy merchant class whose members probably came from various places of origin, and lived there in a multicultural environment. This is suggested by the admixture of several cultural features, including Greek and Etruscan imports and hundreds of graffiti in different languages. This commercial town flourished for more than a century, until Spina went into crisis during the mid-4th century BC when sling bullets and burnt layers could be linked to a military attack. However, Spina somehow survived that crisis at least until the early 3rd century BC when the site was completely abandoned, except for rural villae nearby after the Roman conquest. This paper offers an overview of recent archive and field research, with a focus on trade, connectivity, settlement layout, and building techniques.

Keywords: Po Valley; Spina; Cultural encounters; Greek and Etruscan trade; Mediterranean connectivity.

13.1 Introduction

The town of Spina is somehow paradoxical. It was one of the richest *emporia*[1] of Classical antiquity, as revealed by the wealth and outstanding number of Mediterranean imports, yet the main settlement was placed in a coastal lagoon, near a marshy swamp, and built with perishable materials, such as timber and straw. This cultural and technological choice according to an aesthetic and qualitative western and 'urban' prejudice, which originated in Classical antiquity and increased during the Renaissance until the Industrial Revolution (Braudel 1973), is considered less prestigious, advanced, and socially adequate when compared to brick and stone buildings. Secondly, Spina was labelled a 'Greek town' by some ancient authors, who remember even a treasury of the Spineti inside the Panhellenic sanctuary in Delphi. However, the material culture discovered during excavations revealed a rather hybridised and 'creolised' culture, with a complex mixture of local and foreign traits forming a middle-grounded societal framework.

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1 The Greek term *emporion* is adopted here in a conventional sense, as referring to a seaport, a trading post, or market of the Classical period, without directly assuming a colonisation movement from a Greek motherland (see further discussion in Gailledrat *et al.* 2018).

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 207-226.

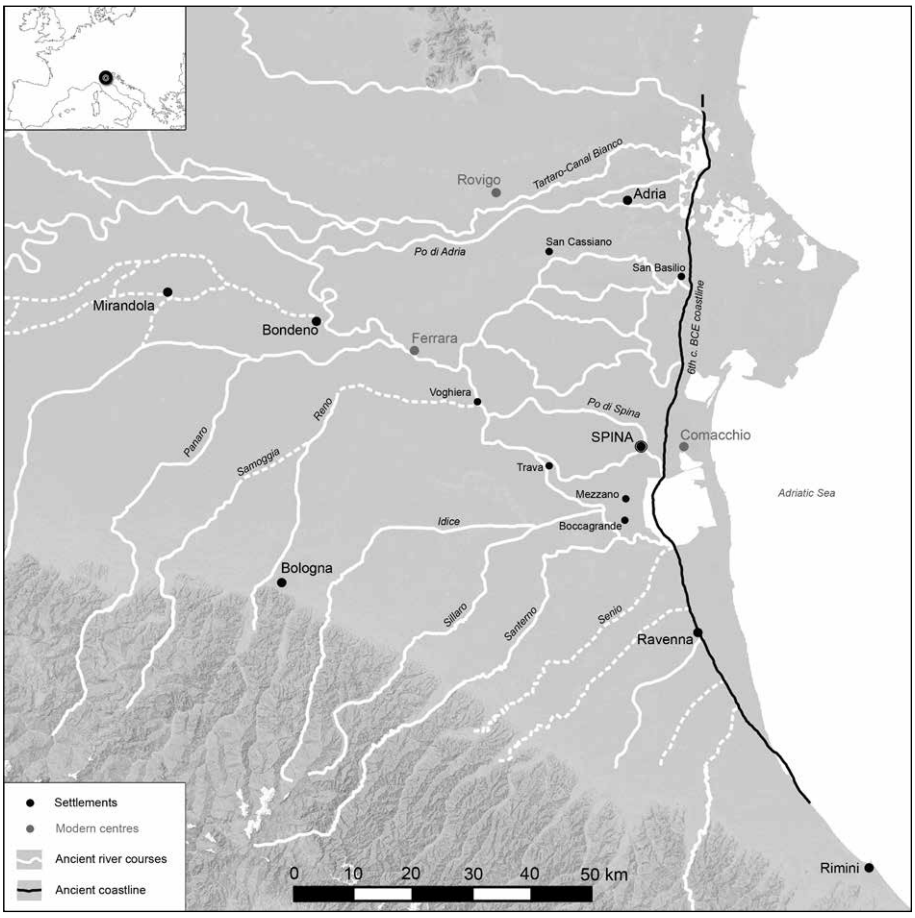

Figure 13.1. Map of the northeastern Po Valley and the Po Delta (L. Zamboni).

More recently Spina has been also linked to a 'liquidity dimension' (Zamboni 2016a; see also Palagiano 2019), *i.e.* metaphorically referring to a site founded inside a waterscape and subject to uncertain and unstable conditions, and to the complexities and contradictions of a polythetic society.

The history of its discovery is also compelling, since Spina lay forgotten for almost two thousand years under the mud of the Po lagoon, only vaguely mentioned by ancient texts, Renaissance, and modern antiquarians. Finally, in 1922 the first graves were accidentally discovered during land reclamation, and the settlement area was brought to light during the 1960s. Recent excavations in the settlement area documented several phases of burning, collapses, and probable floods, with several episodes of levelling and rebuilding. The aim of this paper is to describe and evaluate some of these recent discoveries, offering an updated overview of the ancient town biography, and also trying to solve some of the apparent paradoxes that this unique site raises.

A. M., L. Z.

13.2 Environment and background

A key aspect to understand Spina is its environmental setting, that is the wetland Po Delta landscape. Spina is located in the Upper Adriatic, at the mouth of the Po Valley (fig. 13.1), along a former branch of the main Po River (called 'Po di Spina' or '*padus vetus*'), which was active during the mid-1st millennium BC, some 4 km behind the ancient coastline, at the confluence of a dense network of secondary Apennine streams and waterways (Balista *et al.* 2007). The ancient landscape was characterised by a series of sandspits and deposition bars orientated NNE-SSW, the latest formed during the late 2nd millennium BC (Cremaschi 2017). The area chosen for the main settlement was thus a littoral lagoon, typical of the Po Delta, probably protected by a former barrier island. The proximity of ancient inland swamps and forests with hydrophilic species is also suggested by paleobotanical research (Marchesini and Marvelli 2017).

After antiquity, the environment remained a lagoon for centuries (called 'Valle del Mezzano', and 'Valle Lepri' in its northeastern part), whose water covered (and protected) the archaeological remains. It was eventually drained at the beginning of the 20th century and, more intensively, after the Second World War. The whole area still lies

some 4 m below sea level, due to a silting process of the Po Delta related to marine transgression that had already begun in antiquity (Simeoni and Corbau 2009; Stefani and Vincenzi 2005). An exceptional state of preservation of perishable, archaeological remains was thus granted by the waterlogged condition in both the settlement and cemetery layers.

Before the foundation of Spina in the second half of the 6th century BC, the human presence in this part of the Po Valley appears scattered and poorly documented. During the 2nd millennium BC, according to the known archaeological framework, the Po Delta region seemed to be rather depopulated, and this area remained at the margins of the international trade managed by the hub of Frattesina in the Final Bronze Age (12th – 10th cent. BC) (Bietti Sestieri *et al.* 2018; Pearce this volume).

Only two minor settlements were discovered a few kilometres to the south, in Valle del Mezzano (Podere Alberi) and at Podere Boccagrande (Saronio 1987; 1993). The few trenches opened in the 1980s, although poorly published so far, suggest the presence of two Early Iron Age settlements, built on piles and upon drainage layers made of wooden branches and straw. The square buildings were likely constructed using timber posts and planking, with fireplaces and pit hearths suggesting household activity. A consistent amount of coarse ware and some sherds of fine pottery, along with bronze objects, could be dated between the late 10th and 6th centuries BC. Interestingly, other coarse ceramic sherds and several rectangular clay supporting pillars have been interpreted as evidence of *in situ* salt production (Cattani and Boccuccia 2018), adopting the technique of *briquetage*, *i.e.* extraction from seawater by heating (see an introduction in Harding 2013). If confirmed, this could be the first evidence in the territory of Spina and later Comacchio of long-time salt extraction from seawater, which characterises the Adriatic settlements for centuries to come (Càssola Guida and Montagnari Kokelj 2006; see below). The two dwelling sites were abandoned just before the foundation of Spina, which occurred during the second half of the 6th century BC. However, the social role of the local inhabitants, and the extent to which they were involved in the opening of the new *emporion*, remains unclear.

L. Z.

13.3 The (re)discovery of Spina

Spina was a 'lost city' of antiquity, only remembered by ancient authors for its richness and mythical origin. Since the site abandonment during the 3rd century BC (see below) and its progressive sinking, the actual location of Spina was forgotten for a long time. Before 1922, when the first grave accidentally emerged from the ground during land reclamation in Valle Trebba, historians and antiquarians had disputed its location (Gulletta 2005, 526-533). At that time, the only evidence was based on literary sources despite few and uncertain reports of previous findings (Uggeri 2006, 18). According to the Greek and Roman authors, including Strabo (Strab. 5.1.7), Pliny (*nat*. 3, 120), Dionysius of Halicarnassus (*ant*. 1, 18, 5), and the Pseudo Skylax (Skyl. 17), Spina was founded in a mythical past before the Trojan war, by the hero Diomedes or perhaps the Pelasgians (Briquel 1984, 3-30, 55-81; Gulletta 2005, 526-533).

Although the narrative of a mythical foundation could be easily explained by later (*i.e.* Classic or Hellenistic) propaganda, aimed at strengthening bonds with the Greek sphere of influence (Cristofani 1996), the ancient texts give us other information about the location and the historical perception of Spina. Strabo and Pseudo-Skylax wrote that Spina lies on a navigable creek of the Po River, close to the seashore, but they both provide different indications on the distance to the sea. While Pseudo-Skylax, who allegedly lived in the 4th century BC, reported a distance of 20 *stadia* (thus around 3.7 km from the sea), Strabo wrote in Augustan times that is was a distance of about 90 *stadia* (some 16.7 km). This discrepancy could be explained by the area undergoing geological processes, including river diversions and delta progradation, which occurred during the second half of the 1st millennium BC (Balista *et al.* 2007).

The second point is that the ancient sources labelled Spina as "*polis hellenis*" (Skyl., 17), a 'greek city' of unusual wealth and power. Spina was even believed to have founded a "*thesaurós*", a treasury, in the Panhellenic sanctuary of Delphi (Strabo, 5. 1. 7; Plin., *nat*., 3. 120; Strabo 9. 3. 8), the only pre-Roman city, along with Cerveteri, to which such an honour was granted. In the final paragraph of this paper we try to better contextualise this ethnic and cultural external perception.

While the cemeteries were discovered in 1922 and excavated until the 1950s, the settlement area was accidentally discovered only in the early 1960s, during land reclamation works in the upper part of the Mezzano Valley (so-called 'Valle Lepri'). The excavations in the settlement continued for decades afterwards, until 1988. Unfortunately, the 1960s and 1970s excavations were conducted without proper stratigraphic methods and remained largely unpublished until recent times (Zamboni 2016a; 2016b). New investigation in the settlement area began again in 2007, with geophysical surveys and excavation trenches being conducted by the local Soprintendenza and the Universities of Zurich and Milano, and with the collaboration of several other institutional partners until 2017 (an overview in Reusser 2017a).

A. M., L. Z.

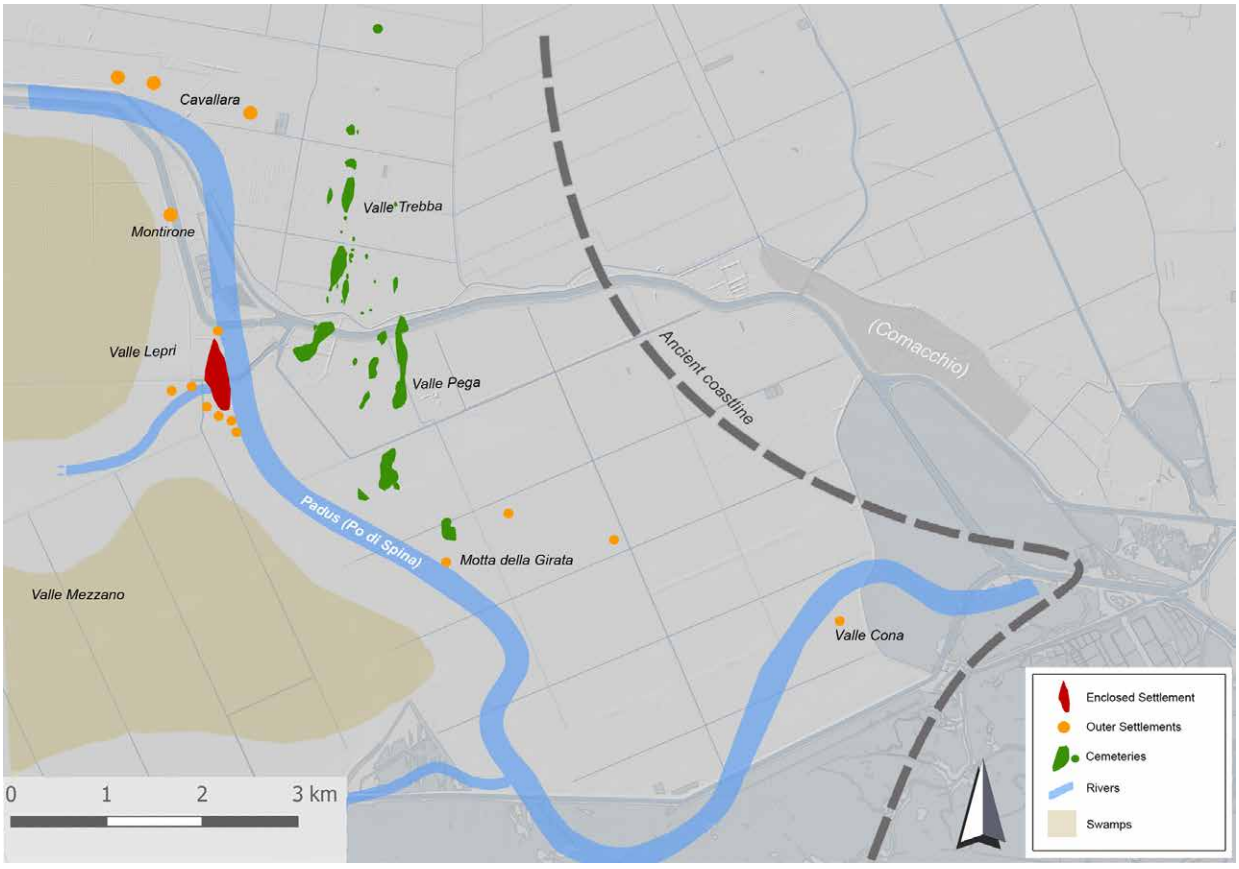

Figure 13.2. The territory of Spina between the 6th and 4th centuries BC (L. Zamboni; GIS-based DTM 5x5 P. Rondini).

13.4 Site layout

The ancient landscape of Spina is marked, as already put forward, by the presence of a major body of water, an ancient coastal branch of the Po River flowing north-south before entering the Adriatic Sea a few kilometres to the east (fig. 13.2).

13.4.1 The Cemeteries

The cemeteries of Spina were placed on the left side of the ancient river, upon the sandbanks in front of the seashore[2] (fig. 13.2). Here, more than 4,000 excavated graves have yielded one of the richest collections of Greek red-figured vases, found *in situ*, from antiquity (Vickers 2017), along with splendid bronzes and luxury objects, including glass, amber, and wooden furniture (Berti and Harari 2004). The number of robbed graves, however, is countless (only during a few months during the winter of 1955/56, for example, more than 200 graves were looted, Desantis 2017, 89).

The graveyard layout was arranged on several larger and smaller sandbanks, NE-SW orientated (labelled with the modern names of Valle Trebba to the north, and Valle Pega to the south), divided and connected by a system of water canals, some of which were artificial and reinforced by piles and wooden fences (Romagnoli 2017). Recent analysis has highlighted the presence of low tumuli and clusters of graves (Desantis 2017; Gaucci 2015), possibly linked to kinship or other social subgroups (Govi 2017). The funerary rite was bi-ritual, with a higher percentage of inhumations, and several graves were furnished with large wooden chambers (averaging between 2 and 2.75 m in length and 1.65/1.90 m in width), or timber planking, both in inhumations and cremations (Berti and Guzzo 1993). The presence of wooden *klinai*, 'cradles', and other wooden furniture inside the graves is also attested (Desantis 2017).

2 The geological formation of these sandbanks is of uncertain chronology, but can be reasonably placed towards the end of the Final Bronze Age, around the 10th century BC (Balista *et al.* 2007; Cremaschi 2017).

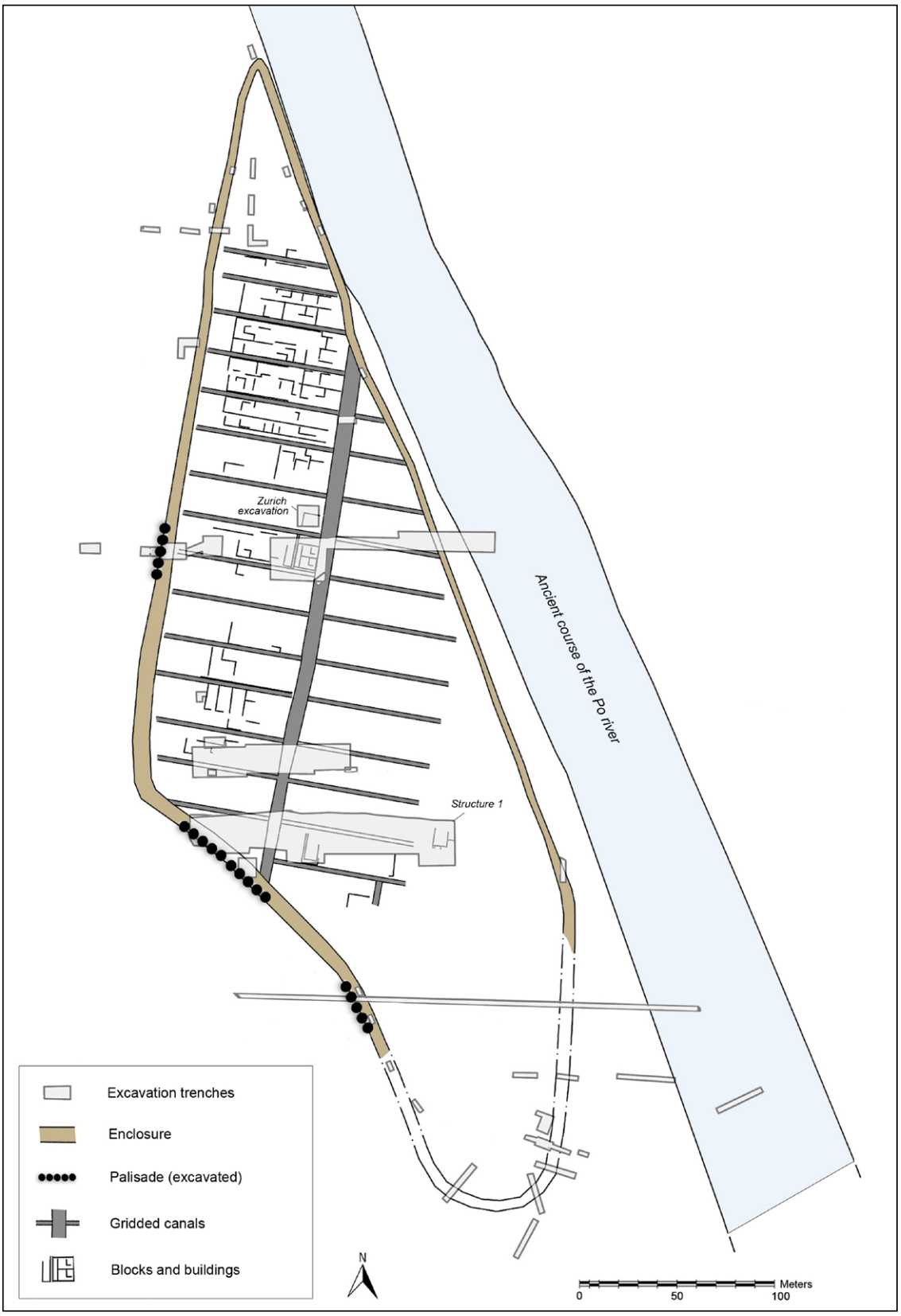

Figure 13.3. The enclosed settlement of Spina (L. Zamboni).

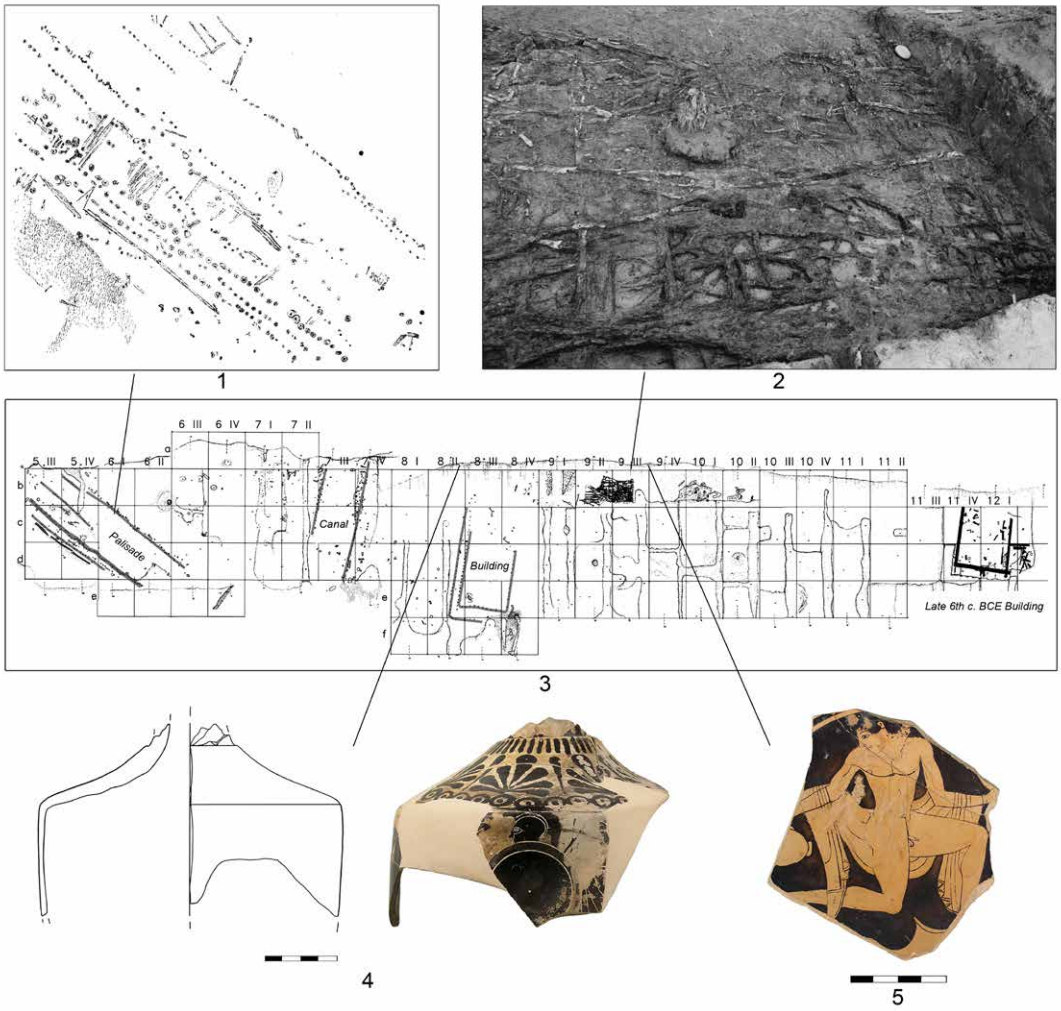

Figure 13.4. 1. The palisade, western sector; 2. Bundles of the settlement foundation; 3. Excavation sector south of the Collettore Mezzano; 4-5. Black- and red-figured pottery from the foundation layers (modified after Zamboni 2016a).

13.4.2 The settlement

On the opposite side of the ancient *Padus* lies the main settlement, developed along the river course and placed on a small raised riverbank[3] (fig. 13.2). The settlement size, as revealed by exploration trenches and geophysical surveys (Izzet 2010; Reusser 2017b), is around 6 ha in total (fig. 13.3).

The shape is elongated, and the town planning is regular with a NNE-SSW orientation. Instead of a grid of streets, known in other contemporary towns with a regular plan (*e.g.* Marzabotto: Govi *et al.* this volume), the urban layout of Spina is characterised by an orthogonal grid of larger and smaller canals. The main axis is a wide artificial water canal, some 10-12 m in width and at least 280 m in length, running NNE-SSW. The presence of a second main canal, running parallel to the east, is only suggested as no trenches have been opened to date in the eastern part of the site. The main NNE-SSW canal is crossed by a series of perpendicular minor canals, each 3 to 4 m wide and some 70 m long.

The nature of these canals is not yet completely clarified. It is usually assumed that they were artificial waterways, for water management and conveyance. Yet we may wonder if they were constantly filled with

3 Mauro Cremaschi (2017) has nevertheless suggested a slightly different scenario (at least regarding the southern sector): the first settlement stage would have been on piles and massive planking, inside a submerged lagoon area and defined by canals and drainage works. Only after the ingression of the *Padus* River, would the town have been rebuilt upon the newly formed riverbanks. This time, piles, planking, and palisades would have been used to prevent flooding and embarking the fluvial deposits. Further geoarchaeological data are needed to evaluate or make a synthesis of the two hypotheses. The crucial point here is the dating of the *Padus* River ingression: whether before the 6th century BC, as in the traditional scenario, or at some point during the 4th century BC, as suggested by Cremaschi.

water throughout the year and somehow navigable with small dugouts (like in Medieval and modern towns, such as Venice or the nearby Comacchio), or perhaps if there was a regulation system, with a type of locks system. In the latter case, the canals could at times be empty, or maintained with low water levels, and filled in case of necessity, such as flooding or high water, preventing the overflows of houses and working areas. The presence of timber planking and of rows of posts across some of the larger canals should also be better explained (bridges, raised walkways, locks? See also a discussion in Cappuccini and Mohr 2017).

However, this grid of major canals defines several rectangular blocks, or *insulae* (the basic urban units), the largest of them 70 m long and 17 m wide, which are subdivided into lots of square houses of regular dimensions (Zamboni 2017a). Inside these blocks, other smaller canals connected to the urban grid separated the singles buildings from each other, surrounding the houses on three sides (fig. 13.5.1; see also fig. 13.9.1).

The buildings are also planned with regular modules. The basic household unit was of rectangular shape, 17 m long and 10 m wide (fig. 13.5.1). Inside the main block there are rooms and internal spaces for household and domestic activity, with a certain degree of variability for each building, as revealed by recent excavations (2007-2017). Usually, on the eastern side of the main building, a smaller block is reserved for external and working activities, including small-scale productive structures.

13.4.3 The enclosure

The settlement was surrounded by a large timber palisade and a ditch and moat system (fig. 13.3 and 13.4.1), at least along the western and southern sides (where more extensive explorations have been carried out). This defensive system was made of a wooden palisade with six to eight rows of large and smaller posts, and a ditch-and-moat structure in front of the palisade, aimed at protecting the town from (frequent) floods and marine ingressions (Cremaschi 2017). However, since no excavation reached the lower strata of the palisade so far, it remains unclear if the defensive system enclosed Spina from the foundation, or if it was rather built during later periods, after episodes of flooding, or even following some military attacks occurring during the 4th century BC (see below).

In more general terms, the settlement layout of Spina is not isolated in the context of northern Italy. The elongated shape along a water body, enclosed by a palisade and moat, the grid of canals, the rectangular urban units with regular square buildings, along with the extensive use of timber and perishable materials, are characteristics that we find in other *emporia* of the eastern and central Po Valley, such as at Forcello (Komp *et al.* this volume) and Adria (Bonomi *et al.* this volume).

13.4.4 The hinterland

The very presence of a hinterland for Spina remains a debated issue, due to the scarcity of data from recent large-scale surveys and geophysical investigations outside the central inhabited area. Previous research reported several secondary sites and spots with surface finds throughout the vicinity of the settlement area, mainly along ancient waterways (Uggeri 2006) (fig. 13.2). However, the extension and the nature of these minor sites are unclear. The dispersion radius is within 2 km in all directions (the northernmost site is Cavallara, where scattered bronzes were found, Cornelio Cassai *et al.* 2013b, 7; Cristofani 1996, 165). At first glance, the majority of pottery is dated to the later stages of Spina (4th-early 3rd centuries BC), suggesting a moderate expansion of the site in this period, with likely production activities and scattered hamlets. The easternmost materials are reported near Motta della Girata (Balista and Berti 2017) and in Valle Cona (Cornelio Cassai *et al.* 2013b), along the ancient mouth of the Po River and the Adriatic Coast, where the presence of a seaport or landing has been supposed (fig. 13.2).

More distant, along the ancient Po River course heading west-northwest, few findings are reported, including pottery waste near Voghiera (Patitucci Uggeri 1979) (fig. 13.1). The distance, in a straight line, between Spina and nearer ancient towns is 40 km to Adria, following the ancient coastline northward, and 64 km with Bologna to the southwest, probably following the Reno River or other watercourses[4].

L. Z.

13.5 Settlement foundation (late 6th century BC)

The lower layers of the Spina settlement, lying some 4/5 m below the present-day surface, have not been extensively excavated. Under the foundation layers of earlier buildings, dated to the second half of the 6th century BC (around 530 BC), a few trenches have revealed how the substrate was drained and made more stable thanks to massive works (fig. 13.4.2). A series of planking, bundles, and logs, interspersed sometimes by layers of clay, have been documented (Zamboni 2016a). In a later stage (5th century BC), a different system of interlocking and crossing sleeping beams was necessary to stabilise the foundations of a residential building (Reusser 2017b).

The early buildings of the late 6th century BC are directly superimposed upon the drainage layers. The best-known example of the early stage, timber, rectangular houses is the so-called 'Structure 1' (Struttura 1), a portion of a house dating to the Late Archaic period (Zamboni 2016a).

4 In the 1920s along this route, near Trava, 7 km northeast of Argenta, the accidental discovery of an ancient wreck loaded with Greek pottery was reported (Negrioli 1924, 280). Unfortunately, this outstanding context wasn't excavated and thus has disappeared.

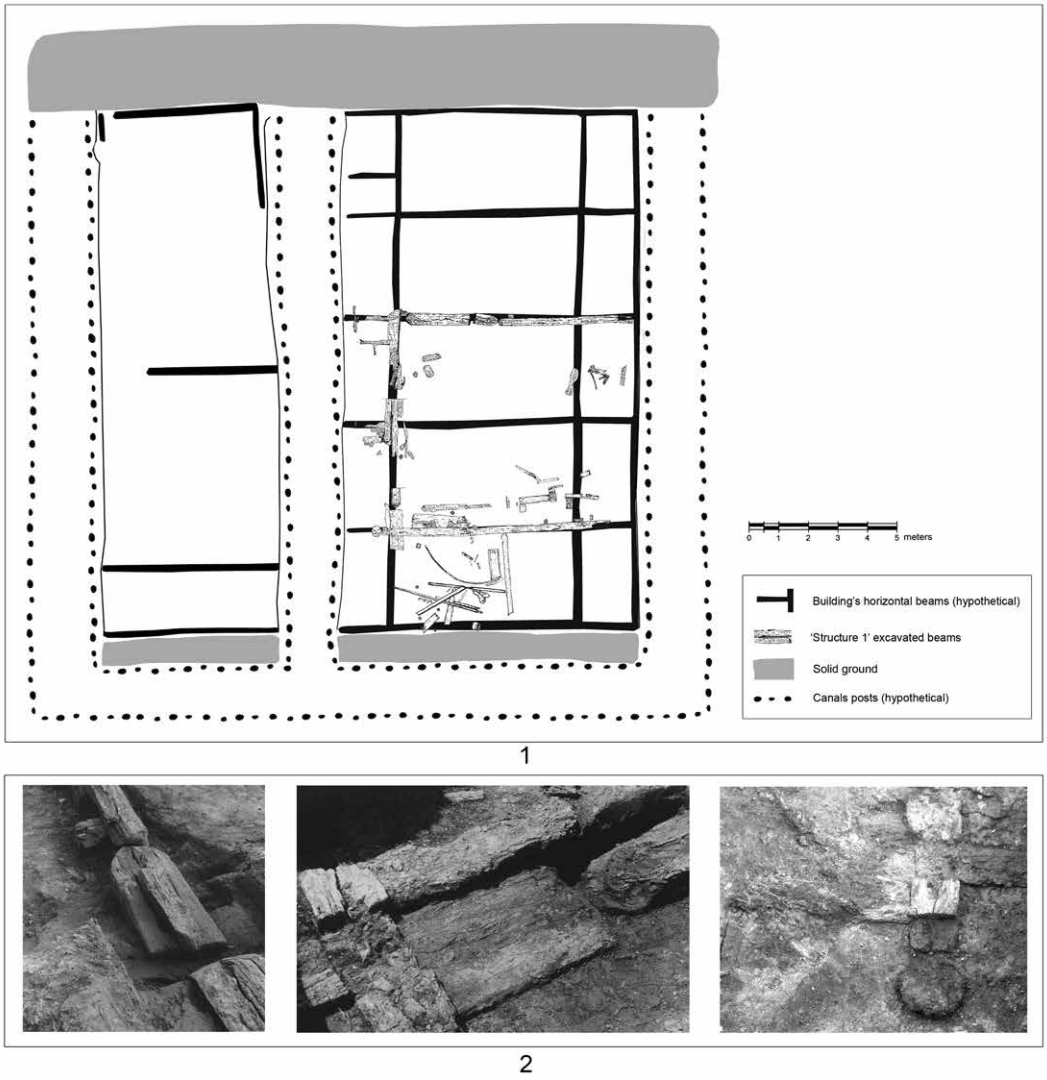

Figure 13.5. 1. Hypothetical reconstruction of a late 6th century BC building, overlapping the excavated 'Structure 1' in Spina with the Late Archaic house of Forcello (elaboration L. Zamboni); 2. Spina, 'Structure 1', details of interlocking beams.

The southern part of a building was excavated in the 1970s and early 1980s (sectors 11/12, south of the Collettore Mezzano), displaying a good state of preservation of timber and perishable elements.

The plan of this building is rectangular, NNE-SSW orientated, with a central room of nearly 60 m^2 and flanked by smaller rooms (fig. 13.5.1). The distribution of finds suggests that inside these rooms different daily activities took place, including cooking and heating, weaving (the burnt remains of a vertical weaving loom were discovered in the southeastern corner), and the storage of wine and oil *amphorae* (Zamboni 2016a). The 'Structure 1' household burned and collapsed before the end of the 6th century BC, according to the finds' dating. Amongst the latter is a noteworthy presence of a high percentage of late black-figured Attic pottery, fragments of Corinthian small vessels and Greek-eastern painted pottery, as well as Greek *amphorae* and *pithoi* (large imported storage vessels, known in Mediterranean shipwrecks and also in Adria and Pisa), and locally produced 'bucchero' (black burnished, often grey-cored) wares (Zamboni 2017a).

The building technique of this early period includes horizontal beams, with crossing beams and outside posts at the corner of the building, as well as tongue-and-groove linking (fig. 13.5.2). The species most commonly used in buildings were *Quercus robur* (European oak), and to a lesser extent, elm (Marchesini and Marvelli 2017). However, only two or three rows of timber beams are preserved, so it remains unclear if the entire walls were made of timber, like in the baulk-wall architecture and the log houses tradition. As an alternative solution, a large part of the upper walls was made with wattle and daub,

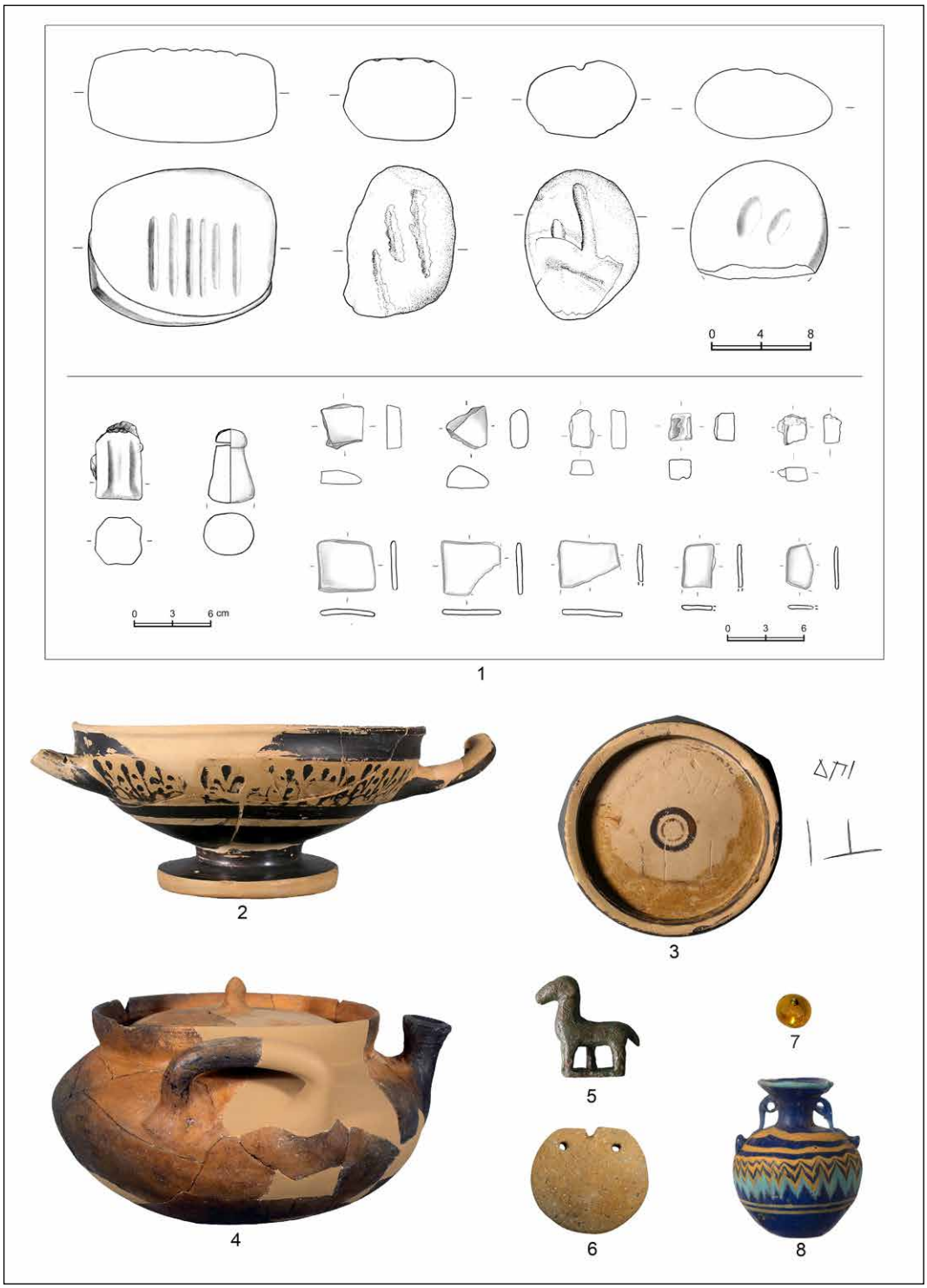

Figure 13.6. 1. Media of exchange from the settlement of Spina: stone weights with numeral inscription and *aes rude* (after Zamboni 2016a); 2-8. Examples of imported goods (after Buoite and Zamboni 2017; Zamboni 2016a).

or occasionally with mudbricks. In later periods (5th and 4th centuries BC) the lower part of the foundation beams was protected by plaster slabs (see below), a solution also documented in Adria (Bonomi *et al*. this volume). As there is no evidence of tile roofs in Spina until the later phases (4th and early 3rd centuries BC), it should be assumed that the roofs were made of thatched reeds, straw, and other perishable materials, eventually fastened at the top by a single row of ridge tiles.

L. Z.

13.6 The flourishing of Spina (5th century BC)

At the height of its wealth, goods from all over the Mediterranean arrived in Spina. Wine, oil, luxury items, as well as (reasonably) cheap, fine pottery from Greece, ointments and perfumes from Rhodes and the Near East, amber from the Baltic, and building materials from the neighbouring areas. The scale of the town's commercial activity is provided by the number and variety of imported products found both in grave assemblages and inside the households. Wine stands as a preeminent good, transported in *amphorae* and consumed adopting the entire set of Greek-style drinking vessels. For nearly two centuries Athens and her commercial partners supplied the Po Valley and, to a minor extent, the Alpine regions, with refined wine and the accompanying drinking pots, such as figured and black-glazed pottery.

Other exotic products include oil, unguents, perfumes, spices, and different wines that came from the Aegean, eastern Greece, and Egypt, as suggested by the presence of characteristic vessels and *amphorae* typologies (Desantis 2013; Sacchetti 2012; Sciortino 2012), in addition to glass and alabaster *unguentaria* (fig. 13.6.8). Imported from the Baltic regions for centuries (Pearce this volume; Rondini and Zamboni this volume), raw, semi-worked, or finished Baltic amber continued to adorn local dress (fig. 13.6.7).

Greek and Oriental marble arrived in smaller quantities, while volcanic rock was used for millstones, widespread inside households. Local stone, quarried from the Apennines and Alpine regions, was used for building activities (mainly in later periods) and for stone weights as well as other daily tools.

Also noteworthy is the presence in Spina of the complete set of Greek-style cooking ware (*kados*, *chytra*, *kakkabe*, *lopas*, and *mortarium*), coexisting with the local wheel-turned and handmade impasto *ollae* and pots, testifying to an ongoing process of hybridisation of culinary practices within the social space of the kitchen (Mistireki 2019; Zamboni 2017b) (fig. 13.6.4). In exchange, Spina offered an abundance of trade goods, including cereals, meat, salt, and craft materials. Exports consisted mainly of agricultural products, including cereals, in particular wheat, that was cultivated throughout the region. The Po Valley was indeed one of the 'granaries' of the Classical world, an alternative to Egypt or Sicily from a macroscale economic perspective.

The agricultural production and consumption in Spina were in fact of remarkable quality. Palaeobotanical analysis has documented in the settlement area the presence of chard, lettuce, fennel, dill, carrot, parsnip, and even melon (see Marchesini and Marvelli 2017) amongst the vegetables. The daily diet also provided barley, soft wheat, spelt, millet, legumes, beans, peas, chickpeas, lentils, and aromatic plants such as rosemary, sage, and mint. Nuts and fruit are also attested (hazelnuts, walnuts, pine nuts, cherries, grapes, plums) as is the local cultivation of olive trees and vines (Marchesini and Marvelli 2017, 50).

Moreover, the plain and nearby forests provided reeds, skins, animal bone, and meat, especially of pigs, as well as fishing opportunities (Briccola *et al.* 2013). The availability of stallions and foal-breeding from the near Veneto region, highly appreciated by the Greek upper classes, may have also played a significant role in the development and growth of the northern Adriatic *emporia* (Vickers 2017), albeit this is a category of evidence poorly visible from both an archaeological and archaeozoological point of view. On the other hand, one may wonder whether the northernmost hub of Adria had the monopoly for that trade, or if Spina was able to carve out a slice of the market.

Another well-documented craft activity in Spina is pottery production. Several potter's workshops were active inside and along the towns' margins, and able to supply the households with thousands of fine and impasto pots, with shapes often influenced by the flow of Greek imports (Zamboni 2016a; 2018). To what extend this pottery production may have served a regional market beyond the domestic demand however remains a subject of debate. Manufacturing traces consist of production waste and kiln tools (Zamboni and Buoite 2017), as well as figure stamps and scratched letters used as trademarks. Carpentry, basketry, and textiles likely also played a role in the local economy (some examples of basketry and wooden small objects are in Zamboni 2016a, 228-229).

Salt, extracted from seawater, was fundamental in farming and in the dairy industry, for food preservation and the dyeing of clothes. In addition, it is also likely that weighted salt measures were part of the basis of the local trade system. Some ancient authors also mention another aspect of commerce for Spina, that is slavery, which leaves few or nearly invisible archaeological traces.

Despite this thriving economy, coinage was never adopted in Spina (Gorini 2017). Exchange and transactions took place with different methods of payments. Recent studies have underlined the coexistence of a sophisticated form of bartering, with a complex system of weights derived from a long-term tradition in the Po Valley (Zamboni in press), along with the use of proto-currencies or 'token-

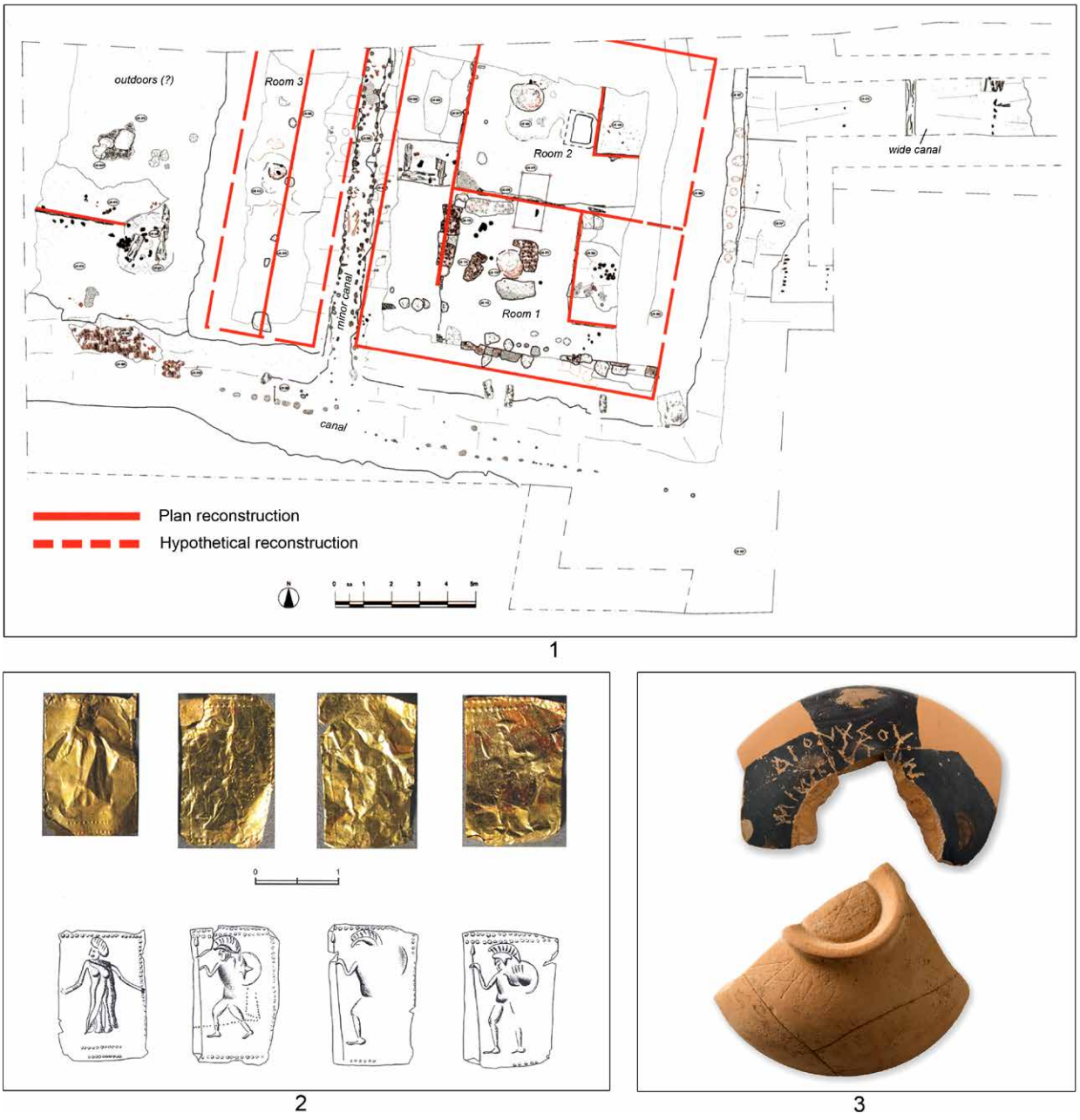

Figure 13.7. 1. A 4th century BC square building; 2. Small golden plaques (modified after Cornelio *et al.* 2017); 3. Selection of inscribed black glazed and '*etrusco padana*' sherds (modified after Buoite and Zamboni 2017).

money' (bronze ingot lumps or *aes rude*) (fig. 13.6.1). As suggested by Vickers (2017), the presence of 'utensil-money' in Spina is also likely, for example silver and other prestige goods, while imported Attic pottery has been interpreted as a by-product, a surplus that served as space-filler in large ship cargoes (*ibid*., 124) (see also fig. 13.6.3 for an example of a numeral graffito, likely the pots' prize). According to this view, the amount of pottery buried in graves would thus be worth seeing as 'distinguished-looking, but comparatively cheap ceramic surrogates of the Attic silver vessels with which real trade was conducted' (*ibid*., 123).

The weights commonly used in the Po Valley for trading were composed of bronze, lead, or stone. Several stone weights from the Spina settlement are inscribed with numbers, interpreted as weight units. The Spineti thus employed several weighing standards, some close to the weight standards suggested for the Etruscan and Etruscanised world, such as a light libra of 287 g, and a heavy one of 358 g (according to Maggiani 2009). These different systems for weighing and

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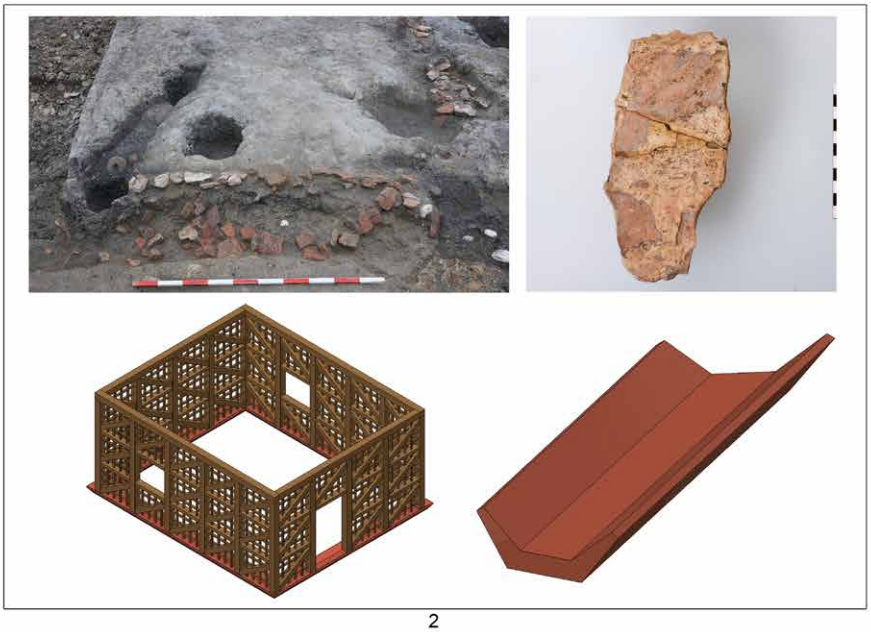

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Figure 13.8. 1. Square building, Zurich excavation; 2. Terracotta plaster, reconstruction (Zürcher Spina-Grabung, elaboration A. Mistireki).

regulating trade that coexisted in Spina are further evidence of its wide commercial and cultural links.

Rough portions of bronze ingots (*aes rude*) were also used for transactions as proto-currency, as well as rectangular pieces of sheet metal. Their use is attested in other contemporary trading cities in northern Italy, such as Marzabotto, Forcello, Oppeano, and Ponte S. Marco near Bergamo (Zamboni in press).

L. Z.

13.7 The 4th century BC

The historical framework in northern Italy abruptly changed at the beginning of the 4th century BC, with the Gallic 'invasion' of 388 BC, as described by historical sources (Vitali 2014), and the decline of many Etruscan towns, including Marzabotto and *Felsina* (Malnati *et al.* 2016; Morpurgo 2016).

Spina somehow survived the general crisis, showing substantial continuity both in the cemeteries and settlement

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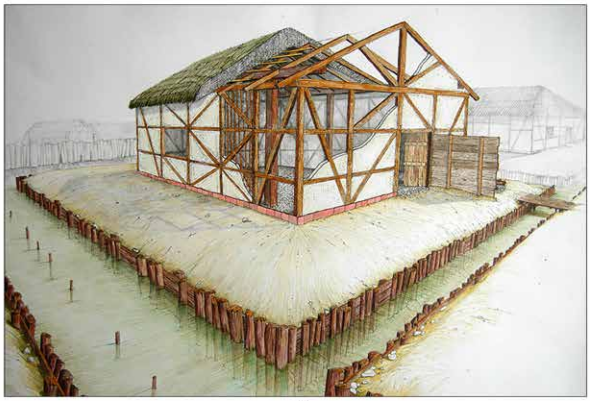

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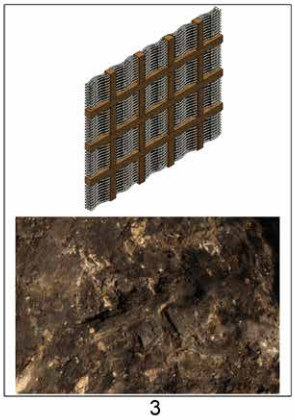

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Figure 13.9. 1. The 4th century BC Square House after excavation (after Cappuccini and Mohr 2017); 2. Reconstruction of the square house (after Cappuccini and Mohr 2017); 3- Reconstruction of the walls, and part of wall *in situ* (Zürcher Spina-Grabung, elaboration A. Mistireki).

layers. The trade patterns, however, progressively changed after the decline of Athens' maritime empire, and by that point Spina had turned its sight to central Italy and the Adriatic regions.

The excavations during the 1960s and 1970s in the settlement area brought to light several 4th century BC records, including the filling of several ditches and canals (Patitucci and Uggeri 2017, 214-218; Zamboni 2016a) and evidence of artisanal activity inside and outside the town's perimeter (Zamboni and Buoite 2017). Additionally, in the 1980s a building was discovered in the south-central sector (Desantis 1993). Recent investigations provided more substantial data regarding both the enclosure (Cremaschi 2017; Buoite *et al.* in press; see below) as well as the households and their relative buildings (Cappuccini and Mohr 2017, 21-26; Cornelio Cassai *et al.* 2013b; Mistireki in press; Reusser *et al.* 2011).

As already mentioned, no major changes are visible in the town layout after the end of the 5th century BC. It is only in the later stage, during the late 4th and early 3rd century BC, that the settlement layout was partially redesigned. The continuity with the previous layout is testified, for example, by the excavation of a sector in the central part of the settlement (Cornelio *et al.* 2017). Here most of an *insula* has been documented, bordered by large and small water canals (fig. 13.7.1): the main canal is north-south orientated, up to 11-12 m wide, and crossing a smaller canal of 4 m width. The canals are filled with thousands of artefacts, mainly pottery, dated from the late 5th to the early 3rd century BC.

This system of water canals surrounded a main building consisting of two rooms ('Room 1' and 'Room 2') and a corridor in front of them (fig. 13.7.1). Additionally, part of a second building was identified to the west ('Room 3'). The latter is separated from the main building by a small canal, 1 m width. Further to the west an open space was located, which has been interpreted as an artisanal area.

Several occupation layers were identified, dating from the end of the late 5th to the end of the 4th century BC (Cornelio Cassai *et al.* 2013b, 15-29; Cornelio *et al.* 2017, 31-32). The end of the occupation is marked by a thick

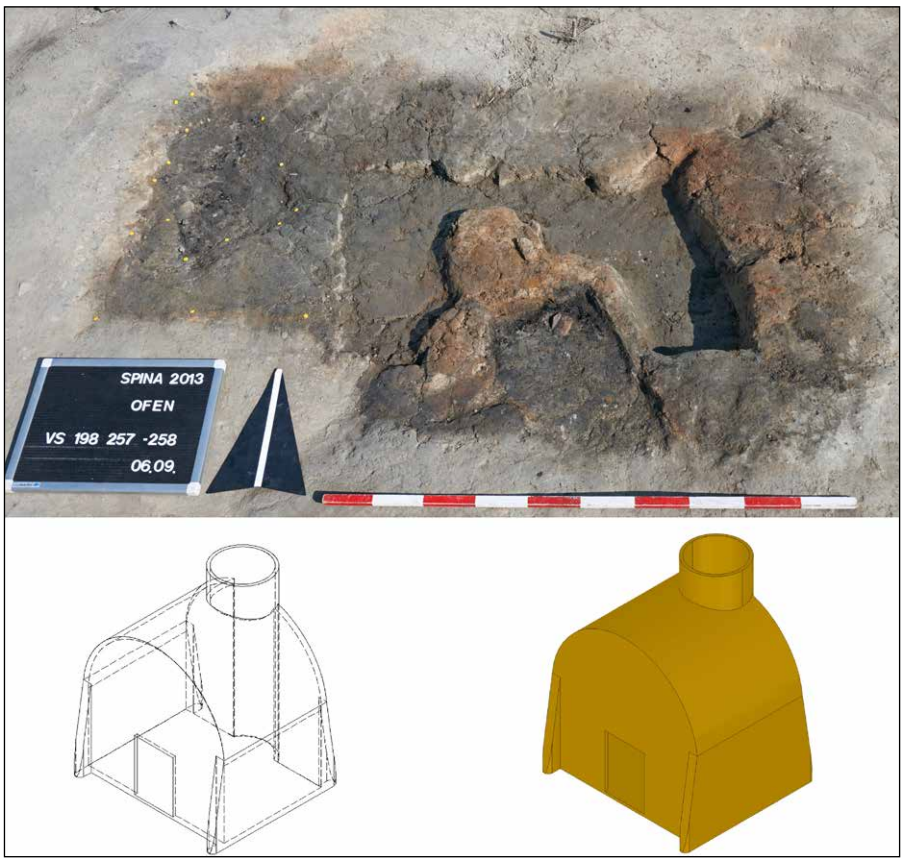

Figure 13.10. Oven *in situ* and reconstruction (Zürcher Spina-Grabung, elaboration A. Mistireki).

destruction layer with burnt debris and many clay missiles (see below). Next to usual domestic finds, such as fine and coarse pottery, some metal objects and a quantity of zoological and botanical remains were recovered (Briccola *et al.* 2013; Buoite *et al.* 2017). It is worth mentioning the discovery of four small gold plaques. These plaques, with a female figure and three warriors (fig. 13.7.2), were buried in a shallow pit under the house flooring, and could belong to a small wooden box, which was not preserved.

13.7.1 The Zurich excavation

A consistent picture emerged a few metres to the north, thanks to an excavation project by the University of Zurich. In this sector, at least 15 occupation layers have been documented, each layer separated from the other by artificial/alluvial sediments (Reusser 2016, 114). The main features discovered (six layers) belong to the remains of a building and its surrounding area, including evidence of artisanal activity. Two of these settlement layers, the so-called 'period IX' and 'period XI', are dated to the 4th century BC.

These buildings are situated in the southern part of an *insula*, which is surrounded by at least three canals (Cappuccini and Mohr 2017; Reusser 2017b). The north and west canals, partly excavated, show the use of two rows of postholes (in a good state of preservation) along the sidewalls, as well as a middle row in the northern canal.

The wooden posts are slightly displaced from each other, and timber planks were horizontally stacked in between. The detailed excavation of the canal walls suggests that to fix the whole structure the posts and the planks were intentionally backfilled with river pebbles and ceramic debris. Two fillings, dating between the end of the 5th and the beginning of the 3rd century BC, revealed thousands of artefacts (Cappuccini and Mohr 2017).

'Period IX' represents the latest residential use of the area, consisting of five phases, from the construction to the destruction of the building, the so-called *casa quadrata* (square house). The foundation of this structure can be roughly dated to the mid-4th century BC (Cappuccini and Mohr 2017, 21). Fortunately, the destruction layer was covered by a thick layer of clay immediately after the collapse of the building, and, therefore, the deposit was sealed with the whole inventory preserved.

In the lower part of the building, the foundation layer and parts of the rising walls were documented. The building occupies an area of approximately 42 m^2. It consists of the remains of an almost square (5.8 per 6.9 m) structure with timber framing and without clear evidence of any inner subdivision (fig. 13.8.1). The postholes on each side of the building showed no traces

Figure 13.11. Selection of 4th century BC findings from the Square House (Zürcher Spina-Grabung, elaboration A. Mistireki).

of wood, whereas the sleeper beams have been preserved due to carbonisation.

A construction detail refers to the lower part of the sleeper beams, where a remarkable number of terracotta-plaster was found (fig. 13.8.2). These fragments show three different shapes: flat and tapering wall fragments, as well as flat bottoms. A hypothetical reconstruction supposes that the terracotta plaster served as protection against water and moisture (Mistireki in press). The walls were built using the wattle-and-daub technique, as testified by the large amount of burned daub, which shows various impressions of branches (fig. 13.9.3). As no roof tiles have been discovered, the roof is supposed to have been made from decomposable materials, like reed or straw (Reusser *et al.* 2011). According to a preliminary reconstruction, a two-story building with a raised floor could be inferred by the rather small habitable surface and the high number of finds. Four inner posts alongside the northern and southern sleeper beams support this hypothesis (fig. 13.8.1 and 13.9.2).

The daily activities inside the building left several traces, including a furnace and imprints of various elements of perishable furniture. The large amount of loom weights suggests the presence of a vertical loom (Reusser *et al.* 2011). The textile production is further confirmed by other objects, such as spindle whorls, thread reels, and *epinetra* (Mistireki 2020).

The rectangular furnace is rather atypical (fig. 13.10), as it appears too small for any kind of ceramic production and not properly convenient for cooking activities. Therefore, it is suggested that it was used as a heat source during cold periods. It certainly also helped with the high humidity that even today can be felt in this marshy landscape. Moreover, casts, slags, *tuyères*, and the remains of a blacksmith's pit on the western forecourt of the building indicate further craft production. As there were even several fragments attached to one blob of slag, it is very likely that smelting took place close to the building. Other crafts are evidenced by unfinished goods, such as bronze fibulae and golden earrings (Mistireki 2020, 69-70).

Concerning other categories of artefacts, a wide spectrum of coarse ware and a large amount of imported ceramics are attested (fig. 13.11). The variety and quality of Attic vases are comparable to the grave goods from the cemeteries. Among more than 17,000 single finds, 14,736 of them are pottery sherds. In a thorough study (Mistireki in press) all the findings have been categorised by their function (namely, cooking, eating, storage, privacy/toiletry, artisanry, and unknown), independently from their raw material and find category. The function of cooking and eating comprises everything used to prepare, present, or consume food, such as cooking pots, plates, jugs, and drinking cups. Under 'storage' *ollae*, *dolia*, and

amphorae are mostly listed. The 'privacy' sphere is represented by objects for personal toiletry, such as *aryballoi*, or jewellery, such as rings or fibulae. The 'artisanry' domain has already been mentioned (textile production, metallurgy, or similar). Of course, several objects could serve more than one purpose like the *lekythoi* for example, containers for oil used both for cooking and for personal hygiene (Lynch 2011, 140).

Overall, a high concentration of artefacts characterises the relatively small buildings of Spina (consider, for example, a total of 1021 single vessels from the 'period IX' destruction layer alone). The role of storage inside ancient habitations, like the Spina square house, should certainly be highlighted, as well as the scarcity of comparable contexts from the 4th century BC (see comparable evidence from the Dema- and Varihouse, Jones *et al.* 1962; Jones *et al.* 1973).

A. M.

13.8 The 'fall' (mid-4th century BC) and later evidence

The destruction layers discovered in recent excavations at the settlement of Spina, both in the 'period IX' building and in the southern sector, are marked by the presence of a sizeable amount of charcoal, burnt artefacts and daub rubble, and a large number of clay bullets. These missiles, found elsewhere in Spina (Buoite *et al.* in press), could be related to a military attack that caused the end of the building (Cappuccini and Mohr 2017, 23). An act of war related to the end of the Etruscan Po Valley, specifically relating to Spina, is actually mentioned by Diodorus Siculus (Diod. 14, 113, 1-2), yet the scale of the assault, and the historical 'ethnic' groups involved remain a matter of debate.

However, even after the mid-4th century BC attack, Spina survived for some decades, although with significant changes in its role and function. The latest dated use of the settlement area, as revealed by the Zurich excavation trenches ('period VII'), is in fact associated with salt extraction (Reusser 2016, 120-123; 2017b, 11-19; Reusser *et al.* 2011, 118-119).

In the southwestern part of the *insula* the foundation walls of a small shelter have been documented. The remaining area was covered with several hundred kilograms of terracotta fragments, which seem to belong to basins on cylindrical clay supports, thus suggesting a known technique for prehistoric salt extraction process (Harding 2013). Several small canals presumably served for the water supply, while the aforementioned north and west canals surrounding the *insula*, were not in use anymore. They were filled up and covered by a silty layer, which serves as the ground floor for the salt basins (Reusser 2017b, 14-18).

The terracotta fragments, remains of the *briquetage* process (see Harding 2013), often show traces of cord-decoration. The rims are finished by fingertip impressions and some also show traces of red slip. Other terracotta objects with a cylindrical shape and flat base can be identified as supports (Reusser 2017b, 16 pl. 5c-e). Despite a lack of many significant finds, the 'period VII' can be approximately dated to around 300 BC (Reusser 2017b, 13 with reference 22). In other excavation sectors, different later structures have been found immediately over the destruction layer with clay missiles (Cornelio Cassai *et al.* 2013b), in some cases associated with roof tiles (Patitucci and Uggeri 2017).

At some time during the 3rd century BC, not yet specified, Spina was completely abandoned. To date, a chronological gap between the abandonment of the settlement and the later grave goods has been proposed (Malnati *et al.* 2016), although it is mainly based on unpublished materials that need a more thorough analysis. A later human presence on the site is related to Roman rural *villae* in the surroundings, and to Late Roman scattered finds (Cornelio Cassai *et al.* 2013b), yet without any hint of continuity with Classical and Hellenistic Spina.

A. M.

13.9 Overview and conclusion

Spina represents a remarkable example of an *emporion* (Gailledrat *et al.* 2018) that flourished for a few generations and then suddenly disappeared. As already described, the settlement was newly founded during the second half of the 6th century BC at the head of the Adriatic and the mouth of the Po River. The reasons behind this choice are numerous. On the one hand, the 6th century BC was a period of expanding and 'globalising' Mediterranean trade (Sherratt 2016), and the western upper coast of the Adriatic represented a natural corridor towards northern Italy and Central Europe. It was an alternative to the Tyrrhenian network and the westernmost Rhone route controlled by the Greek settlers in Marseilles and the Western Mediterranean (Malnati 2004). From this perspective, Spina seems to have inherited the role and effective position inside a trade network that centuries before, during the Late Bronze Age, belonged to Frattesina (Pearce this volume), and in the first part of the 1st millennium BC was taken over by Verucchio (Rondini and Zamboni this volume).

Moreover, the site was strategically placed inside a wetland environment rich in natural resources and crossed by several navigable waterways. On the other hand, the environmental setting appears rather unstable, and required extensive drainage works and specialised building techniques. With these characteristics, for almost 150 years, between the late 6th and the mid-4th century BC, Spina was a crossroads for international trade, a seaport where natural resources and raw materials (salt, metal, amber), agricultural products (grain, breeding, even the 'chariot horses' from the Veneto region, according to Vickers 2017), probably slaves, and artefacts (Etruscan-style bronzes, wooden, and other perishable

manufactured goods) were exchanged with imported goods coming from Attica and other Mediterranean regions, including silver objects (Vickers 2017), wine, oil, fine and decorated wares, glass, and stone materials.

The quantification and ratios of the different goods, raw, semi-finished, and finished are not known, mainly due to a lack of detailed studies, calculations, and provenance analyses (as made, for instance, for Bronze Age Europe, Kristiansen *et al.* 2018). In addition, we may assume that other minor products, and several cultural influences and lifestyles, arrived in Spina, and from there spread across the continent, as seen with board games (Gill 2016). In this case, Spina acted as a catalyst for the diffusion of manufactured goods that brought with them new 'lifestyle' values (drinking wine together, above all), and even social infrastructures to maintain such exchange and lifestyles (Sherratt 2016).

Several other research questions remain to be addressed. What kind of intermediaries were involved, both on an international and regional scale? What were their social status, independence, and profit margins? Moreover, apart from maritime routes, what inland trade paths and trajectories were controlled (directly or indirectly), or simply travelled by the Spineti? One conceivable terrestrial *and* fluvial route connected Spina, the outposts, and fords along the Po River (Bondeno and Mirandola), and Forcello di Bagnolo S. Vito (Komp *et al.* this volume). Other paths towards the Emilian Apennine foothills and the southern passes are also more than plausible (Pseudo Skylax describes a three-days path connecting Pisa with Spina).

In more general terms, a complex network of connectivity and different ways of interaction between local communities, local or foreign traders, and other social bodies or individuals must be envisaged. Some intra-site developments, like the increasing pottery production, or the amount of imports through different periods, can add detail to this kind of scenario. Another open issue is the increasing economic and political competition between different *emporia* and trade centres of the Adriatic and the Po Valley, between the 6th and 4th centuries BC. In other terms, Adria and Spina, among others, were all nodes in a common trade system. But were they integrating each other, or were they in competition? Since their administrative and political structures are not well-known (were they independent city-states? Or perhaps 'colonies' depending on sovereign motherlands?), for lack of epigraphical and written sources, conflictual and dependency relations are hardly traceable.

However, it is striking that several of these trading sites, Adria, Spina, Forcello, were founded (or rearranged) almost simultaneously, around 530 BC, showing very similar regular planning and building solutions: a grid of orthogonal canals and *insulae*, similar metrological scale, and the widespread use of timber architecture. Does this convergence suggest the presence of some forms of communal, social, and political structure, sharing the design and organisation of new commercial centres? Or was it simply the swift transmission of specialised skills and technical knowledge, thanks to the mobility of artisans and work teams?

From a societal point of view, we must also recognise that the widening of contacts and the likely waves of immigration led, in Spina, to a multicultural and multilingual environment, testified to by the hundreds of graffiti and name inscriptions found both in the settlement area (fig. 13.7.3) and inside the grave assemblages (Govi 2017; Zamboni 2016a). While Etruscan appears to be the primary language, Greek and other pre-Roman dialects are also attested. In Spina more than ten complete or partial alphabets, written in the northern Etruscan dialect, and scratched on both local and Greek imported pottery sherds, have been found. Alphabets are of course powerful tools for learning and practicing writing, extremely useful especially in a multicultural environment and inside a port of trade.

Instead of debating around the ancient ethnically biased labels, 'Greek' versus 'Etruscan', Spina should be interpreted as a model of interaction, a commercial town able to gain, in few decades, a key position in the Mediterranean trade network and international politics (the Delphi treasury), with multiple and adaptive identities useful in dealing with different partners and customers. A large part of the Spina society was likely made of merchantmen, traders, and workers. Both the grave goods and the palaeoanthropological data clearly suggest widespread prosperity, a life expectancy above the average for the period (Masotti *et al.* 2013), and a low degree of hierarchy (Malnati 2004). The role of seafaring and seafarers inside Spina's society can only be assumed, due to the scarcity of material evidence both from the settlement and the grave assemblages.

Finally, why did Spina decline and disappear between the late 4th and the 3rd centuries BC? We should probably envisage multiple causes, including the political, international crisis (the invasion of the Gauls after 388 BC, the end of Etruscan dominion north of the Apennines, and the starting of Roman conquest towards the end of the 3rd century BC). Other key factors were the decline of Athens, historically the first partner of Spina, and also probably a worsening of the environmental setting, coupled with the shifting of the Po River (Balista and Berti 2017; Balista *et al.* 2007). The settlement was probably attacked by a military force around the mid-4th century BC, as suggested by burned layers and the presence of clay and lead sling bullets (see above). On the other hand, the cemeteries show for this period an increase of depositions, usually explained with the arrival of immigrants and fugitives from neighbouring collapsed towns of the Po Valley (Desantis 2017).

During the last period of the town (late 4th-early 3rd century BC), there is a significantly higher number of goods from southern Italy and Sicily, and a continuous decline of Attic imports. Moreover, local production tried to supply and relocate in the market with new products, such

as the new painted Alto Adriatica ware. In the last stage, Spina seems to have become a minor artisanal place for sea salt extraction and other secondary activities. After the abandonment of Spina, the territory where once the town prospered became, in the centuries to follow, a peripheral landscape, with rural *villae* and *fossae* during the Roman period. Soon after, the water of the lagoon covered all of the sunken remains, and the very memory of Spina was lost.

A.M., L. Z.

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Chapter 14

The Hidden City

Reconstructing the Urban Structure of the Etruscan Harbour of Forcello di Bagnolo San Vito through Excavations and Non-invasive Methods

Rainer Komp, Tommaso Quirino & Marta Rapi

This paper deals with the urban character of the Etruscan site discovered at Forcello (Bagnolo S. Vito, Mantua). It was the main Etruscan settlement north of the Po during the 6th and 5th centuries BC, when it flourished as a port of trade facing a lake, now drained. This paper discusses different factors relevant for identifying an urban pattern. In terms of settlement structures, we present a synthesis of the data achieved about the orthogonal planning, the defence structures, the dwelling density and the facilities. Indirect indicators helpful for recognising the essence of the city from an economic perspective are discussed on the productive economy of the site. A well-developed husbandry system based on intensive pig breeding shows that the productive economy extended beyond the simple settlement's livelihood to a wider scale. The imports and luxury goods, as well as practice of writing, are also treated as indicators of a stratified society that correlates with an urban way of life. The site is approximately 12 ha, but excavation data covers only certain sectors. To acquire additional data about the pattern organisation of both the settlement and the outer space, new research was launched with the preliminary results being presented in this paper. The German Archaeological Institute performed a geomagnetic survey on a field adjacent to the Archaeological Park of Forcello. The survey resulted in exciting evidence, including traces of the embankments, a passageway, and building structures. The results not only confirm, but also enhance the discoveries made by surveys and excavations in the 1980s and show very distinctive features.

Keywords: Iron Age; Etruscans; Urbanisation; Trade; Geomagnetics.

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14.1 Introduction

Forcello was a prominent Etruscan settlement in the Po Valley between the 6th and 4th centuries BC. It was founded around 540 BC, which corresponds to the reorganisation and extension of Etruscan influence in northern Italy during the 6th century BC. The site was founded on the banks of a lake formed by the lower course of the Mincio River during the Middle Bronze Age, which was drained during the Renaissance, as recognised by geological and palynological investigations (Ravazzi *et al.* 2013). The basin was extended for about 5 km between the modern towns of Bagnolo S. Vito and Pietole Virgilio and was connected with the Adria's Po (fig. 14.1). Most likely a harbour

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 227-242.

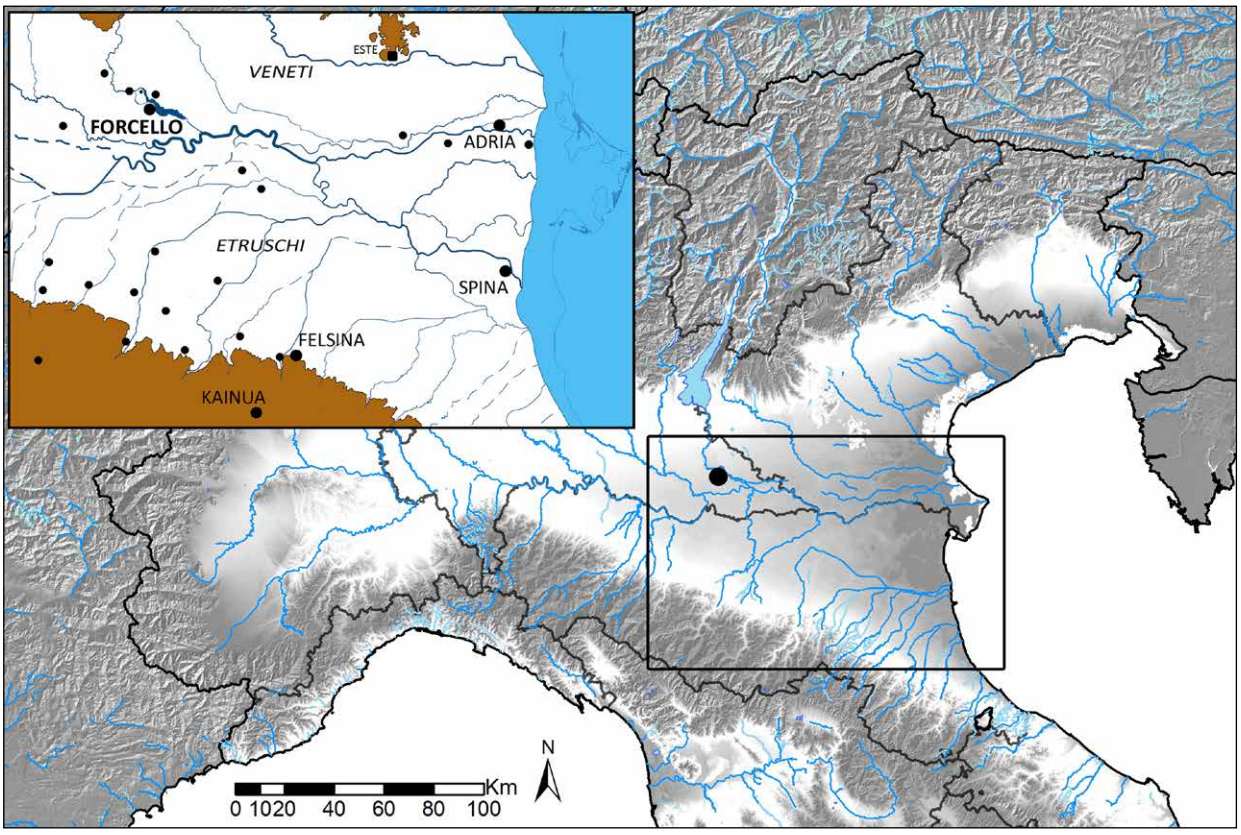

Figure 14.1. Forcello (Bagnolo S. Vito, MN): map showing Forcello and the key Etruscan sites in the Po Valley (image processing: T. Quirino).

was constructed on its banks. Off-site pollen cores (Ravazzi *et al.* 2013), combined with botanical evidence from habitation layers (Castellano and Perego 2011; Castelletti and Rottoli 1986), allow a reconstruction of the ancient landscape and cultivation practices. Pollen diagrams show that during the Early Iron Age and the Etruscan period (8th-5th centuries BC) some plants linked to human activities (cereals, vines, and walnuts) increased over time to the detriment of a landscape originally forested and made up mainly of oak, alder, hornbeam, hazel and elm.

The site flourished as a port of trade until its final abandonment around 375 BC. It was located at the northernmost periphery of Etruscan influence, along important trade routes connecting Etruria, the Adriatic, and Central Europe. The position on the inland waterways enabled shipping connections to Adria and Spina, the Upper Adriatic harbours at the end of the sea route from Greece. These networks are visible through the impressive amount of imports. Above all the Attic pottery and Greek transport *amphorae* discovered at the site, as well as other materials, highlight contact with Central European Celts and non-Etruscan cultures of Northern Italy (de Marinis and Rapi 2007).

The knowledge about the settlement result from paleo-environmental researches, from excavations and prospecting surveys carried out by Fondazione Lerici at the time of the site's discovery, in the 1980s, and updated now by the German Archaeological Institute, Berlin (see below).

At the beginning of the field research in the 1980s, on-site test pits were excavated to ascertain the triangular shape and the size of about 12 ha, as well as the area of densest and more prolonged settlement. Some geomagnetic surveys were performed concerning only 6 ha in the northwestern area of the site, but they contributed to the discovery of an embankment and a longitudinal strip along the major axis of the settlement, which was clear from debris and therefore interpreted as a road. Moreover, they revealed an orthogonal pattern of the built-up area, and together with the results of the test pits led the archaeologists in choosing the placement of the stratigraphic excavations.

Excavations involved the northeastern edge of the settlement (fig. 14.2; sectors O-P-Q 22-25 = Carver excavation), the southern sector (sectors V-W 10-11), and the central sector (sectors Q-S 17-19); here they reached the bigger extension, which is still ongoing. The archaeological excavation near the northeastern edge revealed two embankments; the more external

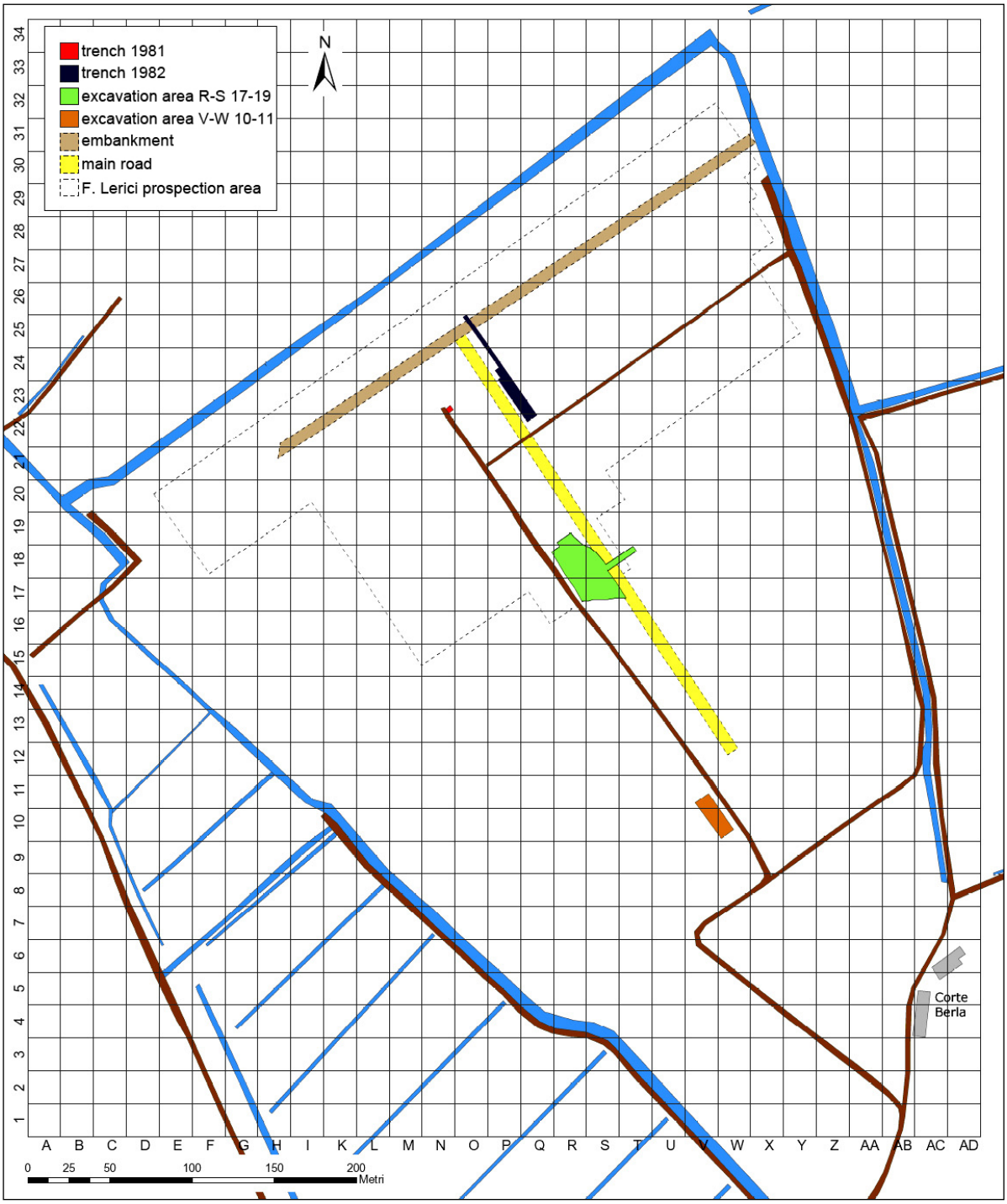

Figure 14.2. Forcello (Bagnolo S. Vito, MN): general plan of the site showing the sectors grid (20 m^2 each) and the positioning of the excavation areas; in yellow the settlement core area in sectors Q-R-S 17-18-19 (image processing: T. Quirino).

was probably constructed at the time of foundation, the other was built further back after a flood, occurring by the middle of the 5th century BC (phase C-D). In addition to the new embankment, many changes transpired in the settlement, for example, as regards building techniques: houses of the archaic period were built of wood, while in the classic period houses had wattle-and-daub walls.

The main excavation area is of about 900 m^2, located in the centre of the settlement, (sectors R 17-18-19 and S

Figure 14.3. Inscriptions on Po Valley Etruscan bowls from the so-called Velna's House (n. 1-2: drawings by M. Rapi; n. 3 drawings by R.C. de Marinis), on the top; examples of Attic pottery from Forcello, on the bottom (photos: Università degli Studi di Milano).

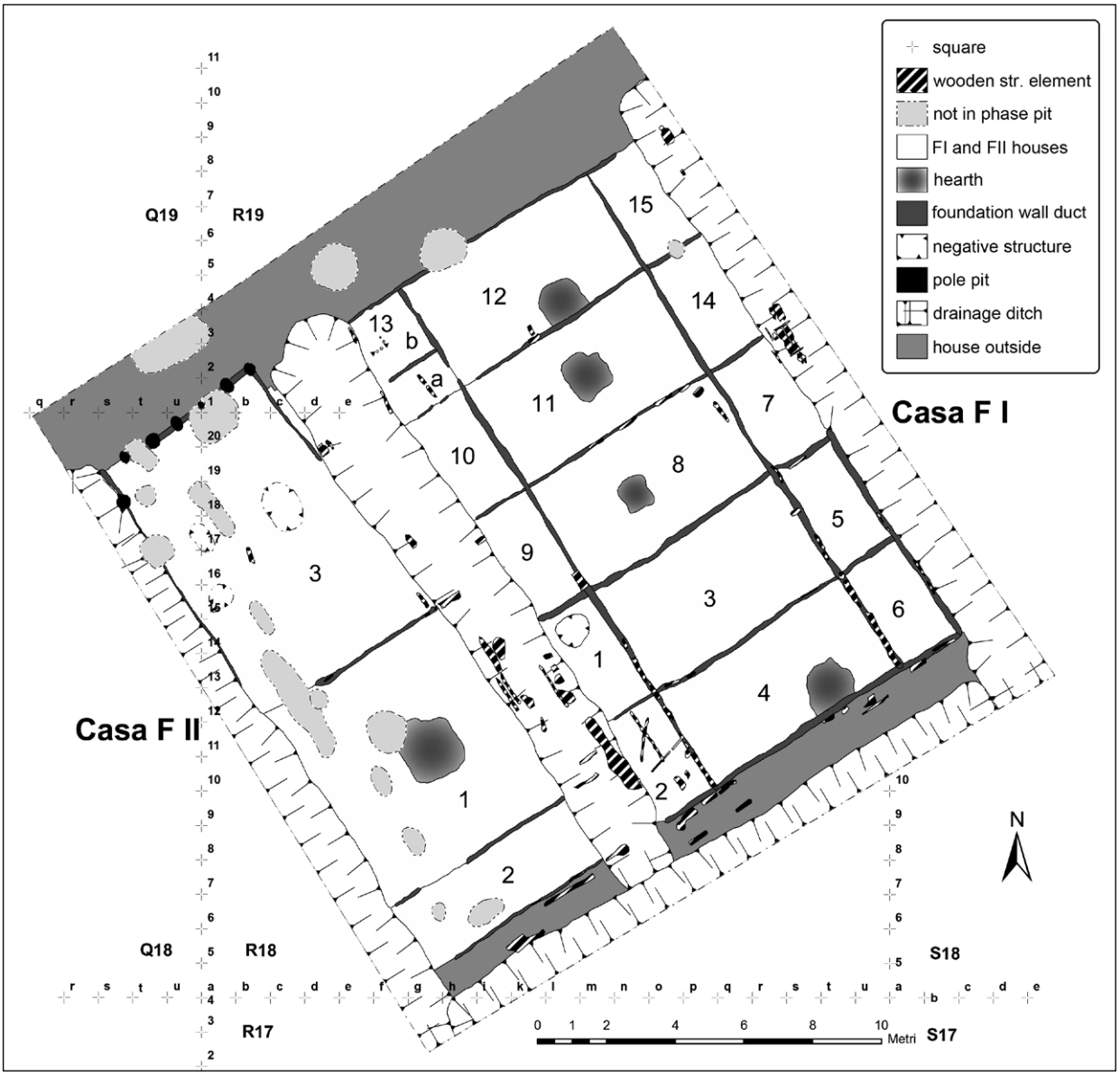

Figure 14.4. Forcello (MN). Schematic plan of houses F I and F II (drawings: Casini, Cazzanelli, Degasperi, Longhi, Mangani, Quirino; digital processing: Quirino).

17-18), where stratigraphy is thicker, almost two metres: here, 9 settlement phases have been identified (from A, the more recent, to I, the earliest), distributed along a chronological arc between 540 BC and 380-375 BC. The site has a tight chronology of approximately 160 years. Within it, two contexts, Phases F and C, represent clear stratigraphic markers for buildings destroyed by fire and sealed by thick clay levels. Moreover, the archaeological materials are in primary deposition inside the destroyed buildings (fig. 14.3).

M. R.

14.2 Phase F

Phase F, which is an archaic complex dated between 510 and 495 BC, is comprised of an aristocratic *oikos*, covering an area of almost 300 m^2. It is divided into two houses, one residential and the other for craft activities (fig. 14.4).

These houses, named F I and F II (Quirino 2011), were built entirely of wood and one of them had at least one side built using wattle-and-daub. House F I has a rectangular plan (about 17x10 m), made up of 15 rooms arranged in a regular pattern – a larger central room and two smaller ones on both sides – repeated five times. House F II, on the other hand, has a rectangular shape (approximately 17x5.70/5.60 m), but narrower, defined by the sequence

of three rooms with different sizes. The type of floor plan of house F I is not precisely comparable to other known Etruscan houses, neither in Tyrrhenian Etruria nor the Po plain (Bentz and Reusser 2010; in particular: Calastri *et al.* 2010; Prayon 2010). While it is possible to find a schema consisting of two or three rooms side by side in the Etruscan world, both in reference to individual housing units and within more complex structures, with some examples also from Marzabotto (Calastri *et al.* 2010, 43-45; Mansuelli 1963, 46-52), Casalecchio di Reno (Ortalli 2002, 81-82), and Verucchio (Gentili 1987, 213; 1988, 92-96; Sassatelli 1996, 254-255; see also Rondini and Zamboni this volume), the schema is never multiplied in such a regular way as in the house of Forcello.

The plan of the F I house instead finds a very precise and almost unique comparison with a type of house found at the Late Hallstatt fortified settlement of the Heuneburg, in Germany, already known for having contact with the Mediterranean and Etruscan world, as testified by abundant imported materials (Kimmig 2000; Kimmig and Gersbach 1971, 40-47; Krausse *et al.* this volume). Here some houses built entirely of wood, which have very varied layouts, but all produced by the multiplication of rooms or modules of identical size, have been excavated (Gersbach 1995; Kimmig and Gersbach 1971, 62-89). This type of architecture, although soon abandoned in favour of structures with a vertical pole, is testified not only within the hilltop, but also in the external settlement located to the northwest and under mound 4 of Talhau (Kurz 2007, 18).

In addition to the comparison of the layout, further suggestions are also provided by the construction technique used for the elevation. As regards the phase IV of the Heuneburg, various reconstructions have been proposed (Gersbach 1995, 134), including the *Blockbau* technique, which has also long been hypothesised for the Forcello structures (Casini and de Marinis 2007, 39-40). At Forcello, however, the marked overlap of the foundation beams, which at the intersections of the walls protrude from the perimeter of the structures, was not found as is clear as from the excavations at Heuneburg. More likely, using horizontal foundation beams, a wooden framework was built instead, to which vertical or horizontal planks were then embedded or nailed. In favour of this hypothesis there is the presence of a good quantity of iron nails in the fire level and the presence of vertical poles in the intersections of the foundation trenches, already shown after the first excavations (de Marinis 1992, 242; de Marinis *et al.* 1995, 540). This technique is testified once again at the Heuneburg, as well as at Spina (Zamboni 2017, 53-54), where the frame is sometimes filled using the half-timbered technique (Cappuccini and Mohr 2017, 21-22; Mistireki and Zamboni this volume), and at Adria (Bonomi and Gambacurta 2017, 72-74; Bonomi *et al.* this volume).

Excavations of the two phase F houses returned an exceptional set of data that illustrates all aspects of the economy and cultural relations (de Marinis 2016; de Marinis and Rapi 2007; de Marinis *et al.* 2017): a large complex of Attic pottery, black-glazed and black-figure, including a column *krater* from the Leagros group, many transport *amphorae*, mainly from Thasos and Eastern Greece, including at least one containing olives, as determined from the presence of a small olive stone fragment (*Olea europaea L.*). The absence of pollen of this species in the area and the lack of favourable environmental conditions for its cultivation, indicate that it is not a natural species in the Mantuan area, but rather it was imported and traded by the Etruscans. With regards to agriculture, by the end of the 6th century BC (510-500 BC) we found mostly cultivated plants (legumes and cereals), to which are added, although less abundant, natural species that were harvested and consumed, *e.g.* hazelnut, cornel, and grape. The discovery in room 3 of structure F II of charred remains of honeycombs and bees (*Apis mellifera*) is exceptional (Castellano *et al.* 2017). Morphoscopical, palynological, and chemical analyses (IR, LC-MS, GC-MS) were conducted on the honeycombs and their associated materials (bee-breads and a mixture of melted honeycombs) in order to reconstruct beekeeping practices and the local environment. Beekeeping appears to be characterised by a remarkably high degree of specialisation. Palynological data indicate that honeybees were feeding on plants from both aquatic and ruderal landscapes; the palynological record from the bee-breads suggests the practice of itinerant beekeeping along rivers, an activity described by Pliny the Elder (Natural History, XXI.43.73) a few centuries later in relation to the town of Ostiglia (Mantua).

T. Q.

14.3 Phase C

Concerning Phase C, which dates to between 475 and 450 BC, three buildings that formed two blocks have been excavated. For the first time, it is possible to compare several contemporary structures, and this raises new research perspectives aimed at clarifying their relations. The phase C buildings are NE-SW oriented and separated by a strip 6 m wide that defines an external passage and discharge space for disposal. From northeast towards the southeast there are the so-called "House R19", then the "House of looms" (de Marinis 1986) and "Velna's House", the last one still being excavated. It was so named after the discovery of three inscriptions on etrusco-padana pottery referring to a member of the *gens* Velna, who used the simple *gens* or family name, as frequently occurs in Marzabotto. Velna, from Velina or Velena, is widespread in the Archaic period in Orvieto and Chiusi (TLE, I, 2009, *ad voces velenas*, *velina* and *velinal*). Later it is spread widely

Figure 14.5. Forcello (MN). Plan of the phase F houses, with the overlapping of grid squares with sides of 88.8 cm, corresponding to 3 Attic feet of 29.6 cm (image processing: T. Quirino).

in Etruria, from Cortona in the north to Orvieto in the south, with the highest number of attestations in the Chiusi area (Rapi, in press). So, here we might deal with the name of the house's owner but, possibly, something similar already existed in the house during the Archaic period (F I), considering the Phoenician-Cypriot seal found there as a kind of signature (Gagetti 2007). Several other Etruscan inscriptions have been found at Forcello (de Marinis 2007), but for the first time they are in an archaeological context that allows us to link together a house and family ownership. As the estate property and its transmission is concerned, it is worth noting that the Velna Phase C building covers the same area that was occupied by a later Phase B house.

As in the case of the phase F houses, findings recovered in Velna's House include a large number of imports from Greece: Attic black-glazed and red-figure pottery, a red-figure *krater* with a small column dating back between 470 and 460 BC and attributable to the Orchard painter (Giudice 2018), widely known at Spina and Bologna. Finally, the *krater* represents a fixed point for the chronology of phase C, which until now was difficult to date precisely. Judging by the abundance of Attic pottery – including fragments to a second larger-sized column *krater*, an Attic red-figure *oinochoe*, fragments of red-figure cups, a large black-glazed *skyphos* of hybrid form, black-glazed cups, stemmed dishes, bowls, and *lekanides* lids (de Marinis in press) – we are faced with an elite house.

M. R.

Figure 14.6. Forcello (MN). Overlap of the plan of the phase C houses, in grey, onto that of the phase F houses, in black (image processing: T. Quirino).

14.4 From the houses to the urban layout

In order to better understand the organisation of the urban space and the architectural and urban models chosen for the foundation of the city, it has been necessary to start from the detail of the single house and the recognition of the units of measurement adopted for their construction (Quirino 2012; 2014).

Important new data on this topic was collected during the excavation campaigns of the last decade, especially from the Phase F houses. In fact, in the northwestern corner of the excavation area, the northernmost short side of house F II has been brought to light. This is the only wall that does not have a foundation trench, but rather a series of postholes for holding vertical poles, which, most likely, supported a wall built with the wattle-and-daub techniques.[1] Starting from the regularity of the sequence of holes on this side of the house, placed at about 85-90 cm from each other, we tried to obtain a possible measurement module used by the Etruscan architects for the design of this house, that could also be applied to house F I. For the first time a series of features at a regular and sufficiently short distance, suitable for trying to obtain a unit of measurement with a smaller error range, came to light (fig. 14.5).

By dividing the total length of the north wall of house F II (approximately 5.238 m) by the 6 segments defined by the five postholes, we obtain a module of 0.873 m, which is very close and well suited to that of 88.8 cm, equal to three Attic feet, measuring 29.6 cm, the use of which was also hypothesised at Marzabotto, both for *insulae* (Colonna 1986, 464; Govi 2010, 181; Govi *et al.* this volume; Massa-Pairault 1997, 85) and for the urban temple of *Tinia* (Sassatelli and Govi 2005, 27-28; at Pyrgi, temple B, Colonna 1965, 194-195). Thanks to the analytical capabilities of the GIS project for the management of excavation data in use at Forcello (Quirino 2007), we superimposed a grid of squares with this module on the two F phase houses and obtained an interesting result: both houses seem to have been designed according to the same modular unit of measurement, which is repeated following various schemes. Regardless of the type of module used (3x3 ft or 3x4 ft; for details, see Merlo 1989; 1990; Quirino 2012, 91-92), it is clear that the design of the housing units at Forcello, as well as in the other settlements of the Po plain in Etruria, was subject to very precise and rigid rules. Starting from these considerations, it was also possible to find the same use of the 88.8 cm module in the

1 Almost all the northern part of room 3 was covered by a thick layer of collapse of fragments of fired wall, mixed with the fire layer.

Figure 14.7. Hypothetical reconstruction of the Forcello urban plan, drawn on the basis of the measurements of phase F and phase C houses and the position of anomalies recorded by geomagnetic analyses performed in the 1980s; dark grey-the embankment, grey-the *plateiai*, light grey-the *stenopoi* (processing: T. Quirino).

distance of some structural elements present in one of the published plans of Spina (Berti 1985, 192-193; Berti 1987, 184; Zamboni 2017). The poles aligned in the northeastern portion of the structure, in fact, seem to be planted in a very regular way, with the same distance between them, which corresponds precisely to the module also in use at Forcello.

Following this new suggestion, the same unit of measurement has now been confirmed again at Spina, where, as recently demonstrated (Zamboni 2017, 53-54), the space occupied by the aforementioned house corresponds exactly to that occupied by two central rooms of the Forcello house F I, and has been recognised at Adria (Bonomi and Gambacurta 2017, 73; Bonomi *et al.* this volume).

The accurate design of the single housing units, on the other hand, was part of an equally rigid delimitation of urban spaces, of which the most obvious example is certainly Marzabotto, but which now also has confirmation in the city of Forcello. Each house is placed within the rigid urban layout with orthogonal meshes, already hypothesised for this Etruscan settlement (de Marinis 1986, 147-148), and represents further confirmation of the precise planning to which Forcello was subjected since its foundation. Even the measurement of the phase F houses and of the phase C house (fig. 14.6; including "House of looms" and "House R19")[2] acquires an additional meaning. The length of just over 17 m in both house FI and house F II finds comparisons with the approximately 17 m module recurring in the houses of Marzabotto, which also represents half of the usual width of the blocks (Govi 2010, 181; Massa-Pairault 1997, 81-85). The same correspondences are also found in the contemporary city of Spina. Here too, in fact, blocks with a recurrent length of about 17 m have been hypothesised (Cornelio Cassai *et al.* 2013, 8; Izzet 2010, 118; Patitucci Uggeri and Uggeri 1993, 26; Uggeri and Patitucci Uggeri 1974, 87; Zamboni 2017).

Going back to the analysis of the settlement plan, a reconstruction of the urban pattern was proposed

2 The whole house (Quirino 2012, 93-94, fig. 19), extended approximately 14x17.5 m, occupies the same length as the phase F houses, although slightly decentralised towards the south-east and south-west.

Figure 14.8. Magnetogram of survey area. The magnetometry map reveals important features of the settlement structure (image processing: R. Komp).

(fig. 14.7), basing on the measurements of phase F and phase C buildings and on the distribution of geomagnetic anomalies recorded in the 1980s (Quirino 2012, 95-96).

An urban network is identified by *plateia* A – as we can define the main road crossing the city already recognised after the first excavations (de Marinis 1986, 143-144) -, the embankment (Casini *et al.* 2002) and a second road, parallel to the embankment and perpendicular to *plateia* A, which we call *plateia* B. During the last excavation campaigns the continuation of two rows of large postholes, partially identified during the excavations of 1983-1985, came to light. These rows of postholes, orientated southeast to northwest, for which the function of consolidating the ground or supporting a wooden arcade was supposed (de Marinis 1986, 149-150, 152), run between the houses and *plateia* A throughout the investigated area and continue with an exactly perpendicular alignment, towards the west, along the supposed *plateia* B.

Within this first subdivision we tried to identify the different *insulae*, taking as a model the precise recurring measurements in other Etruscan settlements of the Po plain in Etruria and applying them to the urban structure of Forcello. Assuming, in particular, that the blocks spread out in length with a southeast to northwest orientation and have a width of just over 35 m,[3] a subdivision in *insulae* with equal width, well traceable thanks to anomalies identified by non-invasive analyses, seemed to be quite realistic. Furthermore, within each *insula* there are numerous gaps between anomalies – with a rectilinear trend, parallel or perpendicular to each other -, that could identify the different buildings and the ducts that separate them. These blocks seem to occupy areas of about 17.5 m or about 35 m lengthwise, as indicated by the houses investigated through excavations.

This hypothesis also takes into account the different and complementary functional characterisation of the buildings, which can be recognised from the items inside. It deals with craft activities as regards the "House of looms" and residence concerning "House of Velna"; the same can be said of the two F phase buildings, where the smaller (House F II) clearly shows elements of specialised crafting. Having said that, however, to acquire additional data about the pattern organisation a new series of surveys has been launched.

T. Q.

14.5 The new geophysical survey campaigns

Geophysical surveys have a long tradition at Forcello, since the Fondazione Lerici pioneered the archaeological prospection by means of technological devices in 1955 and performed surveys in the early 1980s (Lerici 1984). Despite the limits of the technology at that time (*e.g.* a resolution of only 1 x 1m or even 2 x 2 m) the results were excellent and guided the excavation successfully. The technological advancement nowadays gives many more possibilities, such as using a vehicle towed multi-channel magnetometer comprised of 16 fluxgate probes at 4 m width. Thanks to the speed and sampling frequency of 100 Hz the resolution achieves 200 measurements per square metre. The integrated RTK capability correlates to the excavation site's geodetic datum and ensures that all data is georeferenced with an accuracy of about one centimetre. As a co-product, a DTM of high resolution can easily be generated. Showing the topology, it contributes to understanding the findings.

Determined by the agricultural land use and permissions given, one field at the northwestern end of the settlement including the embankment was subject to the survey, matching approximately half of the compound explored by

3 As in most of the *insuale* of Marzabotto; this measurement corresponds to 120 feet (Massa-Pairault 1997, 81-85) and most likely could have Greek origin, finding comparisons with Olinto and Priene, in Greece, and with Napoli, Posidonia, Metaponto, Locri and Agrigento, in Italy (Giuliano 1978; Govi 2014, 101-102; Martin 1974, 123).

Lerici. But the field under examination now incorporated 5 ha in total up to the draining canals bordering the terrain at its northern, eastern and western side, while the southern side attaches to the adjoining fields, except the central part where the archaeological park is located (fig. 14.8). The results of the Fondazione Lerici indicated a regular pattern of housing parallel to the embankment and a main street. From subsequent excavations undertaken by the University of Birmingham in 1982 two main phases of embankments have been recognised, dating to 540 and 460 BC, respectively (Casini and de Marinis 2007, 35-49; Hummler and Carver 1982).

First, the settlement is enclosed by an embankment, consisting of a ditch (west and northwest) and a wall at a distance of about 15 m inwards. In particular, it shows two parallel rows of linear magnetic anomalies, best preserved on the western side. The exterior features bearing more intense positive magnetic values indicate ditches. The western lane is located in prolongation of an actual drainage canal northwest of the field and is part of a canal track sketched in the reports (Hummler and Carver 1982; Lerici 1984).

A similar situation is presented at the northwestern side. These ditch-like features continue along the western feature following a bend. Therefore, a ditch having encircled the embankment is likely and would make sense as a means of flood protection. It is obvious that Carver's excavation trench did not reach the location of the outermost ditch, so he was not aware of it. It parallels the suspected ancient embankment wall as set in phase 1, suggested by traces of negative linear anomalies visible at a distance of about 15 m inwards. The feature, barely 2-3 m in width, runs about 95 m along the western side and turns in a pointed angle northeast, noticeable partly for at least another 165 m. Hence, the magnetics do not exactly reflect the first embankment wall described as being based on virgin soil with a 5 m broad clay foundation and another 3 m wide platform in front, complemented by a palisade. But it does indicate the uppermost wall foundation and is located at a reliable distance from the ditch. The (first) embankment also shows up very nicely in the topographical surface. Here, a recent, but now abandoned, pathway visible in historic orthophotos ran along the prehistoric rampart (MATTM).

The clearly visible ditch-feature of the first western embankment does not show up any more in the terrain. It must have been abandoned in recent years and completely levelled for the agricultural surface. It is likely that the drainage canal stood in long tradition from the prehistoric fortification or drainage ditch. The probable continuation of ditch and embankment towards southeast is indicated by soil marks in airborne imagery (*s.a.*). The magnetics in the northeastern part only show blurred features, the contribution of which to the embankment seems reasonable.

Second, a gateway leads through the centre of the northwestern embankment, specified by a feature in the magnetogram consisting of two positive magnetic anomalies.[4] It is also the highest topographical point. While the eastern linear anomaly might partly be the result of the excavation trench dug by Carver along the main street, the western ditch is nearly 2 m in width and indicates the border of a throughway of about 6 m. Its extent of ca. 30 m connects the space between the supposed two embankments' walls. The feature ends up with a square space of 6 m² attached outside. It seems, as if the western ditch will be continued after a hiatus of 8 m in northwestern direction for a length of another 22 m; though, its lane is slightly offset towards the west, but obviously connects to the outer embankment ditch.

East of the passageway, at least two rectangular negative anomalies, suggest floor plans parallel to the embankment. Their spaces measure up to 90 m² with each seeming to be divided into three chambers and some of the front ends look rounded. Pit features are present within these probable buildings, some of which suggest post-holes inside a trench, while others might relate to a fireplace, although the magnetic patterns do not give clear evidence.

Third, west of the main road and adjoined to the embankment, a housing area is located. This quarter is rich in features. A series of negative linear anomalies shape a set of regular, quite orthogonal patterns. The negative magnetic anomalies probably result from the small canals in the clay-enforced bedrock which supported the wooden beams used as the basis for the wooden wall construction of houses. Therefore, the features compare quite well in their manner and size to the excavated buildings in the central part of the settlement (Casini *et al.* 2007, 84-92). Most striking is a probable sequence of five squares in SW-NE direction, *i.e.* parallel to the northwestern wall. There are traces of at least two more, while the limits of their spaces are not always clear. The surface area of each suspected room cannot be distinguished clearly at this point. They seem to be bigger than those houses known from excavation but might have been subdivided into sectors of about 100 m².

The very western area within the embankment lacks any features. A slight elevation at this place might indicate an accumulation of alluvial soil in the former corner of the embankment, which would cause any structures to be hidden too deep for detection. More likely, this area would never have been developed and the second settlement was rebuilt in lesser dimensions.

Last, where is the embankment of the second phase? According to the excavation trench through the embankment along the main road, set by Carver 1982 following the early survey, two main phases of ramparts have been built. The first one around 540 BC and a later

4 It should be mentioned, that the actual main road of the archaeological park is located about 15 m west of this evidence.

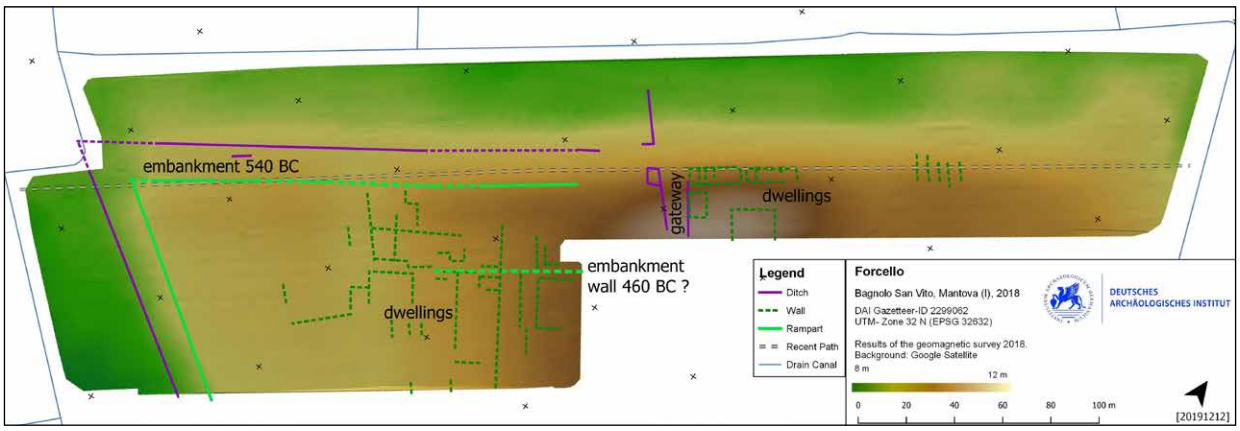

Figure 14.9. Digital Terrain Model of survey area and interpretation based on magnetogram (image processing: R. Komp).

one after a tremendous flooding event before the middle of the 5th century BC -set about 33 m inwards. Hence, the only magnetic anomaly corresponding to these premises can be seen in between the buildings' traces. While the northeastern part of the survey does not cover the potential area anymore, the western-most area does not show up with a second wall. But, in the central part an accumulation of large pit features over a length of nearly 70 m might suggest its location at the given distance and with an appropriate width of about 9 m.

From the topographical point of view, the older embankment's elevation is, principally, running from northeast up to the western corner; but there is an interruption from northwest to southeast, parallel to the main road, half way from main road to the most western embankment. It may have been formed by the force of the flooding event or intentionally by men when setting up the new embankment, which in the elevation data cannot be identified explicitly.

In conclusion, the main results from the Lerici survey have been confirmed. Moreover, the new magnetometry not only shows centres of magnetic anomaly, but it also reveals important features of the ancient settlement's layout in a more detailed way, including the ability to distinguish embankments, house foundations, and passageways (fig. 14.9). Outside these linear features (versus northwest and southwest) no more intense anomalies correspond to the ancient levels -besides, possibly, the presence of scattered pit features. This, again, correlates to the results gained by the Lerici campaigns.

The project is looking forward to expanding the survey in order to cover the whole settlement area as well as to identify the location of the harbour and the necropolis in the environmental landscape.

R. K.

14.6 Conclusions

In looking at urbanisation in European protohistory, we should rely on interpretative models that overcome a semantic gap, not only between the notion of the current and the ancient city, but also between the ancient city of the Mediterranean/eastern area and that -far more debated- of continental Europe, which is generally devoid of monumentality with regards to architecture and size. As for continental Europe, at least two widely shared criteria are set out and it seems that we cannot speak of an urban centre without social articulation and complementarity between the city and its territory. In a city, food surpluses produced by the countryside flow, accumulate, and are consumed by social groups not involved in primary production, *i.e.* elites, artisans, merchants and servants. As for northern Italy, the concept of "proto-urban settlement" has been suggested (de Marinis 1984, 180) and describes the essence of the city in its earliest stage with regard to a functional, economic scheme. This perspective seems fitting to our studies because, from an archaeological point of view, the appearance of the urban phenomenon can be here detected much less by physical characteristics (*i.e.* architecture, size, monumentality), and more by proxies linked to the appearance of territorial organisation and social stratification.

If we consider Forcello with respect to these parameters, the term "city" doesn't seem unreasonable: many key features that correspond to an urban functional scheme can be there identified. The social articulation and the aristocratic way of life are demonstrated by the luxury goods within the houses, to which we can add the practice of the writing. As far as the production economy is concerned, zooarchaeological research indicates well-developed husbandry systems aimed at a higher scale than simple livelihood. Like northern Etruscan centres, swine husbandry was embraced earlier than in proper Etruria, but the relative quantity of pigs compared to cattle and goats-sheep within Forcello remains unparalleled in Etruscan times, suggesting a link between a

massive salted pork production and trade (Depellegrin and Tecchiati 2015; Scarpa 1986; Trentacoste 2014). Intensive pig breeding is considered a strategic factor in order to supply meat to growing urban populations (De Grossi Mazzorin 2009). Moreover, we recovered most of the features of an urban pattern, that are common in a newly founded Etruscan settlement, such as an orthogonal planning, defences, density, facilities for draining, and collectors.

Nevertheless, concerning an Etruscan city, a relevant issue such as a cult area is so far under-represented. The only achieved evidence of ritual activities are two votive inscriptions and the fragment of a small pillar altar in trachytic stone (de Marinis 2007, 55-56). Sacred buildings, if not lacking altogether, could still be hidden since the investigations have concerned, up until now, only limited sectors of the whole inhabited area. We could expect a suburban sanctuary as found at Spina, which offers several comparisons with Forcello regarding the settlement pattern and the role as a port of trade for redistribution of goods from Greece to the Alpine areas and the Celtic world.

Spina was a city for the ancients (*πόλις Ἑλληνίς*: Strabo 5.1.7; Ps. Sil. Periplo §17) and for some modern scholars too (Colonna 1993, 131; Reusser 2017, 1035; Sassatelli 1993, 186), although some have rather regarded it as Felsina's *epineion* (Cristofani 1988).

How could we classify then the settlement at Forcello, as a city or just a port of trade? Facing the question, we should take into account a historical perspective, which is to say the relationship with Mantua, whose urban feature is widely accepted. Mantua is too close and too chronologically complementary to the period of inhabitation of Forcello to be accidental. Most of the data about Etruscan Mantua are still unpublished but the settlement developed 6 km away from Forcello in a naturally fortified site by lakes, just when Forcello ended (de Marinis 2017, 1523). Forcello was abandoned at the beginning of the 4th century BC, when the transalpine Celts presence in the Po Plain limited the Etruscan trade and re-designed the settlement pattern. Therefore, what we're saying is that, functionally at least, Forcello could be considered the earliest stage of the city historically named as Mantua.

M. R.

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Chapter 15

The Early Iron Age Protourbanisation along the Ticino River and around Como

Raffaele Carlo de Marinis & Stefania Casini

This paper deals with the proto-urban centres of the Golasecca culture during Early Iron Age. We discuss briefly the concept of 'city' according to Weber (1961) and Leroi-Gourhan (1977), useful when applied to European protohistory, as it shifts the focus onto the models of territory organisation with hegemonic centres and the emergence of the signs of a stratified society with economic and social classes. The territory of the Golasecca culture was organised around two main development areas, the proto-urban settlements of Como and Castelletto Ticino. The intensification of trade between Greece, Etruria, and Central Europe encouraged the urban development of these two sites. Analysis of funerary contexts shows that several men clearly distinguished themselves from the other members of society. The funerary equipment, rich in luxury artefacts mainly from Etruria, provides evidence for the birth of an aristocracy and thus a stratified society. The centre of Castelletto underwent a severe decline after the beginning of the 5th century BC, in favour of Como, which reached its maximum expansion, and Milan, a newly founded centre destined after the beginning of the 4th century BC to become the capital of a large territory between Ticino and Adda.

Keywords: Proto-urban centres; Golasecca culture; Como; Castelletto Ticino; Social complexity.

15.1 Introduction

The rise of proto-urban centres in the Golasecca culture can be identified by integrating two sources: the organisation of the territory and the growth of social complexity recognisable through the analysis of funerary contexts. In layman's terms, the concept of "city" refers to the size and physical aspect of a town expressed through monumental architecture or the magnitude of the population. By this definition, however, the city of Sparta could hardly be considered such, since for a long time it consisted of four neighbouring villages. To understand the origin of the urban phenomenon in European protohistory, instead, it is useful to adopt Max Weber's concept of city (1961, 530-533): a centre in which most of the inhabitants are not directly involved in the economic activities of primary production. Very clear and in substantial agreement with the Weberian concept are André Leroi-Gourhan's definitions of civilisation and city: originally the urban phenomenon was characterised not so much by precise morphological aspects as by a functional scheme, an agglomeration that acted as a reference for a group of rural villages organically connected to it (Leroi-Gourhan

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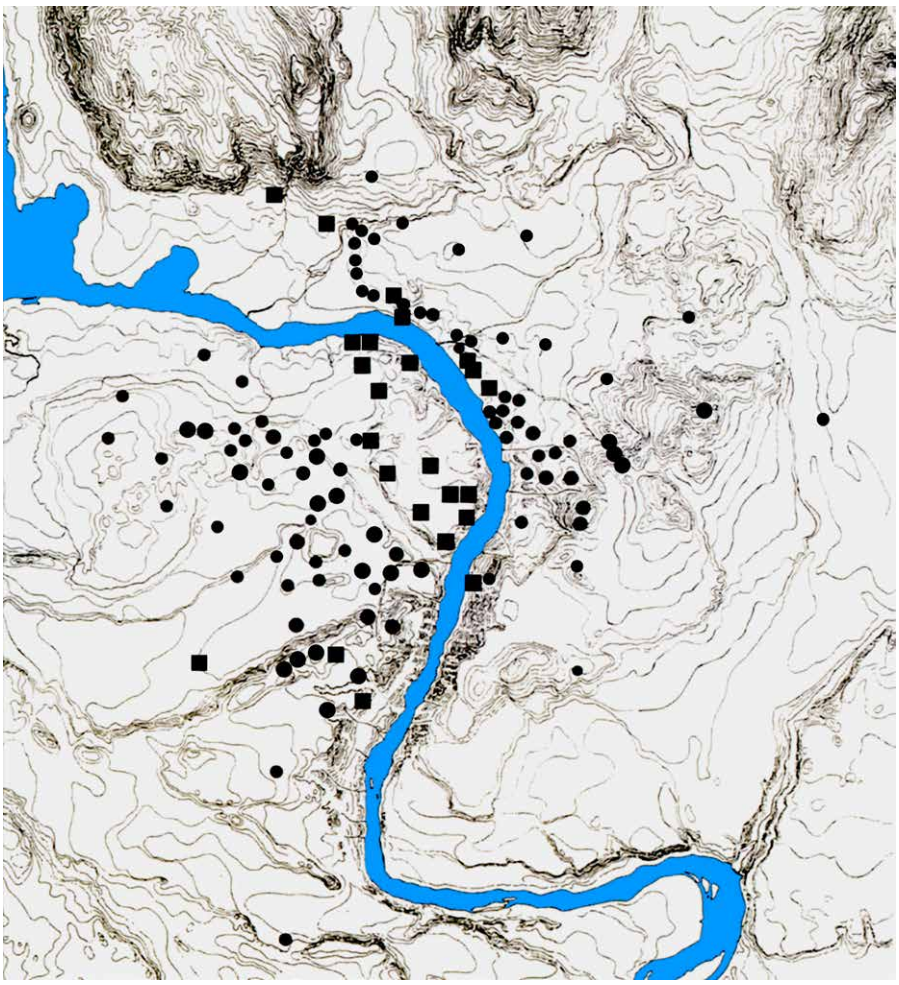

Figure 15.1. The Golasecca-Castelletto Ticino-Sesto Calende area. Distribution of findings: (●) tombs and (■) dwelling structures (authors).

1977, 204 ff.). The food surplus produced by the countryside flowed and accumulated in the city and was consumed by the elites who held military and religious power, the craftsmen who made tools, weapons, ceramics, and luxury ornaments, as well as by the merchants and the servants. Therefore, on an archaeological level, the rise of the urban phenomenon can be observed by shifting our focus onto the models of territory organisation and the emergence of the signs of a society stratified into economic and social classes. The proto-urban centre already plays the role of a city and represents the initial stage and essential functional scheme (de Marinis 1984, 22 and notes 2-5).

The territory of the Golasecca culture was organised around two development areas: one comprising the aggregation of Sesto Calende-Golasecca-Castelletto Ticino (fig. 15.1), along the banks of the river Ticino at its exit from Lake Verbano, henceforth Golasecca area (de Marinis 2017, 198-201); and the second near Como, on the southwestern slopes of Monte Croce (de Marinis 1988; Casini *et al.* 2001). Both settlements were surrounded by several cremation cemeteries and, over time, developed increasingly urban characteristics (fig. 15.7).

For the Golasecca culture, the catalyst for urbanisation can be traced back to the development of cultural exchanges and trade with the Mediterranean world, and ultimately the influences from Etruria (de Marinis 1986), where the so-called urban revolution took place for the first time in Italy during the transition between the Late Bronze Age and Early Iron Age. It is possible to recognise, within Golasecca culture, three archaeological facies (de Marinis 1988, 191-192; de Marinis 2017, 203-206): the Como, the Golasecca, and the Alpine or Sopraceneri, which differ in several aspects of the material culture and burial rites. To better exemplify these divergencies: the situla-shaped urn was frequent in Como but absent in the Golasecca area. Furthermore, at Golasecca a single accessory beaker inside the urn was the norm, whereas in Como it was customary to place more than one beaker beside the urn and the beakers differed in shape (de Marinis 2017). In Como and Golasecca the sole burial rite was cremation, while in the Sopraceneri, after a brief period of bi-ritualism, inhumation became exclusive (de Marinis 2019a).

15.2 The development of social stratification

The occupation of the area around Como began in the advanced stages of the Late Bronze Age, as demonstrated by some findings in the area of its future proto-urban centre, and by groups of graves located N, NW, and S of the Monte Croce, such as Moncucco-Cardano, S.Fermo-Vergosa, and Ca' Morta. Most of the Late Bronze Age graves come from Ca' Morta and the necropolis south of Monte Croce (Rittatore Vonwiller 1966; Società Archeologica Comense 1978). Additionally, some graves have been discovered in the Manzoni quarry (Baserga 1925; for the northern necropolis see de Marinis 1972, Pl. V, Cardano; Pl. IX, 1-5, Villa Nessi; Pl. IX, 12-15, Moncucco; for the NW cemetery see Galli 1904, S. Fermo-fondo Carughi). The same areas where graves and materials belonging to the phase Golasecca I A 1 are frequent, which can be particularly seen at Moncucco (de Marinis 1970, Pl. V, Moncucco, and Pl. VI, Cardano, Vergosa and Villa Nessi). In the Late Bronze Age and beginning of the Early Iron Age, funerary equipment was modest and homogeneous, defined by gender-based distinctions (de Marinis 1988, 203-208): pins, serpentine fibulae, and, in some cases, weapons for men; arch fibulae, fibulae with thickened bow or ribbed fibulae, spindle whorls, and bobbins for women.

Around the mid-8th century BC, we find the first tombs denoting the existence of individuals in possession of considerable economic and political power. The surviving materials from Vigna di Mezzo, recovered in 1877 (de Marinis 1975; de Marinis 1988, 178-179), are nothing more than the tip of the iceberg: the burial must have been a chariot one, signalled by the presence of a pair of bronze horse bits. The grave assemblage included a sheet-bronze amphora with side handles and embossed decoration, a pin with conical head -of the Vadena type-, a bronze knife, a beaker, and a two-pronged long implement. This implement was likely used as a tool for sacrifices or alternatively as a sacred and power *insigne*, similar to the trident found in Etruria at Vetulonia (Colonna 1988, 159, note 165).

A more recent find is the "Tomba del Carrettino" from Ca' Morta, a two-wheeled wagon burial providing evidence of a warlord with the power to access prestigious objects from the Etruscan world, but who retained local traditions more akin to the transalpine region, as indicated by the composition of the drinking set (*amphora*, dipper-cup, and bowl), and the custom of cremation with a wagon. The tomb was discovered in 1950 in the Gini quarry, the southernmost part of the Ca' Morta necropolis (Bertolone 1957; de Marinis 1988, 178-180; de Marinis 2014; Kossack 1957). Kossack (1957, 42) wrote that all the grave goods (the weapons, wagon, horse bits, the service for drinking, and cult cart) indicated the tomb of a warrior who must have acquired a special reputation during his life. In any case, this was a man who distinguished himself from the other members of his community through the manner of burial. The inventory included a pair of iron horse bits of the Platenitz type, a S. Francesco-type socketed axe, a bronze knife of Este type, a sheet-bronze amphora (similar to the Veio-Gevelinghausen type), and a Bologna-type bronze dipper-cup. Additionally, the grave contained two Colmar or Vetulonia B bowls imported from Vetulonia and then brought north of the Alps (de Marinis 2014). One of the two bowls was mounted on a cultic four-wheeled cauldron cart, the *Kesselwagen*. The two bronze angle-sockets from the wagon box, were more similar to central Italic specimens than those from South Tyrol or Western Hallstatt (Egg 1986a, 207; Pare 1992, 100).

Between 675 and 625 BC (Golasecca I C) the formation of a stratified society is even more clearly outlined, with a dominant elite in relation to Etruria, Bologna, Este, and the Western and Eastern Hallstatt regions. A tomb discovered in January 1885 near Grandate (de Marinis 1992) had a bronze lid decorated by embossing and chasing with a group of quadrupeds browsing alternated with phytomorphic motifs, a typical product of the Este workshops. Tomb 16, recently discovered at the new hospital S. Anna of Como, contained a bronze situla, bronze dipper-cup, and an iron sword of the Mindelheim type (Chaume 2017, 92-93; de Marinis 2014, 32).

Concerning phase II A, we must mention the luxurious grave 2 from Grandate-via dei Pradei, discovered in 2011 (Jorio 2017, 40-53). The bronze situla has the rim reinforced with a lead rod, and the bronze lid is decorated by embossing and chasing with two winged sphinxes, a fish, and a lion that is devouring what seems to be a snake; both artefacts derive from the Este workshops (Jorio 2017). The iron sword with a bronze grip (Jorio 2017) is of the Neuenegg type.

In the Golasecca area, Late Bronze Age and Golasecca I A1 graves are missing, while an important concentration of Late Bronze Age graves is located 6 km further south in the Malpensa area (de Marinis 2009f). The occupation of the Golasecca area began with the I A2 phase. Graves of this phase have been discovered in many locations at Castelletto Ticino (Gambari and Cerri 2011), Sesto Calende (de Marinis 2009b; 2009c; 2009d; Grassi 2013), and Golasecca (de Marinis 2009e). The concentration of the population along the banks of the river Ticino developed further in phase I B and even more so in phase I C, when the number of graves increased almost fourfold[1] (fig. 15.2).

1 The statistics are based on the number of G. I C urns published so far and on those still unpublished but present in museum and private collections.

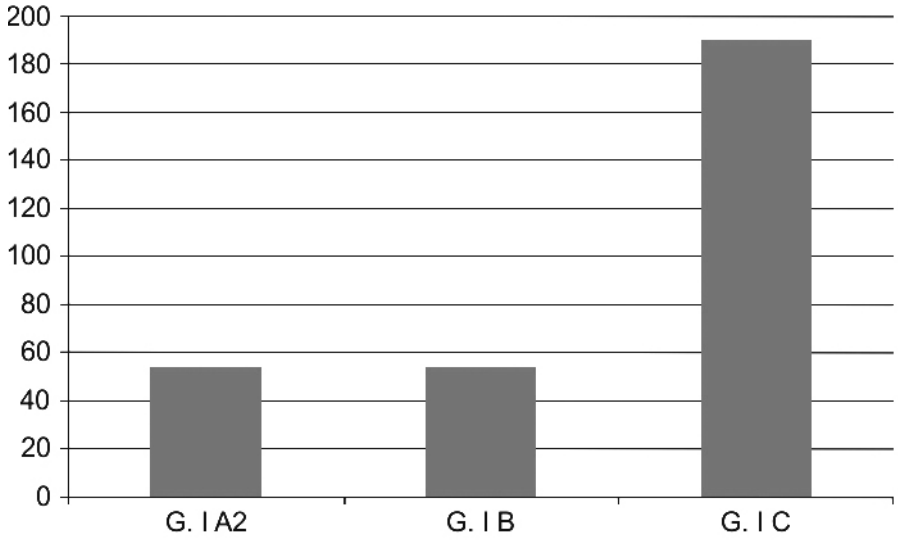

Figure 15.2. The increase in burials between phases Golasecca I A2 and Golasecca I C in the Golasecca-Castelletto Ticino-Sesto Calende area (authors).

	G. I A1	G. I A2	G. I B	G. I C	G. II A	G. II AB	G. II B	G. III A
Golasecca								
Como								
Bellinzona								

Figure 15.3. Comparative table between the settlements of Golasecca-Castelletto Ticino-Sesto Calende, Como and Bellinzona during the Early Iron Age.

Increased signs of relations with Etruria are noticeable, although many of them unfortunately are lacking in context (de Marinis 1986, 55-61). In addition to an Arnoaldi type knife imported from Bologna (de Marinis 2010, 42) and a light bucchero *kylix* of the Rasmussen Ic type (de Marinis 1986), an orientalising *kyathos* discovered in Sesto Calende-S. Giorgio before 1865 is of particular interest (Colonna 1988, 155-157; de Marinis 1975, 253, notes 56-57). The *kyathos* is decorated by carvings with opposed winged sphinxes, a winged griffin, fawns, young deer, a deer with large branched horns, a bovine, and a water bird, with plant motifs acting as a filler (de Marinis and Rapi 2018, 290-291). It is a unique artefact, attributable to the workshops of Vetulonia and manufactured on commission as a diplomatic gift to a foreign chief.

The bronze basin from a tomb discovered in 1884 at Castelletto Ticino-Motto Fontanile is another exceptional artefact (de Marinis 1988; 2019b, 432-434). Perhaps the urn was the basin itself and the fragments of bronze sheet found above it were relevant to its cover. The basin is decorated by embossing with a winged sphinx and a lion with open jaws, which are repeated three times. It has been ascribed by W.L. Brown to the ancient orientalising style of Vetulonia (Brown 1960, 22-26), based on a comparison with the bronze disk from the circle of the Sphinxes. The tomb must date back to phase I C due to the ribbed cist, the beaker, and the iron pin with three globed head, indicating that between the basin and the tomb there is a temporal gap of a generation.

The flourishing economy brought about by the trade with Etruria and the regions beyond the Alps is reflected in the grave goods. The two warrior graves with two-wheeled chariots from Sesto Calende are emblematic. Both contain lavish grave goods, including pairs of horse bits, horse trappings, a Kurd-type decorated bronze situla, bronze helmets, Etruscan bronze greaves, Western Hallstattian iron antennae daggers, iron spearheads, and abundant pottery (de Marinis 1975; 2009a; 2017, 211-216). The second warrior grave is a proper 'princely' tomb, exceptional for the Golasecca culture. It dates to a generation after the first, suggesting that these could be the burials of a father and son, forming a dynasty, who exercised authority in the proto-urban Golasecca area.

The horse harnesses and metal components of the chariot from the second tomb are relatively well preserved and their manufacturing reveals Etruscan technologies transmitted to the West Hallstatt world via the Golasecca culture (cf. naves of the Ins and Erkenbrechtsweiler types, and wagons of types 4 and 5, after Pare 1992). In contrast, the horse-gear resembles models found throughout the Hallstatt world, but known in Italy only within the Golasecca area (de Marinis 2009a,

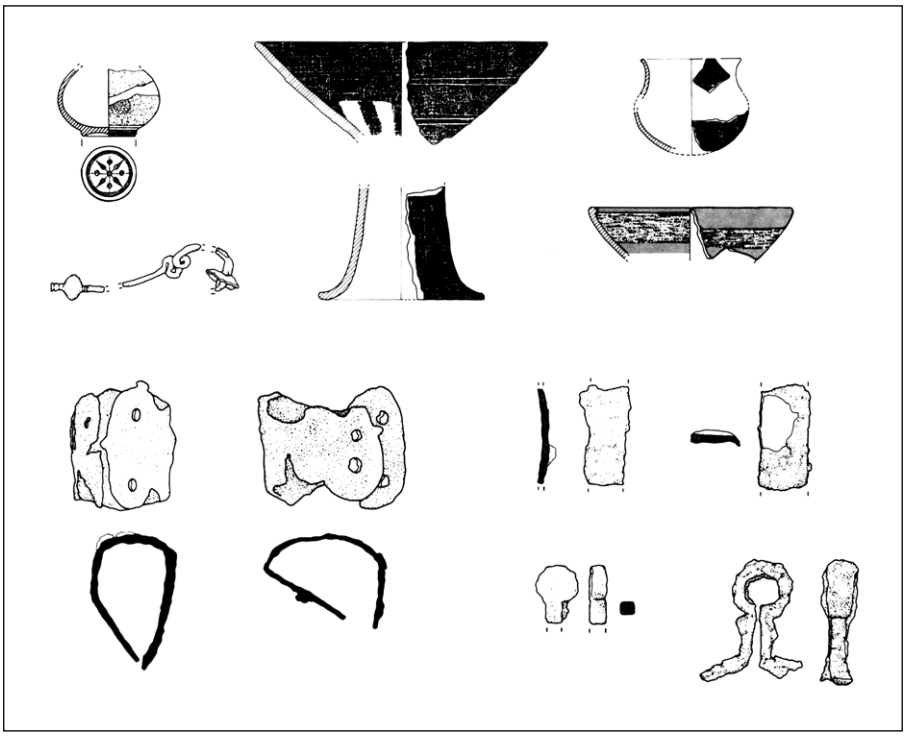

Figure 15.4. Funerary assemblage from the grave of Castelletto Ticino-Crocetta; it was probably a chariot grave and there was inside a protocorinthian *aryballos*.

194-198; Egg 1986b). This diversity of influences not only illustrates the role of the Golasecca communities in the trade between the Italian peninsula and central Europe, but also how local leaders took control of these exchanges, adopting the customs and ideologies of the aristocracy with whom they came into contact.

Two other chariot tombs have been discovered in the Golasecca area at Castelletto Ticino-Crocetta but unfortunately they have been looted, with few objects having been recovered, including the fragment of an Etruscan-Corinthian *aryballos* (fig. 15.4; de Marinis 1997, 31-32; Gambari 1988, 74). It is therefore evident that in the Golasecca area the men at the top of society were buried in chariot tombs.

15.3 Settlement research at Castelletto Ticino

Although excavations have been carried out in the Castelletto Ticino settlement, very little has been published and therefore we are not able to define the site's characteristics and development over time. A first map of the Castelletto settlement was published by de Marinis (1992; for an overview of the settlement see Gambari 2000, while some more detailed reports are in the *Quaderni della Soprintendenza Archeologica del Piemonte* 4, 195, 26-27; 5, 1986, 188-189; 11, 1993, 262-263; as well as in Ruffa 1999, 29-36; 2001, 13-28). Some areas with dwelling structures along the eastern bank of river Ticino are better documented than those of Castelletto Ticino (Grassi and Mella Pariani 2009) (fig. 15.2).

The Castelletto main structures date back to the 7th and 6th centuries BC. It seems that in most ancient phases the structures were predominantly built of wood, while in the 6th century BC the houses had a stone perimeter and a wooden floor spread over a cobblestone crawl space (Ruffa 2001).

After about 490 BC we see a series of changes largely due to the blossoming of trade between Padanian Etruria and Central Europe (de Marinis 1988). Along with an increase in valuable imports, Etruscan cultural influence is apparent in many aspects of Golasecca III A (*e.g.* some pottery shapes and colour and the use of the Certosa fibula), although continuity was preserved in ceramic production and dress accessories. In the 5th century BC, the Golasecca culture experienced an intense flourishing and vitality, demonstrated by the vast and widespread population distributed throughout the territory (de Marinis 1981). However, the Golasecca area was an exception and declined suddenly (fig. 15.5), without evidence of violent destruction, although discoveries at Sesto Calende-via Marconi indicate that the area was not completely abandoned (Grassi 2014; Grassi and Mella Pariani 2009, 35-43). The presence of Attic pottery (Casini 2007, 100-101, 115, nr 9 and 10) and a bowl with La Tène stamped decoration (fig. 15.10) (Binaghi 2000) document the continuing importance of the Ticino route for the trade.

After Gambari (2000) it is speculated that the end of the Castelletto settlement was caused by the nearby lake's flooding: water rose up to 14 m above the current average. At the same time incursions of groups of transalpine warriors dedicated to looting began in the area. However,

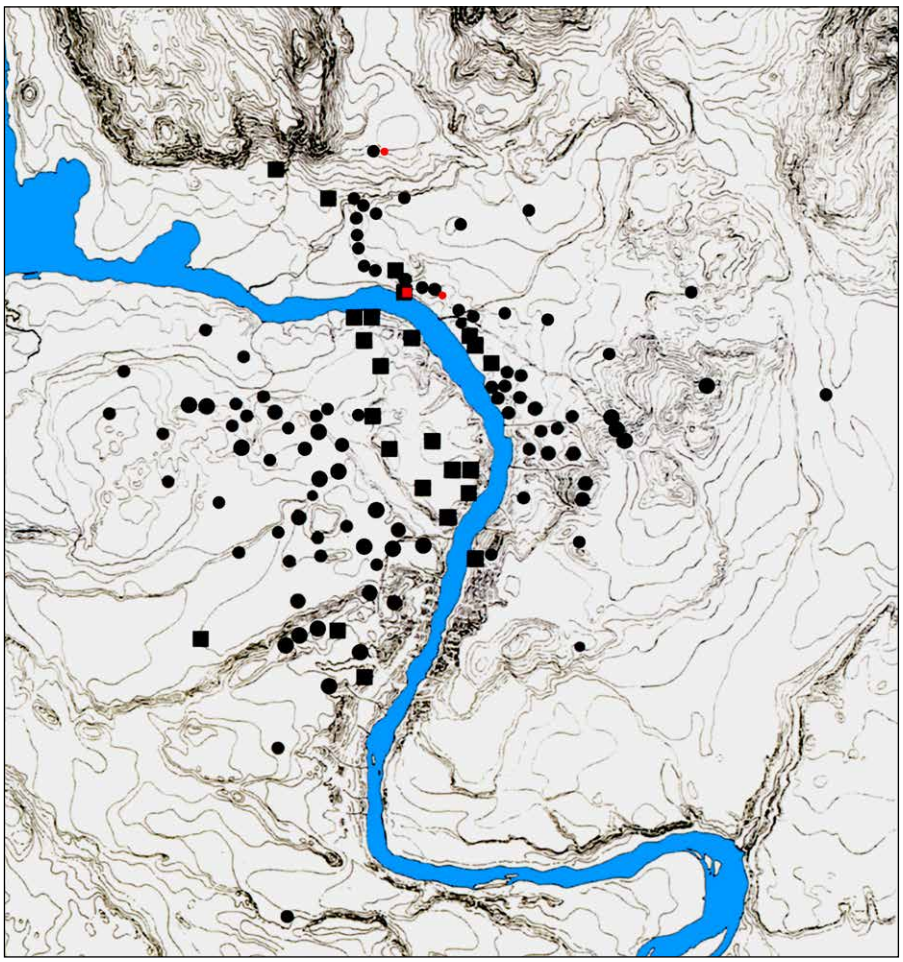

Figure 15.5. The Golasecca-Castelletto Ticino-Sesto Calende area. Distribution of the findings: (●) tombs and (■) dwelling structures. The few findings of G. III A are marked in red.

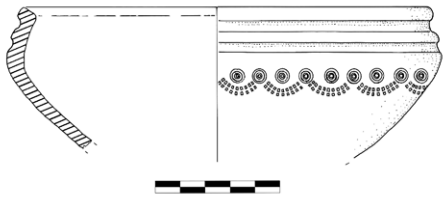

Figure 15.6. A bowl with a La Tène stamped decoration from Sesto Calende, via Marconi (drawn by R.C. De Marinis).

the lack of consistent evidence seems to indicate that these claims are largely baseless. The decline of the Castelletto settlement was instead the consequence of historical events. The foundation of the Etruscan *emporium* in Genoa and the creation of a new trade route which involved the new settlement of Milan,towards which the population of the Castelletto district probably flowed at the beginning of the 5th century BC, marked the decline of the district. The rise of Milan would lead to an important centre that survived the Gallic invasion in 388 BC.

15.4 The Como settlement complex

The Como settlement benefited from this scenario, undergoing a phase of expansion in the 5th century BC, also observable in the Sopraceneri, at cemeteries around Arbedo, in the Magadino plain, and in the Mesolcina valley at sites such as Castaneda (Nagy 2012), and Mesocco (Schmid-Sikimić 2002) a stopover before the San Bernardino pass, which gave access to the upper Rhine valley. A remarkable quantity and variety of bronze vessels were imported from Bologna and southern Etruria, including *Schnabelkannen*, *stamnoid situlae*, basins, *kyathoi*, and ribbed cists with two side handles of Certosa type (de Marinis 2000). The range of imports from Padanian and Tyrrhenian Etruria was undoubtedly more extensive than it appears from just the grave goods, a good example being the silver didrachma, of the Populonia mint, found at Prestino-via Isonzo (de Marinis and Casini 2018).

The protohistoric settlement of Como (fig. 15.7) in the 5th century BC is the final result of a process that started during a later phase of the Late Bronze Age, with the first small villages revealed by the presence of groups of tombs and stray finds (Casini *et al.* 2001). In the inhabited area, the distribution of Golasecca I pottery,

even in secondary deposition, allows for the recognition of at least four areas of concentration: Leno/San Fermo, Prestino-via Isonzo La Pesa, Rondineto, and Pianvalle. Just south of these sites there are some Golasecca I A1, I A2 and I B burials: the small groups of graves from via Mantegna and via Tito Livio (Caporusso 1995-97, 19-23), two graves from Cascina Fontana (de Marinis 1972; Giussani 1936), the graves from via Rigamonti (Mordeglia 2017), and the tomb of Vigna di Mezzo (cfr. *supra*). Their arrangement in clusters allows for the first settlement pattern to be outlined, which consisted of small villages close to each other. Two structures that have yielded a great deal of Golasecca I pottery include a drainage channel (es 145) (fig. 15.8) and a large refuse pit (es 125) (fig. 15.9), brought to light in Via Isonzo-La Pesa (Vannini 1996-97). Furthermore, a fragment of a Villanovan lozenge belt was recovered from the fill of the drainage channel (de Marinis 1999, 606 ff.). No further burials dating back to the 7th century BC (Golasecca I C) are observable within the inhabited area, indicating that the previous small settlement cores began expanding and undergoing a process of synoecism that would become more substantial in the 6th century BC.

The 19th century excavations indicated that many of the buildings carved into the rock at Rondineto were in use during the Golasecca II period, such as the so-called Great Chamber (Luraschi *et al.* 1968-69, 229). More recent excavations confirmed that many of the 5th century BC buildings were already inhabited during the 6th century BC, like the "Leno enclosure" (Luraschi *et al.* 1968-69, 219-220). At S. Fermo-via Rigamonti (Jorio 2014, 150-160) a complex of houses was founded at the beginning of 6th century BC, with continuous occupation until the 5th century BC. Archaeological evidence shows a series of renovation phases and changes to the original plan, including some modifications following a fire.

The excavation of building no. 1 in via Isonzo La Pesa allowed for the documentation of a horizon dating to the 6th century BC. Very few materials came from the lower levels of the dwelling. Almost all the artefacts attributable to this period were found among the cobblestones behind the house in an open space (fig. 15.10), created as a result of the structure's cleansing before its reoccupation in the mid-5th century BC. Pit no. 125 and ditch no. 145 produced Golasecca II period sherds (figs. 15.9, 15.10; Vannini 1996-97), together with Golasecca I period findings (fig. 15.8), these most likely collected here after the cleaning of some nearby structures.

In the 5th century BC, the Como settlement had its wider expansion and was functionally planned with diversified spaces for residential, artisanal, and market activities, as well as religious practices. Infrastructure for the community was built, including tracks for wagons, large streets, paths with steps excavated into the rock, canalisations for water drainage, sources adjusted for water supply. Additionally, there seem to be the signs of a political authority, recognisable in some epigraphs: the so-called Prestino stele (Motta 2000) and three bowls with the name *Sekezos* inscribed on the bottom from via Mantegna (de Marinis 2001, 63-70). Furthermore, the many graffiti inscriptions on ceramics spread throughout the settlement testify to the fact that the use of writing was common (Morandi 2004, 619-649, nrs. 147-199).

The imported materials, especially pottery from Athens (Casini 2007, 102-105, nr. 11-102) and from the Etruscan Po Valley (Casini *et al.* 2001), are numerous and distributed in the whole settled area, with some sites having a higher concentration, which highlights the residential cores of the social elites, among which Rondineto clearly stands out. Here the so-called "camera in roccia" (rock chambers) are also concentrated, *i.e.* houses partially excavated in the rock, probably with a second floor that exploited the natural slope of the hills. Other simple drystone walls were presumably the basement of wooden structures, which are widespread throughout the settlement. Rarer are the "*recinti*" (enclosures), large houses with a sub-basement. A building of this sort (structure no. 3) was excavated at Prestino in via Isonzo-La Pesa (Casini *et al.* 2001) and, through the analysis of pottery, it was possible to establish that it had two phases of occupation during the 5th century BC.

In the same settlement context, the aforementioned structure no. 1 (Casini *et al.* 2001), seems to have been abandoned in the first half of the 5th century BC, but re-occupied from the second half of the century onwards. The most interesting evidence concerns its final occupation phase, which can be dated to La Tène B (Casini *et al.* 2001, 121-128), the chronology was determined by the presence of goblets of type E, F, and G. This contradicts the previous notion that the inhabited area was exhausted within the first decades of the 4th century BC, as a result of the Gallic invasions. The settlement likely suffered a contraction, but we know today that there were two areas still inhabited, Prestino and Rondineto, also corresponding to the oldest cores from which the settlement expansion began (Casini *et al.* 2001, 133-136).

The coincidence of the general depopulation of the Castelletto settlement with the rise of an important settlement in Milan (fig. 15.11), to which the inhabitants of the Low Verbano may have relocated, has been emphasised many times (Casini and Tizzoni 2015; de Marinis 1988, 237-244). The study of the archaeological deposit excavated at via Moneta provided a date of the 5th century BC during the earliest phase of the settlement (Casini and Tizzoni 2015, 74-86; Ceresa Mori 2015), which went through an evident expansion from the second half of the century onwards. Its development had no break in continuity, becoming a Gallic *oppidum* and then a Roman city.

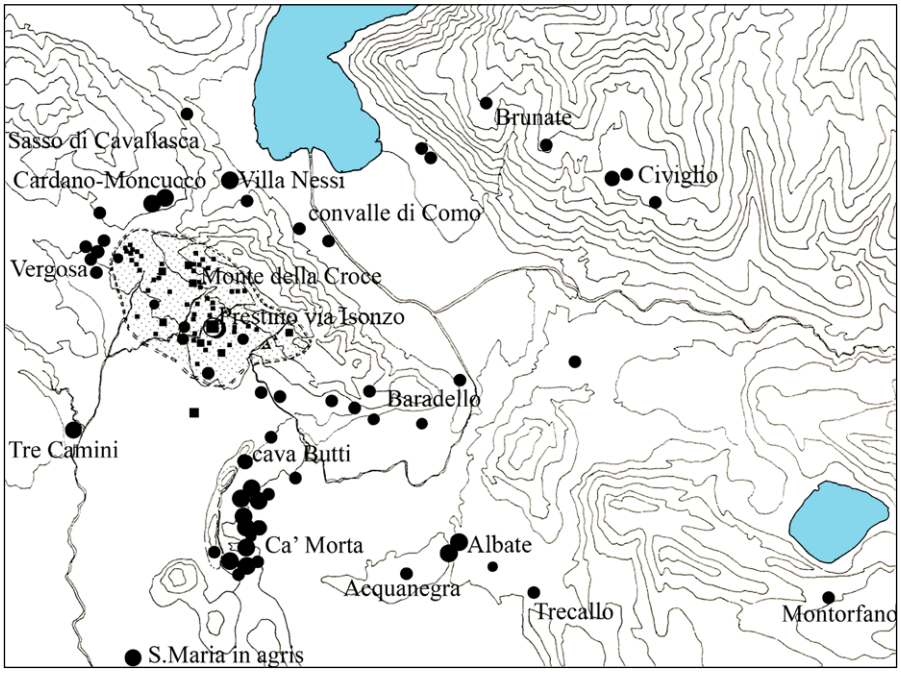

Figure 15.7. The protohistoric settlement of Como. Distribution of findings: (●) and (■) dwelling structures of the Early Iron Age.

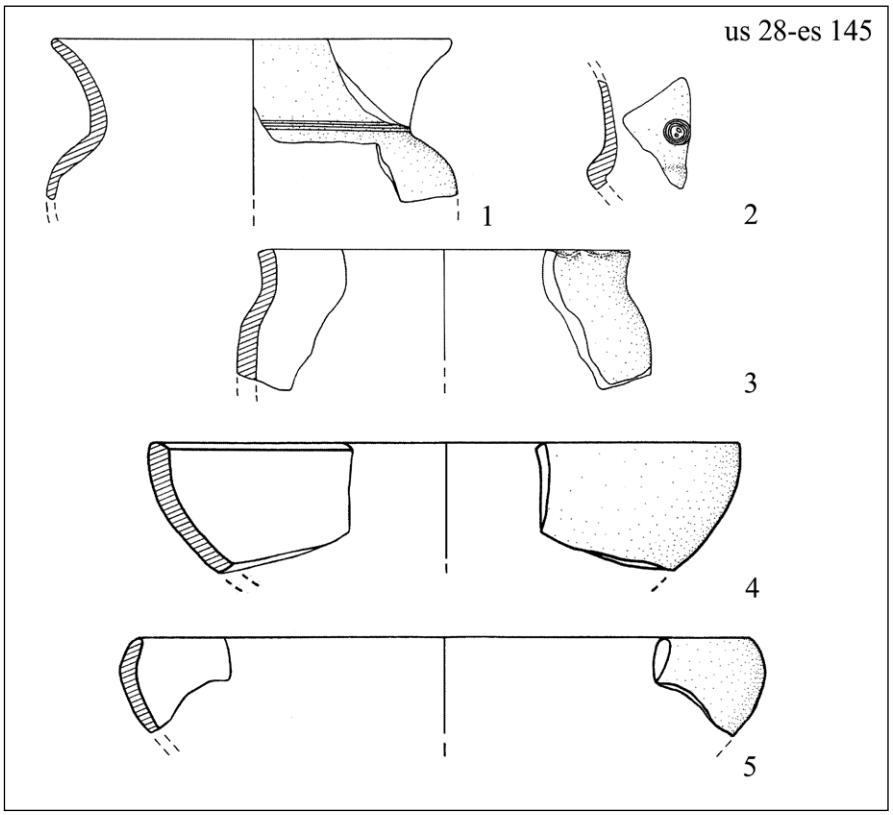

Figure 15.8. Via Isonzo-La Pesa (Como). Selection of G. I C ceramic found inside the channel es 145 (redrawn from VANNINI 1996-97, nn. 199, 201,290, 317, 320; 1-2, 4-5, fine ware; 3, coarse ware; 1:3).

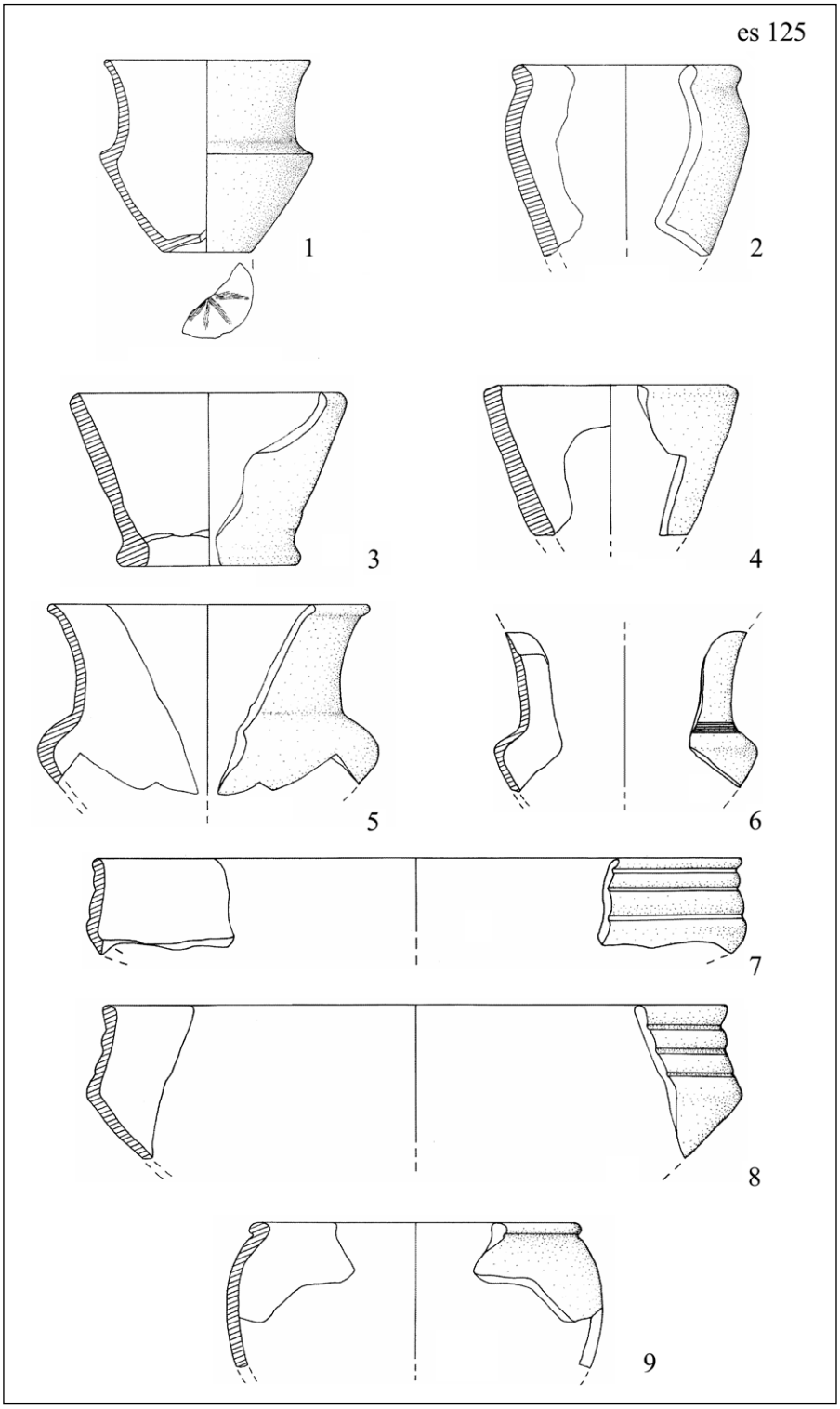

Figure 15.9. Via Isonzo-La Pesa (Como). Selection of Golasecca II ceramic found inside the pit es 125 (1-5 e 9, by S. Casini; 6-8, redrawn after Vannini 1996-97, nn. 33, 35, 91 e 320; 1, 5-8 fine ware; 2-4, 9 coarse ware; scale 1:3).

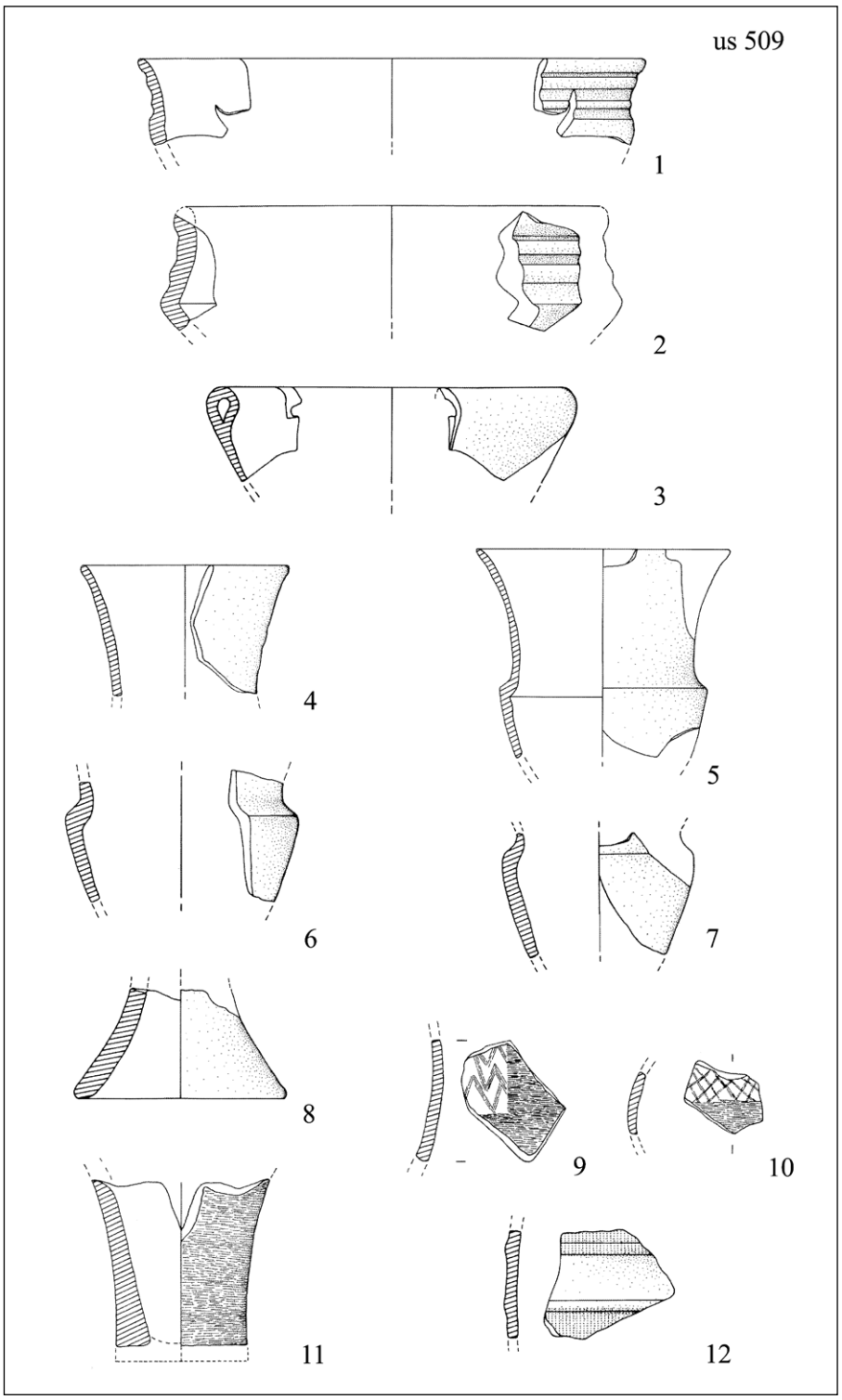

Figure 15.10 Via Isonzo-La Pesa (Como). Selection of Golasecca II ceramic and bronze objects found in level US 509 (by S. Casini; all fine ware; scale 1:3).

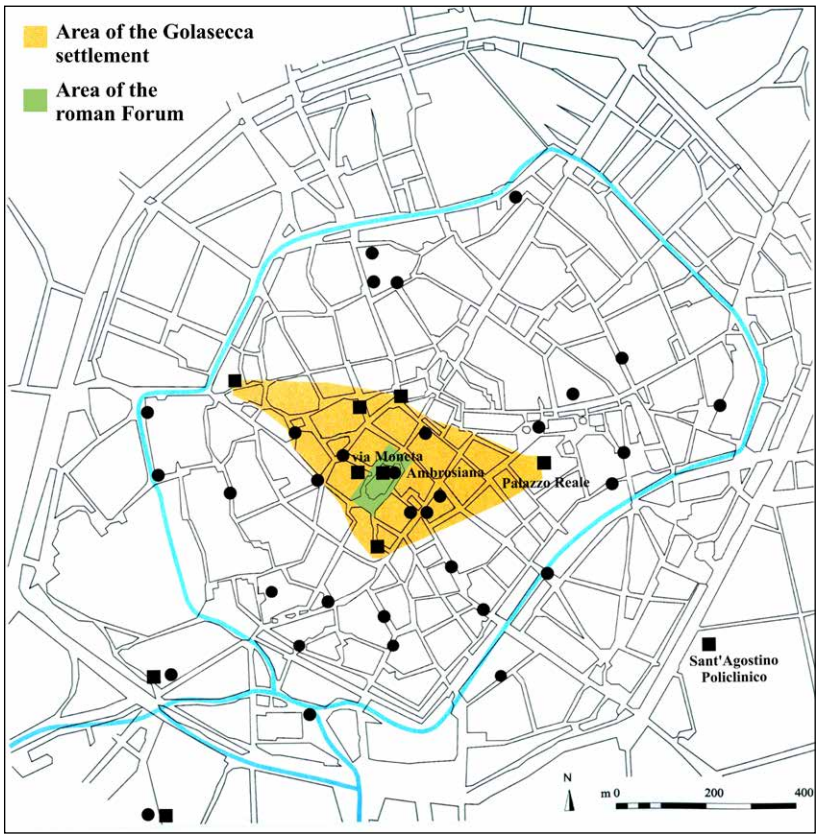

Figure 15.11: Plan of the centre of Milan: (■) findings of Golasecca Culture; (●) findings of La Tène B and C (redrawn after Ceresa Mori 2004).

The 5th century BC settlement was nearly 17/20 ha in size. Cemeteries were at S. Antonino, the current General Hospital, to the southeast and probably near S. Pietro in Sala in the current Wagner square, to the northwest (Casini and Tizzoni 2015, 69-74). During the pre-Roman phases, there were rectangular wooden buildings and a metal workers' district operating from at least the 4th century BC (Cucini 2015). In the area near where the Roman forum was later built, there was possibly a sacred area, as characterised by the finding of simulacra fibulae, vessels containing offerings put inside pits, and a stone with the inscription *Mesiopano/ Mesiolano*. The latter was reused inside the Roman Republican wall in the nearby via San Vito, which was possibly originally located in this sacred place[2].

2 S. Casini, A. Fossati and F. Motta are now studying the inscription, having made a new tracing directly on the stone that will be soon published with a new interpretation. For the moment the last edition of the epigraphs of via San Vito is due to Gambari and Solano 2018, who accept the previous interpretation as a milestone.

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Chapter 16

The First Results of Geophysical Prospections Using the ADC Method on the Proto-urban Settlement Site of Como, Spina Verde

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This article presents preliminary results of the first geophysical surveys and a rescue excavation in the area of the extensive late prehistoric Early and Late Iron Age proto-urban settlement of Como/Comum on the Spina Verde ridge towering over the present town. Two short susceptibility surveys demonstrated that this impressive site can be successfully prospected using both geomagnetic and georadar technology and above all by combining their results. We initially demonstrated the susceptibility of the Spina Verde ridge for geophysical prospection in the environs of the excavated Pianvalle site. The results of the following survey of a meadow on the Via Isonzo were remarkably clear, and if the structures are indeed prehistoric, they indicate the presence of a monumental "Casa Alpina"-like cellared building and possible rectilinear walled enclosures. Complementing these findings are the results of a rescue excavation monitored by the Soprintendenza for the province of Lombardy in the Via Ronchetto. Here, the massive walls of a cellared alpine-style building were recovered. We hope to continue surveying in prehistoric Como in order to make a comprehensive plan of this remarkable site.

Keywords: Como; Proto-urban site; Iron Age; Geophysical prospections; Ground-penetrating radar application; ADC – method, Monumental structures; Casa Alpina.

16.1 Introduction: the project

The site of the later prehistoric, proto-urban conurbation Como/*Comum* is unique in northwest Italy because in contrast to contemporary sites, such as Sesto Calende, Bergamo, Milan or Genoa which were subsequently submerged beneath centuries of later urban development, large portions of Pre-Roman Como remain intact. The vast settled area which covers a 2x1 km large expanse on the southwestern flanks of the Monte Croce/Spina Verde spur (De Marinis 1986, 37) was never resettled after the population was moved to *Novum Comum* on the edge of the lake in the 1st century BC. And despite much of its area being engulfed by Como's explosive post-war suburban expansion a large part

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 257-274.

Figure 16.1a: Location of survey areas in 2018: 1. Pianvalle; 2: Via d'Annunzio; and 3. rescue excavation Via Ronchetto. 1b (opposite page). Map of Como, Spina Verde with the Iron Age settlement (yellow), cemetery locations (orange dots), and survey and excavation locations (red), the extent of fluvial and lacustrine sedimentation (blue), indicating the possible original extension of prehistoric Lake Como (1a: after www.http://spinaverde.it/main/mappa-parko; 1b: map L. and G. Nebelsick based on Gioacchini *et al*. 2008, 19 fig. 23; geological map of Como: www.http://commune.como.it/export/sites/default/it/doc/pgt/document-di-piano/carte-della-geologia).

of it lies undisturbed and protected by the Spina Verde Regional Park, which was founded in 1983. While more than a century of archaeological research makes it possible to appreciate the outlines of this impressive settlement[1], there have, to date, been no attempts to reveal the internal organisation of the site with systematic non-destructive

1 See the map of the sites of the protohistoric settlement in Como enclosed in Società Archeologica Comense ed 1986. The site numbers on this map will be referred to as "SAC 1986 nr." in the following text.

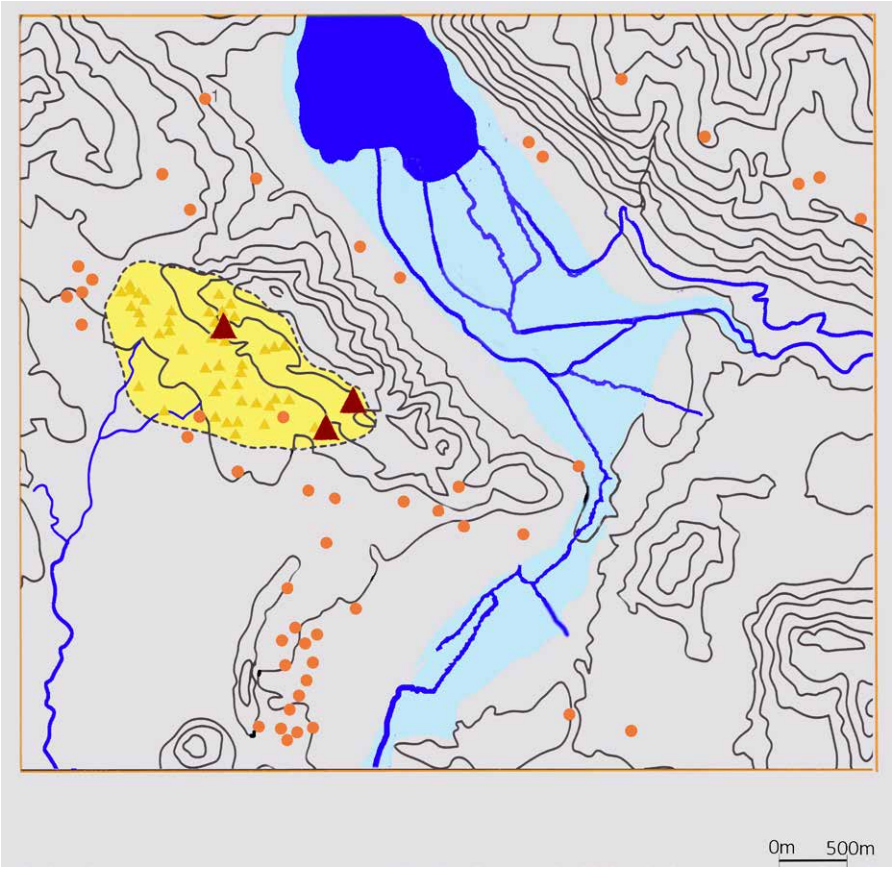


Figure 16.1b

surveys. It is our long-term aim to address this problem. In this article we introduce the results of two geomagnetic susceptibility surveys conducted in 2018 as part of a joint German-Italian-Polish research project[2] at two locations on the slope of Spina Verde above the town of Como. The location (fig. 16.1a-b) of the first one-week survey in March 2018 was carried out in the Pianvalle Archaeological Park on the upper western slope of the ridge[3], the second two-day campaign was carried out in late October 2018 in a meadow on the lower slopes of the Monte Croce on the Via Isonzo in the Rondineto area of Como-Prestino.

L. N., C.M.-N, I. B., A. V., B. G., F. W.

16.1.1 Pianvalle

The Pianvalle site was discovered in 1968 and initially excavated by Ferrante Rittatore Vonwiller in 1971 followed by Nuccia Negroni Catacchio in 1976-1979 (Negroni Catacchio 1981; Negroni Catacchio *et al.* 1986; Negroni Catacchio 2019) revealing a settlement complex beginning

2 The project partners are Carola Metzner-Nebelsick (Institute for Pre- and Protohistoric Archaeology and the Archaeology of the Roman Province, Chair for Pre- and Protohistory, Ludwig-Maximilians-Universität Munich, Ines Balzer (German Archaeological Institute, Rome), Louis D. Nebelsick (Archaeological Institute, Cardinal Stefan Wyszyński University, Warsaw Poland), Alessandro Vanzetti (La Sapienza, Università di Roma) and the Soprintendenza Archeologia Belle Arti e Paesaggio for the provinces of Como, Lecco, Monza and Brianza, Pavia, Sondrio, and Varese (Barbara Grassi). The pilot project was financed by the LMU Munich, the German Archaeological Institute, Rome, and the UKSW, Warsaw.

3 Members of the survey team were: Ines Balzer, Carola Metzner-Nebelsick, Louis Nebelsick, Marion Scheiblecker (Faculty of Geophysics, Department of Earth and Environmental Sciences, and the Institute of Near Eastern Archaeology, Ludwig-Maximilians-University Munich), Alessandro Vanzetti, Dariusz Wach (Archaeological Institute, Polish Academy of Sciences Warsaw), Fabian Welc (Archaeological Institute, Kardynal Stefan Wyszyński University Warsaw, Poland); with student aids Carl Göderz (LMU Munich) and Aurora Palermo (La Sapienza, Università di Roma). We were generously supported and assisted by the director of the Spina Verde Park authority Vittorio Terza, whose representative Marco Pomina advised us on the archaeology of the area, helped us in clearing undergrowth, and supervising visitors.

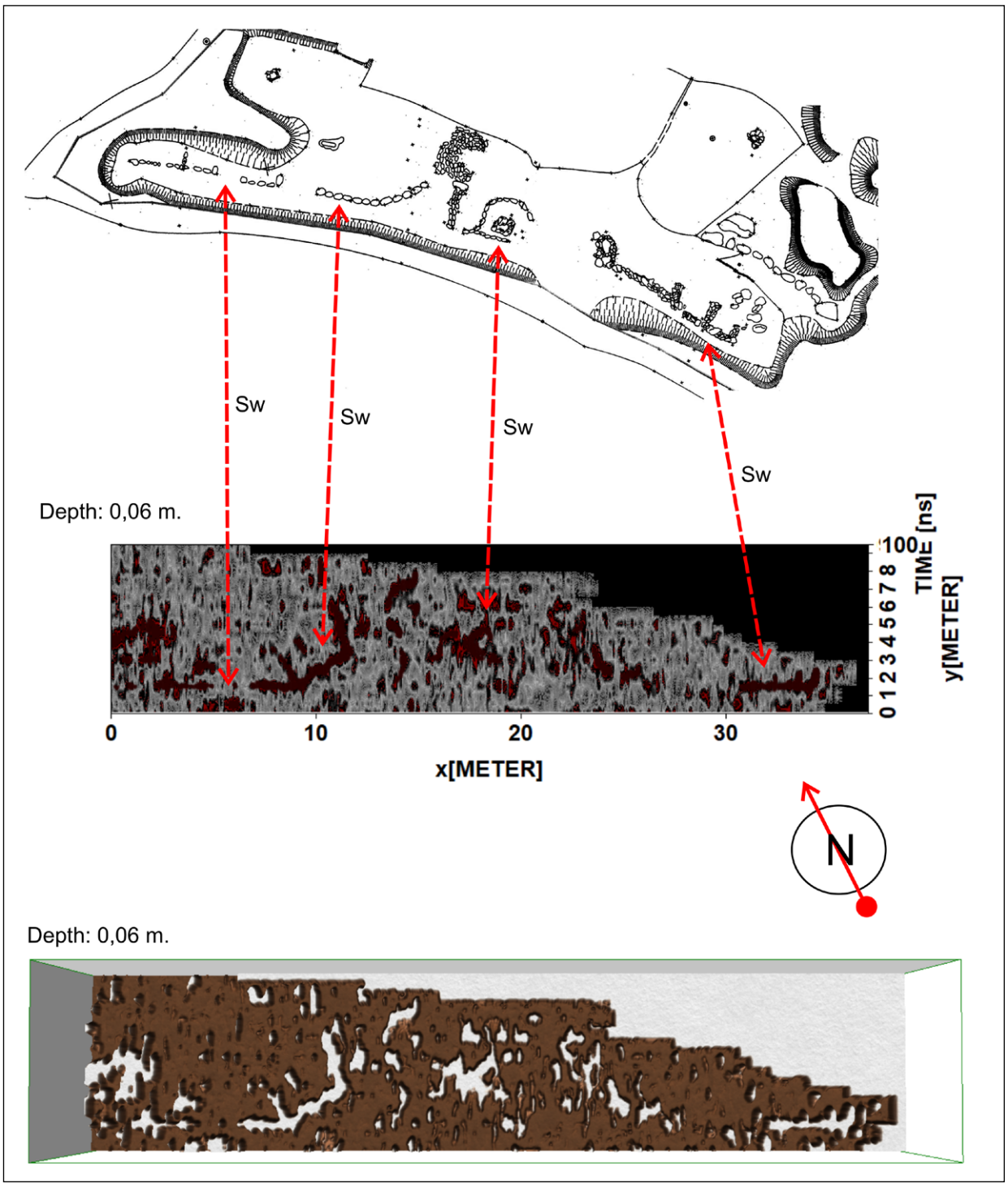


Figure 16.2. Polygon 1 of the March 2018 survey in an excavated area next to the rock carving. The stone structures (SW) which are still partially visible are clearly shown on the GPR-image (GPR-image: F. Welc; excavation plan after Molteni 2003, pl. 8).

in the 9th century and climaxing in the 6th to 4th centuries BC. A large multiphase building complex with boulder and dry-stone rubble foundations was revealed surrounding a large exposed stone surface decorated with what are likely to be Copper to Bronze Age petroglyphs (Negroni Catacchio and Priuli 1992; Priuli 1986). The trenches of the excavations were kept open and the partially restored foundations, which are explained by pedagogical plaques, are one of the main attractions of the Spina Verde park. To date, La Tène material and features from the site have been published (Negroni Catacchio 1982), as has the surprisingly large amount of high-quality Attic pottery (Casini 2007). Particular attention has been given to evidence for metallurgical activities recovered from the site (Negroni Catacchio *et al.* 1983; Roncoroni 2013).

We initially chose the environs of the excavations at Pianvalle in order to test the susceptibility of various geophysical methods on the Spina Verde ridge. By working from the known to the unknown, we knew that there were substantial prehistoric structures at this site whose margins remain unexcavated. These include various stone and boulder foundations of buildings but also kilns abutting the well-known rock carving (Negroni Catacchio *et al.* 2019). Much of the surroundings which were once groves and gardens, are now overgrown, which with thick bushy vegetation and/or are located on steep slopes. Both make geophysical surveying difficult with the exception of an area currently used as a parking and picnic site just to the north of the petroglyphs. Fabian Welc conducted the survey on Pianvalle using ground-penetrating radar. He and his assistant, Dariusz Wach, also used a Bartington Fluxgate gradiometer (type Grad601) for an accompanying magnetometer-prospection to cross-check the results of the GPR-measurements. Marion Scheiblecker applied the cesium Geometrics G-585 magnetometer as total field magnetometers using a duo-sensor configuration for the flat parking/picnic area. Seven prospection areas, *i.e.* polygons were selected: 1. the excavated area adjacent to the rock carvings and immediate surroundings; 2. an excavated area with visible stone architecture; 3. the open area, used as a parking and rest area east of trench 2, not excavated before; 4. a flat area on a hilltop above the excavated areas; 5. and 7. narrow polygons next to area 1; 6. small triangle east and above area 1.

L. N., C.M.-N, I. B., A. V., B. G., F. W.

16.2 Results of the March survey

Volcanic stones used in the foundations of the Iron Age structures as well as the uneven surface of the excavated areas, thick vegetation, and steep gradients of the terrain outside it made using the Geometrics G-585 magnetometer problematic. Best results were obtained on the flat and open parking/picnic facility adjacent to the petroglyph rock, where features could be isolated that Marion Scheiblecker, who carried out the survey at this point, has tentatively interpreted as anthropogenic features, possibly putative postholes or pits.

Ground-penetrating radar (GPR) proved to be the most effective method of prospecting this site. Preliminary results of the geophysical prospection indicate that despite the aforementioned problems, large anthropogenic stone structures are indeed visible under the present topsoil as well as under higher lying archaeological structures in excavated areas (fig. 16.2). In particular, in area 2 the GPR was able to show both the depth of the bedrock in what was a heavily silted hollow as well as the clearly anthropogenic structures at different depths of its fill, showing that there are still undisturbed archaeological deposits underneath the level reached by the older excavations. Thus, we felt confident that under more optimal circumstances, *i.e.* open or semi-open terrain, which was previously cleared of undergrowth, we would be able to significantly contribute to understanding the structure of the upland settlement on the Spina Verde ridge using geophysics. Moreover, it should also be possible to reconstruct other, now disconnected, anthropogenic elements of the paleogeography of the site (*i.e.* sunken roads, water channels, etc.) (Alivernini 2008; Roncoroni 2016).

In conclusion, in this short preliminary survey we achieved our goal of showing that magnetic and GPR prospection can significantly enhance our picture of the prehistoric occupation on the western flanks of the Spina Verde, even in areas previously excavated; as it is generally possible to interpret structures at different depths using GPR. Parallel to the geophysical survey in this campaign the rock surface with its petroglyphs were photographed with pass-point for a 3D-modelling with Structure-from-Motion[4].

In October 2018, we extended the scope of our preliminary survey by asking Fabian Welc to investigate an open meadow on the archaeological settlement site of Como-Prestino on the flanks of the Spina Verde/Monte della Croce ridge which lies next to known areas of dense prehistoric settlement.

16.3 Searching for the prehistoric settlement at Como-Prestino using geophysical Amplitude Data Comparison method (ADC)

Local geological settings: The steep 1155 m high Spina Verde/Monte della Croce massif is a pronounced ridge which rises above Como's historic centre and was the site of intensive pre-Roman settlement (fig. 16.1b). It is composed mostly of Tertiary sedimentary rocks which are characterised by conglomerates irregularly alternating with marls and sandstones. Most of these

4 Carola Metzner-Nebelsick, Ines Balzer and Alessandro Vanzetti documented the rock carvings for a Structure-from-Motion animation.

Figure 16.3. Location of measurement polygons no. 1 and 2 with direction of the GPR and magnetic profiling (source: Google Earth, graphics F. Welc).

rocks were transported by a palaeo-river running along the course of the modern river Lario. At the end of the Pleistocene, numerous surfaces were additionally covered by mixed deposits of rock fragments, gravels, sands, and silt (Bernoulli *et al.* 1989; Bini *et al.* 1998; Comerci *et al.* 2007; Giardina *et al.* 2004).

16.3.1 Surveying methodology and introduction to ADC method

On a rainy 30th of October 2018 two neighbouring sites (measurement polygons) were surveyed by Fabian Welc assisted by Louis Nebelsick (both UKSW) and Dario Monti (University of Bologna) using Ground-Penetrating Radar (GPR) and a gradiometer. The measurement polygons were located in a meadow on a narrow plateau at the foot of the Monte Croce, in the Prestino suburb of Como city on the property of Fabio Brusa[5]. This meadow lies between the Via Isonzo and the steep mountain slope (fig. 16.3). The first polygon was located on the top of a low flat-topped mound with a stepped perimeter, which was covered by loose stones and small fragments of prehistoric pottery (fig. 16.4a). The second measurement polygon was located at the southeast foot of this mound and comprised of a flat terrace which was a bordered by an embankment with a height of approximately 1 m at the north and the retaining wall of the Via Isonzo to the south. It is orientated on a NW-SE axis (fig. 16.4b). During the survey two geophysical methods were applied and used interchangeably, *i.e.* GPR and a gradiometer. The Amplitude Data Comparison (ADC) method was applied during the data processing and interpretation of the results (Welc *et al.* 2019).

GPR is a very effective method for shallow subsurface geophysical prospection. The ground-penetrating radar device emits electromagnetic waves with a high and ultra-high frequency (from 50 MHz to 1.6 GHz) via a transmitting antenna. The receiving antenna set registers impulses reflected directly from underground objects or lithological boundaries, which differ in electrical properties (dielectric constant). The maximum range of the geo-radar prospection depends mainly on the nominal frequency of the transmitting antenna and the electrical resistivity of the local geological medium (Conyers 2013; 2016; Welc *et al.* 2019).

An advanced ground-penetrating radar system (Groundexplorer Abem Malå produced by Malå Geoscience Förvaltnings AB) was used during the Como survey. The prospection was carried out with an application bimodal-screened transmitting antenna with the frequency of 450 MHz. All obtained GPR reflection profiles were processed using professional GPR software (ReflexW). The following processing procedures were applied to the enhancement of useful signals in relation to the background (noise): running average (calculation

5 We thank Mr. Fabio Brusa (Como) for his kind permission to survey on his property, and are also thankful for his generous and active support.

Figure 16.4a. View of polygon no.1, located on the low mound with clearly visible stepped sides and 4b. from the mound in the direction of polygon 2 with the low embankment extending from the ranging rod and the stone retaining wall of the Via Isonzo to the right. On the spur in the background lies the Camera Grande (F. Welc).

of the running average), DC-shift (removal of the constant component of the GPR signal), subtract-mean (removal of the component mean), gain (enhancement of GPR signal), bandpass frequency (procedure used for frequency filtration), background removal (removal of random noise and direct waves), and average xy-filter (the sum of GPR traces). The last important procedure was to arrange the reflection profiles in quasi 3D block-diagrams using the Reflex View 3D data interpretation mode. Finally, numerous GPR maps for particular depths (= time slices) were created for further archaeological interpretation. Because dry sands and clay additives prevail in the investigated area, the average velocity of electromagnetic wave propagation was accepted at the level of 0.06 – 007 m/ns.

The magnetic method is based on a different physical phenomenon than GPR. The magnetometer (gradiometer) detects small changes in the earth's magnetic field which are caused by concentrations of ferrous minerals in the soil and subsoil. They produce characteristic anomalies visible on magnetic maps. Magnetometer surveys are generally very useful for the identification of former settlement areas with features such as hearths, kilns, and large storage pits. During the survey in Como a single sensor gradiometer (Grad601 produced by Bartington Instruments) was used. The results of the magnetic measurements are presented here in the form

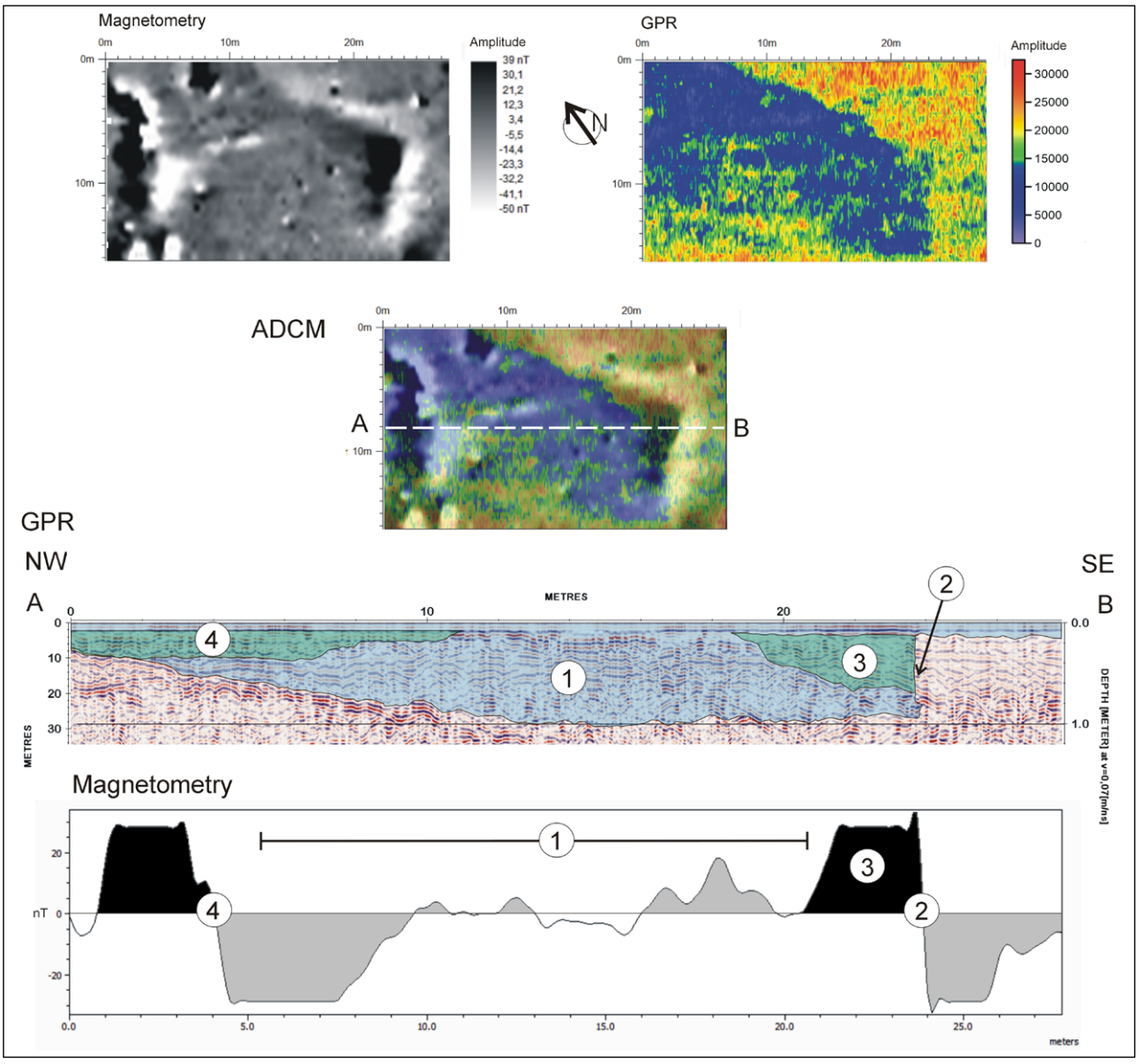
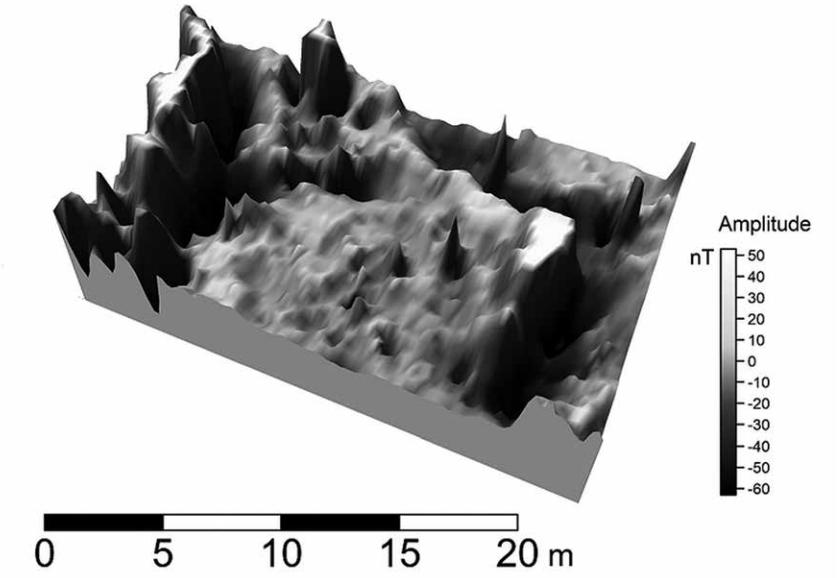


Figure 16.5. ADC method analysis of the polygon no. 1. Upper left: results of the magnetic (gradiometer) survey. Upper right: GPR slice, prepared for a depth of c. 0.70 m. Middle: superimposed GPR and gradiometer survey results with marking GPR profile used for ADC analysis. Lower: ADC analysis and interpretation: 1 – wide depression filled with slope sediments, 2 – rock edge, 3 and 4 – depressions filled with fine stone rubble mixed with organic soil (processing and interpretation by F. Welc).

of black-white maps of the distribution of the anomalies. Darker areas correspond to the anomalies with a higher value of magnetic field amplitude (in nano Teslas – nT). Light areas indicate low values of magnetic amplitude. In other words, the blacked areas indicate a greater concentration of ferromagnetic minerals or sediment enriched with it. In most cases these areas are the site of intensive past human activity (Fassbinder 2005; 2015; 2017).

The results of magnetic and GPR maps, when they are analysed independently, do not allow us to determine the possible origins of the anomalies they reveal. GPR reflection profiles present images of all kinds of buried materials, irrespective of their magnetic properties (Conyers 2018). In contrast, maps of magnetic anomaly distribution mainly represent concentrations of ferromagnetic minerals in the soil. The integration of magnetic and GPR and magnetic methods provides mutually consistent results. In other words, these two methods supply images of different types of buried materials, and this forms the basis of the Amplitude Data Comparison method (Conyers 2018; Welc *et al.* 2019). When individual GPR reflection profiles are compared to corresponding magnetic amplitude values it is possible to interpret the types of materials visible in



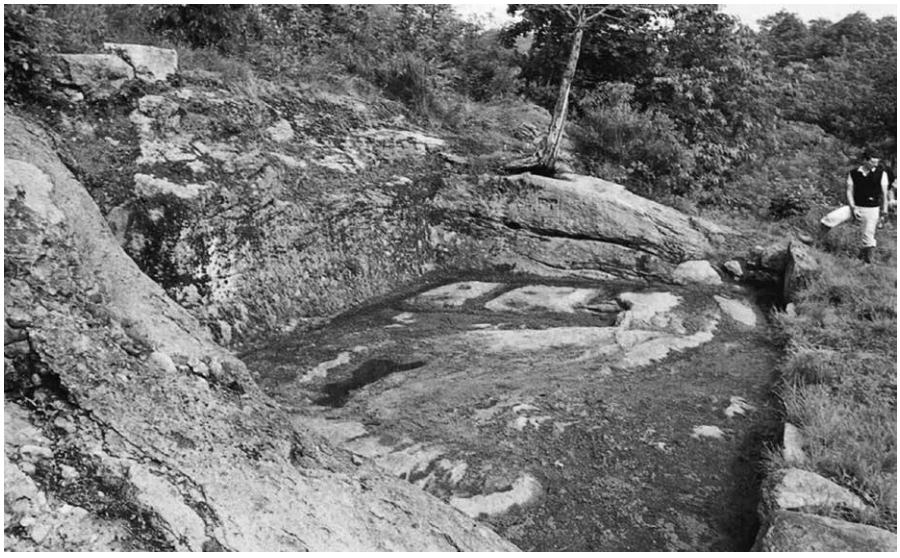


Figure 16.6a: 3D-image of the results of the magnetic survey performed within polygon no. 1, most probably presenting a prehistoric structure hewn into the bedrock (F. Welc). 16.6b: view of the corner of the "Camera Grande", a rock-hewn structure preserved in Spina Verde Regional Park (after Molteni 2003, 14).

the GPR images and then these two data sets are in some way complementary (Welc *et al*. 2019).

For ADC analysis purposes, in a first step the magnetic map obtained in Spina Verde was compared with the corresponding GPR time slice, prepared for a depth of c. 0.5 m (limit of gradiometer prospection). In a second step, selected GPR reflection profiles were combined with their corresponding gradiometer readings (amplitude value in nanoteslas – nT) taken from the magnetic database to determine the real character of underground features. This procedure allows us not only to determine what is producing specific types of anomalies on magnetic and GPR plans, but also helps us to recognise the vertical stratigraphy of the surveyed area (Welc *et al*., 2019).

F. W.

16.3.2 Results

Polygon 1: Magnetic measurements were carried out within area no. 1 (27 x 16 m NW-SE), which is located on the flat top of a low mound covered by small stones and numerous fragments of prehistoric pottery (fig. 16.3 and 16.4a). The resulting map of magnetic anomalies indicates the presence of numerous high-amplitude zones (darker areas) (fig. 16.5). Notable features include a dipole anomaly visible in the eastern part of the polygon, which can be interpreted as a corner of a rock structure carved into the rock itself. In the southwestern part of the polygon there are also slightly chaotically distributed high amplitude-dipole anomalies that should be linked with the accumulation of organic matter directly under the surface (perhaps modern rubbish?).

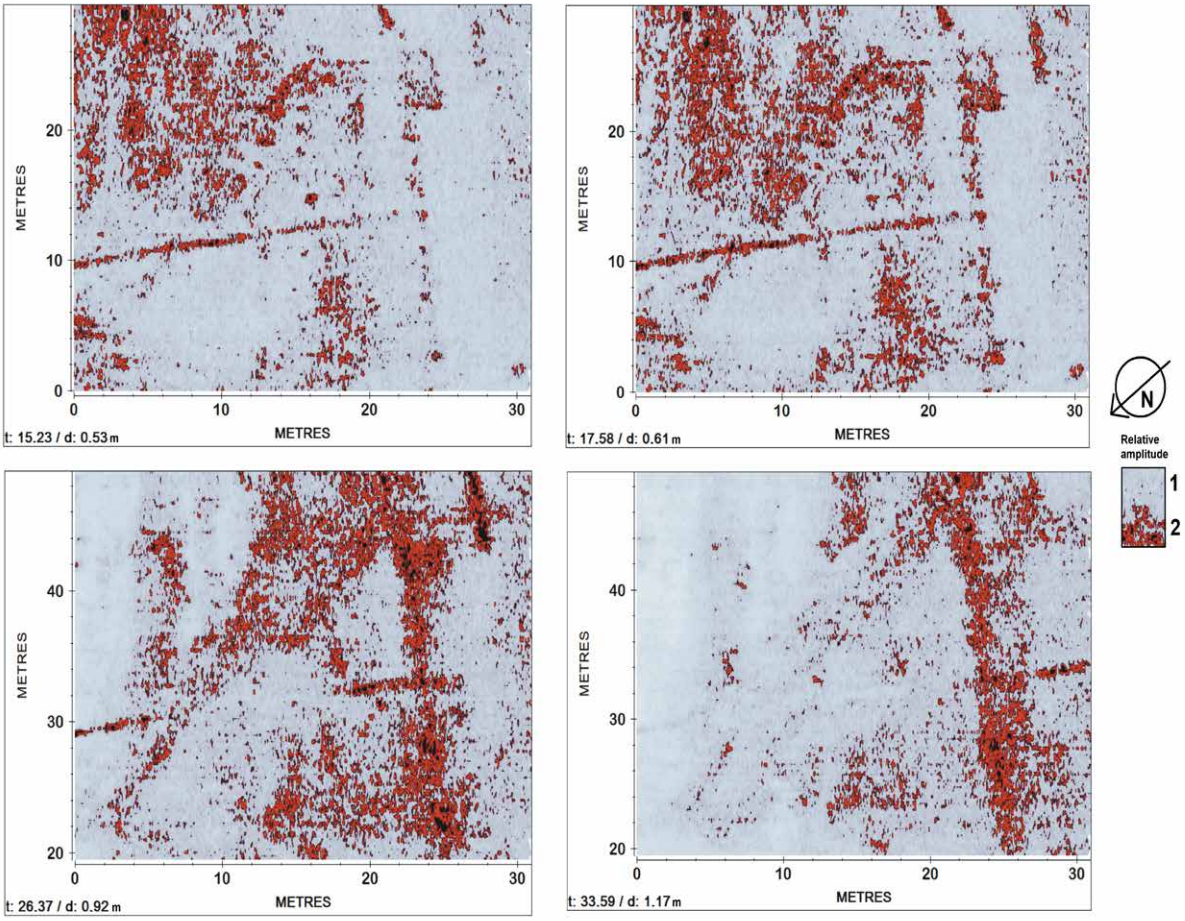


Figure 16.7. GPR- time slices prepared for a depth of c. 0.53 to 1.17 m. Amplitude value description, 1 – signal from buried structures, 2 – surrounding sediment and subsoil (processing: F. Welc).

GPR profiling which was performed within area no.1 is based on the same coordinates as in the case of the magnetic measurements (fig. 16.5). The time-slice prepared for the depth of c. 0.70 m revealed a low amplitude GPR signal-zone in the middle part of the polygon, most probably generated by a large hollow hewn into the rock.

In order to further define the origin of the features discovered by magnetometry, GPR-data obtained within polygon no. 1 was implemented in the next stage of interpretation, using the ADC-method (fig. 16.5). An analysis of the GPR-reflection profile was made and correspondences to the values of the magnetic amplitude revealed numerous features, both of anthropogenic origin and those connected with geological sedimentary processes. Between the c. 5th and 24th metres of the GPR reflection profile a wide depression is visible, the outline of which can also be traced on the magnetic map (fig. 16.5.1). The central part of the depression does not show distinctive anomalies which suggest that it is filled with fine sediments, most likely sands and silts, which seems to be confirmed by a low value of magnetic amplitude. More coarse deposits predominate at a depth of below 1 m. The boundary between this package generates a clear reflection surface, visible on all the analysed GPR-profiles as distinctive horizontal and diagonal lines at the depth of ca. 1 m. This indicates that the depression was gradually filled with slope deposits in several stages due to the activation of soil flows from the higher ground. The analysis of the GPR-profile suggests that the northern edge of the pit is almost vertical (fig. 16.5.2). The magnetic amplitude records present a characteristic dipole-anomaly in this place, whose high amplitude value corresponds to the accumulation of sediment enriched with organic matter next to the edge of the rock-hewn feature, while a low value corresponds to the rock itself (fig. 16.5.3). Another distinctive dipole-anomaly marks the location of the aforementioned shallow depression, visible in the northern part of the GPR-profile, which is most probably filled with modern rubbish (fig. 16.5.4).

The analysis of the magnetic and GPR-plan together with the reflection-profile and their correspondence to the magnetic readings revealed the outline of a rectangular depression with a length of over 20 m and a width of about 5 m. The GPR-plans clearly show that the northern and

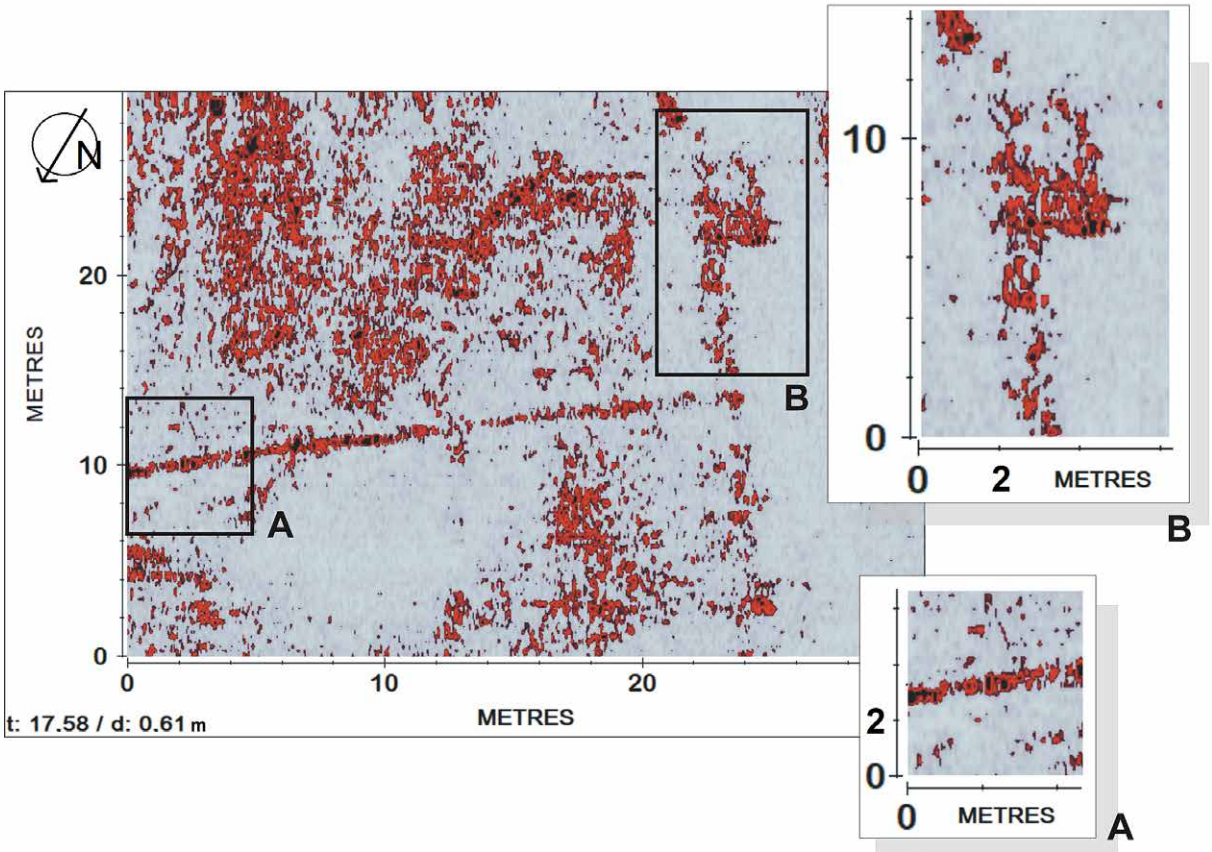


Figure 16.8. GPR-time slice for a depth of c. 0.61 m. A: stone wall, B: wall with bastion-like extension (Author: F. Welc).

southern walls of the structure continued their course towards the northwest, which indicates that the feature is significantly larger and occupies a much bigger space (fig. 16.6a). Based on the geophysical data, we can assume that the captured anomaly represents a monumental feature, partially hewn into the rock. It is a similar, but a significantly larger feature than the nearby ca. 9x5 m stone-hewn structure, Prestino-Camera Grande (fig. 16.6b).

Polygon 2: The measurement polygon no. 2 is located on a narrow and flat terrace bordered in the north by the embankment with a height of approx. 1 m and orientated on the northeast-southwestern axis (figs. 16.7-9). The resulting map of magnetic anomalies indicates the presence of numerous high-amplitude zones (darker areas) (fig. 16.9). Notable features include linear anomalies corresponding to the course of two walls visible in the southern and northern margins of the polygon as narrow zones with slightly lower amplitude values (fig. 16.7). Between them there are a lot of chaotically distributed dipole anomalies that should be most likely linked with the accumulation of organic matter, burnt material and metal objects under the surface (possibly settlement debris). It is worth mentioning that the zone of the most high-amplitude value anomalies primarily covers the northern part of the area and coincides with the range of a low embankment, which is visible in the morphology of the area (fig. 16.4b).

The GPR profiling was performed within area no. 2 and based on the same coordinates as in the case of magnetic measurements. The time-slices prepared for depths ranging from c. 0.50 to 1.17 m (fig. 16.7) presented numerous distinctive linear anomalies orientated north-south and west-east. They were likely generated by stone walls located just under the surface. Another set of high amplitude anomalies is visible in the north-eastern part of the polygon. In this case they are generated by a vast and shallow depression filled with numerous stones or rock fragments.

A most distinctive linear anomaly orientated on the north-south axis is visible in the southern part of the polygon (26 m of the x-axis) at a depth of 0.60 m (fig. 16.8). This feature is generated by the top of a solid stone wall. Most probably, the wall had openings or gates. A bastion-like rectangular extension is shown by the rectangular anomaly visible within the eastern section of the wall (fig. 16.8a). Moreover, there is another linear anomaly – probably another wall – visible in the middle part of the measurement polygon, orientated towards the north-south axis (fig. 16.8b).

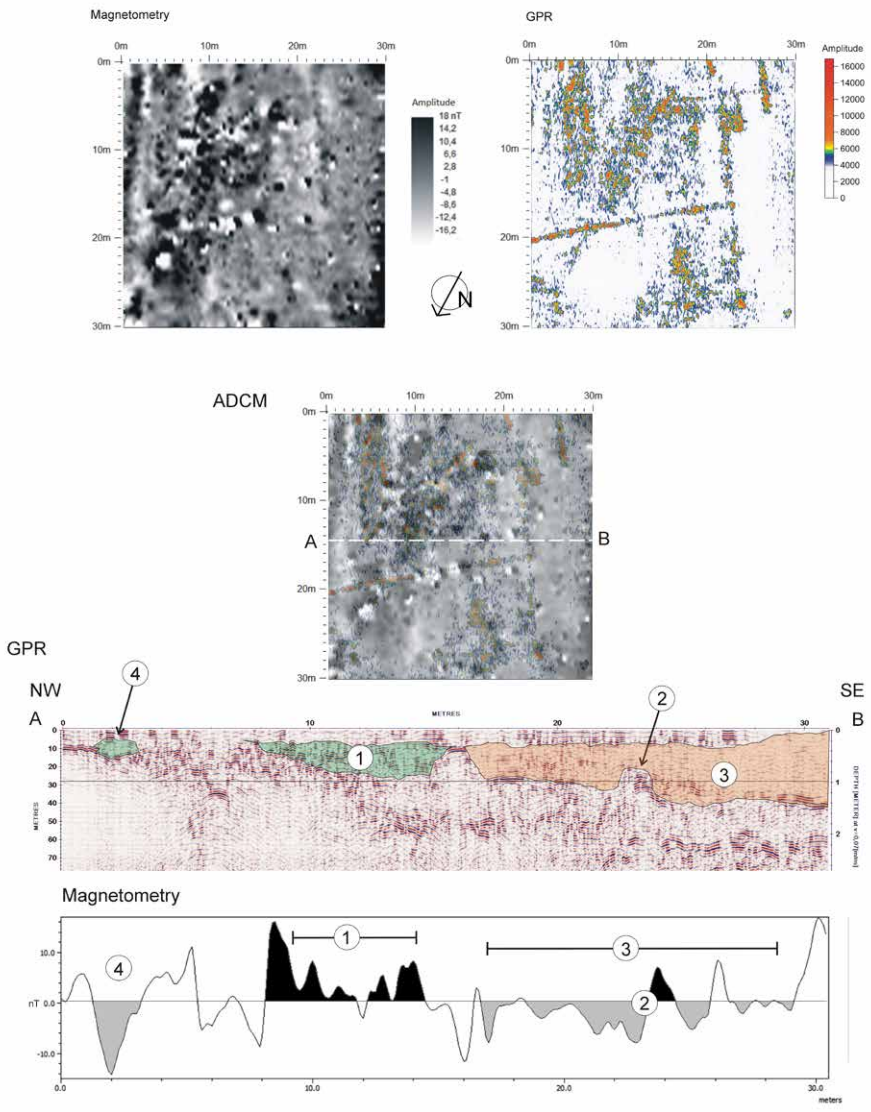


Figure 16.9. ADC-method analysis of the polygon no. 2. Upper left: results of the magnetic (gradiometer) survey with marked two parallel walls labelled as a and b. Upper right: GPR-slice prepared for a depth of ca. 0.60 m. Middle: superimposed GPR and gradiometer survey results with marking of the GPR-profile used for ADC-analysis. Lower: ADC-analysis and interpretation: 1 – depression filled with organic matter and burnt material, 2 – top of a solid stone wall, 3 – depressions filled with slope sediments, 4 – top of another stone wall (processing and interpretation by F. Welc).

The analysis of the GPR-reflection profile located in middle part of the measurement polygon (fig. 16.9) and corresponding magnetic readings revealed numerous underground features, mostly connected with past human activity. A depression is visible between the 8th and 14th m of the profile, which is characterised by a high value of the magnetic amplitude (fig. 16.9.1). It can be interpreted as a pit filled, most probably with ashes and/or other burnt material. Remains of a southern wall with bastion-like extensions are visible as a series of diffraction hyperboles at the depth of ca. 0.60 m and on the 23rd m of the profile. This is emphasised by a dipole-anomaly recorded on the associated magnetic profile (fig. 16.9.2). Above the stone wall there is an electromagnetic wave suppression-zone (without distinctive anomalies), which corresponds to reduced values of magnetic amplitude (fig. 16.9.3). It indicates that this part of the site is covered with a thick series of slope sediments with a predominating fine fraction, which ceased greater conductivity and led to EM wave-suppression. Moreover, we can also clearly trace the top of the slope, which is gently inclined towards the south in this place. On the 3rd m of the analysed GPR-profile, an anomaly is also visible which can be linked with the location of the northern wall. The corresponding low value of the magnetic reading suggests that the structure was built of limestone or sandstone (fig. 16.9.4).

F. W.

16.4 Conclusion and discussion

Within an archaeological site on the western flank of the Spina Verde/Monte Croce massif a total of two polygons intended for geophysical measurements (GPR and magnetic) were selected. They are marked from 1 to 2 and located on a narrow plateau at the foot of the spur. The

Figure 16.10. Results for GPR-survey, time slices for depth c. 1 m (authors).

first polygon was set up on the top of a low mound with steep stepped banks, another on the flat terrace which is bordered by a shallow embankment to the north and a stone wall to the south. The analysis of the survey's results using the Amplitude Data Comparison (ADC) method clearly indicates that the integration of GPR and gradiometry allows a detailed and effective identification of potential buried archaeological structures.

Our preliminary interpretation of the GPR and magnetic measurements performed within polygon 1 includes (fig. 16.10):

1. The so-called positive map of magnetic anomalies which indicates the presence of a corner of a monumental structure hewn into the rock.
2. The GPR time-slices prepared for the range of depths from 0.50 to 1.17 m presented linear anomalies orientated northwest-southeast, probably generated by a rectangular structure hewn into the rock.
3. The combination of the magnetic plan and the GPR-time slices revealed the outline of a rectangular depression with a length of over 20 m and a width of about 5 m.
4. Based on geophysical data, we can assume that the revealed anomaly is presenting a prehistoric house, partially hewn into the rock and similar to, but much larger than the nearby Camera Grande.

The GPR and magnetic measurements performed within polygon 2 resulted in the following findings (fig. 16.10):

1. A positive map of magnetic anomalies has indicated the presence of numerous high-amplitude anomalies. A series of anomalies corresponding to the course of two parallel walls visible in the southern and northern margins of the polygon. Numerous point-source anomalies certainly indicate the position of settlement debris and other features like metal objects.
2. The GPR – time slices prepared for the range of depths from 0.20 to 0.50 m presented numerous linear distinctive anomalies orientated north-south to west-east. Most probably they are generated by stone walls very close to the surface. Another set of high amplitude anomalies is visible in the north-eastern part of the polygon. In this case they are generated by numerous stones or rock fragments which filled the vast and shallow depression. A quite distinctive linear anomaly orientated towards the north-south axis is visible in the southern part of the polygon at a depth of 0.50 m. This feature is generated by the top of a solid stone wall. Most likely, the wall had gates or bastion-like extensions (towers?). Below 0.80 m the GPR-plans revealed a continuation of these features. Additionally, there is one more linear anomaly (NW-SE orientated) which is orientated at an angle to the two previous ones.

F. W.

Figure 16.11. View of the wall constructed of large stone blocks in Como, Via Ronchetto, excavation 2019 (SAP company, Archivio Soprintendenza).

16.5 Preliminary interpretation of the Via Isonzo site

The results of the two surveys of selected areas (polygons) at two different locations on the Spina Verde ridge revealed that non-invasive prospection methods proved to be a useful tool for detecting archaeological features. In particular, GPR measurements are a perfect way to detect the stone foundations of houses and other installations in the Iron Age proto-urban settlement of Como. Although without an excavation we cannot say for sure, whether the features detected on the meadow and stepped slope on the Via Isonzo site are indeed prehistoric, or rather show cellars and walls of more recent architecture. It is worth noting that we noticed a scatter of prehistoric small sherds covering the meadow. Moreover, it lies in the midst of a thick carpet of archaeological finds which have been recorded and to some extent excavated over the past 150 years. Across the road from the site on Via Isonzo 63, satellite imagery (Google Earth) shows boulder alignments crossing an exposed stone surface which are analogous to the foundations seen in Pianvalle. Moreover, 100 m east of the site (SAC 1986 nr. 24) a drystone boulder foundation of a large, more than 34 m long rectangular sunken structure with an entrance ramp were excavated in 1965. The structure dates to the 6th-5th centuries BC and is still partially visible today (Luraschi *et al.* 1969; Maggi 1986, 20-21).

A scatter of sites was investigated on the steep slope rising north of the surveyed meadow (SAC 1986 nr. 35-39) in the 1870s (Maggi 1986, 19). More importantly, just east of the surveyed site the terraced cliff-like slope showed signs of house platforms and three impressive stone-hewn later Iron Age structures, the Camera Grande (8.71x5.05x3 m, SAC 1986 nr. 47) (Casini *et al.* 2001, 105 f., fig. 3-4) and the Camera Carugo (6x4.70x2.40 m, SAC 1986 nr. 51) (Casini *et al.* 2001, 106, fig. 5), lie on neighbouring spurs. Perhaps the much smaller Camera Ovale (3.10x2.80 m, SAC 1986 nr. 51) which lies further to the east, belongs to this group as well. These impressive structures are the basements of the typically Late Iron Age massive, wooden alpine houses ("*Casae Alpinae*") which are cut into mountain slopes and are also known as *Casae Raeticae* (Perini 1967). While they are concentrated in the Raetic cultural provinces of Tyrol and Trentino, significant eastern outliers are found in the Julian Alps and the Isonzo/Soča Basin (Migliavacca 2013; Pisoni and Tecchiati 2014, 57; Sölder 1992; Tomedi 2014). Most examples are found as isolated farmsteads (Wild 2019) or grouped into small hamlets. But, as excavations in Most Na Soči (Svoljšak 1998; see also Tecco Hvala this volume) and Sanzeno (Marzatico and Stelzer 1999) have shown, this highly specific mountain architecture was also incorporated into proto-urban settlement settings. Western examples are found in the Valcamonica (Rossi 1999; Solano 2014b). Significantly, a monumental rectangular cellar structure on the acropolis of Brescia (Solano 2014a) that has been related to this house type, may have had a sacred function. The most western "*Casae Alpinae*" are the Como examples which probably reflect the polyethnic make-up of its Late Iron Age inhabitants (Haeussler 2016, 88-91). Yet, the size of the structure Fabian Welc has found in

polygon 1 (20x5 m) is far greater than any of these stone-hewn cellars known to date, and it will require trial excavations to make sure that the rectangular cellar, as well as the stepped mound into which it is deepened, is not a post-prehistoric feature. The same can be said for the linear stone structures found in polygon 2. Obviously, these wall foundations run parallel to both the embankment seen in northeastern part of the field and ultimately the steep cliff behind it. But it is also parallel to the modern wall facing the Via Isonzo making it at least possible that we are dealing with the remains of modern garden walls. Whatever the case will finally be, the results of this campaign are stunningly lucid and make it clear that complex geophysical surveys will have an enormous impact in improving our understanding of the structure of this important late prehistoric proto-urban site.

Another stone-built feature was recently revealed c. 1 km to the southeast following the edge of the slopes of the Spina Verde ridge.

L. N., C. M. -N, I. B., A. V., B. G, F. W.

16.6 A rescue excavation at the Via Ronchetto, Spina Verde Park

In spring 2019, a section of via Ronchetto, located in the Spina Verde Park, was investigated by the Soprintendenza in cooperation with the SAP company during the installation of the new municipal sewer pipe, on the steep slope of a pronounced spur. The excavation brought to light an imposing wall structure made of large stone blocks (diorite, granodiorite, and amphibolite) orientated from northwest to southeast, 1.70 m wide, at least 11.85 m long and preserved to a height of 2.50 m (fig. 16.11). The structure was built into a prepared recess, cut into the bedrock with a level floor. This building technique has been repeatedly observed in the house constructions of Spina Verde. To the east the limit of this structure was found, consisting of a right angle which makes it possible to reconstruct a rectangular shape of a building. Its hypothetical dimensions (14 m length, 10 m width, and at least 3.50 m height) are derived from the extent of the stratigraphic deposits which can be related to the collapse and abandonment of the building. The course of the putative parallel wall section can only be hypothesised due to the impact of modern terracing works.

The preliminary examination of the finds suggests that the first phase of this building can be assigned to the Iron Age. The collapse of the large room was followed by a second phase, which saw the construction of a second wall, which can be dated to a more advanced phase of the Iron Age. The analytical study of the finds will allow a greater chronological precision; however, a preliminary examination suggests that many finds can be dated to the III phase of the Golasecca Culture, and in particular between the 5th and 4th centuries BC. While the large size of the structure indicates its exceptional nature, its intended use cannot be determined at this preliminary stage.

B. G.

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Chapter 17

Bergamo and Parre during the Iron Age: Early Urbanism and the Alpine World

Raffaella Poggiani Keller & Paolo Rondini

Positioned on an extensive hilltop, on the border between the Alps of central Lombardy and the northern plain of the river Po, Bergamo faced, during the Iron Age, an urban trajectory. This chapter addresses the role of the settlement of Bergamo in the wider picture of upper central Lombardy, from its beginning at the end of the Bronze Age to its apogee as a Golasecca urban centre between the late 6th and the 5th centuries BC. The archaeological analyses were conducted on data mostly produced by preventive and urban archaeology, due to Bergamo's uninterrupted occupation until the present day. Research conducted in the alpine settlement of Parre, located in Valle Seriana is also addressed, as it shares many common features in material culture with Bergamo. Moreover, Parre provides useful evidence in order to understand the relation between the urban centre and its surrounding area, with regard to the alpine context and its crucial primary products. Bergamo in the late 6th to 5th centuries BC appears to be at the centre of a regional land management system and, on a wider scale, embedded into the northern Italian economical network, functioning as an outpost of the Golasecca culture on the frontier along with other dominant cultures of northern Italy, such as the Po Plain Etruscans and the Palaeoveneti.

Keywords: Iron Age; Golasecca culture; Northern Italy; Italian Alps; Early urbanism.

17.1 Introduction

This chapter considers the areas comprising the lands between the river Adda to the west, the Serio River to the east, the upper Po Valley to the south, and the central Alps to the north. Emphasis will be placed on the development of the central place of the region, Bergamo, and its relations with the surrounding area, during the Early Iron Age. As was established in recent discussions (Cardarelli 2018; Rondini and Zamboni 2020), northern Italy experienced urbanisation during the Early Iron Age. This process took place in different forms and times, with each situation being determined by a different combination of factors, such as the historical background, territorial configuration, and the wider geo-political framework (Fernández-Götz and Krausse 2016; Fernández-Götz and Ralston 2017; Smith 2016). The settlement of Bergamo and its evolution towards and through an urban phase is a case of study of great interest, due to its chronological trajectory and its singular link with the alpine area, a topic often overlooked in the research. For this reason, alongside the development of Bergamo, this chapter will explore

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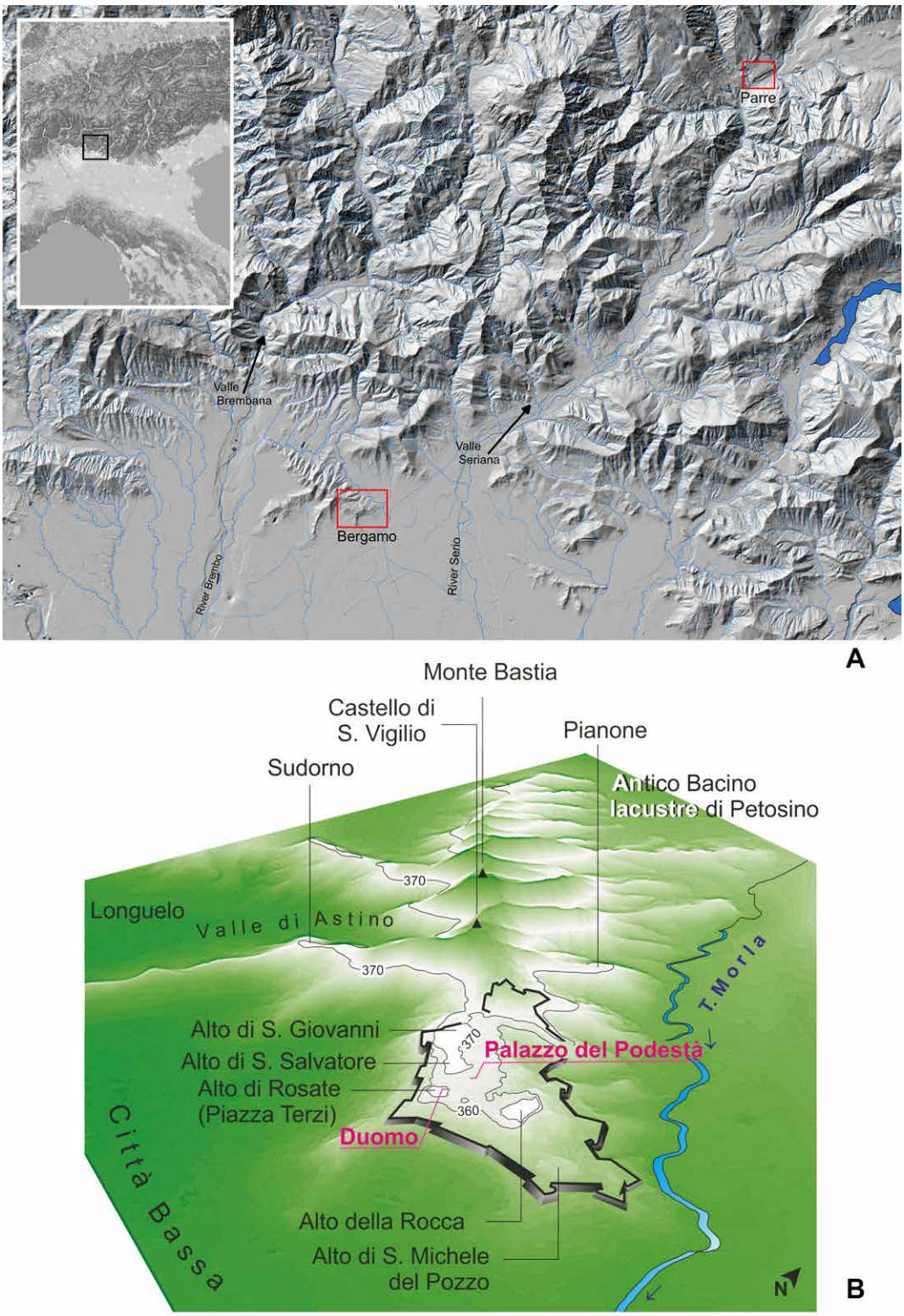

Figure 17.1. A. Map of the area (GIS elaboration on Lidar DTM 5x5: P. Rondini). B. Graphic reconstruction of the mountain ridge of Bergamo (after Pini *et al.* 2019)

the alpine settlement of Parre – Castello in Valle Seriana, a site of great relevance, both for its inherent features, as well as for the quality of the research.

17.2 The landscape

Bergamo is located in the central part of present-day Lombardy, on the lower foothills of the Alpine mountain range. The ancient settlement shares its location with the current city, namely its highest part, called "Bergamo Alta" (upper Bergamo). This area (fig. 17.1.B) is positioned on the southernmost hilltop of a low mountain ridge NE-SW orientated, dominated by Mount Bastia (507 m a.s.l.) and S. Vigilio (495 m a.s.l.). The topography is advantageous for a settlement, with steep sides granting natural protection, and a reliable supply of water provided by the springs on the hillsides. Furthermore, there is an abundance of both rock and clay for buildings crafts (Chiesa 2019). On a larger scale, the seat (fig. 17.1.A) appears an ideal location to maintain control of a vast tract of the Po Plain to the south, two main rivers (the Brembo and the Serio), and access to two of the major alpine valleys of Lombardy (Valle Brembana and Valle Seriana), each with a wealth of metallic minerals and natural resources, to such an extent that even ancient authors mention them (Cantarelli 1985, 44).

Pollen analyses and ^{14}C dating (Pini *et al.* 2017, 358-369), performed on both excavation sediments and core samples from the Palazzo del Podestà and Duomo excavations, have suggested that the hilltop would have been used for agricultural practices since the early stages of the Final Bronze Age (12th-11th centuries BC). Nonetheless, only the picture given from the later stages of the Final Bronze Age (11th-10th centuries BC) correspond to a fully anthropic environment, with midden deposits and a diffuse presence of wheat and barley. Afforestation rates seem to rapidly diminish between the two intervals.

The current morphology of the Bergamo hilltop is the result of human impact over a series of events that altered the natural shape of the site, ever since protohistory. Hillsides were trimmed and terraced for agricultural and urban purposes, the natural springs organised and channelled. Finally, the city grew, layered on top of everything and spreading out, not only on all the hilltop, but also extending beyond. Its continuous development until the present day has generated a dense urban stratification, damaging lower layers -sometimes still in ancient times- and, ultimately, forcing archaeological research to proceed exclusively through small trenches and preventive archaeology.

On the contrary, the protohistoric settlement of Parre-Castello was preserved by a fortunate situation of low-density urbanisation and thus has been archaeologically investigated on large-scale between 1983 to 1994 and from 2009 to 2012. The research was conducted by the Superintendence of Lombardy on the very site of a large Iron Age hoard discovered in 1883 (see *infra* and fig. 17.9.B).

The location of the settlement dominates the landscape in the middle Valle Seriana, on the southwestern border of a high terrace (580 m a.s.l.) flanked by deep vertical gorges (fig. 17.4.A). This pre-alpine and alpine valley, which was created by the glacial activity and later by the flow of the river Serio, joins the Po Valley with the central Alps through a series of trails, leading directly towards one of the most relevant mineral districts of northern Italy, cited by ancient classical sources (Cantarelli 1985). Valle Seriana altogether is a very well-connected area, due to its historical paths and low mountain passes that span all the way to Switzerland (Passo di Cà S. Marco, Chiavenna-Passo dello Spluga), in the current Kanton Graubünden (Poggiani Keller 2007a).

Parre is located 30 km away from Bergamo and can be reached in less than 7 hours by foot.

17.3 Background

The collapse of the *Terramare*/pile-dwelling system during the Recent/Final Bronze Age[1] (Baioni *et al.* 2019; Cardarelli 2010; 2018) caused a long lasting impact on the demographic pattern of northern Italy, with the most severe effects concentrated on the area south of the river Po, southern Veneto and Emilia. In the context of this general recession, during the FBA some areas begin to expand and develop new population strategies, reaching major levels of organisation, as is well represented by the Frattesina and Villamarzana hub in Veneto (Bietti Sestieri *et al.* 2019; de Marinis 2010, 540-542), and in other case studies (Cardarelli 2018; Rondini and Zamboni 2020). The area considered in this chapter seems to face the change in a different way. While only marginally affected by the previous *Terramare*/pile-dwelling cultural manifestations (de Marinis 2010; Rondini 2017, 263-264), the plain south of Bergamo manages the FBA crisis with a territorial re-organisation of the settlements, yet no interruption or disassociation is detected. There is a strong decrease in the number of settlements located in the plain next to the rivers, but this is paired with an increase in settlements placed on the low hills, dominant positions, in control of the valley routes.

From a cultural perspective (fig. 17.2.A), the chosen area always represented a frontier between north, east and west. In FBA this happens between the Protogolasecca culture to the west (de Marinis 2017a, 152-165), the Protoveneti to the east (Capuis and Gambacurta, 2015) and the alpine cultural groups to the north (Marzatico 2012; Stöckli 2016). Recent studies are increasingly revealing original production, with external influences intermingling to create a specific material culture (Poggiani Keller *et al.* in press; 2005).

1 RBA and FBA from now on. Recent Bronze Age (1300-1175/1150) corresponds with Central European Bronze Age D. Final Bronze Age (1175/1150-900 BC) corresponds with Central European Hallstatt A1 – A2 – B1.

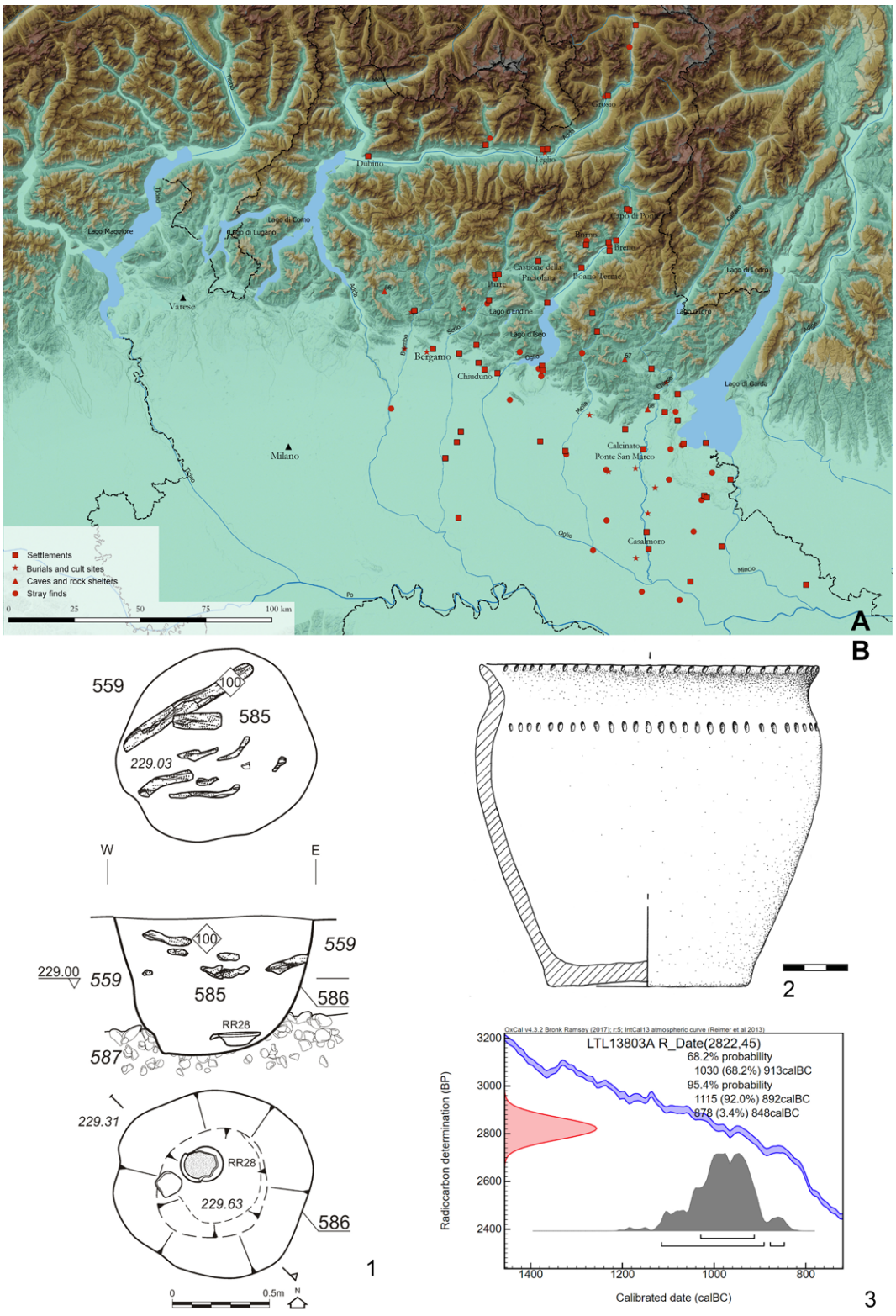

Figure 17.2. A. Map of the investigated area during Final Bronze Age (GIS elaboration by P. Rondini); B. Bergamo-Trucca. 1. The FBA pit US 585-586 (SAP Società Archeologica); 2. The vase from the pit (drawing by P. Rondini); 3. ^{14}C date from internal filling layer of the pit (dating by CEDAD Labs, Lecce, Italy, elaborated with Oxcal v. 4.3.2).

New evidence is beginning to shed light on the FBA frequentation of Bergamo, at the low part of the southwestern slopes. During a preventive excavation at the "Trucca" site, carried out in 2006-2008 for the building of the new city hospital, a series of small FBA structures, part of a multi-layered site, was uncovered. It is a sequence of eight circular pits, dug in the sandy gravel subsoil. Among these pits, which did not yield a great abundance of data, two stand out. The first (fig. 17.2.1), US 586 (cut) – 585 (filling) was filled with soil and a vast quantity of charcoal along with a vase (RR 28, fig. 17.2.3), found at the bottom of the pit. The vase is a small deep pot with short neck and decorated rim and shoulder, both ornamented with a single horizontal line of small oval notches. A similar pot, yet slightly bigger and only decorated on the rim (RR 22), was found inside another pit (US 330 cut / 331 filling). This type of artefact is widely attested throughout northern Italy as a typical late RBA and FBA ceramic production. As for the western group, during RBA in the Canegrate culture (de Marinis 2000a, 105) they seem to present with a slightly less defined bending of the neck and rim and oftentimes with different decoration, more widespread on the whole vessel (Rondini 2016). Additionally, they appear to evolve during FBA in the Protogolasecca productions (Mangani and Ruggiero 2014). A similar evolution appears in the region of Veneto, where this shape is found during the late RBA (*i.e.* the settlement of Custoza, see Salzani 1999) and lasts at least throughout the FBA until the beginning of Iron Age (*i.e.* the cemetery of Desmontà, see Salzani 2013, 312-313, tombs no. 288-214-148-96-10; the cemeteries of Frattesina[2] in numerous graves; the settlement of Montagnana – Borgo San Zeno). The two objects from Bergamo-Trucca, given their defined neck-rim bending and their small dimensions seem to belong to the "evolved" type of pots, possibly dated to an advanced phase of the FBA. These vases are generally found in settlements (Custoza, Somma Lombardo) as items of everyday use, and were seldom used as urns (Canegrate, Frattesina, Desmontà). While the absence of human remains in the Bergamo-Trucca pits seemingly deter us from interpreting them as tombs,[3] their small dimensions and the presence of just the one vase inside each points to generic cult activity. A sample of charcoal from pit filling US 585 was radiocarbon dated to 2882±45 BP (2**σ** 1115-892 cal BC; 1**σ** 1030-913 cal BC), confirming the dating to the FBA.

On the alpine side, Parre has a longer story. Its first instalment, in the "Botti" area, began during the advanced Medium Bronze Age (15th century BC) and lasted until an early stage of the FBA, with consistent evidence of metallurgic activity (Giardino 2006; Poggiani Keller and Raposso 2004). Metal working was certainly the central feature of the site when, during the FBA, the settlement at Botti ceased to be used in favour of the newly founded one at the "Castello" area, which lasted until the end of the 1st millennium BC.

17.4 The first settlement (late 10th-9th century BC)

The first evidence of a settlement in Bergamo is dated to between the end of the FBA and the Early Iron Age (10th-9th century BC).[4] Due to findings on the top hill, during the excavations carried out below the Duomo, the Palace of the Podestà, and the Old Square, we can hypothesise an initial village of 2.5 ha.[5] This first village was located in the central-southern part of the hilltop, which is the best location for the site in terms of accessibility, exposition, and visibility (fig. 17.3A). As observed, FBA Bergamo is part of the piedmont network of villages that dominated the region and access to the valleys: size-wise, the first settlement does not seem to stand out amongst its contemporaries in the region, nor to show any signs of visible hierarchy. But in its evolution, unique traits are found. It is, in fact, one of the very few sites continuously occupied from the FBA through to the first centuries of the EIA. While the greater part of the other villages faced an abrupt end, causing the apparent dismantling of the piedmont network, Bergamo thrived and, as we will see, grew.

Unfortunately, given the small size of the trenches, paired with the poor preservation of the deeper layers, it is very difficult to identify proper structures related to this phase. Nevertheless, due to factors such as the quantity, preservation level, and typology of the ceramic artefacts, probable presence of housing can be postulated.

Among the excavations, the ones carried out below the pavement of the Duomo have presented with the most complex stratigraphy, with two separate sequences of layers that outline the same development in material culture. The abundant material culture in the lower layers (such as US 431-base. fig. 17.3C), dated to the 10th and 9th century BC, show a clear affinity with some of the coeval productions of the eastern Protoveneti cultural group. In the variety of big containers and smaller, finer vessels, some shapes stand out for their technical quality and specific decorations. The most distinctive artefacts are certainly the small deep bowls

2 Frattesina, tombs 41, 53: de Min 1984, 487. Le Narde, tombs 70, 115, 122, 132, 137,193, 230: Salzani and Colonna 2010.

3 Even if there is the possibility that such remains were worn out by the acidity of the soil.

4 EIA hereafter.

5 The settled areas of protohistoric Bergamo as presented in this work are indicative, being related to the simultaneous presence of settlement phases in small, independent trenches and urban, preventive, archaeology.

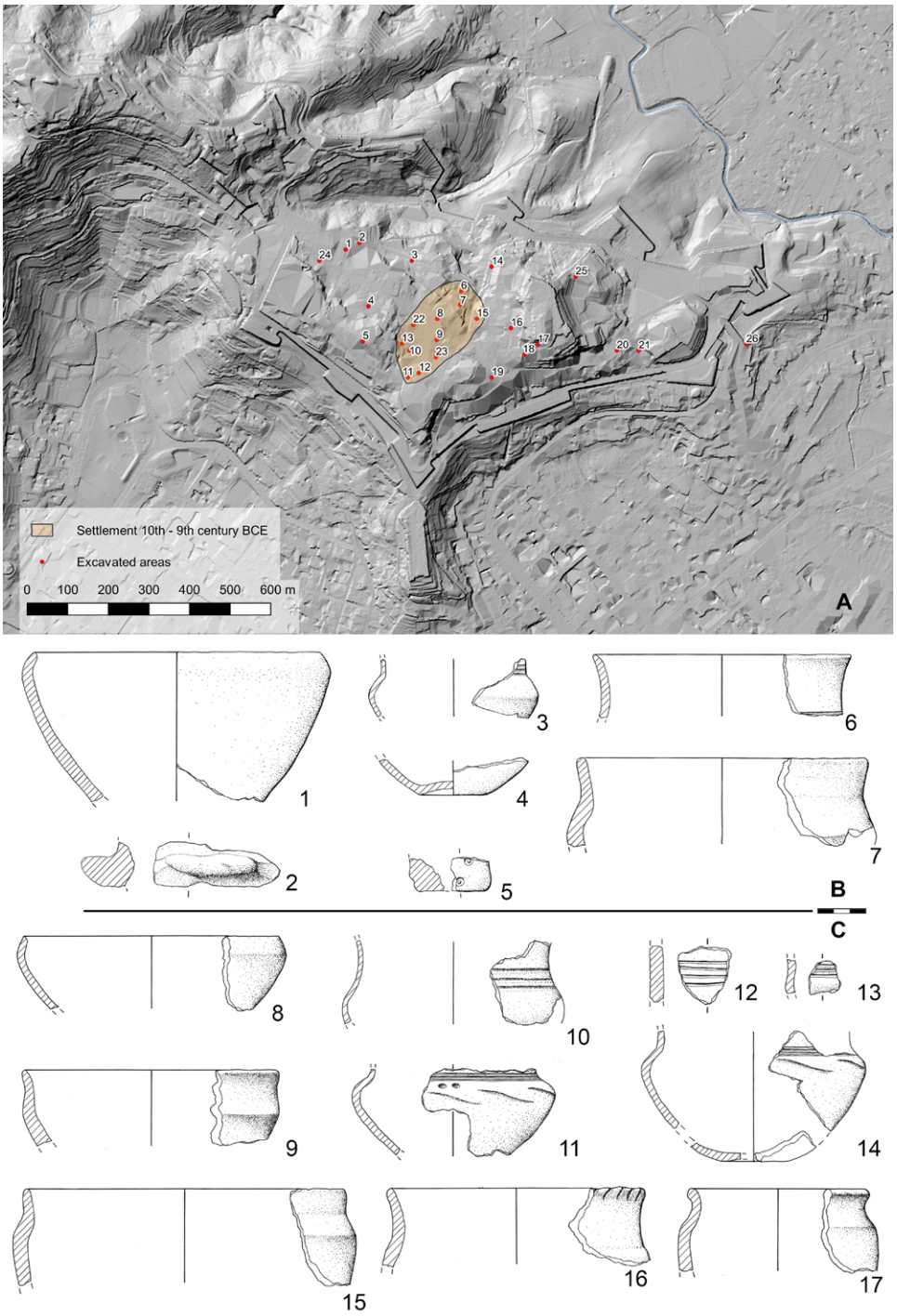

Figure 17.3 (left). Bergamo: A: map of the settlement area in 10th-9th century BC. List of archaeological excavations: 1. Piazza Mascheroni – Giardinetto; 2. Via del Vasine, 10; 3. Via del Vasine, 2; 4. Via Salvecchio; 5. Via S. Salvatore / Via Arena; 6. Biblioteca Civica; 7. Vicolo Aquila Nera; 8. Piazza Vecchia; 9. Passaggio Cà Longa; 10. Cappella Colleoni; 11. Piazza Rosate; 12. Area a sud del campanile di S. Maria Maggiore; 13. Piazza Reginaldo Giuliani; 14. Via S. Lorenzo – Convento di S. Francesco; 15. Piazza Mercato del Fieno; 16. Via Solata, 8; 17. Via Rocca Alta; 18. Via Rocca 11; 19. Via Donizetti 22; 20. Via Porta Dipinta-Casa Battagion; 21. Via Osmano-S.Andrea; 22. *Hospitium Comitis Pergami*; 23. Duomo-Cattedrale di S. Alessandro; 24. Piazza Cittadella, lato Sud; 25. Fara-Parco della Fauna Orobica; 26. Collegio Baroni. (GIS elaboration on Lidar DTM 1x1 by P. Rondini). B: Selection of pottery from the Duomo excavations (10th-9th century BC): US 431 (drawings by P. Rondini). C: Selection of pottery from the Duomo excavations (10th-9th century BC): US 431 – base (drawings by P. Rondini).

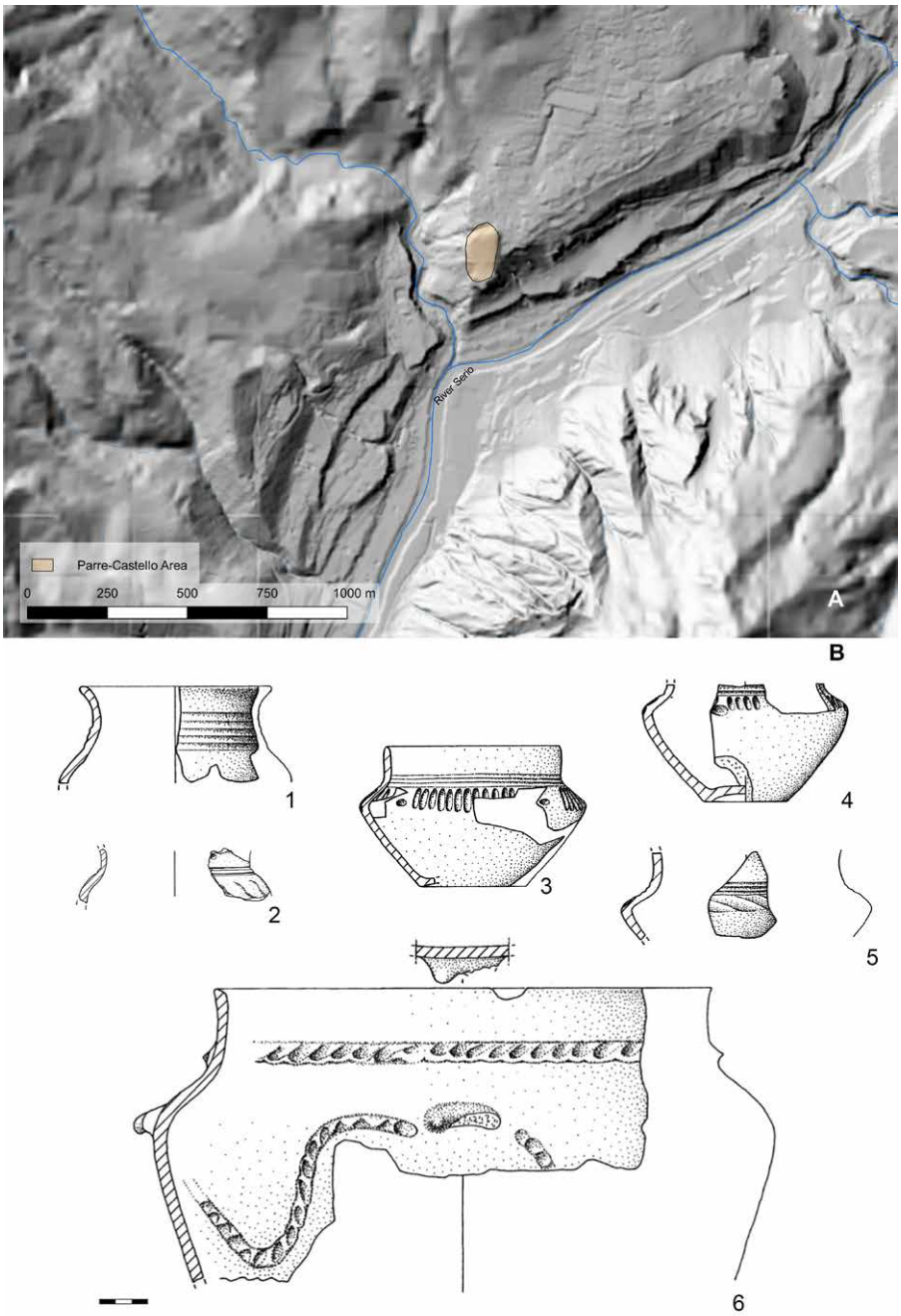

Figure 17.4. Parre: A: The Castello Area in medium Valle Seriana (GIS elaboration on Lidar DTM 5x5: P. Rondini). B: selection of pottery from 10th-9th century BC: 1-3-4-5 below "house 609"; 2-6 collected on the southern slope of the terrace (drawings by F. Magri 1-3-4-5-6 and P. Rondini 2).

with short introverted rims (fig. 17. 3.1-8) and the cups with pronounced rounded shoulders, decorated with helicoid waves (fig. 17.3.14), sometimes paired with small cup-marks (fig. 17.3.11), and a short straight neck ornamented with peripheral strips of 2-3 incised lines (fig. 17.3.3-11-14). These two types of vases are beautifully shaped in black, refined, pottery, and find comparison in many contexts of Veneto, including at the settlements of Montagnana-Borgo San Zeno (Bianchin Citton *et al.* 1998, 311-313), Villamarzana (Salzani and Consonni 2005, 33), and the cemetery of San Giorgio di Angarano (Bianchin Citton 1982) as well as some alpine contexts such as the cemetery of Vadena-Pfatten, tombs 70, 85, 101 (Lunz 1974) and the settlement of Parre (Poggiani Keller 2006, 19). In the same levels, a good number of clay spools were found, sometimes decorated with dots and cup-marks, as well as tools for cooking, such as the rectangular clay supports for cooking plates *(alari*, in Italian).

In Parre, several objects regarding the newly founded FBA settlement in the Castello area were found in the lower layers of the village as well as in other locations, such as on the steep sides of the hill (fig. 17.4.2-6). The layers under the base floor of "house 609" are related to

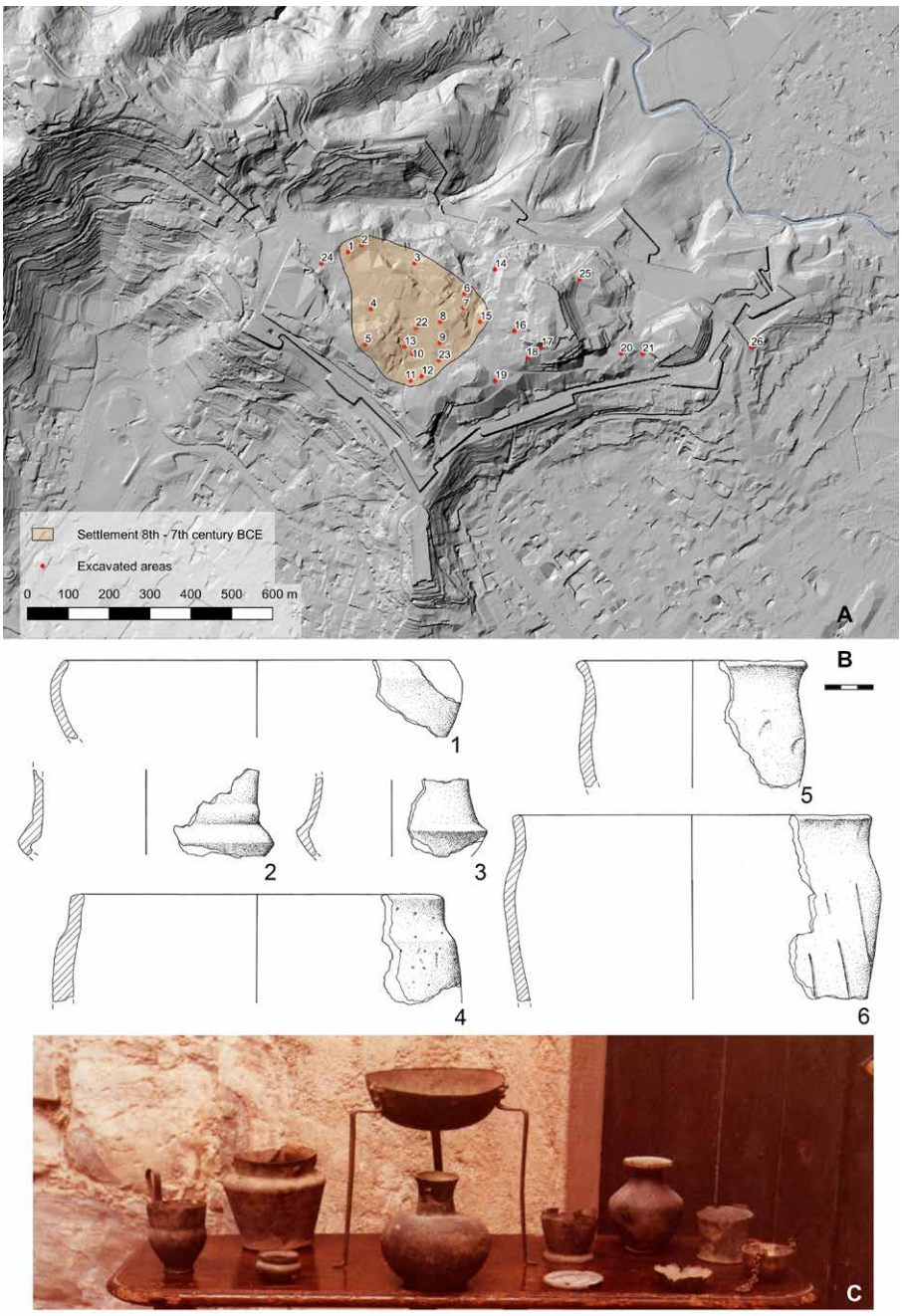

Figure 17.5. Bergamo.
A: map of the settlement area in 8th-7th century BC (GIS elaboration on Lidar DTM 1x1 by P. Rondini).
B: selection of pottery from 8th-7th century BC excavation at Duomo, US 1009 (drawings by P. Rondini).
C: Photograph of selected artefacts from Curno-Campo Broletto, BG (after Poggiani Keller 2007a).

this early phase, and contained several artefacts dating back to the 10th-9th century BC (fig. 17.4.1-5). Between the generic alpine productions there are other vases, which show a wider scope of similarities, such as the small ornamented cups, similar to those from Bergamo (fig. 17.4.3-4). The similarities between Parre-Castello and Bergamo at this chronological stage, both in material culture and in some shared cultural affinities with northeastern Italy, are very significant and continued during the later phases.

17.5 The first expansion and cultural change (8th-7th century BC)

The evolution of the settlement in Bergamo continues with a significant expansion. The first village organised around the area of the Duomo, beginning in the 8th century and continuing through the 7th century BC, and seems to stretch towards the northwestern part of the hill, *i.e.* the Piazza Mascheroni (fig. 17.5A).

The settlement area in this phase appears to occupy an area of c. 8.5 ha, quickly increasing its previous size and becoming, by and large, the biggest village of the

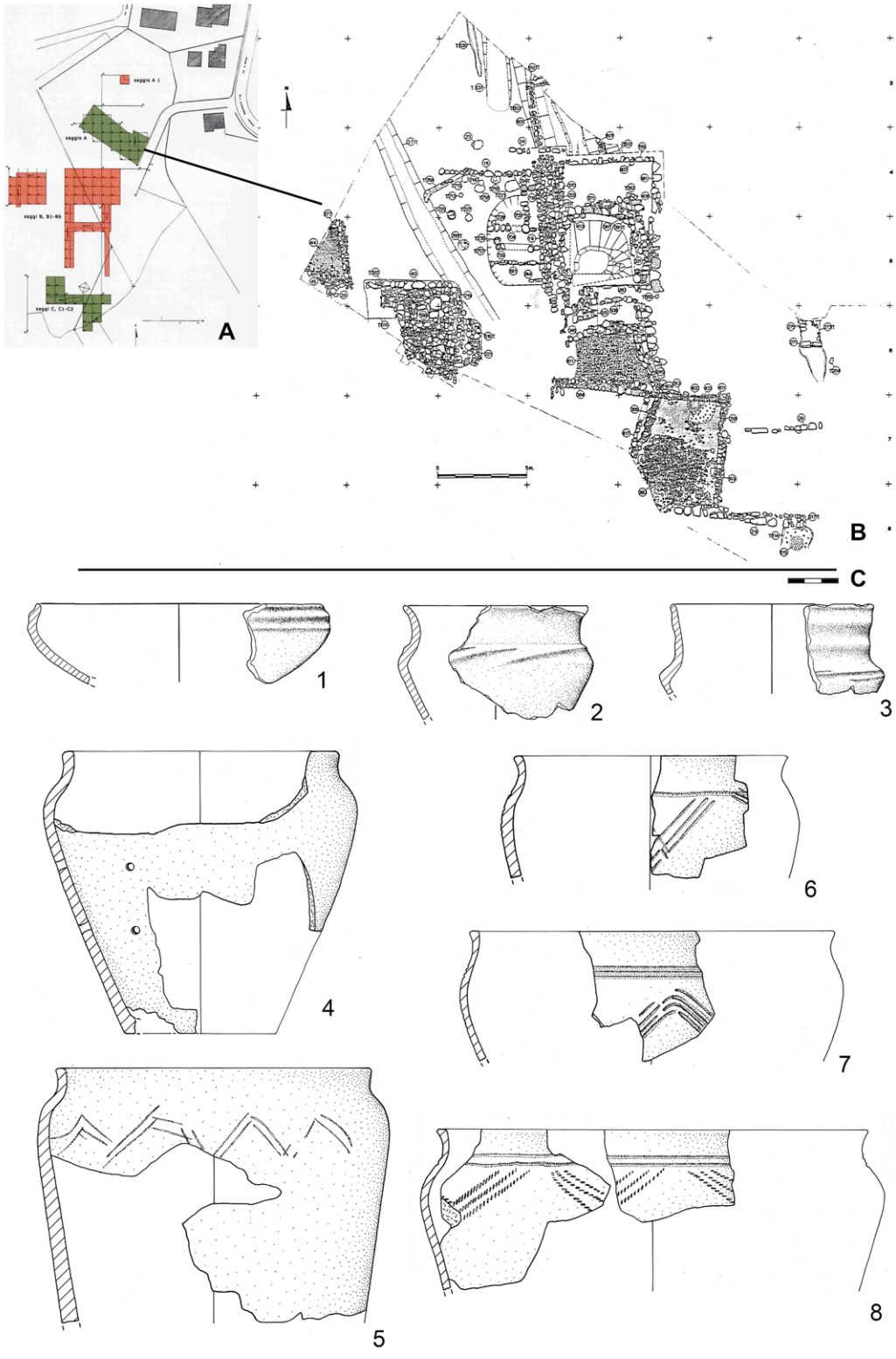

Figure 17.6. Parre. A: general plan of excavations at Castello. B: general plan of Sector A. C: selection of pottery from the 8th-7th century BC (1-3: collected on the southern slope of the terrace. drawings by P. Rondini; 4-8 from US 550 drawings by F. Magri).

district. Still, our knowledge of it is mostly built on material culture analysis, due to the aforementioned scarcity of preserved structures. Unfortunately, pottery production seemingly related to this phase is mostly of containers for daily activities (fig. 17.5B), with fewer of the fine and decorated objects that are more often used for chronological and cultural considerations. However, some typical cylindrical containers with straight necks and pronounced shoulders (fig. 17.5.4) and some cups with long necks, sometimes decorated with circular arrangements and emphasised hull (fig. 17.5.2-3), stand out. Despite their generality, these domestic productions seem to manifest more morphological similarities with the western Golasecca IB and IC productions (see for example some close comparisons with the settlement of Rocca di Chiuso: Casini 2000, 207-8), rather than with the eastern Palaeoveneti culture (Gambacurta this volume), hinting at a shift in the material culture. This shift, which possibly implies a change in the contacts and general cultural influence, appears mirrored in the coeval productions of Parre-Castello, sector A (fig. 17.6).

This is well depicted by the artefacts found in many parts of the site (fig. 17.6.1-3), and in the fully excavated "house 609" (fig. 17.6.4-8). This structure, built on top of other former layers of frequentation, as seen in the previous section, was a rectangular house north-south orientated, 3.80 m wide and 4.50 m long, with perishable perimeter walls built on a stone foundation. This stone base was a sort of "L" – shaped curb, assembled with an outer line of flat rocks inserted vertically in the ground, and an inner line of other flatly positioned rocks. The inner floor, upon which were recovered some almost complete vases and other instruments, was a well-trod clay soil, 30 cm lower than the general frequentation level of the site. Among the most significant productions were the deep pots (*vasi situliformi,* fig. 17.6.4-5-8) and small vessels with sinuous outlines, such as the small "Castione-type" cups (fig. 17.6.2. Rondini in press), with their typical turban-style decoration on the shoulders and a short neck, as well as the cups with long straight and decorated necks and pronounced hulls (fig. 17.6.3), very similar to some artefacts found in Bergamo (fig. 17.5.2). Many of these vases were decorated with geometric "V-Shaped" engravings, usually on the shoulder, along with other linear carvings (*falsa cordicella*), which show comparisons with both the western Golasecca I productions and some alpine objects from Trentino (for comparisons, see Poggiani Keller 2006, 20-21). Other houses of the same period have been documented, such as the one called US 757, often in association with several post-holes that can be related to secondary structures.

17.5.1 Indications of long-range contacts

On a general note, present-day knowledge could lead to the idea that central Lombardy was not particularly involved in the exceptional "Mediterranean" flourishing of trade and exchange, especially with Etruria, which had participated with the Golasecca Culture since the late 8th century BC and, more frequently, in 7th and 6th centuries BC (de Marinis 2000b; 2009a; 2009b; 2017). The role of Bergamo in this period was certainly a central one, but only on a regional scale, as is attested by its outstanding size compared to the other settlements of the area. Unfortunately, the complete lack of funerary contexts does not help in the process of reconstructing the social complexity of the village, nor its possible long-range contacts, as could be attested by the exhibition of foreign luxury objects by the elites.

Study of archival data, however, can help shed some light on this aspect. During the 19th century a deposit of bronze artefacts was found in Curno – Campo Broletto, 4 km southwest of Bergamo, containing several broken objects, such as bronze vases, a bronze tripod with a hemispherical basin and 22 other dismantled tripod legs (fig. 17.5C). This rich deposit was interpreted as votive, and this particular type of tripod, with legs built of flat rods and triangular attachments with 3 round-headed rivets, finds close comparison in the grave goods (tomb L) from Lavinium in central Italy, dated between the end of 8th and the beginning of the 7th century BC (Poggiani Keller 2007a). Unfortunately, these objects today are lost, and their existence[6] is the only hint toward the presence of long-range exchange of luxury items in Bergamo during this phase.

17.6 The urban phase (6th-5th century BC)

Since the late 6th century and during the entire 5th century BC the scenario changed (Poggiani Keller 2001). The regeneration and further expansion of Etruscans in the Po Valley was decisive, now propelled by the foundations of the city of Marzabotto (Govi *et al.* this volume), the port of Spina (Mistireki and Zamboni this volume), and the settlement of Forcello di Bagnolo San Vito (de Marinis and Rapi 2007; Komp *et al.* this volume) in the northeast, along with of the *emporium* of Genova to the west. The new geopolitical framework was driven by the exchanges and trade established between the Mediterranean world and central Europe, and revolved around certain nodes, such as the alpine passes. The Golasecca culture dominated Italian central and western Alps, wresting control of the major mountain passes and acting as an ideal membrane between the two worlds. During the 5th century BC, the major economic routes of northern Italy were traced

6 Proven by the *Spicilegio Archeologico* by P. Vimercati Sozzi (1869), figures 51-56.

through the Po Valley, partly managed by the Etruscans and partly by the people of the Golasecca culture, that stretched, now with reinvigorated momentum, towards the east. The transformation of Bergamo into a proper urban centre, marked by its consistent cultural identification as part of the Golasecca culture, happened in a short period of time around the latest 6th century BC. Strategically, this fact perfectly adheres to the general framework, due to Bergamo's location right on the E-W commercial route of the Po Valley and in control of the central Alps of Lombardy.

17.6.1 The Iron Age urbanisation in Bergamo

The Bergamo centre of the late 6th-5th century BC occupied every part of the hilltop, reaching the maximum area of 24 ha (fig. 17.7A). Almost every excavation carried out in the urban area of Città Alta has returned positive observations relating to this phase, which seems to permeate every part of the site, with no evident interruptions.

The articulate morphology of the hilltop, which originally included many bumps, hollows, and small clefts (Chiesa 2019), was heavily modified. Impressive alterations were certainly conducted, and their evidence has been identified during excavations, such as the wider ones under the Biblioteca Civica and in the Piazza Mascheroni. Here, the steep sides of the hill were terraced with stone walls, creating wide plain spaces suitable for buildings. Alternatively, the excavations carried out at Piazza Vecchia, Cappella Colleoni, and Mercato del Fieno found proof of remediation and levelling performed on the clay and stone substrate to fix the hollows and clefts. In general, the urban centre was provided with a hydraulic system of artificial channels, and major streets paved with stone (Convento di San Francesco), or simple minor dirt roads (Piazza Mascheroni). This evidence speaks to a well-organised and regular urban centre with infrastructures and a shared plan. Unfortunately, the information that we have today does not allow for identification of quarters with specific artisanal functions. The only traceable activity, thanks to the abundant presence of slag and melting drops, is metallurgy, performed mostly in the Duomo area, where a roasting surface was also found, and in the Via Rocca 11 excavation, where tools, like a broken stone mould (fig. 17.8.2), were recovered (Poggiani Keller 2007a, 176). Technological features of the ceramic artefacts suggest the use of a fast potter's wheel in the process of shaping the vessel, but yet no traces of kilns.

Parts of houses and huts were unearthed in most of the urban excavations. The remaining evidence belongs, in the majority of cases, to simple rectangular buildings with a single room, with wooden walls installed on stone foundations, sometimes consolidated with clay. The inner floors were slightly lower than the external level, and constructed with simple well-trod soil. [7] Along with this type of building, which is comparable to the alpine protohistoric houses documented in Parre, in 5th century BC Bergamo there were also huts, built with wooden posts and perishable walls covered in clay plaster.[8] Fireplaces abundant in charred food waste, along with traces of domestic artisanal activities, such as spinning, were also found inside the houses and huts.

From the late 6th century BC (Golasecca phase IIB-C. fig. 17.7B) and even more in the 5th century BC (Golasecca phase IIIA. fig. 17.8) the material culture of Bergamo is fully aligned with the typical productions of the Golasecca culture (de Marinis 1981). This applies to the metal and pottery artefacts both in technique and general shaping or decoration of the artefacts. Nevertheless, there are some artefacts which could be identified as local varieties and original elaborations of known models, but the study of these morphological details is still ongoing. As anticipated by its location, the material culture from Bergamo also closely relates to the "eastern" *facies* of the Golasecca culture, the one revolving around Como (de Marinis 2017b, 228-233; de Marinis and Casini this volume). The only marked eccentricity in the ceramic productions of 5th century BC, which is not surprising given its long-lasting relations, is the presence of few typical alpine artefacts, such as the sherds of the Breno-type mug,[9] (Fig. 17.8.15) a highly distinctive object that carried a symbolic value for the alpine peoples. In general, the 6th-5th centuries BC Bergamo is the easternmost Golasecca-culture urban centre, placed on the border of the other main cultures of EIA northern Italy, such as the Palaeoveneti, the Etruscans, and the mixed cultural groups in the surroundings (Zamboni 2018).

17.6.2 Bergamo and its territory: culture, ways, contacts

The urban centre, in addition to the control over the main commercial lines, also worked as a central hub for a network of rural settlements and hamlets. Its territory for the first time appeared intensely occupied. Its influence spanned probably from the pre-alpine valleys north of Bergamo to the area between the rivers Serio, Brembo, and Adda to the south (de Marinis 2017b, 232).

Significantly, the material culture from the urban settlement hardly seems to give credit to this new central role (fig. 17.8.3-4), and the almost complete absence

7 This technique was identified, among others, at the excavations of Convento di San Francesco, Duomo, Piazza Mascheroni -Giardinetto.

8 Vicolo Aquila Nera, Biblioteca Civica, Piazza Mascheroni – Giardinetto, Via del Vasine 2, Piazza Mercato del Fieno, Via Solata 8.

9 For an in-depth analysis of this shape, see de Marinis 1989, 1992, and Rondini 2017, 271-276.

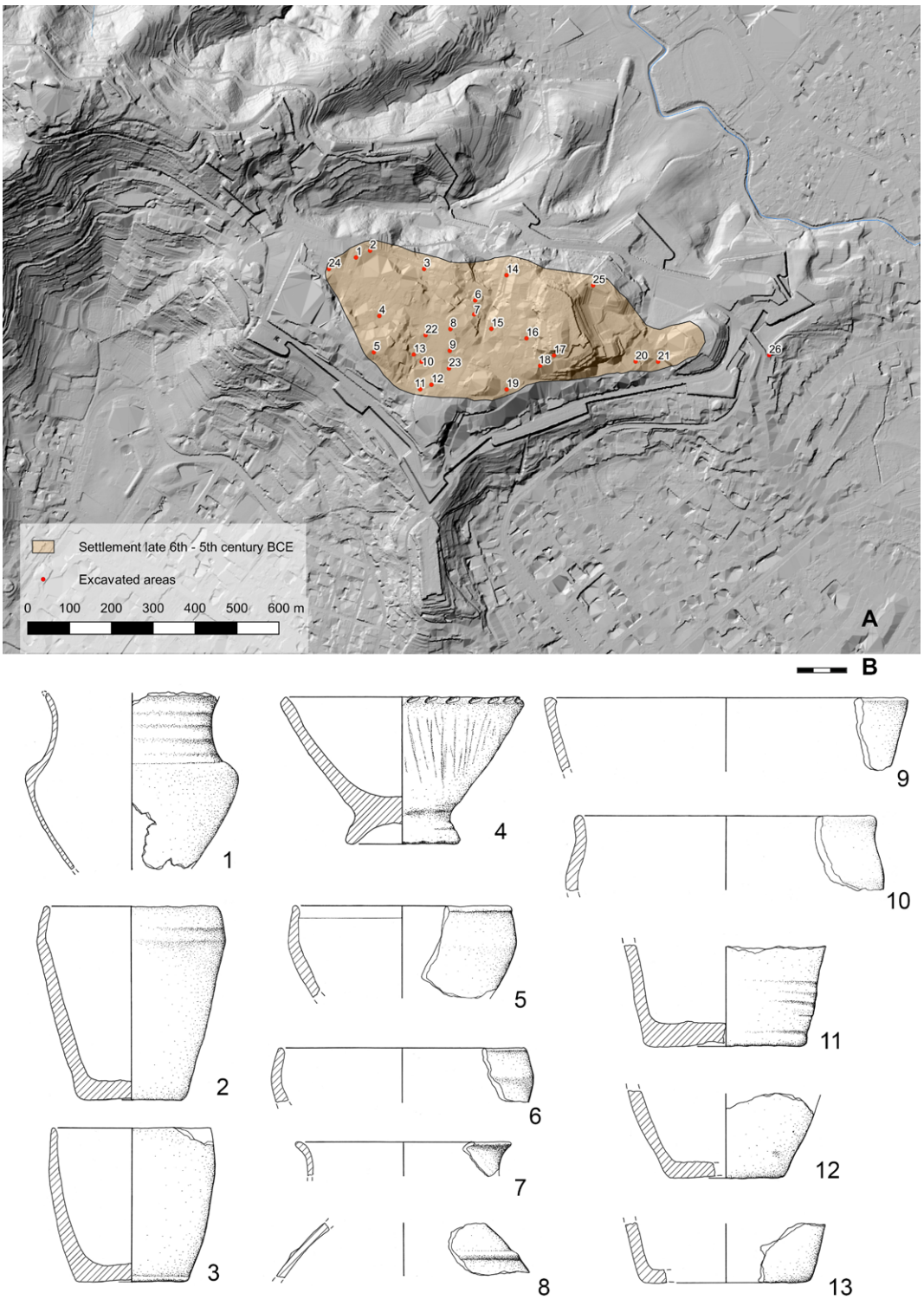

Figure 17.7. Bergamo: A: map of the settlement area in 6th-5th century BC and archaeological excavations (GIS elaboration on Lidar DTM 1x1 by P. Rondini). B: selection of pottery from the 6th century BC excavation at Piazza Mascheroni – Giardinetto, US 67 (drawings by P. Rondini).

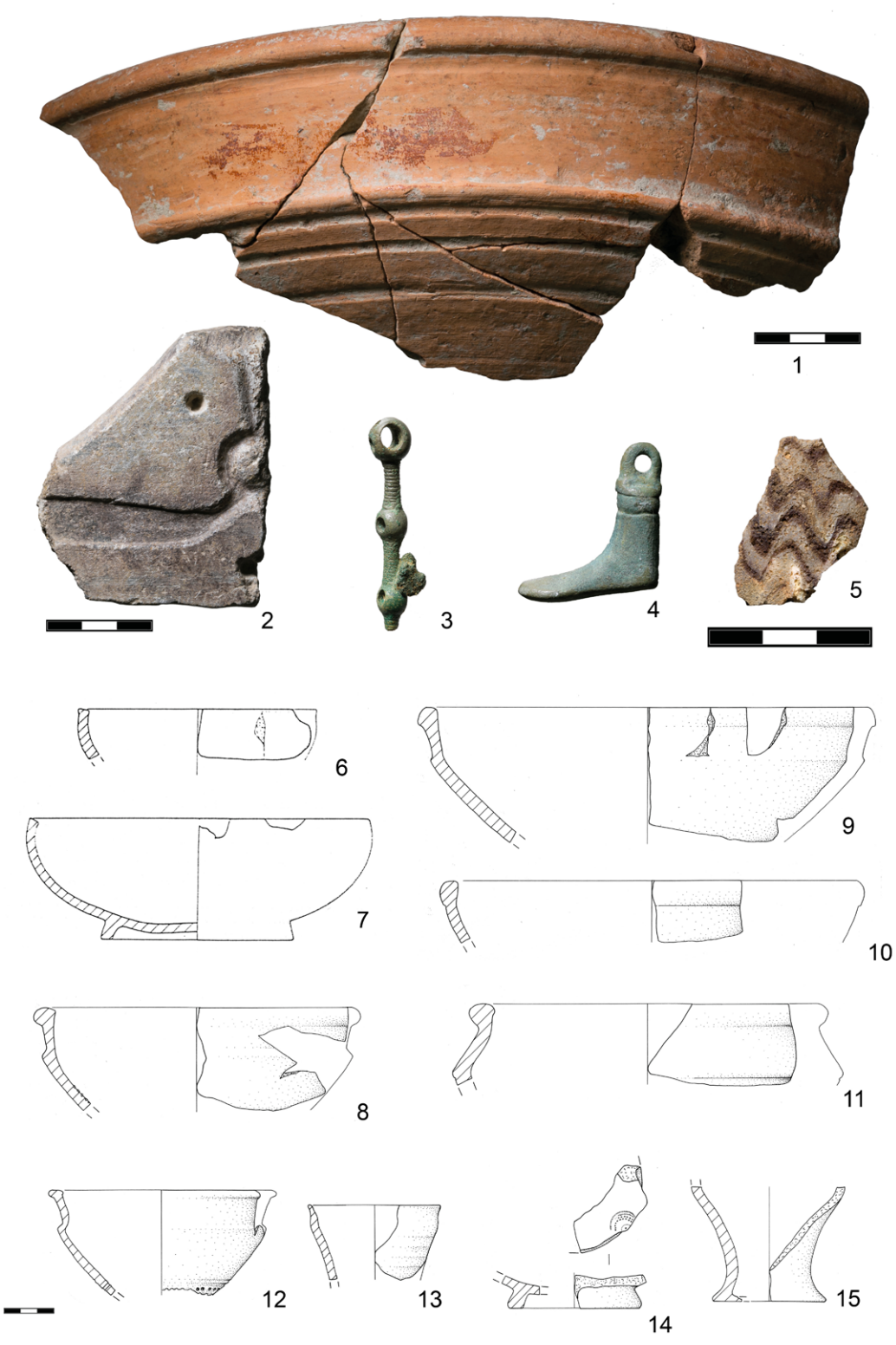

Figure 17.8. Bergamo: selection of artefacts from the 5th century excavations (photographs by P. Rondini; drawings by F. Magri).

of tombs from the site,[10] presumably destroyed by the aforementioned continuity of life in the city or, more hopefully, still to be found, significantly hampers our capacity to fully understand its social complexity. There is however a small amount of Attic pottery (Casini 2007a; Muscolino 2014) from the 5th century BC layers of several excavations, to testify the presence, albeit minor, of imported goods in the settlement area. Another interesting object, this time imported from the eastern Mediterranean, is a sherd of a glass *alabastron* from the Piazza Mascheroni excavation (fig. 17.8.5) (Poggiani Keller 2007a, 183-184).

The picture changes substantially if we consider the territory. There is some important data, related to both settlement and funerary areas, that can help us to understand the social aspects of Bergamo and its connections. The most relevant findings seem to outline two main paths that connected Bergamo, since late 6th century BC, with the main proto-urban centre of the eastern group of Golasecca, Como (Casini *et al.* 2001; de Marinis and Casini this volume), and also, since the 5th century BC, the newly founded centre of Milano (Casini and Tizzoni 2015; Ceresa Mori 2015). According to the archaeological evidence, the main connection between Bergamo and Como was the path through the sites of Osio Sopra, Brembate Sotto, Trezzo sull'Adda (de Marinis 1974), which crossed the Adda River at the ford of Capriate S. Gervasio (Casini 2007b, 191; Poggiani Keller 2007b). The burial ground excavated in late 19th century AD at Brembate Sotto (Casini 2017) gave evidence of both a 6th and, more consistently, 5th century BC small group likely living nearby.

The analysis of the funerary ritual (exclusively cremation, see de Marinis 2019b) and the rich grave goods have proven that these tombs belonged to the Golasecca culture. An elite class of warriors is represented by the presence of numerous weapons (a bronze helmet, an iron sword, three knives, and some spearheads), unfortunately found in 1888 and devoid of the original closed contexts of the graves (Casini 2017). Even so, the presence of these weapons is an element of great interest, especially in the case of the iron "pseudo-anthropoid" sword. This particular type of weapon has a broad diffusion throughout Europe during the Iron Age and, given its particular hilt, could have carried a special meaning, as recent studies have suggested (Casini 2017, 156; Pearce 2013). Furthermore, the role of women in this aristocratic society was probably also of high importance, as exemplified by some rich tombs containing precious objects such as bronze distaffs or elaborate belt buckles. Along with these, other tombs from Brembate Sotto contained several bronze vessels imported from Etruria (*Schnabelkannen,* stamnoid *situlae*, a *kalathos situla*, and a *kyathos)*, chosen to be part of the grave goods as a clear sign of rank and power.

In addition, more recent finds would seem to suggest the existence of other routes linking Bergamo with the lands in other directions. Namely, a tomb from an Iron Age cemetery in Caravaggio, on a probable southward route, unfortunately ruined by recent agricultural work, contained a bronze foil *situla*[11] ornamented with bands of figures executed in the style of *situla*-art production of Veneto.

17.6.3 5th century in Parre

Meanwhile, the settlement of Parre – Castello seems to undergo a singular and significant change during 5th century BC. Excavations documented a series of general restructuring and expansion of the site (fig. 17.6A-B; Poggiani Keller 2007a, 160). Houses appear to be dismantled and rebuilt, following a symmetric organisation on a north-south axis. Some structures were still built with a single room, others had two, while technological execution remained the same as before, with stone foundations and wooden walls. Material culture from the houses of 5th century BC show the most interesting occurrence of both the traditional alpine artefacts and, less numerous yet distinctive, the typical productions of the Golasecca culture.

Presented here are the artefacts from "house 277", in which a great quantity of pottery was found, often well preserved. There are the typical Golasecca vessels, all in red fine clay, such as the globular pot with horizontal cordons (fig. 17.9.1), the smaller ovoid pots with rounded rim (fig. 17.9.5-6-7), cups with ring-foot (fig. 17.9.8), along with some alpine pottery productions, such as Breno-type mugs (fig. 17.9.4-9-11), and the wide pans (fig. 17.9.10), sometimes with the external surface decorated with *besenstrich*, a dense covering of vertical, irregular streaks (fig. 17.9.3).

Bronze and glass ornaments also are directly referable to the Golasecca-culture productions (Rondini 2017, 283). The material culture of daily objects from Parre is of significant interest, as it speaks to a society where objects from two separate and distant traditions were used together, without the ideological filter or personal agency underlying the selection of the grave goods. Once again, Parre offers a singular "inverted feedback" to Bergamo.

17.6.4 The hoard of Parre

At the beginning of 5th century BC (de Marinis and Guštin 1975, 244-249; Poggiani Keller 1992, 309), a great number of semi-circular bronze ingots and broken artefacts, along with some metal slag, traces of charcoal, and a few sherds of pottery, were buried in a pit lined with stones and

10 With the exception of two tombs from the Scarlasso area, on the southern slopes of the hill, found in late 19th century and now lost. These tombs supposedly contained rich grave goods, with bronze objects and imported Greek productions (Casini 2007b, 191).

11 The artefact, still unpublished, is exhibited at the M.A.G.O. Museum in Pagazzano (BG).

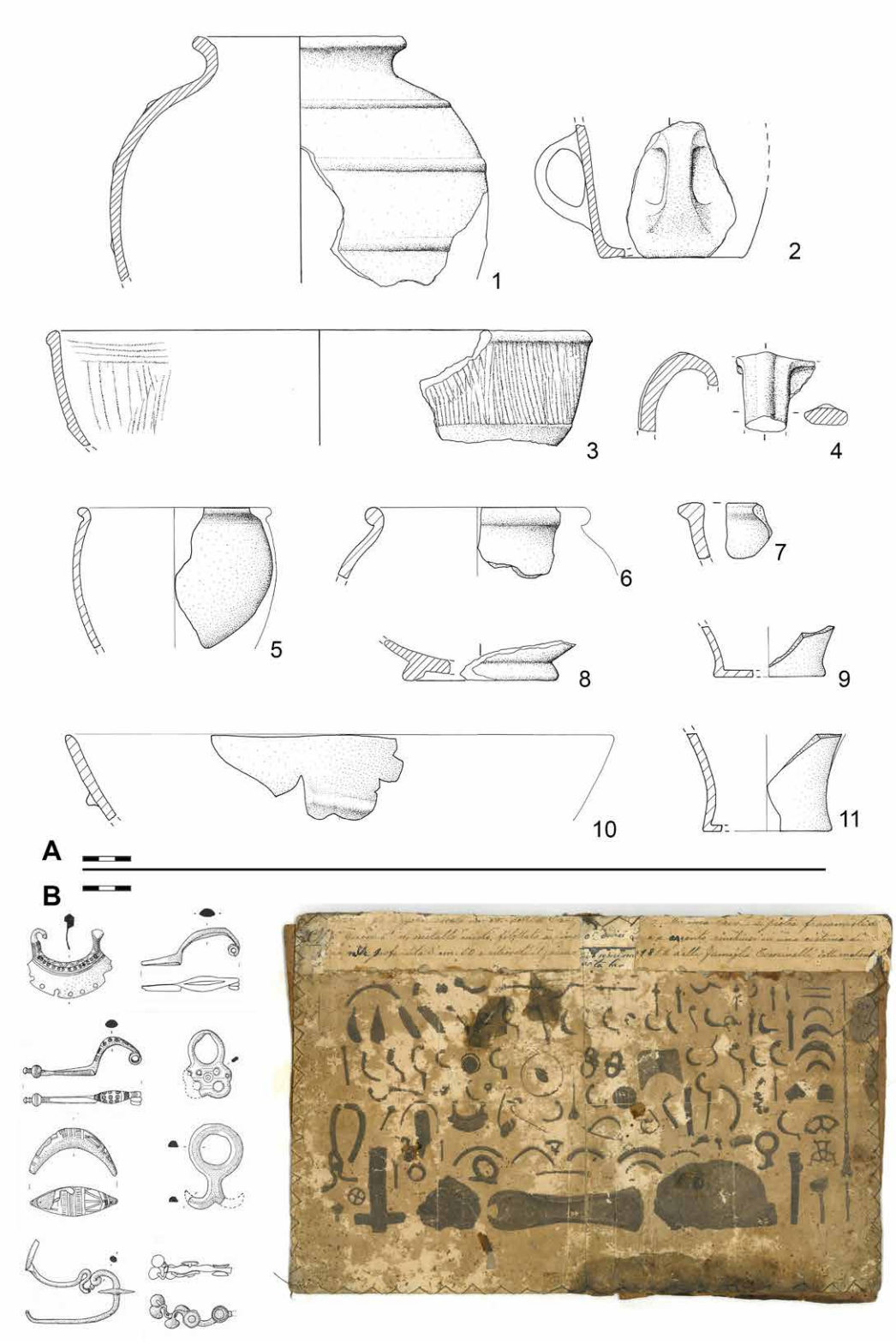

Figure 17.9. Parre: A: selection of pottery from the "house 277" (1-4 from US 257 drawings by P. Rondini; 5-11 from US 410 drawings by F. Magri); B: selection of artefacts from the hoard of Parre (drawings after de Marinis and Guštin 1975; photograph after Mantovani 1896-1899).

covered with a stone slab.[12] This hoard, which has been interpreted as a smelter's deposit (Poggiani Keller 2007a, 153), was an immense wealth, collected and encased, and destined not to be opened again (fig. 17.9B).

Thanks to the excavations, we now know that the bronze hoard was located right in the area of the settlement, less than 100 m southwards from the "house 277". Due to its contents, especially the high number of ingots and the incongruous selection of broken items, the interpretation of this hoard as the deposit of a smelter would appear correct. Its size, however, casts some doubts. If we consider that the total weight amounts to, although uncertain, more than 1000 kgs, it is very difficult to compare it to the size of the settlement of Parre which, on the contrary, was quite small. If a hoard of a roughly similar size, as the S. Francesco one (Manfroni 2005 with cited literature; see also Ortalli this volume), is perfectly coherent with a city the size of Bologna/*Felsina* in the 7th century BC, then it is more likely that the hoard of Parre was instead a common hoard, a shared treasure. If this is true, it could mean that maybe Parre was a central place for this alpine district, some sort of collector of shared resources. But the more puzzling question is not why this hoard was there in the first place, but why was it not reopened and used later.

As we know from literature (de Marinis 2019a, 290 with previous literature, *e.g.* footnote 33), hoards are to be approached with the fundamental distinction between reversible depositions, the ones intended for further reopening and using, and the irreversible depositions, the ones where the objects were thrown away never to be found, as for example in lakes, bogs, or crevasses. The fact that the hoard of Parre was kept in the most protected area of the settlement, the southern border of the terrace with very steep sides, paired with the analysis of its composition, all seem to indicate that it could have been intended as a reversible deposition, the wealth of a community of miners and smelters, safely stored but intended for later use. As for the reasons why this never happened, we may have to look at the settlement trajectory, and at the wider picture.

As seen, evidence of discontinuity in the life of the village is clear, both in its reorganisation during 5th century BC and in the same period's mixed material culture. The more pervasive presence of Golasecca culture artefacts, most of all, seems to suggest a change in the habits of the people of the site or, possibly, in its very configuration. In this regard, the "disappearing" of a metal assemblage of such great value, buried in the same years but never re-opened, speaks clearly of a discontinuity in the settlement traditions. Given our current knowledge of this event, further considerations must be acknowledged as simple work hypotheses. We believe that the most interesting interpretation is the one that takes into consideration the privileged relationship between Parre and Bergamo. To do so, recollect the sudden shift of Bergamo, which it underwent in a short period of time, towards the end of the 6th century BC, changing from the status of village to urban centre. Consequently, we have to take into account a series of inevitable political and socio-economic repercussions that this shift, which was in effect also a shift in power, caused to the relations between Bergamo and its surrounding land. We may then imagine a series of discussions and negotiations going on, perhaps even some pre-existing treaties and balances being questioned. In this light, what archaeology tells us about Parre in the 5th century BC, from the "vanishing" of the hoard and the restructuring of the site to the "new" mixed material culture, fits perfectly within the context of a shift -amicable or not- in the balance between the power of the main centre and its metallurgical satellites in the mountains.

17.6.5 Oromobiorum Parra

The study of classical sources can help to complete, or maybe rather to complicate, this picture. More specifically, this quote from Pliny the Elder has often been used in the studies about Parre and Bergamo (Cantarelli 1986; de Marinis 2001, 27-29; Ardovino 2007): "*According to Cato, Comum, Bergomum, and Licini Forum and some surrounding peoples are of the Oromobiorum stock, but he confesses that he does not know the origin of that people; whereas Cornelius Alexander states that it originated from Greece, arguing merely by the name, which he renders 'those who pass their lives in mountains'. In this locality a town of the Oromobii named Parra, said by Cato to be the original home of the people of Bergamo, has perished, its remains still showing its site to have been more lofty than advantageous*" (Pliny, Nat. Hist. III, 124-125).

Thanks to this quote, scholars have identified the ancient *oppidum* of "Parra" with the archaeological site excavated in today's Parre and discussed the origin of the so called "Oromobi", nowadays "Orobi", the ancient inhabitants of these lands. In present research, the phrase "*unde Bergomates*", which would seem to imply that the inhabitants of *Bergomum* originally came from *Parra*, is of some interest. As seen, the archaeological data tell a more complex, yet not so different, tale. Both sites have very ancient origins. Stable settlement in Parre begins in Medium Bronze Age, at the Botti area, and during the final stages of the FBA moves to the Castello area. In the same period the settlement on the hill of Bergamo was also being established. The two sites shared distinctive features in material culture, ever since Bergamo's beginning and until the end of 5th century BC. These facts would therefore seem to confirm the chronological priority of Parre, while not denying a possible "origin story" about Bergamo descending from Parre.

12 This hoard was found in 1883 during agricultural works. Part of it was soon sold, but luckily, some ingots, along with all the artefacts (with the exception of pottery and slag, which were lost), were saved by Gaetano Mantovani and brought at the Archaeological Museum of Bergamo, where they still are.

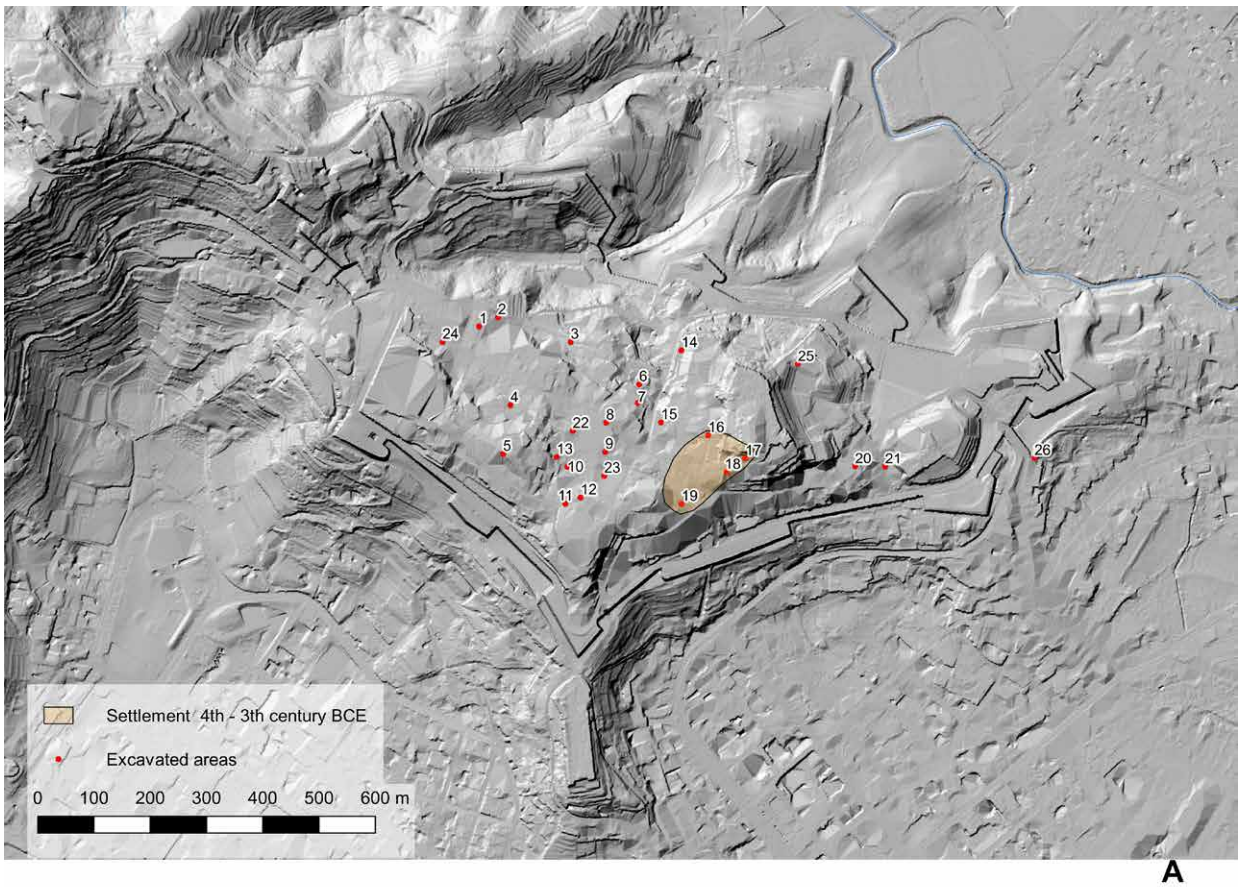

Figure 17.10. A: Map of Bergamo during 4th-3rd centuries BC, with archaeological excavations (GIS elaboration on Lidar DTM 1x1 by P. Rondini). B: Parre, picture of one of the 4th-3rd centuries BC structures.

Of course, this is somewhat of a long stretch, especially considering that this ancient event, perhaps somehow turned into some sort of mythical "origin tale", would have been handed down orally for many generations, since the 10th century BC, all the way to Cato in the 3rd-2nd centuries BC. Still it must be admitted that it still does look more likely than if it was referring to the events of the 6th-5th centuries BC, which, seemingly, tell quite the opposite story.

17.7 Final remarks: Bergamo and Parre after 388 BC

The Celtic invasions, historically dated to 388 BC, seem to have had a grievous effect on the population of the main centre. Evidence from the excavations suggests a continuity in an estimated area of 1.3 ha, although with a consistent decrease in the settled area on the hilltop of Bergamo, which during the 4th-3rd centuries BC appears restricted to the eastern part. Somehow, the once powerful urban centre seemed to have lost, in the new political framework of Gallic northern Italy, its power and strategic significance. The urban trajectory of Bergamo thus appears to conclude its first cycle[13] along with the disruption of the trade network established in the Po Valley by the Etruscans and the people of the Golasecca culture. Therefore, we can consider this early urban phase perfectly instrumental to that specific socio-economic phenomenon, rather than the natural outcome of the settlement evolution.

Even in Parre the events of the 4th century BC did not end in an evident disruption of the settlement. The most recent excavations, conducted in Sector A of the Castello area for touristic enhancement of the archaeological site, have led to the discovery of a rectangular house dated to the 4th-3rd centuries BC. This structure was built with the usual perimeter basement of dry stones and upper perishable walls. As opposed to the EIA houses, its floor of well-trod clay was completely framed within its perimeter and internally partitioned with horizontal planks and oak logs (*Quercus petraea*[14]). A sample from one of the floorboards was radiocarbon dated to 2229±40 BP (2σ 387-201 cal. BC; 1σ 304-209 cal. BC). The study of the material culture from the structure is ongoing, but preliminary analyses seem to confirm the presence of both alpine and external, *i.e.* Gallic, productions (even long-range ones), consistent with the previous phase. The settlement of Parre lasted until the 1st century BC when the settlement, now in its Roman phase, was abandoned for at least three centuries.

13 A second phase of growth and ultimately of urbanism will happen during the Roman Age, with prolonged continuity.

14 Archaeobotanical analysis was conducted by Elisabetta Castiglioni, ARCO Cooperativa di Ricerche Archebiologiche, Laboratorio di Archeobiologia dei Musei Civici di Como.

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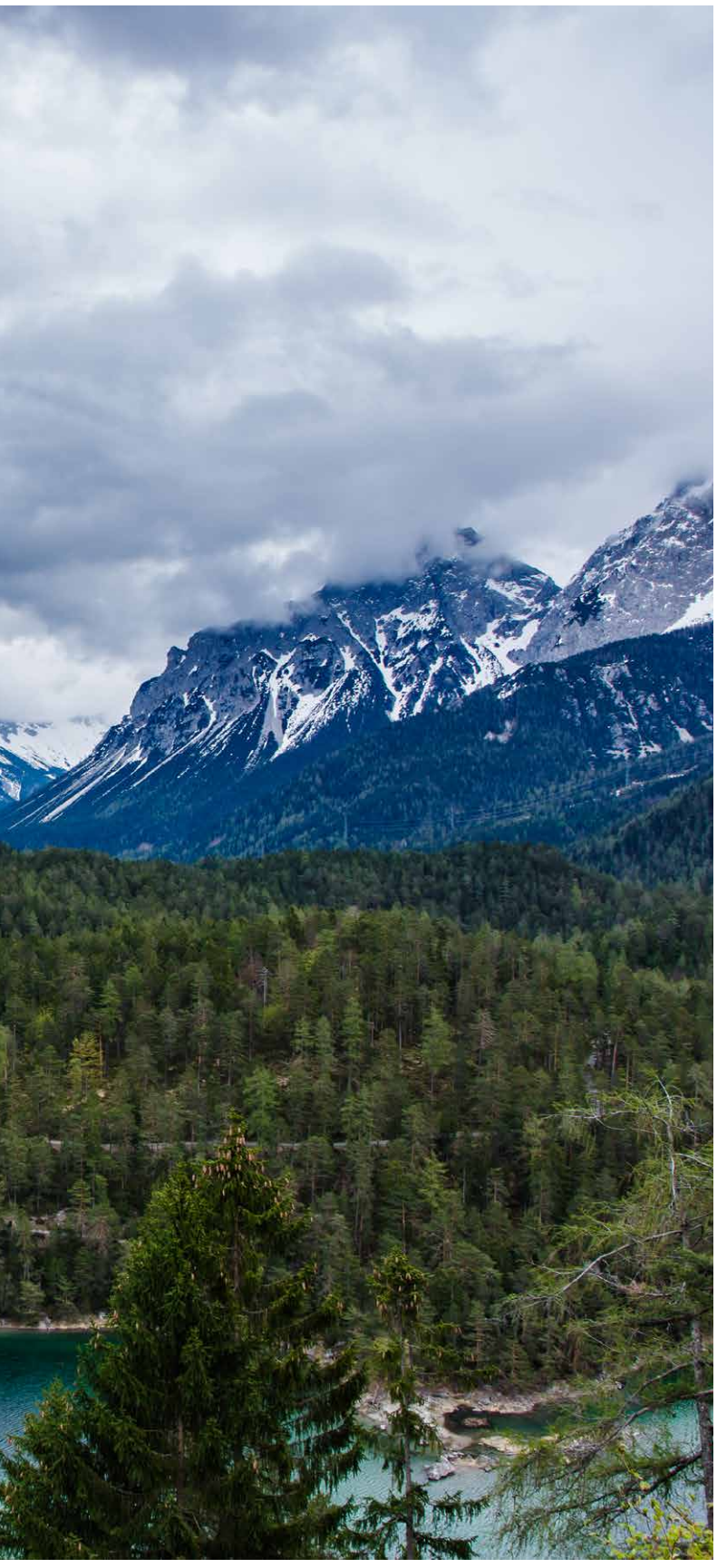

PART 3

EARLY URBANISATION PROCESSES IN CENTRAL EUROPE

Chapter 18

Earliest Town North of the Alps. New Excavations and Research in the Heuneburg Region

Dirk Krausse, Leif Hansen & Roberto Tarpini

The Heuneburg was one of the most important centres of power during the Early Iron Age north of the Alps. At the height of its prosperity in the first half of the 6th century BC the Heuneburg consisted of the hilltop plateau or acropolis, the lower town, and the outer settlement extending over an area of about 100 ha. The fieldwork of the last two decades has radically changed the traditional picture of this Early Iron Age centre of power. The Heuneburg should no longer be described as a small 'princely seat', but rather as one of the first urban or proto-urban centres of temperate Europe. The new results of the excavations at the Bettelbühl necropolis also shed completely new light on the history and development of the Heuneburg itself. The extraordinary finds from tumulus 4 suggest close connections south of the Alps. Within the framework of a long-term research programme financed by the German Research Foundation, the further environment of the Heuneburg has been the subject of systematic investigation since 2014. The spur of the Alte Burg was extensively reshaped in the Hallstatt period and served as a cult or assembly place, perhaps also as a location for games and competitions. The Große Heuneburg instead was a fortified hilltop settlement protected by powerful two-shelled walls. The Heuneburg, the Alte Burg, the Große Heuneburg, and further hilltop sites in the region, will have formed a complex system consisting of a main centre with further dependent central places.

Keywords: Baden-Württemberg; Hallstatt and Early La Tène periods; Fortifications; Princely grave; Landscape archaeology.

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18.1 Introduction: The Heuneburg in Light of New Research

The Heuneburg on the Upper Danube is one of the best-studied sites of the European Iron Age. Research has been carried out on the rich Hallstatt period burials from its environs since the late 19th century, while modern excavations in the settlement have been conducted almost continually since 1950. The discovery of a mudbrick wall based on Mediterranean prototypes and probably erected around 600 BC was spectacular, and soon attracted international attention. The excavations continued until 1979 and produced further substantial results (Gersbach 1989; 1995; 1996; Kimmig 1983). The archaeological material is unusually rich and allows the reconstruction of 14 structural phases during the Late Hallstatt period, together with 10 phases of fortifications, thus providing remarkable insight into the development of the settlement on the

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 299-318.

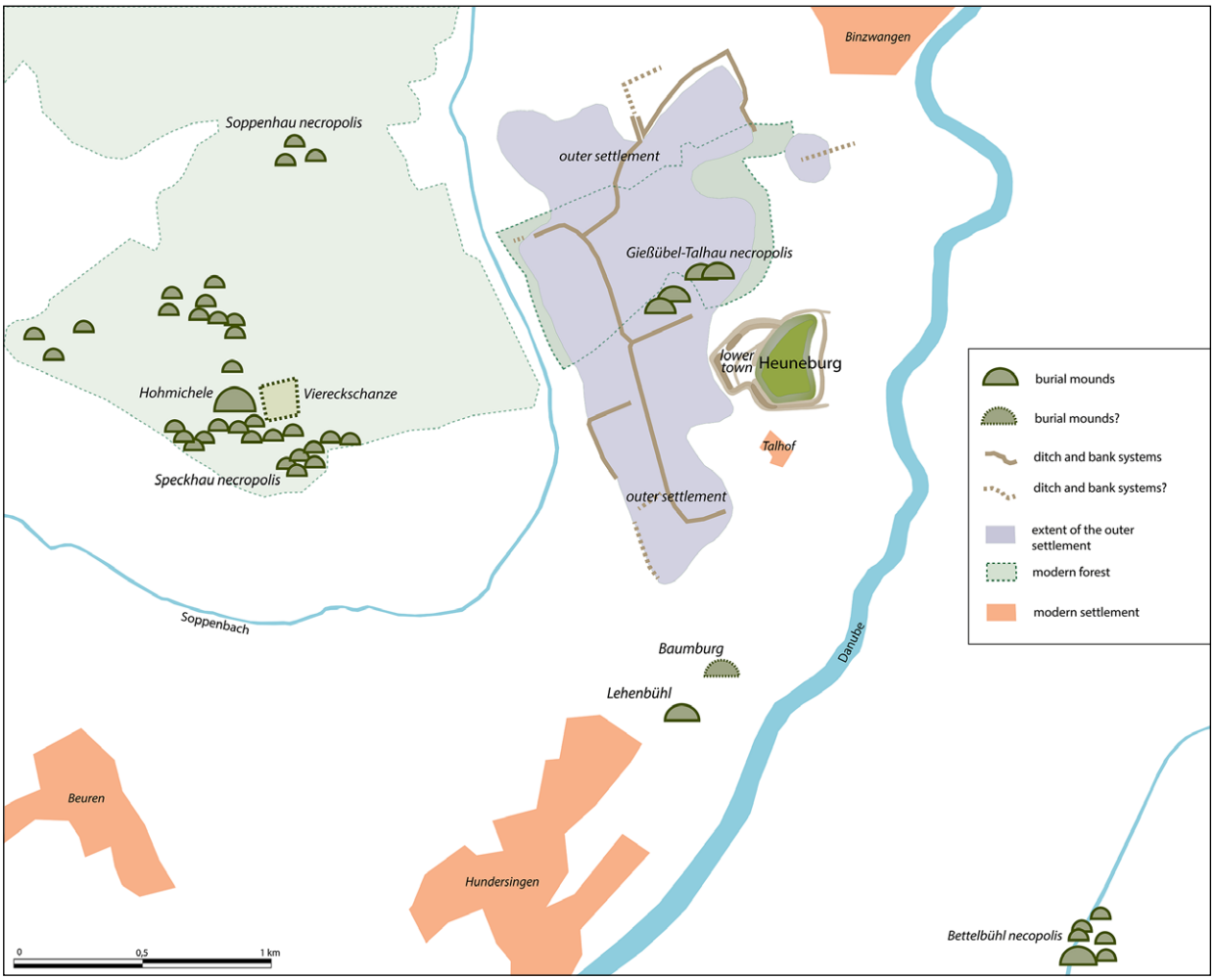

Figure 18.1. Map of the Heuneburg with the hilltop plateau, the lower town, the outer settlement and surrounding cemeteries (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, I. Kretschmer/L. Hansen).

hilltop plateau, which in the Early Iron Age constituted a genuine 'acropolis'. All in all, between 1950 and 1979 approximately one third of the hilltop plateau was systematically excavated and documented.

In spite of this long tradition of research, new fieldwork carried out in the last two decades has radically changed our understanding of the Heuneburg (Fernández-Götz and Krausse 2013; Krausse *et al.* 2016; 2017a). At the height of its prosperity in the first half of the 6th century BC the Heuneburg consisted of the hilltop plateau or acropolis (*Burgberg*, 3 ha in size), the lower town (*Vorburg*, c. 1.5 ha), and the outer settlement (*Außensiedlung*, some 100 ha) (fig. 18.1). At this time the Heuneburg can rightly be described as the most important centre of power north of the Alps (Krausse 2008; 2010). Around 450 BC the Heuneburg was abandoned by its inhabitants and vanished from memory.

18.2 The mudbrick wall phase

Around 620 BC, at the beginning of the Late Hallstatt period, the Heuneburg was settled and fortified (Gersbach 1989; 1995; 1996). Initially a wall was built on the remains of a Bronze Age fortification (Gersbach 2006), consisting of an earth and timber block construction with two rows of rectangular timber blocks. In addition, several groups of farmsteads within palisaded enclosures were built in the interior of the hilltop plateau (Heuneburg period IVc).

Some 20 years later, about 600 BC, the Heuneburg was completely restructured. A fortification made of a wall of air-dried mud bricks was built around the hilltop plateau, which is absolutely without parallel north of the Alps (Heuneburg period IVb-IVa). The mudbrick wall was protected from rising damp by a masonry plinth 3 m wide and up to 1.6 m high. The wall was covered with clay plaster, a measure that ensured damp could not penetrate the wall's core. On the west side of the hilltop plateau the

Figure 18.2. Masonry foundation of the lower town gate. The cross walls reduced the width to 2.5 m (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, O. Braasch).

mudbrick wall included a series of projecting, bastion-like towers with a ground surface area of between 29 m^2 and 55 m^2. Like the wall itself, at this time the bastions were also unique for the region north of the Alps (see *e.g.* Boissinot and Peyric 2009). For the construction of the entire 756 m of the mudbrick wall and the towers, a total of 545,000 bricks (8,050 m^3) would have been required (Remise 2019, 86).

At the same time as the mudbrick wall was built, so too the arrangement of the internal buildings on the hilltop plateau was radically changed. Without any traces of a fire, all of the farmsteads of the previous structural period IVc were demolished and a regular town plan was established with rows of houses along a network of streets that crossed at an angle. This dense settlement, or 'upper town', with buildings grouped in rows, stretched right up to the wall of the fortification. The arrangement of the buildings on the hilltop plateau in the first half of the 6th century BC has the characteristics of an early form of urban life.

18.2.1 The lower town

For a long time, scholars assumed that the defences below the Heuneburg hilltop plateau had been built in the Middle Ages. This picture has been corrected by the excavations of the last 15 years. It is now clear that the construction of the complex of ditch and bank systems to the west of the hilltop plateau must already have taken place in Hallstatt D1 (Bofinger and Goldner-Bofinger 2008; Stegmaier 2010). Proof of the early date of this circuit of fortifications around the lower town was provided in 2004 by the discovery of numerous timbers within a ditch that runs beneath the northern tip of the Heuneburg (Bofinger 2004; Bofinger and Goldner-Bofinger 2008). At the bottom of it, oak as well as beech and conifer timbers were found, some of which could be dated by dendrochronology to an exact year and could be connected to the building activities of the first quarter of the 6th century BC. The timbers were part of a bridge construction that in all probability crossed the ditch from the north and provided access to the eastern terrace.

During the course of work in the area of the lower town, in 2005 excavators came across the remains of a monumental stone gateway that was at least 16 m long and 10 m wide (fig. 18.2 -Fernández-Götz 2018; Kurz, G. 2008). Like the fortifications of the hillfort plateau, the gate building consisted of a mudbrick superstructure on a stone plinth. Several examples of burned mudbricks were found in the demolition rubble and the ditch in front of the gateway. Although it is difficult to date the stone gate exactly, it was certainly built in the first half of the 6th century BC. Its early

date, the import of Mediterranean architectonic technology, and its exceptional monumentality make the stone gate a unique structure in the entire region north of the Alps.

Next to the east side of the gate, a wall ran parallel to it that is most likely to be interpreted as a stairway that provided access up to a parapet walkway that ran along the top of the 4 m high embankment. The rampart was crowned with a wooden palisade that provided the defenders with additional protection. There was also a 14 m wide and 6 m deep V-shaped ditch in front of the gate that was crossed over via a wooden bridge structure.

Summing up, the imposing ensemble of gatehouse, bank and ditch can without doubt be described as a first-rate demonstration of power. The gateway that was integrated into the embankment, and the ditch in front of it spanned by a bridge, were clearly designed to create as monumental an impression as possible.

18.2.2 The Outer Settlement

In the 1950s, during the excavations in the Gießübel-Talhau necropolis, which is located about 400 m northwest of the acropolis, it became clear that not only the hilltop plateau of the Heuneburg was densely settled (Schiek 1959), but the built-up area in the first half of the 6th century BC also extended far beyond to the area to the west of the hilltop plateau and the lower town. The settlement layers were particularly well preserved beneath the Gießübel-Talhau burial mounds. Nevertheless, for a long time, scholars assumed that the so-called outer settlement was restricted to an area of just a few hectares where craftsmen lived, as well as other groups of the population that belonged to the Heuneburg (Kurz 2000). It was only with more recent research that has been carried out since the 1990s that evidence has been found that the outer settlement was in fact far larger (Kurz 2007; 2010). Thanks to intensive field-walking, geophysical surveys, LiDAR images, and targeted excavations, proof could be produced that in the first half of the 6th century the outer settlement extended over an area of about 100 ha to the west, north and southwest of the hilltop plateau (Bofinger *et al.* 2006; Kurz 2008; 2010). Its remains today lie mainly beneath arable land.

The outer settlement was -as new research shows (Krausse *et al.* in press)- at least in part densely built up and separated by ditch and bank systems. These earthworks divided the outer settlement into smaller quarters within which several large rectangular farmsteads were aligned next to each other. These units covered areas of up to 1 and 1.5 ha that were surrounded by substantial solid wooden fences.

18.3 The time after the mudbrick wall

A decisive break in the history of settlement at the Heuneburg followed in the years around 530 BC. The inhabitants of the hilltop plateau were confronted with a catastrophe that saw the settlement burned down and the mudbrick wall destroyed by fire (Gersbach 1995, 91; 1996, 5-6). There is also evidence of fires in the outer settlement after which the extensive occupation there came to an end. Although no reliable conclusions can be drawn as to the cause of the catastrophic fire, everything points to a violent conflict, and various scenarios are imaginable: a warlike event in which the outer settlement and the hilltop plateau were besieged, internal conflict with disputes between rival factions, and/or a rebellion by the local population. Since there were also fires in the outer settlement (Kurz 2008; 2010), a natural explanation such as a lightning strike or a house fire that spread is unlikely.

18.3.1 Hilltop plateau and lower town

The hilltop plateau underwent far-reaching architectural change after the catastrophic fire (Heuneburg period III). Instead of the relatively uniform houses arranged in rows during the mudbrick phase, there was now a looser scatter of individual farmstead units with habitations, outhouses, and store buildings that were separated from each other by fences and ditches (Gersbach 1996). Prestigious houses of enormous proportions -more than 400 m^2- the so-called 'chieftains houses' were also erected. The interpretation of the function of these monumental buildings is as yet only hypothetical. They could have served representational purposes for an elite ruling class, or as public assembly halls. The fortifications on the hilltop plateau saw a return to traditional forms of earth, timber, and stone architecture.

The end of this period of settlement too was marked by a catastrophic fire, dated to about 490 BC. In the following phase (Heuneburg period II), the new structures in many areas followed the arrangement of the buildings before the fire. For example, in the southwest of the plateau a large building measuring 17.5×22.5 m was erected in the same place, like a monumental building of period III. The smaller habitations, outhouses, and store buildings were not arranged in exactly the same way as before, although they were still scattered over the hilltop plateau.

This scattered occupation on the hilltop continued through the first half of the 5th century BC (Heuneburg period I), although to date no evidence has been found for the existence of large structures in the southern section. It is remarkable that during this phase of the settlement there is great similarity in size and layout of the buildings, which were now more standardised.

The area of the lower town continued to be occupied after the destruction of the mudbrick wall. In fact, the density of settlement even increased during the last quarter of the 6th and the early 5th century BC. During the course of excavations, the area of the lower town proved to be particularly rich in finds. For example, more than 50 bronze fibulae were found, a number that is significantly higher than that normally found in settlements of the

Figure 18.3. Human bones and carefully worked stone blocks on the eastern terrace (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart).

Hallstatt period. The fibulae, as well as finds of slag, casting beads, and other production waste, raw materials, and half-finished products, reveal the existence of metal workshops (Bofinger and Goldner-Bofinger 2008).

The discovery of post pits and foundation trenches of a later date confirmed that the monumental stone gate which had provided access to the lower town, and had existed together with the mudbrick wall, was subsequently replaced by simpler timber structures. The bank of the rampart was strengthened; it was now 5 m high in total and 20 m wide at its widest point (Kurz, G. 2008).

The outer settlement was abandoned in the years around 530 BC, only in the south did a small hamlet remain. About 400 m northwest of the Heuneburg, the four monumental burial mounds of the Gießübel-Talhau necropolis were constructed over the remains of the outer settlement.

18.3.2 Surprising Finds on the Eastern Terrace

On the terrace between the Danube valley and the hilltop plateau, which had been the subject of little previous research, conspicuous structures hidden in the ground were identified during a geomagnetic survey, and were the object of archaeological excavations conducted by the

State Office for Cultural Heritage from 2011. The features that were discovered were extremely puzzling and are indicative of completely novel and previously unknown installations and events at the Heuneburg.

Up until 2014 some 485 fragments of human skeletons and teeth that could be attributed to at least eight different individuals were recovered at the site (Hansen *et al.* 2014, 153-154; Krausse *et al.* 2013, 202-208). Radiocarbon dates clearly establish a chronology in the 6/5th century BC for the human remains. The bones are from a man, several women, as well as adolescents and children, and only few of them were found in their original anatomical arrangement. They bear traces of damage that were the result of violence and fire, additionally they had also been relocated or disturbed on several occasions. It would seem that originally, the deceased had lain on the bank of a ditch that was part of a ditch and bank system running parallel to the eastern slope of the hilltop plateau. It is not known how the bodies came to be placed on the eastern terrace, nor why they were not buried in graves. Possible scenarios are warlike conflict, an epidemic, or famine. Evidence of injury to the skulls caused by blunt instruments, as well as the discovery of several iron arrowheads, suggest that the individuals met a violent end (fig. 18.3). It is exceptional to find such a large number of human bones, since otherwise only few human remains have been recovered from the hilltop plateau and the lower town (Wahl 1995).

Several large concentrations of stones and other finds were uncovered on the prehistoric surface next to the skeletal remains. The Hallstatt period pottery, including wheel-thrown wares from the final phase of settlement at the Heuneburg (period I), date the structures to the first half of the 5th century BC. In addition, a small number of animal bones and fragments of amber, as well as iron and bronze objects were also found. The metal finds include belt hooks, as well as a bronze arm ring, the remains of earrings, and a bronze finger ring. The remains of several carefully worked sandstone blocks, including a complete one measuring 61x34x20 cm and weighing 107 kg, are quite unusual. The sandstone blocks from the eastern terrace are the first finds of this kind, and indicate that there must have been high quality sandstone architecture of a kind that was previously unknown at the Heuneburg.

18.4 The end of the Late Hallstatt Heuneburg

The evidence suggests that the settlement on the hilltop plateau itself and in the area of the lower town more or less ceased around the middle of the 5th century BC. It was another catastrophic fire that sealed the end of the settlement, almost completely destroying the fortification and the buildings on the hilltop plateau. Since the destruction level contains a large number of finds it is unlikely that the fire was the result of deliberate abandonment of the site. Why the Heuneburg was not rebuilt once again, as it had been before on a number of occasions, but instead occupation of what had been such an important site came to a relatively abrupt end, is still not known.

However, the Heuneburg and its environs were not entirely unoccupied in the Early La Tène period that followed, as became clear from archaeological work conducted during operations to renaturalise the Danube beneath the Heuneburg in 2009-2010 (Krausse *et al.* 2013, 208-210). Three bronze and iron fibulae from the Late Hallstatt and three from the Early La Tène period were found. A bronze mask fibula with opposing masks on the bow, and another mask on the foot, is particularly remarkable. The fact that half of the fibulae recovered date to the Early La Tène period must be more than just coincidental and is an indication of unrecognised activity in the immediate vicinity of the Heuneburg beyond the end of the Hallstatt period around 450 BC. Whether they are evidence of a further phase of settlement of later date, the exact site of which could not yet be precisely localised, or are to be seen in connection with other activities in the vicinity of the Heuneburg, for example ritual deposition associated with the Danube or with river crossings, only further research can determine.

18.5 The Princess Grave of Bettelbühl

The Heuneburg is surrounded by numerous cemeteries and groups of burial mounds in which the Bronze and Iron Age inhabitants buried their relatives, including a number of important monumental burial mounds of the Hallstatt period (Kurz and Schiek 2002). Although a lot of burial chambers were already robbed in ancient times, they nevertheless provide a glimpse of the wealth of the social elites that were interred beneath them. During the last two decades there were only few excavations on funeral monuments in the Heuneburg area. Special mention should be made to Bettina Arnold's research in the Speckau-necropolis, near Hohmichele (Arnold and Murray 2016), and to the Satzet-necropolis, where Frieder Klein (2016) uncovered one grave mound.

New spectacular results come from the Bettelbühl-necropolis, a group of seven grave mounds situated in the plain below the Heuneburg. The cemetery is located on the opposite side of the River Danube, and is traversed by the Bettelbühlbach, a stream that regularly floods the area.

During surveys in the area of Tumulus 4 in 2005, a bronze fibula with gold overlay was found, which had been ploughed up to the surface, and it was decided that archaeological excavations were necessary. These produced the unusually rich burial of a two- to four-year old girl (Kurz and Wahl 2005). The artefacts included two gold-plated, navicella-type, boat-shaped fibulae and a pair of golden pendants decorated with filigree. The excavations revealed that the child's grave was in fact a secondary burial situated directly next to the shaft of a larger, central grave.

Figure 18.4. Gold jewellery from tumulus 4 of the Bettelbühl necropolis (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, Y. Mühleis).

In 2010 further investigations were carried out in the mound, which had only survived to a height of some 20-30 cm. A rectangular burial shaft, measuring 5.8×6.6 m, was uncovered, the bottom of which was situated in waterlogged levels near the Bettelbühl stream. The chamber had apparently not been robbed and lay beneath the plough level, so it presented ideal conditions for the preservation of organic materials. Because it was endangered by agricultural activities and potential illegal excavations, the State Office for Cultural Heritage decided to retrieve the burial chamber *en bloc* in order to be able to excavate and document it under ideal laboratory conditions. The chamber measured 3.8x4.6 m and was built of worked oak and silver fir planks. The entire burial chamber was removed in December 2010. The resulting block, which weighed 80 tonnes, was transported to the laboratories of the State Office for Cultural Heritage in Ludwigsburg (Krausse and Ebinger-Rist 2018; Krausse *et al.* 2017b).

The skeleton (individual 1) in the main burial was laid out in full extension on its back with the feet to the north, by the west chamber wall. The deceased was firmly identified as female. Her age at the time of death can be estimated to 30-40 years, and she was 1.60-1.62 m tall. The unusually rich grave goods indicate that she was a member of the social elite: a necklace of finely decorated gold spherical and tubular pearls and amber beads of various sizes, jewellery at her hip made of large amber pendants, a belt of decorated bronze plates, as well as several amber and gold fibulae and seven bracelets from black stone. As Bernard Ligouis recently showed, this black stone came from Dorset (Gassmann and Ligouis 2015). Around each of her ankles, the woman wore a solid bronze foot ring. An exceptionally high-quality and elaborately made gold earring is also remarkable (fig. 18.4). Other finds include food for the deceased in the form of the remains of the skeleton of a pig, cloth and textile remains, glass objects, an ammonite, two pendants made of circular arrangements of male wild boar's tusks, as well as a forehead horse armour or 'chamfron' decorated with spiral patterns. To date, chamfrons are unknown for the Hallstatt culture.

Besides this ostentatiously interred woman, in the corner of the burial chamber were the remains of a further person (individual 2) who had been buried some 20 cm higher than the main burial. Individual 2 was an adult, more likely female than male, and around 1.56-1.57 m tall. This second burial was not as rich and only furnished with two bronze arm rings and the remains of a head dress made of bronze spirals.

The real treasures in the grave are the timbers. The dendrochronological results of Andre Billamboz and Sebastian Million revealed that the trees used to construct the burial chamber were felled in the second half of 583 BC (Krausse *et al.* 2017b, 119). The presence of bark and traces of deep blows of an axe, cutting through wood fibres give the impression that the wood was freshly processed. This grave is thus a key element in the absolute chronology of the Early Iron Age in Europe.

The burial from Bettelbühl is also of particular significance in the debate regarding the socio-historical interpretation of the elite burials of the Hallstatt period. It marks the beginning (for now) of a series of rich and elaborate Hallstatt and Early La Tène female graves with gold found northwest of the Alps (Hansen 2010; Schwab *et al.* 2018). The complex is of particular socio-historical interest due to the presence of the rich secondary burial of the child. Questions of heredity and status or rank are concerned here.

The results of the excavations at Bettelbühl also shed completely new light on the history and development of the Heuneburg itself. Previously, only elite burials that had been obviously looted were known from the period of the mud-brick wall in the area around the Heuneburg. The finds from the woman's and child's graves from Bettelbühl now demonstrate that the Mediterranean mud-brick-architecture is only one indicator of the importance of the Heuneburg in the continental exchange of raw materials, goods, information, and services across the Alps and beyond (Krausse *et al.* 2019). It seems that, in the early 6th century BC, master-builders acquainted with masonry and mud-brick architecture were not the only craftspeople with knowledge of distant techniques working at the Heuneburg. The gold filigree objects, the amber fibulae and the horse's chamfron each demonstrate much closer connections with the area to the south of the Alps than was previously realised.

18.6 An Early Iron Age Goldsmith Workshop on the Hilltop Plateau?

New research carried out on the hilltop plateau has revealed surprising information closely connected to the finds in the Bettelbühl tumulus. Following a geomagnetic survey on the Heuneburg hilltop plateau in 2008, attention was drawn to a bow-shaped anomaly in the magnetogram. During the excavation that followed, this turned out to be a ditch securing a small fortification at the northern tip of the Heuneburg. It probably dates to the High Middle Ages and was dug into Late Hallstatt settlement and levelling layers. The final excavation in 2015 uncovered a sunken house some 1.5 m beneath the present surface that was preserved over a length of c. 4.3 m and had been cut by the ditch (Hansen *et al.* 2015a). It contained a remarkable number of ceramic sherds (including graphite and white ground red-grey painted wares), animal bones and metal finds, as well as fragments of sapropelite and amber objects. An initial inspection indicated that the finds belonged to the Heuneburg Period IV (Hallstatt D1). Particularly exciting are four gold fragments from the fill of the sunken house. Two of the objects, 2.0 and 2.3 cm in length, are irregular strips of sheet, while another is made of rolled up sheet, is 0.5 cm long and narrows on one side. However, the most interesting piece is a bent, finely twisted gold wire, some 1.9 cm long and c. 0.45-0.50 cm thick. It is remarkably similar to finds from the princess's grave in the Bettelbühl necropolis. The exquisitely worked gold pearls from there are decorated with similarly worked twisted gold wires of the same size. It is likely that this new find from the sunken house is closely related to the objects in the grave (Krausse *et al.* 2019, 258-259). Do the finds perhaps come from a workshop? The gold wire from the hilltop plateau was almost certainly made at the Heuneburg itself, as is confirmed by the three other gold fragments. Thus, we must assume that at a relatively early date Hallstatt craftsmen had already mastered goldsmithing techniques that originally came from the Mediterranean. There can be little doubt that the objects from the grave in the Bettelbühl necropolis were produced at a workshop at the Heuneburg. The finds are therefore an exceptional, direct proof of the work of Early Iron Age goldsmiths.

18.7 Beyond the Heuneburg: Surrounding Hillforts

Within a radius of some 20 km around the Heuneburg a series of Hallstatt period hillforts are known (fig. 18.5). Examples include the Alte Burg near Langenenslingen (distr. Biberach), the Große Heuneburg near Zwiefalten-Upflamör (distr. Reutlingen), the Ennetacher Berg near Mengen (distr. Sigmaringen) and the Bussen near Uttenweiler-Offingen (distr. Biberach – Morrissey and Müller 2011, 98-131; 324-355). This unusual concentration of hilltop settlements in the vicinity of the Heuneburg obviously suggests that they were in some way related. A further indication is provided by the finds, which confirm that the majority of those sites which can be dated belong to Hallstatt D1 (620-540/530 BC) -in other words to the same period as that in which the Heuneburg and its outer settlement had reached their maximum size (see Biel 1987; Morrissey and Müller 2011). Did these smaller sites develop independently from the Heuneburg and were they minor centres of power? Was their formation connected to or dependent on the 'princely seat' of the Heuneburg? Did they form a single fortification and settlement system together with the Heuneburg?

The most likely assumption is that they were subordinate to the Heuneburg; in other words, that there was a hierarchy of settlements, with the Heuneburg as a supra-regional centre of power and a number of

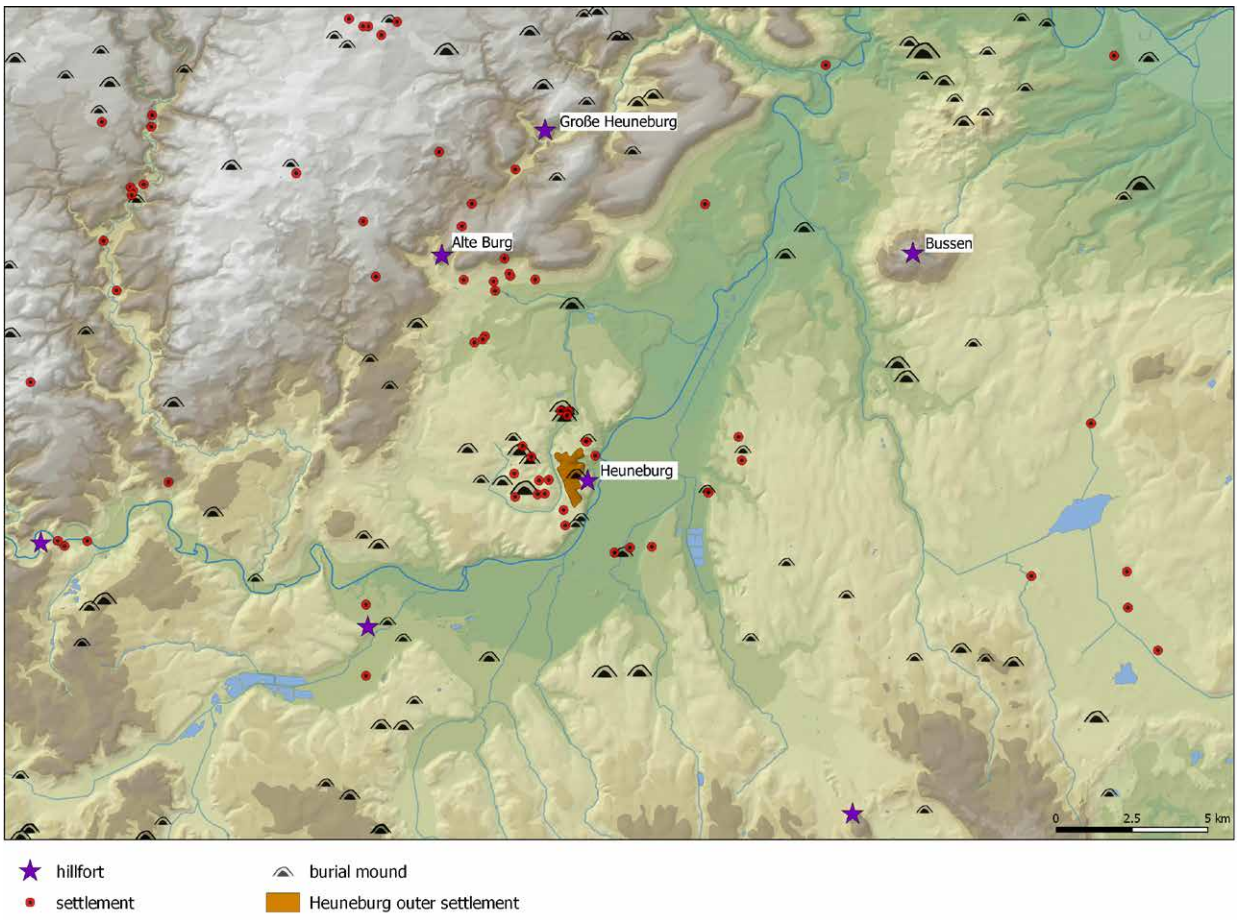

Figure 18.5. The environs of the Heuneburg with further hilltop sites, rural settlements, and burial mounds of the Hallstatt and Early La Tène periods (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, J. Abele).

dependent hillforts within its territory. The further investigation of these hilltops is one of the main aims of the long-term project of the German Research Foundation '*Settlement and landscape transformation in the environment of the Heuneburg during the Late Hallstatt and Early La Tène periods*' (2014-2025; see first results in Hansen *et al.* 2015b; 2017; 2019a).

Another goal of the project is the discovery and investigation of unfortified settlements in the surroundings of the Heuneburg and the other known hillforts. Up until 2014 few rural open settlements had been known -and then only based on the evidence of surface finds. There was no well-grounded information on the possible number of farmsteads or their organisation and chronological development. The Heuneburg and other hillforts must necessarily have been supplied with foodstuff by the agricultural settlements in their surroundings -so called *producer sites.* Such Hallstatt and La Tène period sites have now been investigated at a number of locations during the last years (Abele *et al.* 2018; Hansen *et al.* 2016b; 2018a; 2019b).

18.7.1 Alte Burg

The Alte Burg is located at the southern edge of the Swabian Alb, some 9 km northwest of the Heuneburg, on a plateau of about 2 ha in size that has been strongly remodelled by human impact. In the northeast the fortification is characterised by two smaller outer ramparts, a deep ditch, and a massive inner rampart (fig. 18.6 A-D). Today the difference between the highest point of the main rampart and the bottom of the ditch measures more than 12 m. In the northeast, in the area of the present-day access, a smaller longitudinal rampart, with a length of nearly 30 m, is located on the edge of the plateau (J). Whilst the borders of the plateau are steeply sloped, the plateau of the Alte Burg is almost level, apart from a low step, which splits the plateau into an upper and a lower area (I). About halfway down the steep slopes, terraces are located on both longitudinal sides (E-F). Downhill, the ridge is surrounded by a ditch with an outer rampart which is 990 m long (G). In the northeast, a broad causeway is visible in the LiDAR image (H – Morrissey and Müller 2011, 98-129).

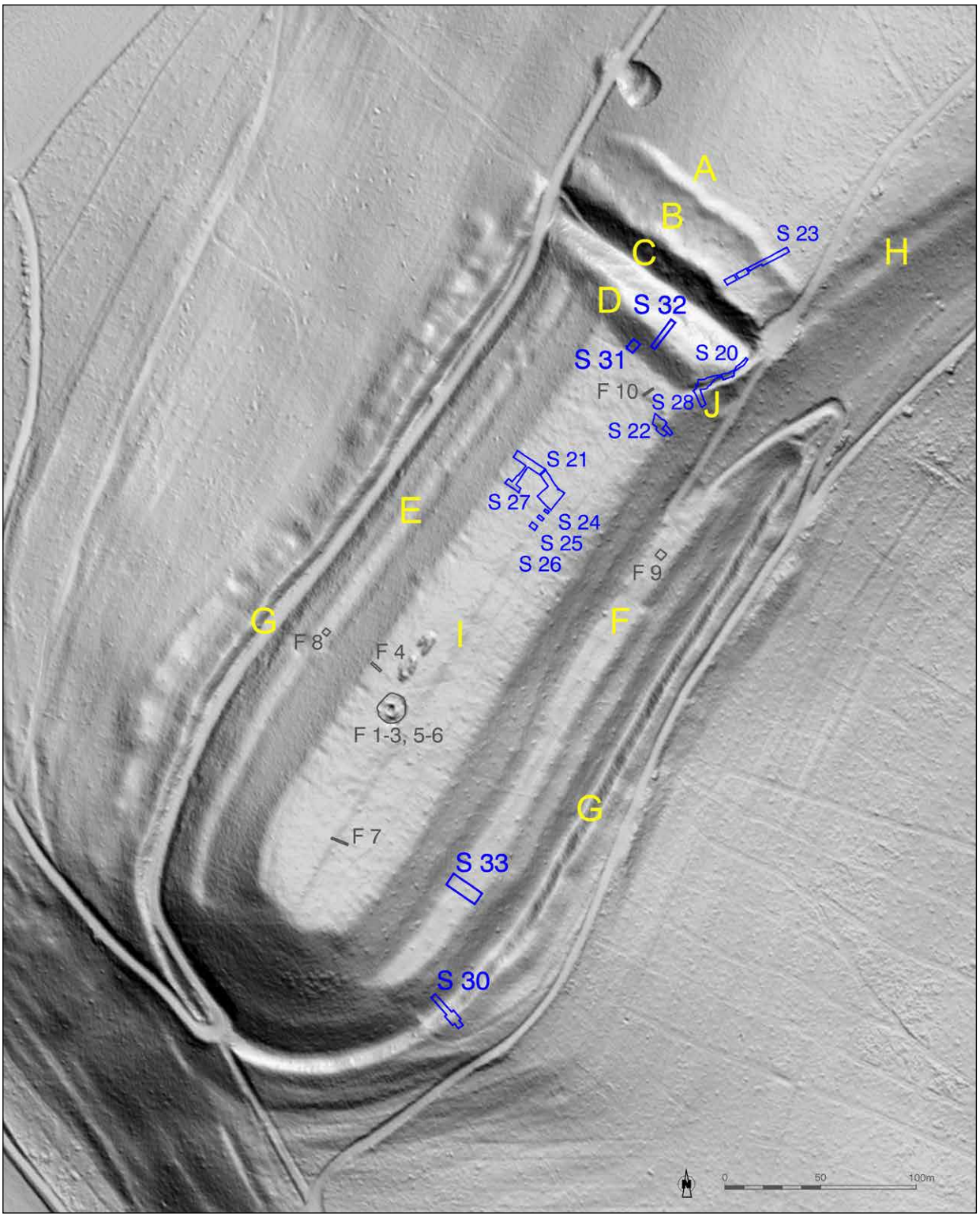

Figure 18.6. LIDAR scan of the Alte Burg with the trenches of 2006-2007 (black) and 2014-2019 (blue): A-B) Outer ramparts; C) Ditch; D) Main wall; E-F) Terraces; G) Hillside fortification; H) Old pathway; I) Step in the plateau; J) Wall at plateau edge (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, R. Hartmayer and L. Hansen; Base map Landesamt für Geoinformation und Landentwicklung).

First excavations on the Alte Burg were carried out in 1894 in the area of a stone mound situated near the centre of the plateau. Beneath the mound a deep rock-cut shaft was discovered, allegedly containing six skeletons (Zingeler 1893/94, 18-21). In 2006-2008 Siegfried Kurz (2011) opened ten trenches on the plateau and the terraces (F1-F10) and one additional trench in the area of the causeway in the northeast of the Alte Burg. He excavated the 5 m deep shaft, which measured 4 m by 1.8 m on the surface and 0.7 m by 1.7 m at its base. The shaft was carved into the limestone, but was surrounded by a podium of virgin rock with a height of up to 1 m. This shows that stones were quarried systematically to produce a levelled plateau. Archaeological finds came from the area of the mound and the outer zones of the trenches. Most of the pottery fragments belong to the early Late Hallstatt period (Hallstatt D1), but a few sherds may date to the end of Hallstatt C or the beginning of Hallstatt D2. The base of a wheel-turned pottery vessel, a bronze fibula, a bronze hook, and a fragment of an iron snaffle date to between the Early and Middle La Tène period. Furthermore, some 50 fragments of human bones were found. Radiocarbon dating of these human remains also points to the Early or Middle La Tène period (407-209 cal BC and 358-173 cal BC -see Dürr 2014, 122-124).

Between 2014 and 2019, a total of 13 trenches were opened in the context of the current DFG project: five on the plateau (S 21.24-27), one on the southeastern terrace (S 33), five in the area of the main and the smaller ramparts (S 20.22.28.31-32), and two trenches cut through the two outer ramparts (S23) and the ditch with an outer rampart downhill (S 30 – Hansen *et al*. 2018a; 2018b).

The trenches on the plateau show that the slope edges must have been artificially extended by means of a vast amount of physical work. For this purpose, massive stone rows, or retaining walls respectively, were erected at right angles to the edges of the plateau. The spaces between these dry-stone walls were filled with stone rubble and clay layers. At the base of one of those gaps a burned area was found which yielded a radiocarbon-date of 803-593 cal BC (old wood effect possible). Geomagnetic surveys had already been carried out on the Alte Burg in 2013 by Harald von der Osten-Woldenburg. At the edges of the plateau a series of parallel anomalies at right angles to the border were visible. They probably feature additional retaining walls. Relating to these structures, low stone rows were erected in the interior on the natural limestone. The spaces between these rows were filled up with diverse rock types, some of non-local origin. The small step dividing the plateau into two areas was also constructed in this manner (fig. 18.6 I).

In the area of the present-day access to the plateau of the Alte Burg, dry-stone walls were excavated. They consisted of double-shell masonry, the spaces between the fronts were filled with stone rubble. The inner and outer face of the main wall was partially revealed. The standing part and the remains of the collapsed upper part of the main wall form the present-day rampart. The almost vertical inner face is preserved up to a height of 4.2 m, the outer front up to a height of 5.3 m (fig. 18.7). The modern rampart still has a height of 7 m at its highest point. The original wall must have been considerably higher. At the edge of the modern causeway an old quarry is located which destroyed parts of the wall. The outer face of the wall, which lies parallel to the deep ditch (fig. 18.6 C), was recognised because of a corner showing the immense dimensions of this fortification. It was 13 m thick and originally at least 10 m high. The smaller longitudinal wall on the edge of the plateau was 5.8 m thick and could be excavated over a length of approximately 7 m. The outer face was investigated up to a depth of 2.8 m. In line with the longitudinal wall a small rampart, with a length of 30 m running southwest, can be found today (fig. 18.6 J). At the end of this rampart three vertical slots for supporting posts ('*Pfostenschlitze*') had been discovered in the inner wall front (S 22). It became clear that the main wall and the smaller longitudinal one -which is hidden in the small rampart- were connected, forming a corner and were part of one massive fortification. On the southeastern side, in front of the walls, several levelling layers of stone and clay with a width of up to 4.2 m were documented. It is very probable that they formed part of a path into the interior of the Alte Burg. These layers could not have been constructed exclusively for the erection of the fortification, because they are partially above the base of the walls. Further support for this is given by two walls set at right angles with a height of up to 1.5 m which have been exposed at the lower part of the modern path. As a first working hypothesis these walls could have been part of a gate construction. The southeastern section of this building probably no longer exists because of the quarry and the present-day slope edge.

In the area of the walls and beneath them, Iron Age pottery and animal bones were found. Radiocarbon dates of three animal bones belong to the Hallstatt and Early La Tène periods (790-395 cal BC). The other finds from the excavations also date to these periods. Only a few pottery sherds from the topsoil belong to the Middle Ages. For that reason, there can be no doubt about the dating of the walls to the Early Iron Age.

The current state of research does not allow for any reliable conclusions as to the function of the Alte Burg, but there are some first hints that it may have been an assembly and cult place. Indications for this are the human skeletons that had been deposited in a shaft (Dürr 2014, 122, 124; Hansen *et al*. 2015b, 503-504; Kurz 2011, 122), the construction of the impressive walls, ditches and banks,

Figure 18.7. The Alte Burg. Corner with the inner face of the main wall, which was preserved to a height of 4.2 m here. The wall at the plateau edge adjoins it at right angles and its inner face has been exposed (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, A. Striffler).

as well as the extensive levelling works that apparently served one sole purpose: the creation of the smoothest and most level surface possible for the tongue-shaped plateau. There are no parallels for the shape and dimensions of the plateau among the known Hallstatt fortifications in southwest Germany. It is more reminiscent of the plans of ancient courses for horse or chariot racing (*e.g.* Humphrey 1986; Thuillier 1999, 59-79; Weiler 1981, 200-206). This interpretation is supported by the observation that there was a well-built Hallstatt road leading from Langenenslingen towards the Alte Burg (fig. 18.6 H; Böhm *et al.* 2011; Hansen *et al.* 2015b, 509-510; Morrissey and Müller 2011, 119-120), as well as the 'spina-like' step that divides the plateau lengthwise (fig. 18.6 I). The find of a bit (Dürr 2014, 120-121, 371) confirms that horses, chariots, or horsemen must have spent at least some time on the hilltop. Given the numerous impressive finds that are confirmation of the importance of elite horse-riding and chariot driving in the region around the Heuneburg during the Hallstatt Period (Hansen *et al.* 2018c; 2018d; Krausse and Ebinger-Rist 2018; Kurz and Schiek 2002, 62-63; Riek and Hundt 1962, 132-152 -fig. 18.8), as well as against the background of Late Hallstatt and Early La Tène illustrations of chariot and horse racing (*e.g.* Biel 1985, pl. 25; Lucke and Frey 1962, pl. 75; Rebay-Salisbury 2012, 195-198; Teržan 2011), an interpretation of the Alte Burg in this direction seems at least plausible. Only extensive excavations can bring more clarity.

18.7.2 Große Heuneburg

Another impressive monument is the Große Heuneburg. The steep and rugged rocky faces of the hillsides block access to the fortification from the south, east, and west, but the Große Heuneburg is connected to the hinterland in the north by a broad ridge. The complex is divided into a main hillfort (*Hauptburg*), more than 5 ha in size and today surrounded by ramparts, and a 1.5 ha fortified annexe (*Vorburg*) (fig. 18.9 A-B). The main hillfort and the annexe are separated by a ditch up to 17 m wide. Broad terraces run along the south and west flanks of the plateau of the main hillfort (fig. 18.9 C-D; Morrissey and Müller 2011, 324-355). After initial poorly documented investigations at the end of the 19th century (von Föhr and Mayer 1892, 26-27, 32), in 1921 Gerhard Bersu excavated 40, mostly small, trenches (1922). According to the results, the rampart of the annexe had two and the rampart of the main hillfort

Figure 18.8. Exceptional statuette made of bronze in the form of an anthropomorphic figure mounted on a two-headed horse from a Hallstatt C-D1 wagon-grave near Unlingen (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, G. Neumann).

six drystone faces set one in front of the other. Apart from a fireplace, the trenches in the interior produced no significant archaeological features. Most of the finds from the excavations date to the Hallstatt period, although some objects belong to the Middle Bronze Age and the Urnfield period (Biel 1987, 115-117, 330-336; Fiedler 1962, 19).

Between 2016 and 2018 excavations at the Große Heuneburg were restarted (Hansen *et al.* 2016a, 124-126; 2018a, 152-154). One of Bersu's old sections through the rampart in the northwest of the main hillfort was reopened, and produced not the expected six faces, but an impressive two-shell drystone wall (fig. 18.10). The inner and outer shell each consisted of layered limestone, the infill of rough pieces of stone. The wall was 3.6 m thick and was preserved in the section excavated up to a height of 1.6 m; today, the inside of the west wall is in places still up to 2.6 m high (Morrissey and Müller 2011, 340). This means that the wall must originally have been much larger, as is confirmed by the rubble collapse lying inside and outside the wall. A dark, humous culture layer was identified on the inside of the wall containing mainly finds from the Hallstatt period.

An old trench by the east rampart of the annexe was also reinvestigated. It shows a double-faced wall construction with an original width of 2.4 m and remaining height of 1.6 m. A repair measure comprised of a further superimposed face resulted in an increase in width to 3.4 m in total. The inner side of the wall is strengthened by a tipped marl bank, 8-9 m wide with a maximum height of 1.7 m. The ditch in front of the wall is 2.6 m deep and was originally probably around 9 m wide. Ceramics ranging from the Urnfield to the Hallstatt period were found both immediately under the wall at the same level as a hearth and within the fill of the bank, radiocarbon dates concur (1396-1235 cal BC and 746-410 cal BC).

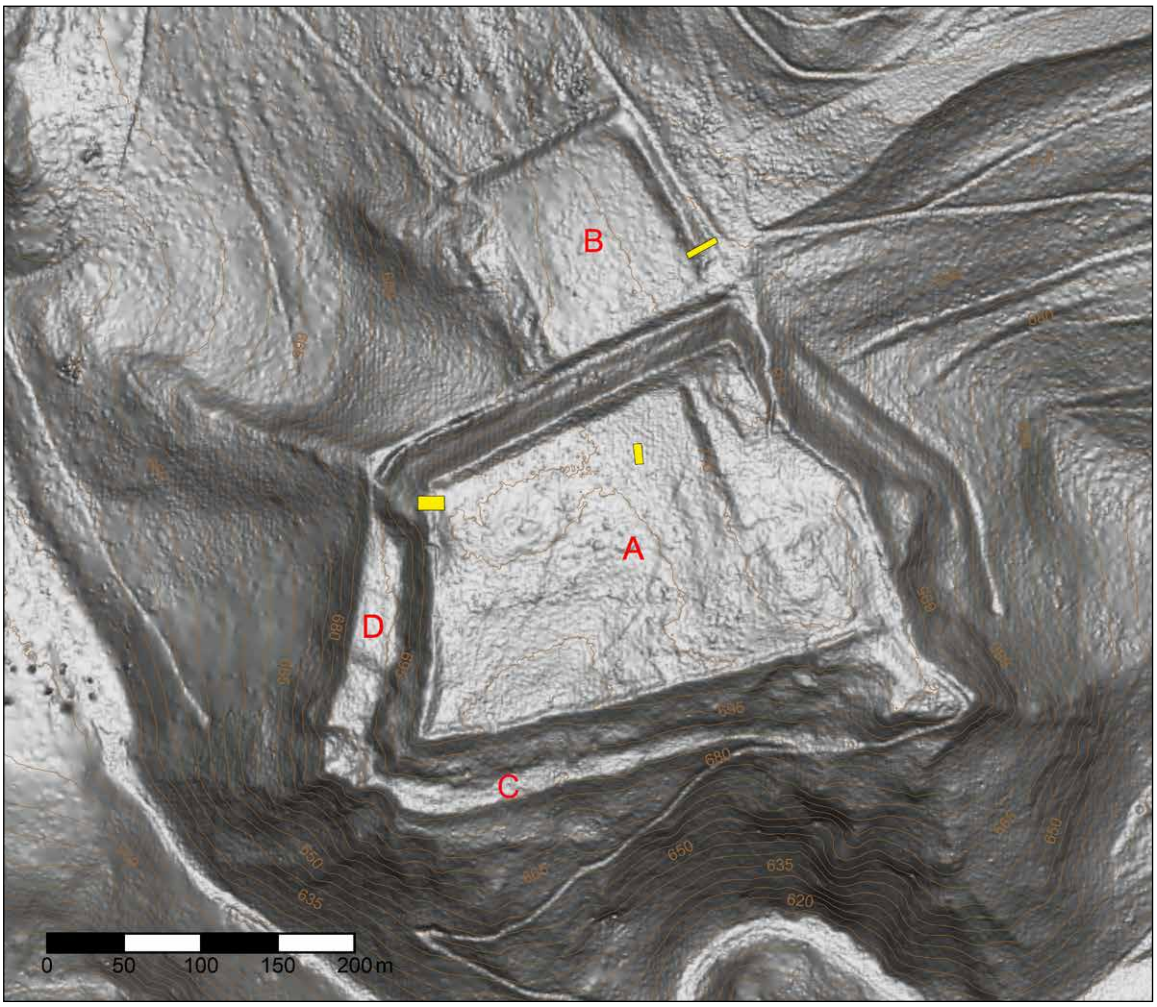

Figure 18.9. LIDAR scan of the Große Heuneburg with the trenches of 2016-2018 (yellow): A main hillfort; B) annexe; C-D) Terraces (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, L. Hansen and Ch. Morrissey; Base map Landesamt für Geoinformation und Landentwicklung).

Hallstatt period structures were uncovered in the interior of the main hillfort within the area of a house plan measuring 9x16 m and radiocarbon dated to the Early Middle Ages. Both the numerous finds from the excavation trenches and the finds-rich humous layer inside the uncovered northwest wall sector indicate the intensive settlement of the Große Heuneburg in the Hallstatt period.

18.7.3 A system of connected settlements?

The similarity in the method of construction of the plinths of the mudbrick wall and the lower town gate at the Heuneburg, the massive fortification of the Alte Burg, and the walls on the Große Heuneburg appear to present an architectural peculiarity of the Heuneburg region in the period Hallstatt D1 and indicate that there were close connections between the sites (Krausse *et al.* 2019, 250-255). This is also suggested by an analysis of their mutual intervisibility. There was a direct line of sight between the Heuneburg and the Alte Burg, which was emphasised by the positioning of burial mounds in the landscape (Steffen 2008). There could also have been visual contact with the Große Heuneburg: a person in the area of the main wall on the Alte Burg at an elevation of 13 m would have been able to see the fortification that lay 5 km to the northeast. The wall was at least 10 m high and its enormous width certainly made it suitable to have supported further structures. This suggests that the Heuneburg, the Alte Burg, and the Große Heuneburg were complementary rather than competing sites. The presence of the white ground, red and grey painted pottery at both the Alte Burg and the Große Heuneburg, for example, would seem to confirm this. It is assumed that the Heuneburg was an important centre for the production of this ware, which was supplied to large parts of the Swabian Jura and southwest Germany (Stegmaier 2016).

Figure 18.10. View of the outer face of the two-shell wall in the northwest of the main hillfort of the Große Heuneburg. Remains of the collapse from the wall are visible in front of it (Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, P. Scherrer).

18.8 The Heuneburg: First Town North of the Alps?

Around the middle of the 5th century BC, the Greek author Herodotos of Halikarnassos (490/480-424 BC), the 'father of history', wrote in his work *Histories* (II, 33): "*The Istros* [Greek for the Danube] *rises among the Celts and the city of Pyrene and flows through the centre of Europe*." It is tempting to identify this *polis* of Pyrene with the Heuneburg, since this unique and important site, for which there was no other comparison at the time, lies only 80 km from the source of the Danube.

Irrespective of the discussion about the name Pyrene, the results of excavations at the Heuneburg leave no doubt that this site was one of the most important settlement, economic, and power centres of Early Iron Age Europe. Evidence for this comes not only from the wide-ranging connections that the inhabitants enjoyed that extended as far as Italy, the eastern Alpine region, the Greek colonies of southern France, and perhaps even to the Iberian Peninsula (Kimmig 2000; Krausse *et al.* 2019). It should also be noted that the favourable topographical situation on the Danube was most likely one important reason for the choice of the site and why it flourished (Fernández-Götz 2015; Schuppert 2013, 77-79). The Danube is, at this point, navigable for a distance of more than 2,700 km. At the same time, from the Heuneburg there is good access to the south, to the Alpine passes, Lake Constance, and the Upper Rhine. Similarly, there were good routes to the north.

The enormous extent of the outer settlement at the Heuneburg has a huge effect on our understanding of Late Hallstatt 'princely seats'. We must first take into account the decisive question of demography for the analysis of the centralisation and urbanisation processes. We must assume that in the middle of the 6th century BC at least 5,000 persons lived at the Heuneburg, with at least 3,500 inhabitants in the outer settlement, c. 1,000 on the hilltop and c. 500 in the lower town. (Krausse *et al.* in press; Kurz 2010, 249).

Given the size of the settlement at the Heuneburg, the existence of imposing monumental structures, the indications of a high degree of social differentiation, and the specialised division of labour for production, it seems justified to use the term 'city' for the period of the mudbrick wall, based on the present state of research (Fernández-Götz and Krausse 2013; Krausse *et al.* 2018, 175-176).

In addition, the new investigations, within the framework of the present long-term research project, have revealed surprising new information about the settlement history of the wider environs of the Heuneburg. It appears that the Heuneburg controlled an area of over 1,000 km² with cemeteries, further hilltop settlements, hamlets, villages, roads, and cult or gathering places. It was not only the Heuneburg itself that must have formed an architectonically impressive agglomeration. Consequently, the *polis* Pyrene stands for this whole system, not just the hillfort of the Heuneburg.

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Chapter 19

Centralisation Processes at the *Fürstensitz* (Princely Seat) on Mount Ipf in the Nördlinger Ries, Southern Germany

Rüdiger Krause

Mount Ipf lies on the western periphery of the Nördlinger Ries, on the dividing line between the Swabian Alb and the Franconian Alb north of the Danube River in southern Germany. This was an important area of settlement activities in prehistoric times. The imposing hillfort upon Mount Ipf held an outstanding position as a centre of power in the Nördlinger Ries during different periods in prehistory. Results of recent research impressively illustrate that without question during the Hallstatt period, for at least 100 years, Mount Ipf belonged to the complex of early Celtic princely seats in Central Europe and, further, that it carried out direct exchange via the Eastern Alps with Upper Italy and the Greek-influenced regions of the Etruscans in the Po River valley and the Caput Adria. These connections are distinctly recognisable in the numerous imported goods found at different sites as well as on the Ipf itself. However, the narrative on the history of the Ipf itself in the older Iron Age can only be understood in view of the development of the Late Bronze Age (Urnfield culture) and the beginning of centralisation processes in the Nördlinger Ries. This also includes the early southbound links across the Alps since the 7th century BC. Nonetheless, whether or not one can speak of an early form of urbanisation or of a concentration process remains to be examined.

Keywords: Fortification; Princely seat ("Fürstensitz"); Mediterranean goods; Hierarchy; Concentration process.

19.1 Introduction

When we ask about centralisation processes or even early urbanism in the settlement landscape of the Nördlinger Ries, several general questions must be answered concerning the Early Iron Age hillfort on Mount Ipf, which we call a "*Fürstensitz*" or 'princely seat'. These questions pertain to spatial organisation, the territory and the hierarchy of settlements, and the socio-political structure. Ultimately, the question of centralisation and early urbanism is a very general one for this kind of hillfort and includes all different aspects and characteristics of the surrounding settlement landscape of the mighty hillfort.

The Nördlinger Ries is a prominent and famous landscape in southern Germany with an exceptional geological formation and history. Today the Ries appears as a large, flat basin, 25 km in diameter. It was formed by a meteorite impact that occurred almost 15 million

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Figure 19.1. The Ipf near Bopfingen. The frusto-conical shape of the "Zeugenberg" (Zeugen Mountain) has a prominent plateau with mighty fortifications from the Late Bronze and Early Iron Age (aerial photo by R. Krause).

Figure 19.2. The Goldberg. The flat block of the freshwater limestone with the palin of the Nördlinger Ries and the medieval town of Nördlingen in the background (photo by R. Krause).

years ago (Pösges and Schieber 2009). The location of the Ries basin, the fertile soils with moderate precipitation and benevolent annual temperatures offered favourable conditions for agriculture, which were important factors for the ever-changing settlement history there dating back to Neolithic times. Additionally, the hilly countryside at the edges of the Ries basin was a preferred settlement area: Namely, the highlands provided the necessary elements for building hillforts and strongholds. Therefore, the 668-m high Mount Ipf projecting from the western rim of the Nördlinger Ries dominates the entire landscape (fig. 19.1).

Rising more than 200 m above the old Imperial city of Bopfingen, Mount Ipf is a prominent witness to the geological formation of the White Jura. Also situated on the periphery of the Ries basin is the eminent elevation called the Goldberg (fig. 19.2), a flat block of freshwater limestone (*Süßwasserkalk*), 514 m in height. Located in the surroundings of these two summits are numerous settlements, cemeteries and groups of burial mounds, which are dated to the 1st millennium BC, in particular, to the Hallstatt and La Tène periods, that is, the earlier and the later Iron Age (Bick 2007; Fries 2005; Krause 2015). The settlement patterns in the Hallstatt and Early La Tène periods in the Nördlinger Ries basin is quite dense, also in the surrounding hilly areas of the Swabian and Franconian Alb (fig. 19.3). Situated in the southern part of the basin and in the hilly areas are numerous fortified hilltop settlements and hillforts, with origins dating back at least to the Late Bronze Age (Urnfield culture).

Landscape-related archaeobotanical investigations represent an important parameter in the question of land-use. Archaeobotanical and vegetation research show quite clearly a rise in grasslands during the wet conditions of the 9th-7th centuries BC (Stobbe 2014). At the same time there is a decline in alder/*alnus* (Stobbe in Fischer *et al.* 2010). These results are indicative of a growing strain on the landscape and its resources and that settlement activity increased.

With regard to the development and dynamics of settlements, there are interesting observations about the history of use of fortified hilltop settlements. In the Late Bronze Age changes and partially a break in the use of hillforts can be noted, for example, at the mighty hillfort upon the elevation Hesselberg, north of the Ries plain, during the late Urnfield culture (Ha B 2/3) (Berger 1994). At the same time, the intensity of settlement and fortification on Mount Ipf increased, and apparently there was a shift in power to the Ipf. Therefore, we can assume that in the Late Bronze Age, in the 10th -9th centuries BC, an initial concentration process took place there (fig. 19.12).

The settlement landscape changed in the Early Iron Age, the 7th-6th century BC: at that time a fortified settlement as a seat of power was built upon the plateau of the Goldberg, covering an area of four hectares. Proof of the Hallstatt habitation there are dates to the transition from Hallstatt C to D1. The evidence includes rectangular structures with extraordinary monumental buildings in the northeast corner, which are separated by ditches and originally by fences (Parzinger 1998) (fig. 19.4). Gerhard Bersu in 1930 called this part of the enclosure the seat of a leader. There is also evidence for settlement on Mount Ipf during the same period, which is why both hilltop settlements probably coexisted for a certain duration of time. However, the possible political power factors underlying this situation cannot be reconstructed. Subsequently, there must have been a serious change in phase Hallstatt D1/2, when the Hallstatt settlement on the Goldberg was abandoned, at the beginning or in the first half of the 6th century and fell into desolation (fig. 19.12). Apparently, there was a shift in settlement activities across to Mount Ipf, 4.5 km away. Hence, these two hillforts lead to questions about settlement structures and the relations between the two sites (fig. 19.9).

Located in the landscape between both hillforts are large tumuli and residential enclosures of elites, which we believe belonged to the Ipf. Recent investigations have uncovered striking remains of two rectangular enclosed compounds (*Rechteckgehöfte*) and at least two large burial mounds, which were established at this time on the topographically distinct ridge running exactly between the Goldberg and the Ipf, near the present-day hamlet of Osterholz (Brosseder and Krause 2014). The two rectangular compounds in Zaunäcker and Bugfeld are outstanding in view of their special structures and finds, among which there are numerous imports (Krause *et al.* 2008; Krause *et al.* 2010; Krause 2015).

19.2 Long-distance exchange of ideas, names, and Mediterranean goods

One of the most prominent characteristics is that numerous and varied Mediterranean goods from south of the Alps were found on Mount Ipf as well as in the surroundings, for example, in the rectangular enclosed compounds (Krause *et al.* 2005). They represent artefacts such as Italian fibula types, Mediterranean *amphorae*, painted Greek pottery (Böhr 2005; 2014; 2015), a Greek coin, and a bronze figurine from southern Italy (Guggisberg 2005), which date to a wide time span of at least more than 100 years during the 6th-5th centuries BC. This quite constant flow of exceptional and obviously desirable goods from the South indicate that there must have been a group of elite persons as customers and that more or less stable conditions must have existed for several decades in the 6th/5th century BC. Connections across the Eastern Alps had early roots going back to the Hallstatt C/D period, as is also indicated by the presence in the Ries basin of several east Alpine or Italian types such as zoomorphic fibulae (*Tierkopffibeln*), Italic horned fibulae (*Hörnchenfibel*), and an early type of Certosa fibulae (Hauser 2014 with maps). Florian Hauser could reconstruct

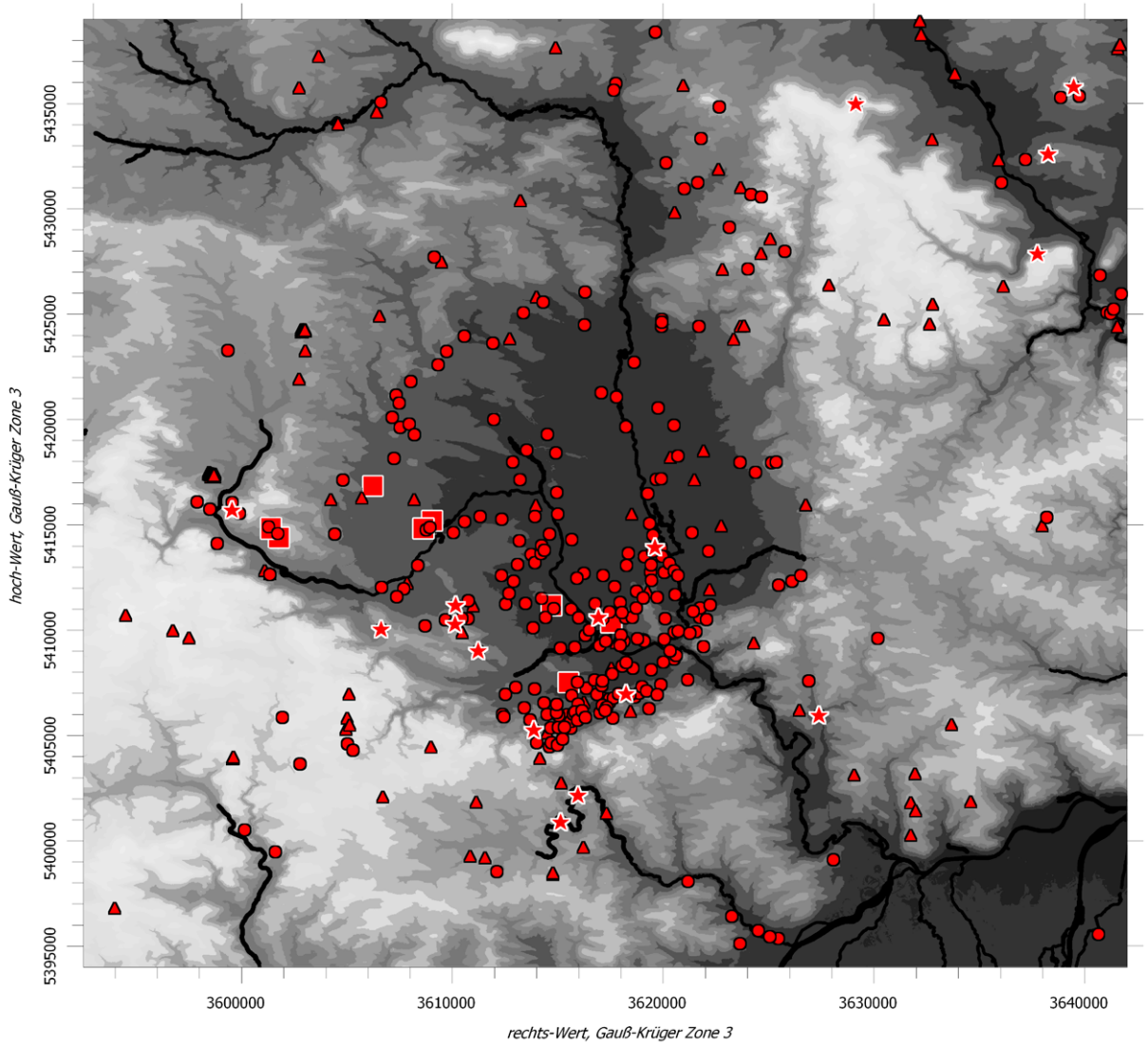

Figure 19.3. The Nördlinger Ries and its border landscapes with the Swabian and Franconian Alb in Southern Germany. Distribution map of Hallstatt period settlements (dot), tumuli (triangle), rectangular farmsteads (square), and hilltop sites (stars) (author).

new routes of interaction across the Eastern Alps on the basis of the maps made by Ludwig Pauli in 1993, routes that run directly across the Eastern Alps to the Caput Adriae.

An unusual structure is a covering of 50 tonnes of stones over a former large wooden building (15 m x 15 m) in the rectangular enclosure of Osterholz-Bugfeld (fig. 19.5). This erection of mighty posts was obviously systematically dismantled and removed with the original surface and adjacent features sealed by the stone covering. We have compared this finding with southern Italian sanctuaries and have come to the conclusion that this may be a comparable process: the dismantling and burying of a cultic building (Krause *et al.* 2010, 184ff; cf. Hinz 1998). We can thus propose two extraordinary findings for Mount Ipf. One is the existence of a large cultic or assembly building in the rectangular compound, while the other is quite obviously the transfer of an idea from lower Italy as to how to deal with a disused cultic structure.

A second important point concerns the transfer of an idea or even a name, which refers to its origin and thus also to the relations in this region. Concerned here is the origin of the German name 'Ipf' and whether there is any relation to the Roman form "*opie*", which is recorded on the Peutinger map (*Tabula Peutingeriana*). The linguist Jost Gippert at Goethe University in Frankfurt/Main has undertaken a comprehensive linguistic analysis (Gippert 2014). He examined the derivation and origin of both names and place designations, and questioned whether

Figure 19.4. Goldberg. Habitation structures of the Hallstatt period with the reconstruction of single farmsteads (after J. Fries 2005, Abb. 30).

Figure 19.5. Osterholz, Bugfeld. Rectangular enclosure with the mighty stone covering over the former large building of the Late Hallstatt period. In the background the Ipf (author).

Figure 19.6. The Ipf. Open air museum at the foot of the mountain. Reconstruction of the "Pfostenschlitzmauer" or post-slot wall after the excavations of Friedrich Hertlein 1907/08 and 2006-2008 from the Early La Tène period (author).

"*opie*" is a Celtic or Roman term or it might even stem from another source. The result of his study is surprising, for the linguistic analyses revealed many indications of an Illyrian-Venetian origin, that is, in Upper Italy. In any case, these deliberations and conclusions show that even the name 'Ipf' could have been brought, together with Mediterranean imported goods, over the Alps from Upper Italy during the Early Iron Age.

An interim balance shows that at Mount Ipf and in its sphere of influence in the Nördlinger Ries we can establish strong connections to the Graeco-Etruscan sphere of northern Italy around the Caput Adriae, which apparently had effects far beyond the exchange of coveted goods. This raises further questions as to the extent to which structural and socio-economic foundations were also affected, and the extent to which changes in political and settlement structures can be identified.

19.3 Fortifications and settlement structures on Mount Ipf

Little can be stated concretely about the fortification architecture and the dating of the different fortifications on the upper fortress and the lower fortress, apart from the fact that, in view of the mighty ramparts still preserved today, these were once massive fortifications with walls visible from afar in the surrounding area and the Ries plain. Today, the reconstructed stone and post-slot wall (*Pfostenschlitzmauer*) of the Early La Tène period, which was erected in the open-air museum at the foot of the mountain, shows this very impressively (fig. 19.6).

In the course of the first systematic excavations and wall sections in 1907/1908, Friedrich Hertlein was only able to describe a series of observations, but for one exception, there are no plans or reliable dates. We only know for fortification No. 5 that a stone and post-slot palisade of the Early La Tène period was built there (Hertlein 1911). Recent excavations in 2016-2019 at external fortification No. 6 have revealed findings that are difficult to interpret, since the fortification was systematically dismantled, removed, and levelled. It is the oldest fortification from the Hallstatt Period, and one construction phase was probably built using wooden-box construction (comparable to the Heuneburg) and dates back to the Late Hallstatt period (Fricke and Krause 2019). Apart from that, the fortification built on the edge of the summit plateau was already erected in the Late Bronze Age and was probably expanded several times during the Early Iron Age. In any case, Hertlein reported in 1911 a wooden-box construction of up to 5 m in width.

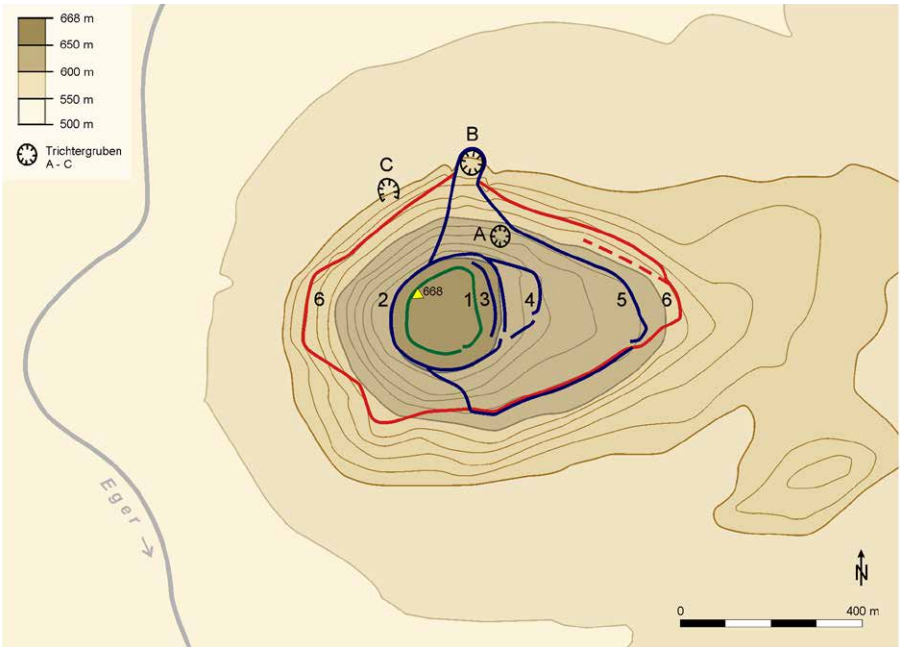

Figure 19.7. The Ipf. The main ramparts and fortification structures from the Late Bronze Age and the Early Iron Age. Rampart No. 5 is dated to Early La Tène and the newly discovered rampart No. 6 probably dates to the Late Hallstatt period. This rampart encompasses an area of 30 ha and is in total 2.4 km long. A, B, C: Large funnel pits (cisterns) for the water supply (graph B. Voss, Frankfurt).

Figure 19.8. The Ipf. Reconstruction of the Hallstatt period settlement on the plateau summit according to the results of geomagnetics and excavations 2004-2005. (Copyright Landesamt für Denkmalpflege beim Regierungspräsidium Stuttgart; Urheberschaft brainpetsMaas).

Between 2004 and 2008, the settlement structures in the upper fortress as well as the lower fortress could be examined for the first time by means of geomagnetic measurements and targeted excavations (fig. 19.7). There are different structures in the two parts of Mount Ipf. On the plateau of the upper fortress (2.35 ha, diameter up to 185 m) subdivisions of individual rectangular structures could be determined, which were accessed from the southwest by a funnel-shaped entrance from today's entrance. Excavations in 2004-2006 revealed these linear anomalies in various places and verified them as wall ditches and post pits carved into the rock (Krause *et al.* 2008, 252). On this basis,

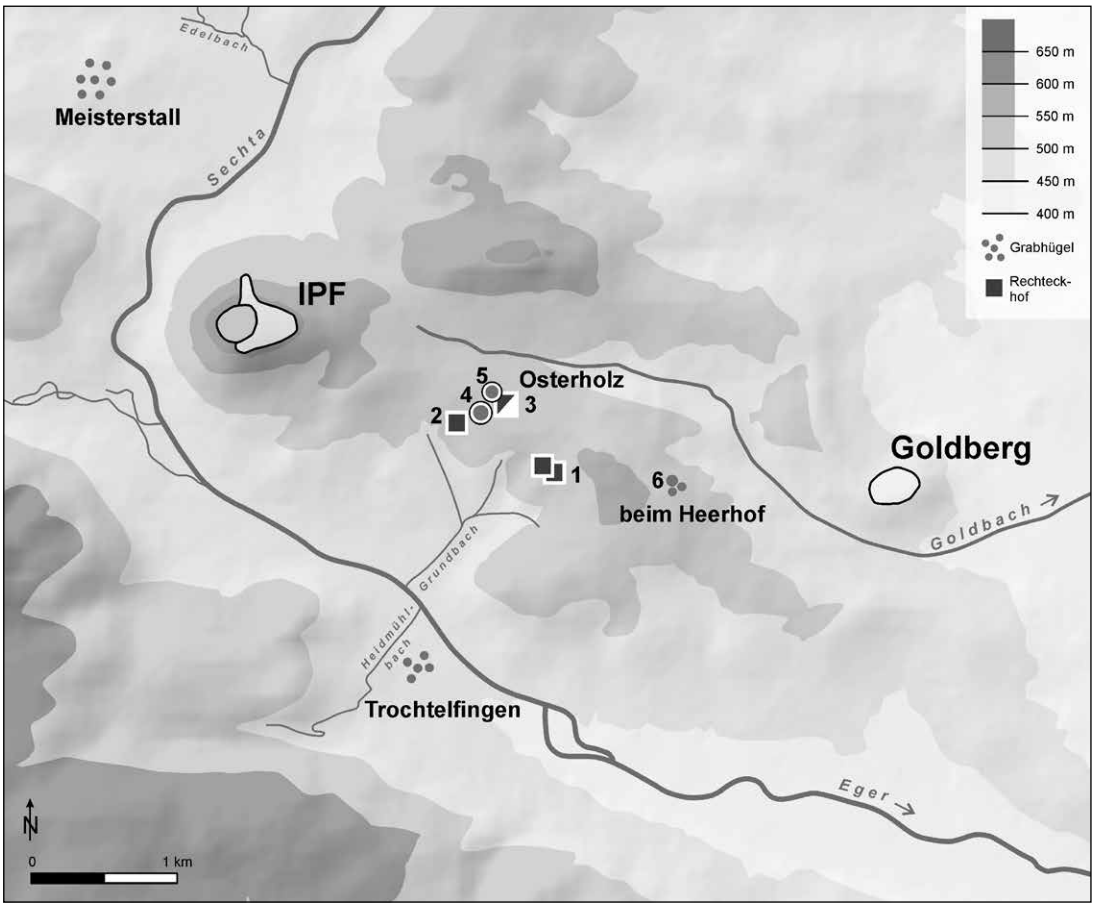

Figure 19.9. Topography of the western edge of the Nördlinger Ries with the Goldberg, Ipf, and the main sites around the hamlet Osterholz. 1 rectangular enclosure Zaunäcker; 2 rectangular enclosure Bugfeld; 4,5 tumuli 1 and 2; 6 tumuli close to Herrhof. Other cemeteries and *tumuli* close to Meisterstall and Trochtelfinden (graph B. Voss, Frankfurt).

a first reconstruction attempt was made, which shows numerous individual yard structures near the entrance in the southwest (fig. 19.8). This form of the development with individual farmsteads is reminiscent of a village structure (Krause 2015; Krause *et al.* 2008).

The habitation layers on the lower fortress disclosed different structures. Geomagnetic anomalies and archaeological excavations revealed several 50 x 50 m large enclosures with – compared to the upper plateau of the fortress – far less evidence such as postholes and ditches for construction (Krause 2015; Krause *et al.* 2010, 175-177). As we know from the excavations, there were also pit houses and many small posts, which are not visible in the magnetograms. This circumstance makes an assessment of the buildings within the square palisade enclosures very difficult. Therefore, so far, we can only state that these are rectangular compound-like structures, which are indicative of a much looser architecture than that found in the upper fortress.

To summarise, there are two different parts on the upper and on the lower section of the hillfort with different habitation structures. This fundamental difference between the plateau summit (upper fortress) and the lower fortress, in the structure and intensity of the buildings, is surprisingly also reflected in the distribution of the painted Greek pottery in these areas. While the ten fragments of painted Greek ceramics found on Mount Ipf originate exclusively from the upper fortress (Böhr 2014), not a single piece was discovered in the lower fortress. This circumstance is indeed surprising and -in view of the current state of research together with the different building structures- allows the interpretation that there was a difference among its inhabitants and in the social or economic hierarchies. Whether or not this implies the residential and economic area of elites in the upper fortress can hardly be answered satisfactorily at present. However, there is much to be said in favour of this possibility.

On the other hand, discovered in the rectangular courtyards at a distance of some 2 km from the foot of Mount Ipf (fig. 19.9), were, in addition to local artefacts,

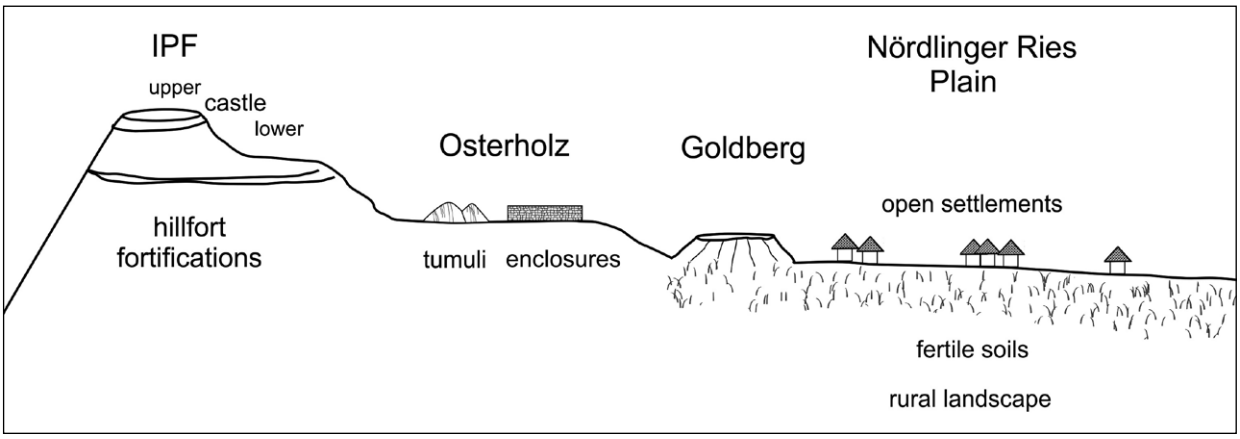

Figure 19.10. Scheme of settlement topography and settlement hierarchy on the western edge of the Nördlinger Ries (graph B. Voss, Frankfurt).

numerous Mediterranean imported finds, and so it seems that the families of the elites had their homes there. This is also supported by another aspect, namely the climatic and weather conditions. On the unprotected summit of the Ipf, weather events such as wind, storms, rain, and snow are much more unpleasant than in sheltered areas at the foot of the mountain.

The most important aspects of Mount Ipf with regard to its structures and their assessment can be summarised as follows (Krause 2015; 2019):

- Strong and imposing fortifications, a demonstration of power and prestige, visible from afar.
- Mediterranean goods and imports, contact with the Mediterranean world for more than a century.
- Large tumuli with 56 m diameter, which belong to the group of the so-called *"Fürstengräber"* according to the model developed by Wolfgang Kimmig for the Heuneburg (Kimmig 1969).
- Two rectangular enclosed compounds *("Rechteckhöfe"*) as residences of elite groups.
- A privileged economic basis, well supplied with agricultural goods, herds, a good supply of meat, and small-scale copper and iron metallurgy.

19.4 The question of concept, centrality and hierarchy

Situated only 4.5 km apart, the two fortified hilltop settlements on the Ipf and Goldberg have posed many puzzles for research (Krause 2015). Research has focused on questions of the mutual relationship between the neighbouring hilltop forts, social structures and hierarchies, and the consideration of whether and to what extent the Ipf can actually be assigned to the sphere of early Celtic princely seats. It was particularly difficult to find decisive answers about the relationship between the two hilltop settlements, until new research began in 2000 with the excavation of the two rectangular enclosed compounds and the smaller burial mound (Hügel 2) at Osterholz (fig. 19.9). Gerhard Bersu, excavator of the Goldberg in the 1920s and with the interesting historical research model in mind, suspected that a "royal fortress" existed upon the topographically prominent Mount Ipf, to which a number of smaller "princely fortresses", such as those on the Goldberg, belonged (Bersu 1930). Today we know that the Goldberg enjoyed its greatest flourishing at the transition of Hallstatt C to D, *i.e.* the transition from the 7th to the 6th century BC. Then it lost its importance and was ultimately abandoned during the late Hallstatt period (Hallstatt D1/2, *i.e.* around 550 BC). At that time the rise of the Ipf and the erection of the rectangular enclosures as well as the large burial mounds near Osterholz took place (Krause, 2019; Krause *et al.* 2010). There is much to suggest that at that time there must have been a shift in the seat of power from the Goldberg to Mount Ipf.

The first attempts to explain such hierarchical structures in the 1970s and 1980s were initially neo-evolutionist models, such as the ideal sequence system of M.H. Fried (1967) and E. Service (1962). In the 1990s, neo-evolutionist terminology like 'tribe', 'big man society', and 'chiefdom' were avoided, and instead use was made of more neutral terms such as 'social elite' and 'governing elite'. Nevertheless, in the end, these terms are applied synonymously to 'royalty' and 'aristocracy', as previously applied by Wolfgang Kimmig in his "*Fürstensitz*" concept (Kimmig 1969). Wolfram Schier has pointed out that for social archaeology the concepts of 'Big Men systems' and simple and complex chiefdoms appear as abstract ideal types and not as stages in a verifiable series of developments (Schier 2010). The majority of the indicators employed here do indeed suggest stronger social hierarchies, as are characteristic of chiefdoms, although empirical indications suggest the existence of characteristics specific to individual groups. Schier proposes that in the Hallstatt

period there was an ideology of inheritable power, although apparently there were also social norms and rules of conduct that are better associated with Big Men systems.

Today we apply different approaches and deal with questions of complex structures and their consequences for settlement development and concentration in such prominent hilltop settlements. Based on Walter Christaller's basic theory of "central locations", Eike Gringmuth-Dallmer developed the term "Centre of Complex Structure" in the 1990s, using a high-medieval settlement landscape with small towns and rural settlements in northeastern Germany. Thereby, he developed specific criteria and pointed out the following capabilities and qualities (Gringmuth-Dallmer 1996): leadership, defensive structures, control of natural resources, handicrafts, trade, incorporated in an exchange network, and facilities of cult and religion.

If we return to the landscape of the Nördlinger Ries and Mount Ipf and consider the structural foundations, then we can note the following points (fig. 19.10). The Ries plain, with its fertile soils and well-developed agriculture, was one of the outstanding settlement landscapes in southern Germany during the Bronze and Iron Ages (Bick 2007; Fries 2005). Since the Late Bronze Age, we can prove an intensive settlement with numerous smaller and larger fortifications on the mountainous ridges, which reached a climax in the Early Iron Age with a high settlement density. In the vicinity of the two hilltop settlements at Goldberg and on the Ipf are a large number of settlements, cemeteries, and burial mounds, dated to the Hallstatt and La Tène periods, *i.e.* the Early and Late Iron Age (Bick 2007; Fries 2005; Krause 2015). As explained above, already at the end of the Late Bronze Age Urnfield Culture there were changes in fortified hilltop settlements, and in the Early Iron Age there was a transfer of the centre of power from the Goldberg to Mount Ipf.

In principle, the forms of settlement on the Goldberg and the Ipf can be explained by rural structures. On the Goldberg in the Early Hallstatt period, the delimited district with unusual structures deviates from the rural character (Parzinger 1998). On the Ipf the reconstructed, comparatively dense buildings in the upper fortress (fig. 19.8) can be classified as diverging from the usual rural buildings and regarded as a village structure with population aggregation (cf. Gyucha 2019).

The two rectangular enclosures at Osterholz, located between the Goldberg and the Ipf, hold a special position due to their structures and unusual findings, such as Mediterranean goods, and are thus classified as the dwellings or residences of elite groups on the Ipf. Hence, a social hierarchy of different settlements can be clearly seen in the topography of the western edge of the Nördlinger Ries, (fig. 19.10):

- The Ries basin: rural settlement structures in the Late Bronze Age (Urnfield culture) and in the Early Iron Age (Hallstatt C/D and La Tène A).
- The Goldberg: in Hallstatt C/D1-2 hamlet structures with an enclosure for the elite.
- At the foot of Mount Ipf: two enclosures and two big tumuli at Osterholz.
- Mount Ipf (the mountain itself): two parts, with a dense settlement in the upper fortress (*Oberburg*), and less density of structures in the lower part (*Unterburg*) with enclosures.

The structures on Mount Ipf and in its surroundings fulfil the criteria and competences as well as the characteristics of a complex centre, which we call "*Fürstensitz*" after its genesis in the history of research and in the sense of a *terminus technicus* (see Fischer 2000; critics from Eggert 2007). Yet in comparison to other centres of this kind, above all the Heuneburg on the Upper Danube (see Krausse *et al.* this volume), there is no evidence of proto-urban or even urban structures at the Ipf (cf. Gyucha 2019 for a comparative perspective on urbanism).

19.5 Conclusion: Centralisation and urbanisation

The settlement landscape in the Nördlinger Ries can be characterised as that of rural settlements, which existed since the Late Bronze Age and in the Early Iron Age. In the course of settlement development, there was a population growth and densification of settlements. The results of various scientific studies, in particular archaeobotany and the history of the landscape and vegetation, provide impressive evidence for the increasing influence of humans, who were able to improve and protect their environment through intensive economic use and intensified cultivation methods. According to archaeobotanical results, the most important factors in the open landscape, with its fertile and high-yielding soils, were agriculture (Fischer *et al.* 2010; Stobbe 2014) and the herding economy and management (Stephan *et al.* 2010, 237), which also utilised the marginal heights around the Nördlinger Ries plain. All in all, there was over-production and targeted selection of food.

At the beginning of the Iron Age at the latest, the term 'natural landscape' for the surroundings of the Ipf and certainly for the whole Nördlinger Ries no longer applies, because this area was now a cultural landscape shaped by humans (Stobbe 2014). Of particular importance here are research results concerning the food supply for the population living on and around Mount Ipf. They show that there was a tendency towards a selective use of products. For example, high-quality cereals were only used on the Ipf and in the rectangular compounds (Fischer *et al.* 2010, 195ff.; 203ff.). Furthermore, the supply of animal

Figure 19.11. Map of eastern alpine, Italian and Mediterranean goods at the "Fürstensitz" Ipf.

protein was subject to targeted selection and organisation. In the rectangular compound at Bugfeld young pigs predominated the meat consumption source of the Late Hallstatt period, whereas young cattle dominated in the rectangular compound at Zaunäcker during the Early La Tène period (Stephan *et al.* 2010, 237). One may conclude from this that on the Ipf and in the rectangular enclosed compounds, food was "delivered" in a targeted manner and its residents were less self-sufficient. As consumers, they could afford to procure good, high-quality food from outside, which sheds light on their special role in the social hierarchy of Mount Ipf.

Lively relations with the South, especially with the Greek *emporia* at Caput Adriae and the Padania, attest different contacts and exchange of goods with the Mediterranean world (fig. 19.11). Yet, not only fine Greek pottery and wine *amphorae* found in the vicinity of the Ipf came from the Mediterranean south. Active interrelations with the Mediterranean, especially the Greek *emporia* at Caput Adriae and Padania, are also affirmed by the fragments of large transport containers (*dolia*) and special bronze fibulae from Upper Italy and the Eastern Alps, such as the Certosa type (Hauser 2014). Furthermore, the small bronze figurine of a dancing young male found not far away from the Ipf, in Ehringen (Guggisberg 2005), bears eloquent witness to lively contacts and exchange of goods with Etruscan-Greek areas in Italy. These finds from the Ipf and their origins were surprising, as until recently research on princely seats has traced the connections with the South via the Rhône River to the Greek colony of *Massalia*.

Behind these ideas is the model of the concentration of power in places that have high network-centrality. All in all, these include functions in the socio-economic sphere, religious-cultural expressions, and military-political and administrative organisation. These characteristics represent elements of centrality and complexity, as pointed out by Oliver Nakoinz (2010; 2019). Mount Ipf and its mighty fortifications represented the expression of the political and economic dominance of its inhabitants. All evidence suggests that this was not achieved in the short term, but over a longer period and could be maintained during the 6th and 5th centuries BC between about 630/620 and 450/430 BC, *i.e.* more than 100 years (Krause 2015). Undoubtedly, the fortress belonged to the sphere of early Celtic princes of Central Europe in the Early Iron Age for at least a hundred years, which is also documented by the exchange across the Eastern Alps to Upper Italy with the Greek-influenced regions of the Etruscans.

The underlying form of the social and domination structure, whether it was a segmentary linear system based on genealogy or a society with dependents or a strictly hierarchically structured society, *i.e.* a clientele or ranking society, cannot be clarified, neither on the basis of archaeological tradition, nor with the help of socio-historical models (Krause 2019). The large ostentatious graves with their rich furnishings show, after all, that only

individuals had experienced such extraordinary treatment in the cult of the dead. A fact that we may also attribute to the importance and social status of the deceased person.

For the genesis of Mount Ipf, at least two concentration processes in the Late Bronze Age Urnfield Culture and Early Hallstatt period can be highlighted, which, for example, led to an abandonment of the settlement in the Late Bronze Age on the Hesselberg and of the Goldberg in the Early Hallstatt period (fig. 19.12). From these processes, we can propose a concentration of political and economic power on the Ipf. Today we therefore assume that the early Celtic princely seat with its mighty fortifications represented an outstanding position as the centre of the Nördlinger Ries and its peripheral landscapes. How far this sphere of influence extended and how it can be defined is the subject of discussion today (cf. Schussmann 2014). However, the concentration process in the Nördlinger Ries did not lead to forms of urbanisation, such as those in the surroundings of the Heuneburg. The settlement dynamics and developments since the Late Bronze Age have shed a very special light on the Nördlinger Ries, with its unique seats of power from a socio-economic and power-political point of view, like the Goldberg and Mount Ipf. There the processes of change in a settlement landscape, which we call a concentration process in an economic as well as political sense, become particularly clear based on various interdisciplinary sources.

There is hardly a comparable settlement landscape in southern Germany, in which processes of shifting power and influence are so clearly discernible. The fact that this process began as early as the beginning of the 1st millennium BC in the Late Bronze Age with the abandonment of mighty hilltop settlements and fortifications, such as those on the Hesselberg, is illustrated by the outstanding position of this extraordinary settlement landscape in the history of research on the 2nd /1st millennium BC.

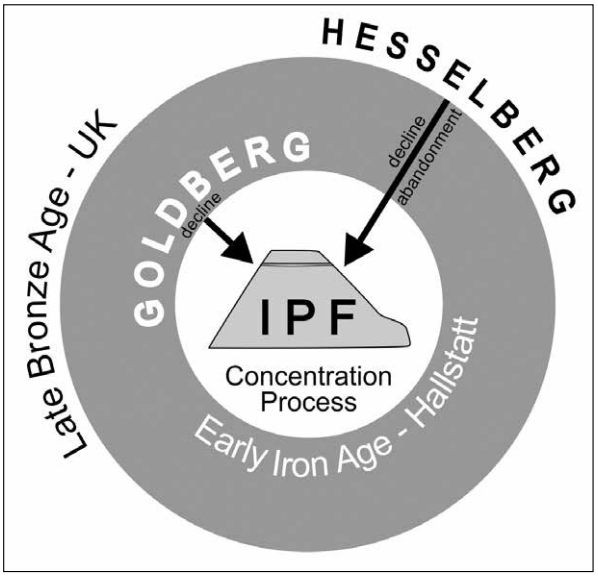

Figure 19.12. Scheme of concentration processes in the Nördlinger Ries since the Late Bronze Age and in the Early Iron Age. These led to the rise of the Ipf and the decline of other prominent hilltop settlements and fortifications (graph B. Voss, Frankfurt).

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Chapter 20

Early Urbanism and the Relationship between Northern Italy and Bohemia in the Early Iron Age

Miloslav Chytráček

If we want to examine and try to interpret the remains of the first planned Early Iron Age settlement developments in Central Europe, we need to approach the patterns of residential urban structures in a wider social context. In Bohemia, the planned concentric structure of settlements can be observed already in some lowland settlements from the beginning of the Iron Age. In the period comprising the 7th and early 6th centuries BC, Bohemia was already connected to the system of pathways and contacts with northern Italy are manifested in the archaeological record. In the second half of the 6th century BC, the period of the Hallstatt D2-3 stages, there was an increase in the number of fortified hilltop sites with a marked differentiation of these settlements. In the 6th to 5th centuries BC, a higher number of smaller hilltop fortified sites of local elites existed in the Bohemian basin. The imports and their imitations also reveal the presence of local elites in certain lowland settlements. Among the large number of Bohemian hillforts from the 6th to 5th centuries BC, the fortified hilltop sites in Minice, Závist, and Vladař are considered important centres of power with evidence of ties to distant regions, especially the Mediterranean area. The beginnings of urbanism in the temperate zone of Europe in the Early Iron Age can be assessed using a social-anthropological model for prehistoric archaeology distinguishing between a group-oriented society ("corporate mode") and an individual-oriented society ("network mode"). Both modes point to societies with a similar degree of social-political complexity, however, with different organisation and behaviour of the elites. The existence of both forms of societal organisation can be traced in Early Iron Age Bohemia.

Keywords: Bohemia; Early Iron Age; Early urbanism; Lowland settlements; Hillforts; Social structures; Graves; Imports.

20.1 Introduction

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The beginnings of early urbanism north of the Alps are closely linked to the manifestations of the Early Iron Age elites. In general, elites are identified by the existence of three categories of archaeological remains: 1. rich (princely/lordly) graves, 2 exceptional settlements, 3. luxury items/imports (Kimmig 1983). We register princes' or lords' graves according to different primary features including the location of the burial within a large mound with a diameter of 5-80 m and in a large burial chamber with a length of 3-7 m. The graves of the highest social class, often referred to as princely, are characterised by Mediterranean imports, which are

in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 333-348.

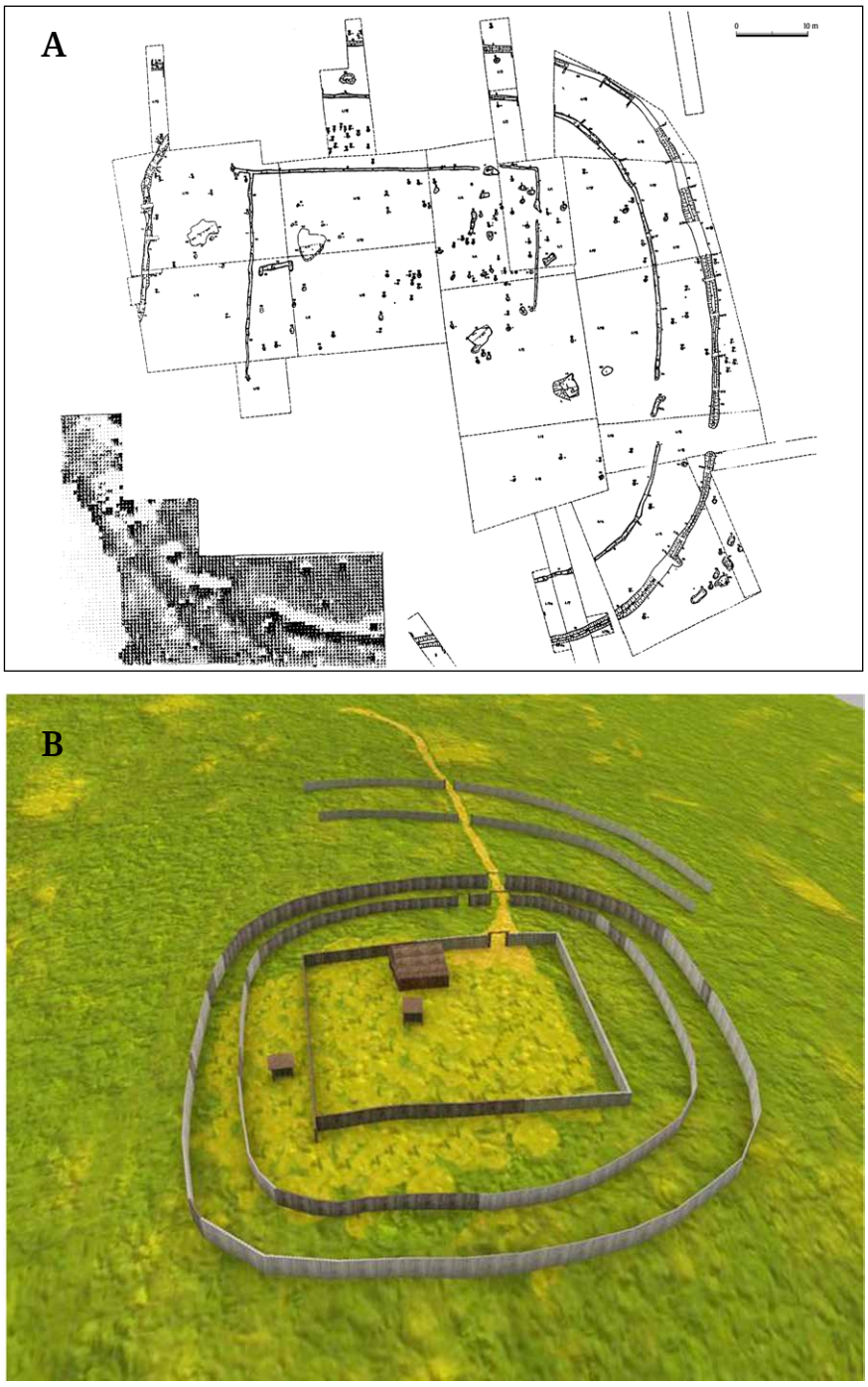

Figure 20.1. Štítary nad Radbuzou-Hostětice (Domažlice district). A- Overall plan of the excavation from 1988-1991. Magnetometric plan of the southwest part with the foundation trench of the outer palisade (after Chytráček and Metlička 2004). B- Attempt to reconstruct the rectangular farmstead of the nobility (*Herrenhof*) on the top of the mountain spur (after Chytráček 2009).

seen as an indicator of economic and political power, as well as artefacts made of precious metals and burial chambers with unusually large dimensions. Burials of the middle class, sometimes referred to as lordly graves (*Herrenbestattungen*), are also richly equipped, but do not include Mediterranean imports and have smaller burial chambers. The reflection of social stratification in grave monuments can be found in a similar way in the milieu of the Bylany and Horákov cultures (Koutecký 1968; Mírová and Golec 2018, 92-93).

Elites are also identifiable in settlements that bear the characteristics of centres of political and economic power (so-called princely and lordly seats that correspond to the highest and middle classes of society), typically on fortified hilltops. One of the main features of these centres of power is the structural and topographic separation of Acropolis and Suburbium/ *Vorburg*. Another important feature is the appearance of imports and the occurrence of precious metal items, or other prestigious estates. Additionally, the presence

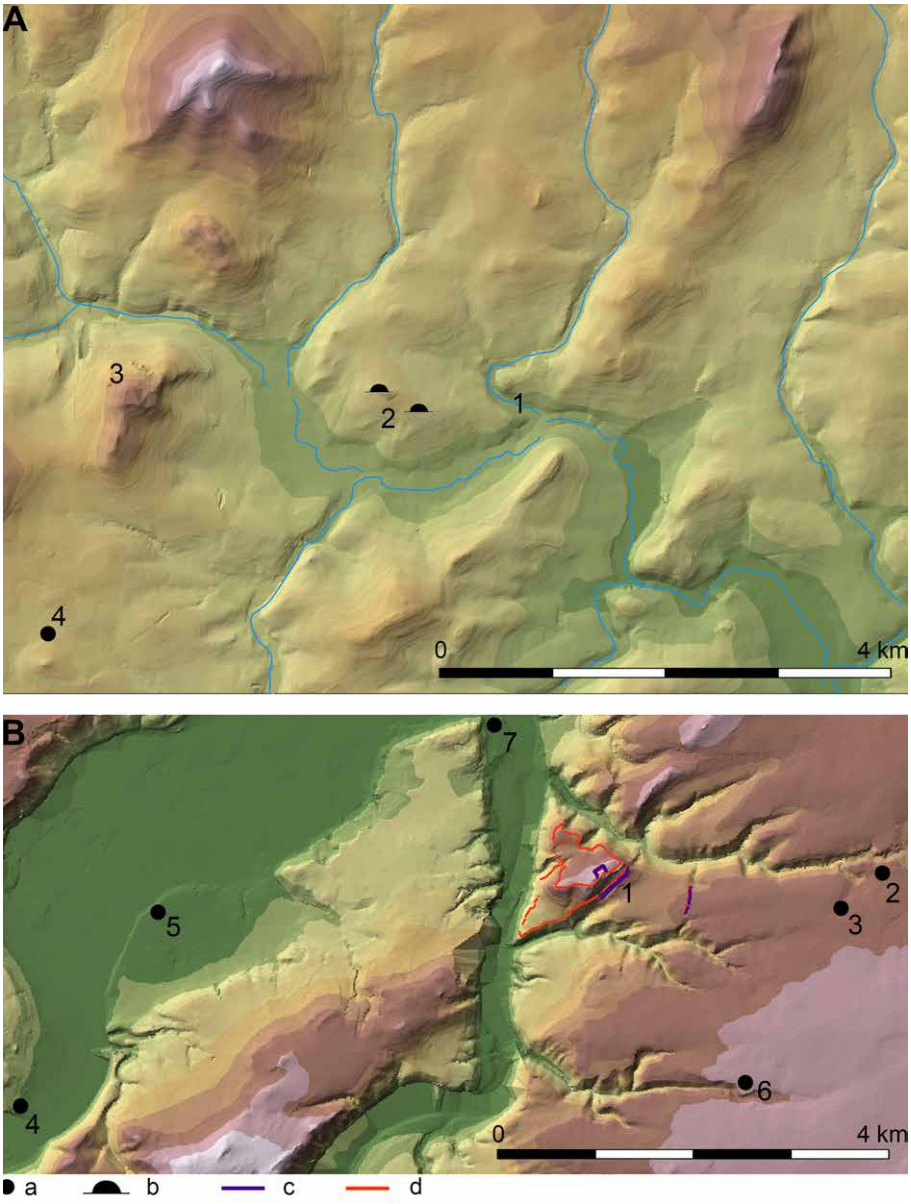

Figure 20.2. A-Settlement of the Hallstatt and Early La Tène period in the area of the upper reaches of the Radbuza River in western Bohemia. 1-Štítary n.R. -Hostětice/ *Herrenhof*, 2-Mírkovice/ burial mounds, 3-Svržno/ hillfort, 4-Mutěnín/lowland settlement/ (after Chytráček, 2006/07; Chytráček and Metlička 2004). B-The hillfort Závist-Lhota with its nearest hinterland during Hallstatt D2-3 and La Tène A. 1-Závist-Lhota, 2-3-Dolní Břežany, 4-Dolní Mokropsy, 5-Lipany, 6-Ohrobec, 7-Praha-Zbraslav (after Drda and Chytráček 2005). Legend for A and B: a- lowland settlement, b-cemetery, c-dig, d-wall lines.

of rich graves in the near or distant surroundings of the fortified princely seats is a characteristic feature. We do not yet know the all of the fortified hill settlements that meet these parameters in Bohemia, as the hitherto known seats do not fit into the still being discussed methodical concept of princely hill settlements (Eggert 1999; Härke 1983; Kimmig 1983; Krausse 1999; Maise 1996; Veit 2000). The princes' tombs with the additions of Mediterranean origin have not yet been identified from the surroundings of the fortified hilltop settlements, which are designated in Bohemia as centres of power with connection to the Mediterranean (Chytráček *et al.* in press). These imports, on the other hand, seldom occur within fenced farms or open settlements. They point to a connection with the highest stratum of society, which maintained contacts to the princely grave circle in the West and with the Mediterranean. The nature of this link is still being discussed (Bouzek *et al.* 2017).

During the Early Iron Age, early urbanism in the region north of the Alps was both developing and deteriorating in cycles of centralisation and decentralisation, which stands in contrast to the development observed in the Mediterranean world (Collis 2014, 15-18; Fernández-Götz this volume). Therefore, if we want to examine and try to interpret the remains of the first planned settlement developments of the Early Iron Age in Central Europe, we need to approach the patterns of residential urban structures within a wider social context. The architecture of the Hallstatt period is understood as a social medium, which means that any built-up areas form a material basis for social structures (Trebsche 2011, 263).

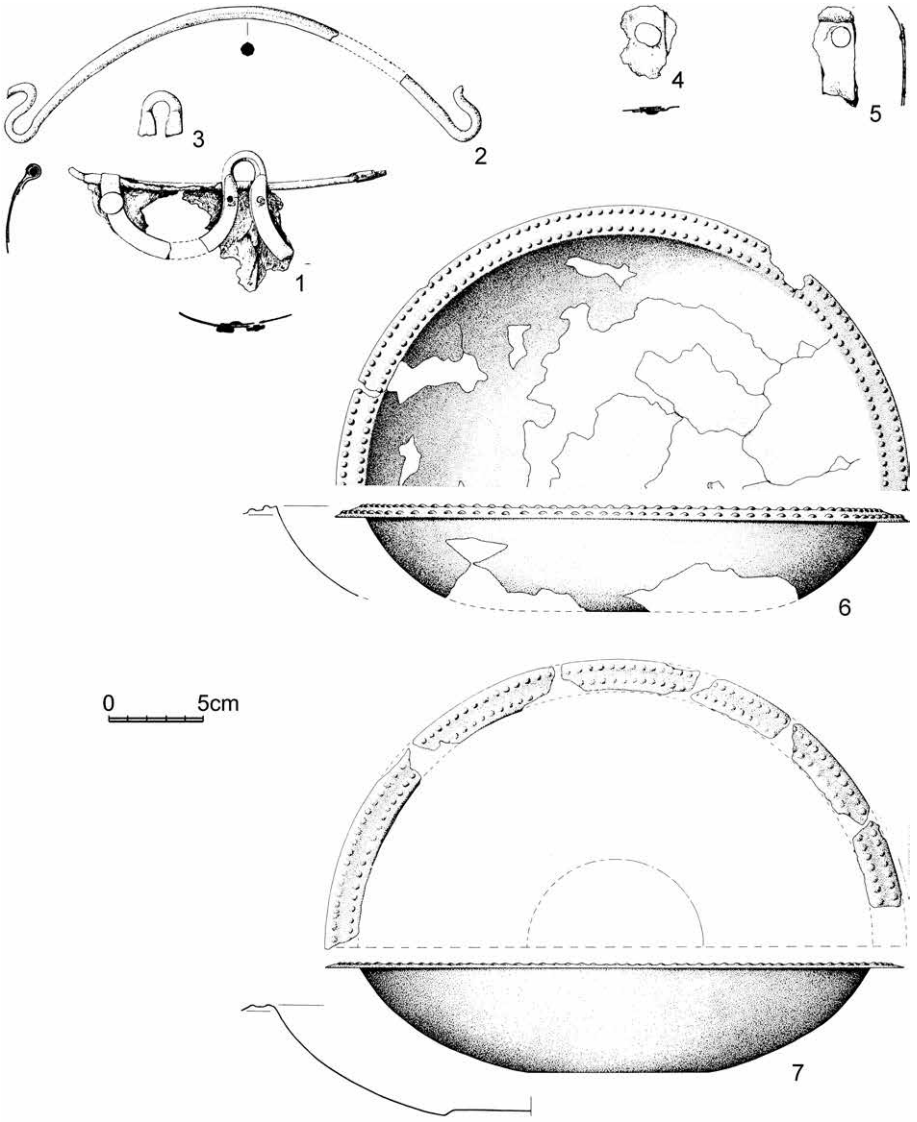

Figure 20.3. Bronze vessels in Bohemia associated with the older wave of Etruscan imports: situla with a crescent attachment (1-5) and bowls with pearl-studded rim of the Hohmichele type (6-7). 1-5- Kříše-Stupno, tumuli 5; 6- Slatina, grave; 7- Hradenín, grave 28 (after Chytráček 2012).

In Bohemia, the planned concentric structure of settlements can be observed already in some lowland settlements from the beginning of the Iron Age. In Prague-Miškovice we can find a clear settlement plan divided by stockades and moats into several spaces. During the Hallstatt C stage, the principle settlement was based on a system of polygonal and curvilinear grooves, with the construction and roads oriented according to their routes. The ellipse-shaped stockade probably had an exceptional importance with its square log building which was not used for residential purposes. Access to the building was allowed only to a restricted group of people, the rest of the community was excluded from the activities and the stockade prevented looking inside (Trebsche 2011, 267). The ellipse was based on the same geometrical principles and with almost identical dimensions as the other three comparable buildings in southern Moravia (Kuřim: Čižmář 1995; 1999), Lower Austria (Unterradlberg: Neugebauer 1997) and Upper Bavaria (Kösching: Thannabaur and Volpert 2005). This principle of building is fundamentally different from the rectangular princely farmsteads or rectangular parcels known other settlements, for instance at the Heuneburg.

The rectangular farmstead of the nobility *Herrenhof* dated to the Hallstatt D1 stage was examined in Štítary-Hostětice in western Bohemia (fig. 20.1; 20.2 A1). The owner and his family were part of the military-agrarian aristocracy of the period. The fences and stockades protected and secluded not only groups of people, cattle, and goods, but also the production and perhaps ritual activities (Chytráček and Metlička 2004, 257). This enclosed settlement unit included the adjacent settlement, which had evidence of specialised production (Chytráček 1997, 83). It is assumed that in the period of the Hallstatt

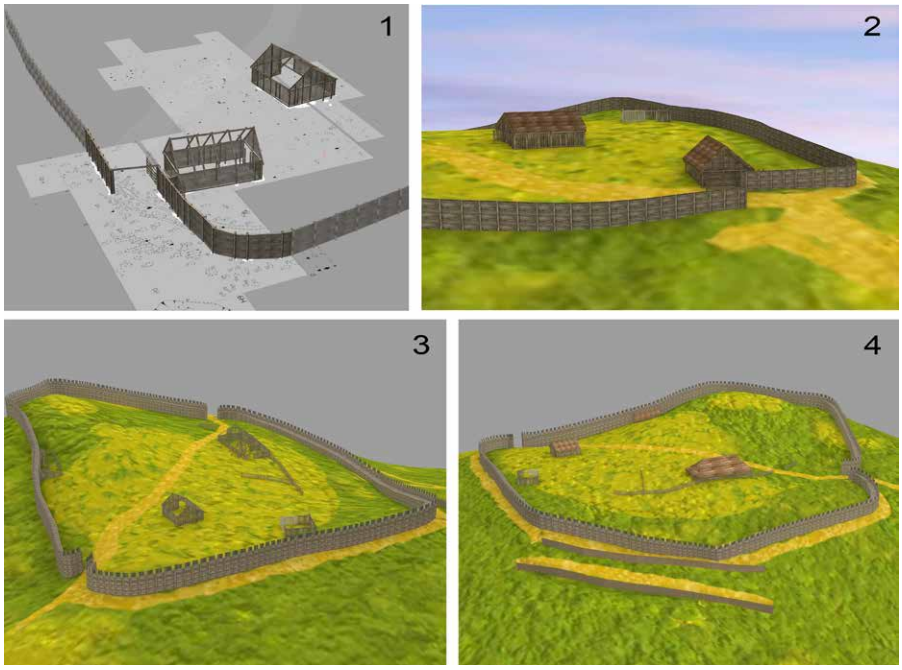

Figure 20.4. Hillfort on the Černý vrch-hill near Svržno (Domažlice district). 1-2 Older construction phase of hillfort (Hallstatt D2-3). 3-4 Younger construction phase of hillfort (Hallstatt D3/ La Tène A) (after Chytráček 2009).

C-D1 stages these farmsteads of *Herrenhof* type were not dependent on any higher organisational unit.

20.2 Northern Italian connections

In the period comprised of the 7th and early 6th centuries BC, Bohemia was already connected with northern Italy by a system of pathways and contacts, as demonstrated in the archaeological record (Chytráček *et al.* in press). Isolated fibulae of north Italian origin as well as some bronze vessels have been found that are connected to the wave of Etruscan imports during the 7th and early 6th centuries BC (Chytráček 2002, 123; Chytráček 2012, 191). Primarily, there are a large boat-shaped fibula from Bohosudov, a dragon fibula from Mochov (Chytráček *et al.* in press), a situla with a crescent attachment from Kříše-Stupno (coming from the Picenum or Etruria, fig. 20.3: 1-5) and bowls with pearl-studded rims of the Hohmichele type from Hradenín and Slatina (fig. 20.3: 6-7).

The boat fibula of the "Italian type" from Bohosudov (Venclová 2002, 271-272) belongs, given the size, width, and decoration of the bow, to a type found abundantly in Central Italy and in the Atestine region (von Eles Masi 1986, 86). Boat fibulae of this type appeared during the mid-8th to the 7th century BC and are rare in Central Europe. Examples from Este have similar decoration as found on the boat fibula from Bohosudov.

A large boat fibula from Prague (Slabina 2006, 429) with a high semi-circular bow decorated with zigzag incisions has been identified as the Este XIb type (Tecco Hvala 2012, 208; Tomedi 2002, 80-83). Their distribution covers the southern and eastern Alps as well as the Po Plain (Appler 2018, 74; Tomedi 2002, 81). A boat fibula with a rhomboid-shaped bow and side buttons was found in the hillfort of Dolánky-Rubín (Golec *et al.* in press). Fibulae of this type are represented by several examples in Upper Italy -including from Este, Albate, and Sanzeno, which are dated to the first half of the 7th century (Appler 2018, 79; von Eles Masi 1986, 137). A small boat fibula from this hillfort, dating back to around 600 BC, is also of northern Italian origin (Sankot 2009, 34) and belongs to the Hallstatt D1 stage.

The rhomboid shaped boat fibulae from Polní Voděrady (Koutecký 2014, 212) and Klobuky (Slabina 2006, 429) in Central Bohemia also come from northern Italy and date to the 7th century BC (Chytráček *et al.* in press).

The development of boat fibulae in Hallstatt C2 and D1 resulted in extending and profiling the foot to smaller fibulae shapes, and their production also expanded through the East Alps region and elsewhere (Venclová 2002, 271-272). The smaller boat fibula from Jenštejn (Dreslerová 1995, 23) is dated to Hallstatt D1.

Large serpentine fibulae with antennae (Hörnchen-/ Dragofibeln) probably arrived in central Bohemia in Mochov (Špaček 2004, 150, 187) through the upper Alpine Rhine Valley and Württemberg in Hallstatt D1 (Chytráček *et al.* in press). Fibulae of this type occurred in the first half of the 6th century mainly in the Golasecca culture, southwest Germany, as well as infrequently in the southeastern Alps (Appler 2018, 143; Cicolani 2017, 90; von Eles Masi 1986, 238).

Serpentine fibulae with a wavy bow (Dražejov: Michálek 2017, 86) are only recorded in the northern Adriatic region (Tecco Hvala 2012, 231) and H. Parzinger (1989, 102) puts them in the 7a horizon. Serpentine

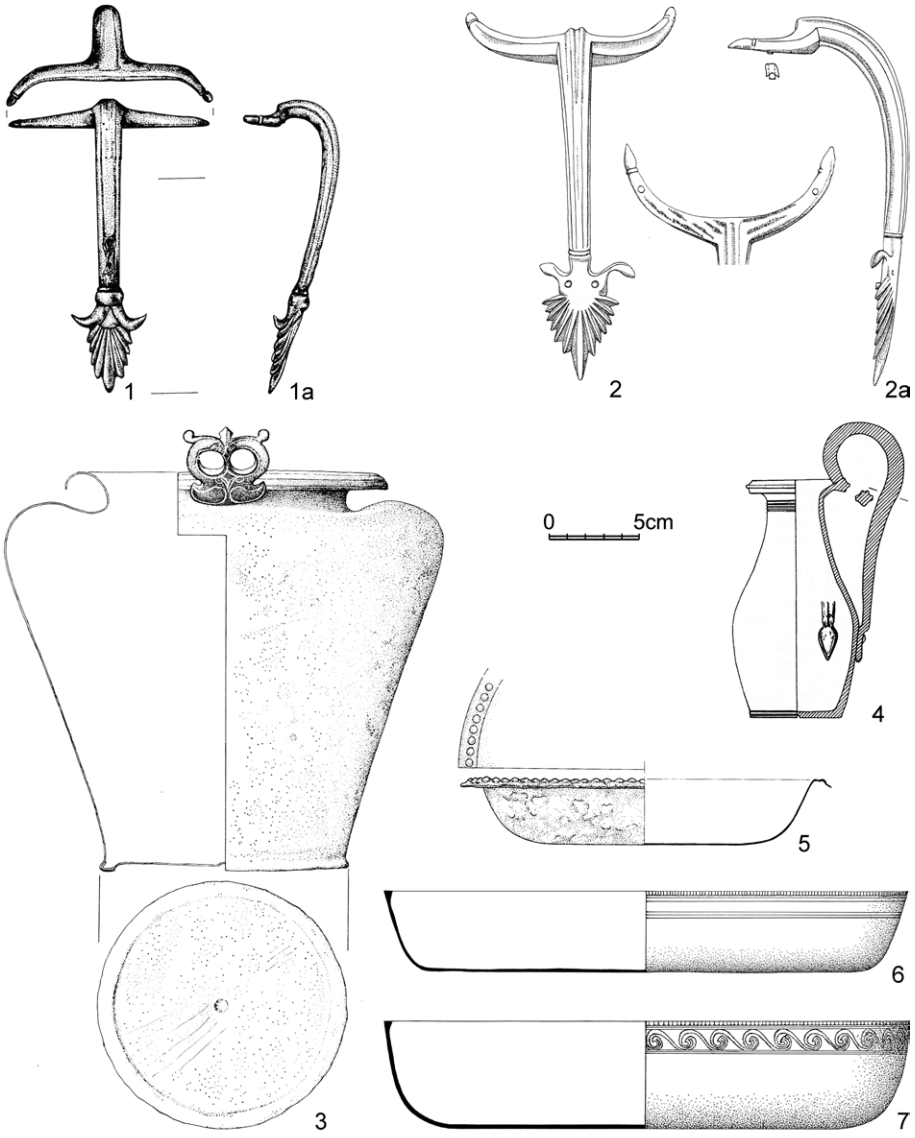

Figure 20.5. Etruscan bronze vessels in Bohemia (Hallstatt D/ La Tène A – La Tène A); 1-Čínov, 2-Hradiště u Písku, 3-Mírkovice, 4-Lahošť, 5-Museum Kolín (Inv.-Nr. 5790), 6-7 Hořín (after Chytráček *et al*. in press).

fibulae with a disc and a wide band bow (Milínov-Javor: Franc 1890, 114), are dated to late Hallstatt D1 and early D2 (Appler 2018, 139; Trachsel 2004, 77, 278). These fibulae are found particularly in the Golasecca culture, and in the Atestina and Alpine regions (von Eles Masi, 1986, 226, 229; Tecco Hvala 2012, 234, 242).

Sanguisuga type fibulae from the hillfort of Dolánky-Rubín (Preidel 1937, 68; Sankot 2009, 36) can also be dated to Hallstatt D2. Two Sanquisuga type fibulae from this hillfort are associated with northern Italian finds, dating back to the end of the 6th and beginning of the 5th centuries BC (von Eles Masi 1986, 177).

20.3 The development of hillforts

During the second half of the 6th century BC, in Hallstatt D2-3, there was an increase in the number of fortified hilltop sites (Chytráček *et al.* in press), with a marked differentiation of these settlements (Chytráček and Metlička 2004, 93-96). Some smaller hillforts in strategic positions on the tops of hills may be regarded as the seats and residences of the local elites, built along the routes of long-distance pathways, reminiscent of later medieval castles. An example of such a seat of the local elite is known from western Bohemia; the unified hillfort near Svržno (fig. 20.2A: 3; 4) provides evidence for intensive construction from the late 6th and the early 5th centuries BC. Rectangular, surface-floored houses built behind the wall and in the central area were used for residential and production purposes. Significant findings from the Hallstatt D2-3 stages include a western Alpine bronze strip fibula, glass beads, and an amber ring (Chytráček and Golec *et al.* 2017, 140; Chytráček and Metlička 2004, 32-37).

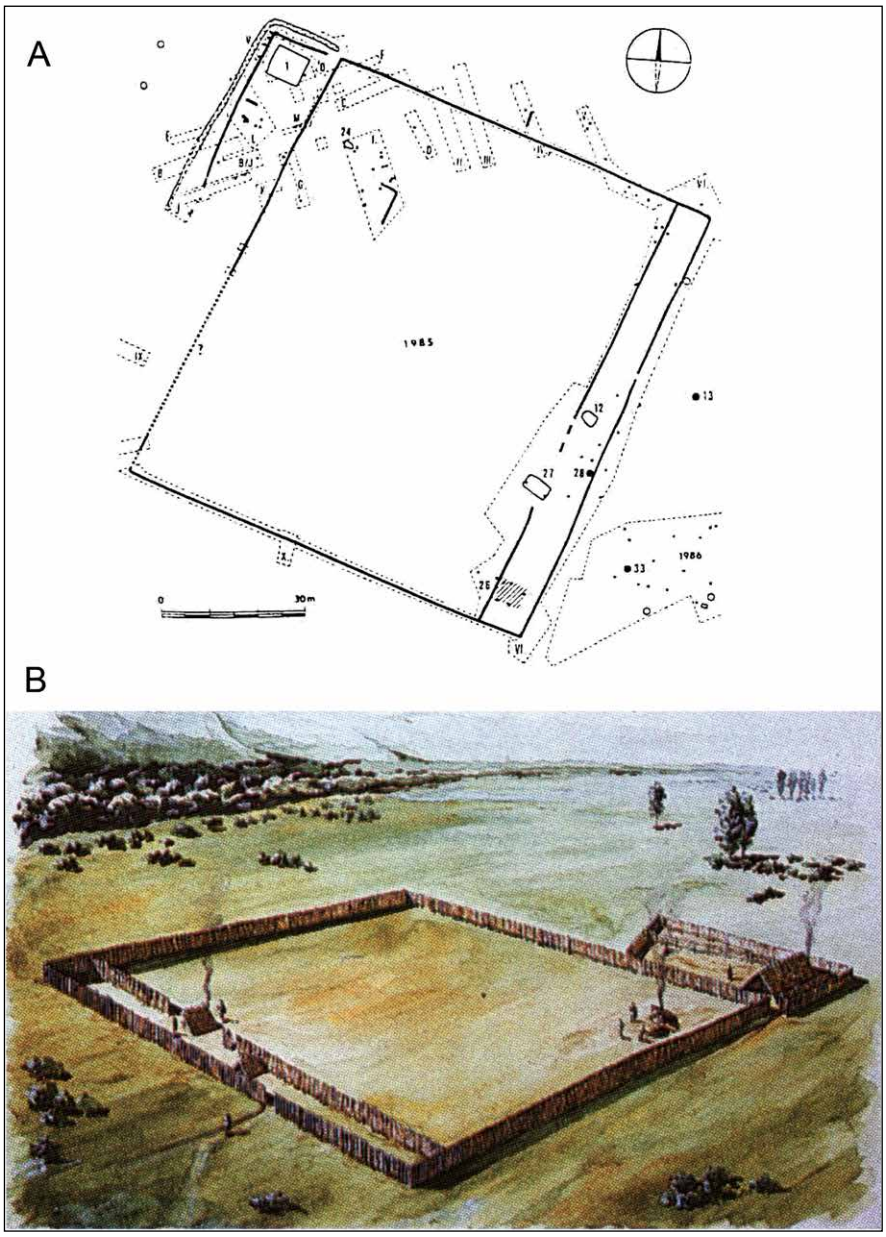

Figure 20.6. A-Droužkovice (Chomutov district). Map of the farmstead and the excavated area. B-Attempt to reconstruct the rectangular enclosed farmstead in Droužkovice (after Chytráček *et al*. in press).

During the prosperous times of the hillfort, the burial site at Mírkovice, 2 kilometres away, was the location of mounds containing princely graves (fig. 20.2A, 2-3), with findings including Etruscan bronze *stamnos-situla* (fig. 20.5:3) and a two-wheel chariot (Chytráček 1990, 87-100).

In the 6th to 5th centuries BC, a higher number of smaller hilltop fortified sites of local elites existed in the Bohemian basin, including the Rubín hillfort (Chytráček *et al.* in press). The nature of the findings suggests an exceptional social environment, which used imported exotic jewellery from northern Italy, as well as specialised craft production (Chytráček and Danielisová *et al.* 2010; Sankot 2009, 34). The imports and their imitations reveal the presence of local elites also in certain lowland settlements. Rectangular farmsteads, encircled with stockades, from the end of the 6th and early 5th centuries BC provided findings of Greek ceramics, which reached the territory of Bohemia through the Alpine passes from northern Italy.

In Droužkovice, Attic pottery was found within the central enclosure located in the NW corner (Chytráček *et al.* in press). This prominent place with a large house, protected by a stockade or a moat on three sides (fig. 20.6), was also the origin of a golden ring and a lid handle belonging to a bronze vessel. This specific area was probably the location of ceremonies and rituals organised by the tribal ruler, associated with ceremonial drinking (Bouzek and Smrž 1994, 581; Megaw and Megaw 2002, 173; Smrž 1994, 85). Both parts of the circumvallated farmstead

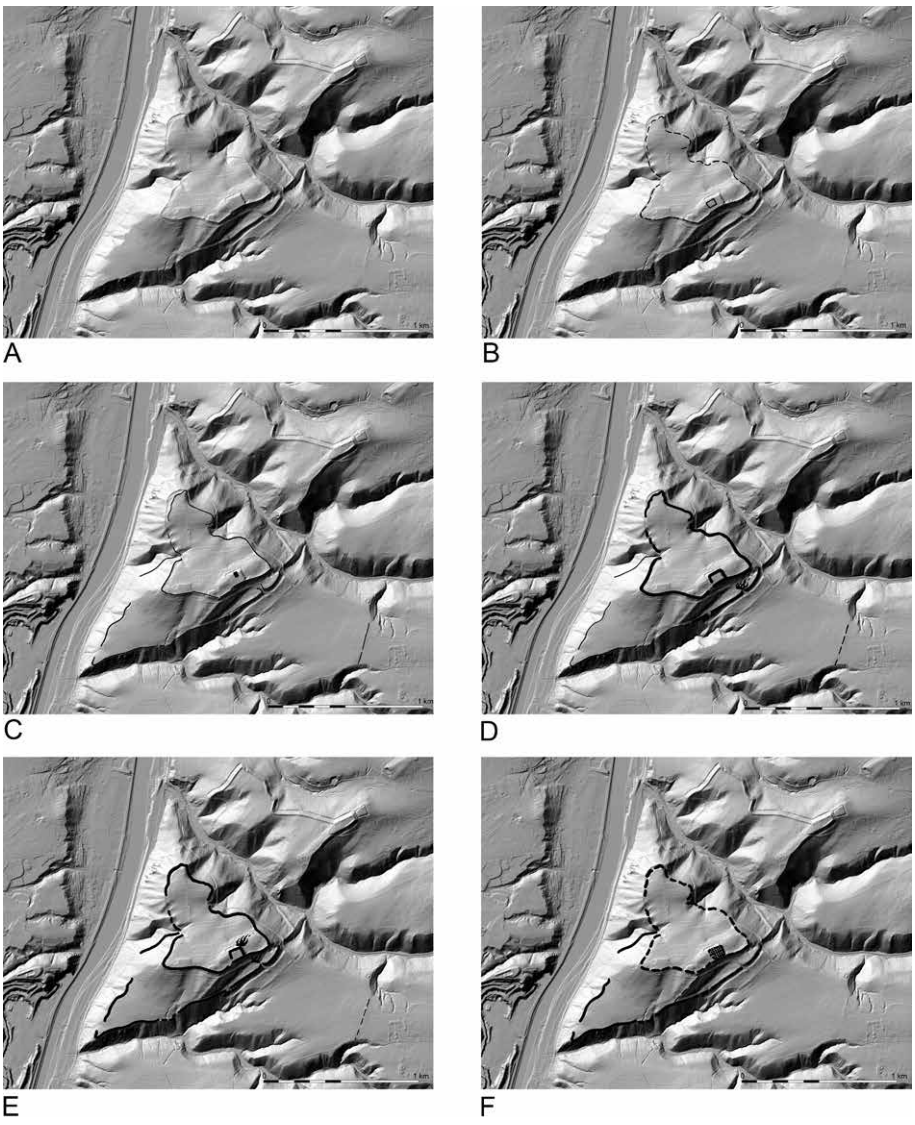

Figure 20.7. Lhota-Závist (Prague-west district). Development of the fortification system. A-Oppidum. Terrain relief created using aerial laser scanning (La Tène C2-D); B-Late Hallstatt power-centre (Hallstatt D2); C-Late Hallstatt hillfort with palisade wall (Hallstatt D2-3); D-Early La Tène hillfort with stone wall I (La Tène A); E-Early La Tène hillfort with stone wall II (La Tène A); F-Early La Tène hillfort with a chamber reconstruction of the acropolis (La Tène A/B1) (after Motyková and Drda *et al.* 1984).

in Droužkovice from the 1st half of the 5th century formed an "urban" unit and while they were spatially connected, their function differed.

Relics of the rectangular enclosed farmstead were also uncovered in Prague – Pitkovice. The enclosure was likely associated with the complex beginning in the 5th century BC (Trefný and Polišenský 2008, 478; 2014, 726), comprising a surface-floored stake-built house and semi-sunken house with a fragment of a bottom of a Greek transport *amphora* and fragments of red-figure Attic pottery (Chytráček *et al*. in press). The fragments of imported Greek ceramics were also found in other lowland settlements dated to around 500 BC: Kadaň-Jezerka, Prague-Ruzyně, Tuchoměřice, Dobrovíz, Dobroměřice (Chytráček *et al*. in press). A fragment of a small glass *aryballos* found in Strakonice (Chytráček *et al*. in press) probably came from a workshop on the island of Rhodes.

That imports of Attic red-figure vases also influenced the native pottery production is attested by some imitations of red-figure *kylikes*. The chemical analyses revealed that the imitations of Attic *kylikes* from Chržín and Pilsen-Roudná are most likely local products (Chytráček 2008, 60-62; Trefný and Chytráček *et al.* 2012, 135-138). These recent finds of imitations are seen in connection with imports and innovations, which reached Bohemia from Spina and other northern Italian locations of trade on the Adriatic Coast via the Alpine region (Chytráček 2008, 61). These places also played an important role for the transmission of red-figure wares during the 1st and, particularly, the 2nd quarter of the 5th century BC.

In terms of the topic of early urbanism and relations between northern Italy and Bohemia, it is necessary to introduce the examples of stone, non-fortification elements documented in some of the fortified hilltop settlements. The research done on the eastern side of the acropolis of

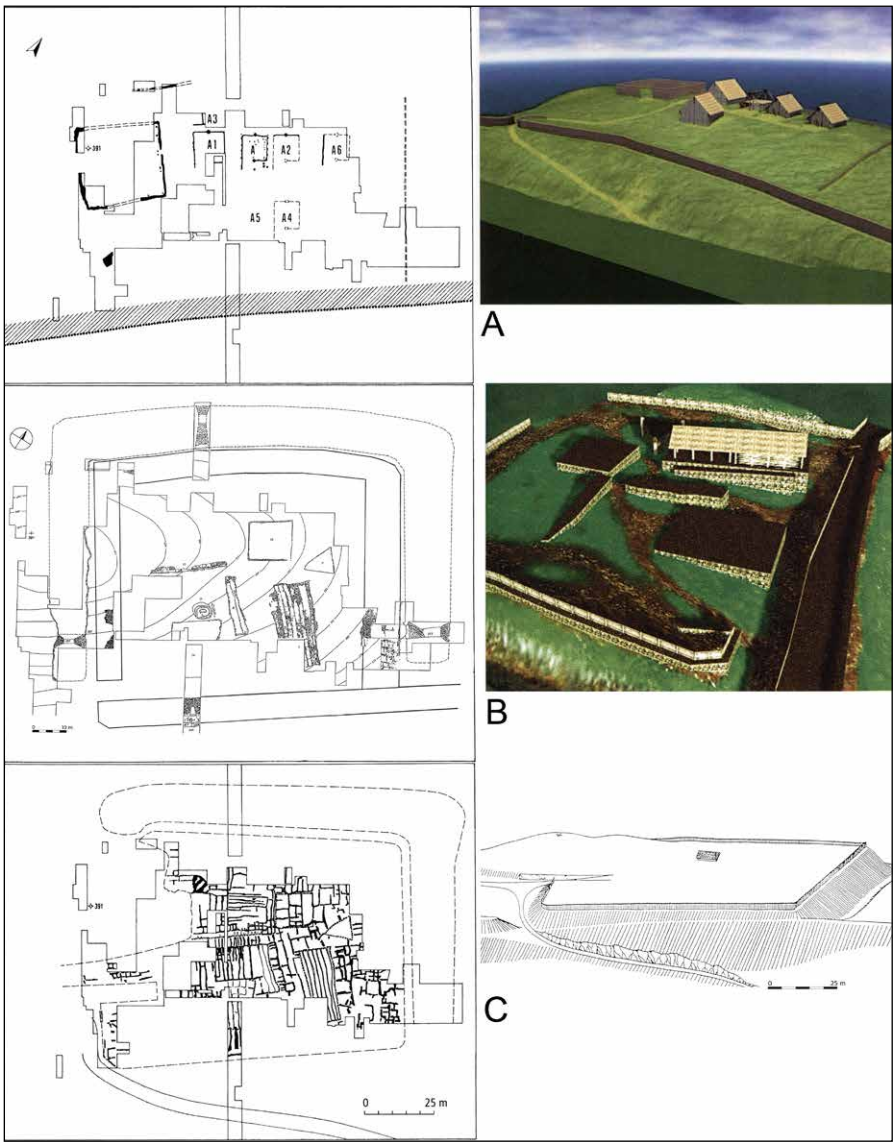

Figure 20.8. Závist-Lhota (Prague-west district). The formation of the acropolis of the hillfort based on a relative chronology. A-Horizon 1 (Hallstatt D2-3); B-Horizon 3 (La Tène A); C-Horizon 4 (La Tène A/B1) (after Drda and Rybová 2008).

the Minice hillfort, dating to the 6th century BC, uncovered remains of a remarkable building with a preserved platform of paved stones, measuring 12×8 m, with a low wall of stones. Other stone paving was discovered in the northern part of the acropolis. Although we do not know exactly what the building was used for, it was a rectangular structure with a stone floor and walls comprising wooden elements, reinforced with a low stone wall around its perimeter (Chytráček and Danielisová *et al.* 2010, 158-160; Trefný and Slabina 2015, 50). It has been suggested that the form of the Minice acropolis was inspired by builders from an environment of a more developed architectural style in the Mediterranean world (Bouzek 1992). Four fragments of the red coral found in the acropolis probably originated in the Tyrrhenian Sea. Among the large number of Bohemian hillforts from the 6th to 5th centuries, the fortified hilltop sites in Minice, Závist, and Vladař are considered important centres of power with evidence of ties to distant regions, especially the Mediterranean area.

The fortified complex of Závist (fig. 20.2B: 1) developed between the 6th and early 4th centuries BC (fig. 20.7). In transalpine Europe, the development of the acropolis of Závist is truly a unique situation (fig. 20.8), indicating a site of extraordinary importance. In the first stage (fig. 20.7: B), the fortification defined the central area of the hillfort, measuring 27 ha (Motyková *et al.* 1984, 409-410).

There was a rectangular encirclement on the top of the Závist hill, delimited by the ditch for a stockade; adjacent to the stockade there was a farmstead composed of a complex of large surface-floored houses arranged in three rows (fig. 20.8: A). The nature of the findings suggests the presence of men and women of high social status (Drda and Rybová 2008, 12-23, 115). After the destruction of this farmstead, in the second

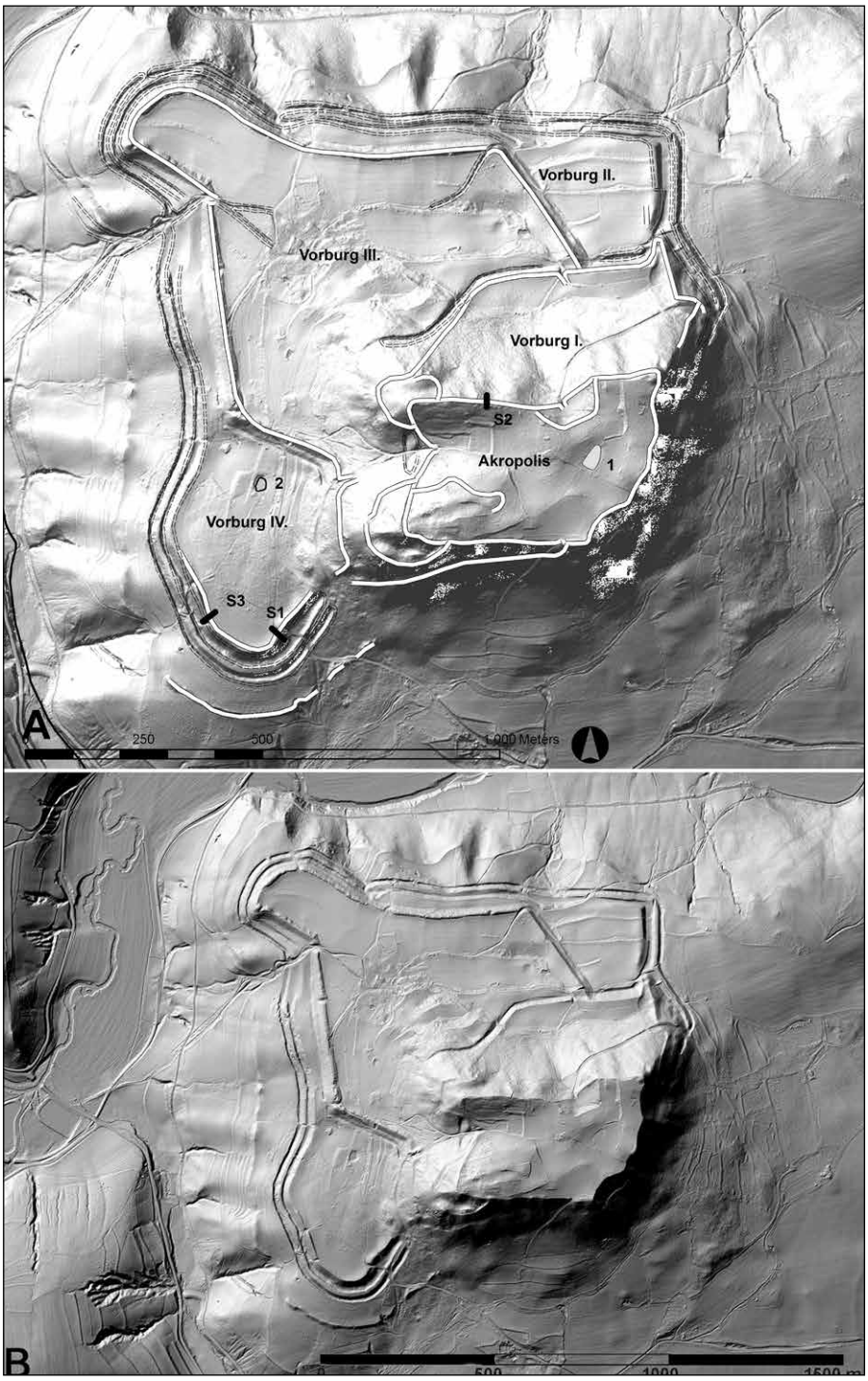

Figure 20.9. Záhořice-Vladař (Karlovy Vary district). Overall plan of the fortification system with highlighted sections of the fortifications (A1: section 1; S2: trench 2/2003; S3: trench 3/2009). Terrain relief created using aerial laser scanning. 1-cistern at the acropolis. 2-pond in the settlement foregrounds dug in 1980 at the site of the spring with preserved wooden cisterns (after Chytráček and Pokorný *et al.* 2012).

stage the entire fortification complex was enlarged (Motyková *et al.* 1984, 410) to cover 90 ha (fig. 20.7: C). A new spacious fencing was built on the top crest with a single large house (Drda and Rybová 2008, 24-29). This was likely to be a complex of ritual purpose, which served for purely cult, or perhaps social and community functions. The new stage of development of the top of the hill (fig. 20.7: D-E) starts in the beginning of the third horizon (La Tène A), which falls within the 5th century BC (Motyková *et al.* 1984, 412). The acropolis was enclosed by a wall and a moat ditch dug into the rock, up to 12 m wide and 5 m deep (fig. 20.8: B).

Several non-traditional structures made of stone were built within the area of the monumental enclosure.

Figure 20.10. Etruscan bronze vessels in Bohemia (La Tène A); 1-2: Hořín, 3-4: Ostrov u Stříbra, 5: Hradiště u Písku, 6: Chlum (after Chytráček *et al*. in press).

Stretches of walls and rectangular platforms made of stone were uncovered along with a triangular structure with internal timbering. The largest rectangular platform has dimensions of 12.5x28 m and height of up to 4 m. The upper portion of the building was not preserved, however it was probably a wooden structure as evidenced by a set of burnt wooden beams exposed at the level of the base of the stone platform (Drda and Rybová 2008, 63-66, 80-81, 116). The authors of the research attribute purely cult functions to all of these buildings and assume that their builders found inspiration in the Mediterranean world. Jan Bouzek (1985; 1987, 24; 1992, 366; 1997, 221) pointed out the similarity of the largest rectangular buildings with stone platforms of wooden Etruscan temples (fig. 20.8: B). Stone buildings in the Závist acropolis stood at most a few decades and were destroyed by fire (fig. 20.7: D-E). The complex was not restored and in the last stage of development (fig. 20.7: F) the whole area of the acropolis (fig. 20.8: C) was levelled into a single large terrace 105x80 m in size. Only one small wooden structure was documented in the whole area of the terrace (Motyková *et al.* 1984, 412; Drda and Rybová 2008, 50-58). In future explanations and interpretations of the construction development of the acropolis it will be necessary to consider to what extent the cult aspect was mixed with the social and political aspects in this respect (Kysela and Venclová 2018, 130).

Similar, equally large fortification can be found on top of the Vladař mesa in western Bohemia. The fortification complex stretches over an area of 115 ha (fig. 20.9), it is composed of a separately fortified acropolis and subdivided bailey (Chytráček and Danielisová *et al.* 2012, 278). The exposed position of the fortified acropolis with a large rainwater cistern (Chytráček and Pokorný *et al.* 2012, 32-36)

was probably the residence of members of the social elite who controlled the land rich in gold and also maintained contact with the regions south of the Alps. The evidence of this is provided by some of the existing artefacts discovered in the acropolis. In addition to a bronze stylised male figurine wearing a helmet of the Negau type (Chytráček and Metlička 2004, 43-44), which served as the foot of a luxurious bronze vessel, imported from the southern Tyrol area, other artefacts also indicate remote contacts, including an amber bead of Baltic origin (Hauser and Schönfelder 2014, 436; Chytráček and Golec *et al.* 2017, 197, 227). The top platform of the hillfort provided remnants of a regular surface-floored build-up from the Hallstatt D – La Tène A, which were likely individually fenced farmsteads protected by a robust peripheral wall (Chytráček and Danielisová *et al.* 2012, 280-296). The hillfort played its most significant role in the 6th to 5th centuries BC, when it had become a major centre. In 2009-2010, an international research team excavated in the bailey area focusing on two uniquely preserved water cisterns (Chytráček and Pokorný *et al.* 2012, 36-49). One of the cisterns, the better preserved one, had a square footprint and was delimited by more than a metre wide dam consisting of timbered chambers of oak beams and the bottom was paved with basalt stones; its original volume can be estimated to 900 hL. The felling of the trees was dendrochronologically dated to the first half of the 5th century BC. There are no analogous preserved wooden buildings of similar dimensions, age, and function the Central Europe. Pollen analysis as well as analyses of charred plant remains showed that the immediate surroundings of the cisterns were probably not built up with pastures and meadows prevailing in this location. The research of the bailey fortification demonstrated the remains of three subsequent fortifications dated to the Hallstatt and La Tène periods (Chytráček and Danielisová *et al.* 2012, 279-280; Chytráček and Šmejda 2005, 14). The fortified bailey was the location of water cisterns (fig. 20.9:2) at the time, probably necessary for the unusually large concentration of cattle and horses as well as people living there.

At the end of the Hallstatt and beginning of the La Tène periods, we observe a trend toward enlarging fortified areas as well as the efforts to secure water resources with defences within the development of fortified urban settlements in the vast territory between the Mosel, central Rhineland, and Bohemia (Pare 2009, 75). Perhaps it was a reaction to the historic events that have brought an increased need for protection of people and animals at the time of a growing threat.

20.4 Group-oriented vs. individual-oriented communities in Iron Age Bohemia

The beginnings of urbanism in Early Iron Age temperate Europe can be assessed using a social-anthropological model (Renfrew 1973) for prehistoric archaeology distinguishing between a group-oriented society ("corporate mode") and an individual-oriented society ("network mode"). These counterparts also correspond to several understandable correlates, particularly in architecture (Trebsche 2011, 267). The "corporate mode" is typically seen in societies with monumental ritual buildings, central storage of food supplies, and extensive building plans implemented in cooperation. Power and influence involved in the cohesion of corporations, which are created via integrating rituals and ideologies, while individual differences in wealth are suppressed or concealed (Trebsche 2011, 263). The "network mode" stresses the individual chiefdom where personal power, prestige, and individual wealth are put on display. The wealth involved in the personal networks of those who held power, *i.a.*, allows the exchange of prestigious goods and acquirement of long-distance imports. Prestigious buildings include characteristic residences, palaces, and monumental graves (Chytráček *et al.* in press). Both modes point to societies with a similar degree of socio-political complexity, however, with different organisation and behaviour of the elites (Renfrew 1973). The existence of both forms of organisation of society can be seen in Bohemia during the Early Iron Age. The exclusive group that used the ellipse-shaped stockade in Prague-Miškovice in the 7th century BC might not have constituted the ruling class, but could also have represented a social group of a religious or professional nature, such as the cult community, which suggests the corporate form of organisation (Trebsche 2011, 263). Additionally, the group-oriented society could be indicated by the fortified complex in Závist: lavish graves are missing in the immediate vicinity (fig. 20.2: B), prestigious goods had only an inferior role in the findings from the settlement, and the acropolis, representing probably the central sanctuary, was the location of public buildings (fig. 20.8: B-C) where group rituals may have taken place.

Fortified hilltop seats of the late Hallstatt period with richly equipped graves in the vicinity (fig. 20.5:3; 20.2A: 2-3; 4) can be associated with the individualised communities. The late Hallstatt princely burial in Rovná in southern Bohemia shows luxurious burial rites of a social elite (Chytráček and Chvojka, *et al.* 2019; Chytráček *et al.* in press), with rich grave goods emphasising the personal prestige and wealth. The set of five bronze vessels reveals ties to northern Italy, in particular, the bowl of the Hundersingen type and the Rhine-Tessin

situla (Chytráček *et al.* in press). The Hochdorf type is represented by the bronze toiletry set decorated with red coloured sea coral (Chytráček *et al.* in press), also an import from northern Italy, originating perhaps from the Golasecca or Este cultures. At the end of the 6th and during the 5th century BC, some Bohemian regions were gaining an important role in the political and cultural development of Central Europe. The higher intensity of interregional contacts was associated with the relocation of the Amber Road, which was newly routed through the Bohemian basin from the north and northeast to the south and southwest (Chytráček and Golec *et al.* 2017, 136, 225). Local leaders probably provided safe passage through their territories, thus becoming involved in the organisation and planning of the south- and southwest-bound traffic. The routing of the long-distance pathways is revealed by the marked concentration of sites with findings of amber, as well as by the imports of Etruscan bronze vessels (fig. 20.5; 20.10) brought to Bohemia at the end of the 6th and during the 5th century BC from northern Italy across the Alps. The most frequently represented are bowls with a flat bottom and steep walls (fig. 20.5:6-7; 20.10:1-2, 5-6) and beaked flagons (Chytráček 2015, 276-282). In Bohemia, seven Etruscan bronze beaked flagons, or their fragments, are known (fig. 20.5: 1-2; 20.10: 3-6), found primarily in Early La Tène princely graves in the western half of Bohemia.

During the course of La Tène A, burials with warrior-style grave goods, including iron swords, had crucial importance, with their distribution in Bohemia revealing a newly identified social group, which controlled the main communication routes at the time (Sankot 2003, 49). In La Tène A, large fortified centres played an active role in the new communication space between eastern France and Bohemia (Pare 2009, 71), having begun already in the Late Hallstatt period in the area between Mosel, central Rhineland and Bohemia, *i.e.* at the northern periphery of the zone of Late Hallstatt princely settlements. Those large fortifications serving to protect their own sources of water had only a short period of existence and most were abandoned in the 4th century BC.

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Chapter 21

Vix: The Temptation of the City

Bruno Chaume

Ancient and modern geographers tend to use three criteria to define cities: a population above 5,000 inhabitants, the presence of a variety of activities, and a network connecting them with other establishments. Plato, Herodotus, Pausanias, and many others had preceded them in attempting to establish a paradigm for the city or polis. The Celtic princely seat at Vix-Mont Lassois is considered a coherent and organised entity, consisting of a quasi-urban space. At Vix, the latest investigations (2016-2019) have revealed remains that suggest harbour installations on the banks of the Seine. The notion of urbanisation or proto-urbanisation has been put forward to describe the princely phenomenon that developed northwest of the Alps between the 7th and mid-5th century BC. Such an attempt at urban life remained incomplete, and we (the author and Patrice Brun) have defined it as an atelo-urban phenomenon. The reasons for its failure are still poorly understood but are likely to have been of a systemic nature affecting the whole of Europe.

Keywords: Urbanisation; Celtic principalities; Early Iron Age; Landscape; Vix-Mont Lassois.

21.1 Introduction

An overview of the approaches taken by specialists in protohistory towards defining the emergence of the concept of the city in temperate Europe reveals that very few have used the surviving texts from Greek Antiquity to support their views. Yet, attempts at defining towns and cities, and the associated notions of urbanisation, are not limited to the modern period. This memory lapse has, however, not affected our colleagues in Classical archaeology and ancient history (Bourdin 2015), who have not failed to consult Classical texts when studying the origins of the *polis*.

It is Pausanias (1st century AD), referring to Panopeus (or Phanoteus), a city in Phocis in central Greece, who gives us what can be considered the defining criteria of a city: "*From Chaeroneia it is twenty stades to Panopeus, a city of the Phocians, if one can give the name of city to those who possess no government offices, no gymnasium, no theatre, no market-place, no water descending to a fountain, but live in bare shelters just like mountain cabins, right on a ravine. Nevertheless, they have boundaries with their neighbours, and even send delegates to the Phocian assembly*" (Book 10, IV [1]). Pausanias also mentions that Panopeus, the founding hero, had a son, Epeios, who played a prominent role in the siege of Troy by building the famous Trojan horse.

Pausanias' definition in the marginal case of Panopeus, lists a series of physical characteristics, which define what is urban by noting their absence in the 'city' in

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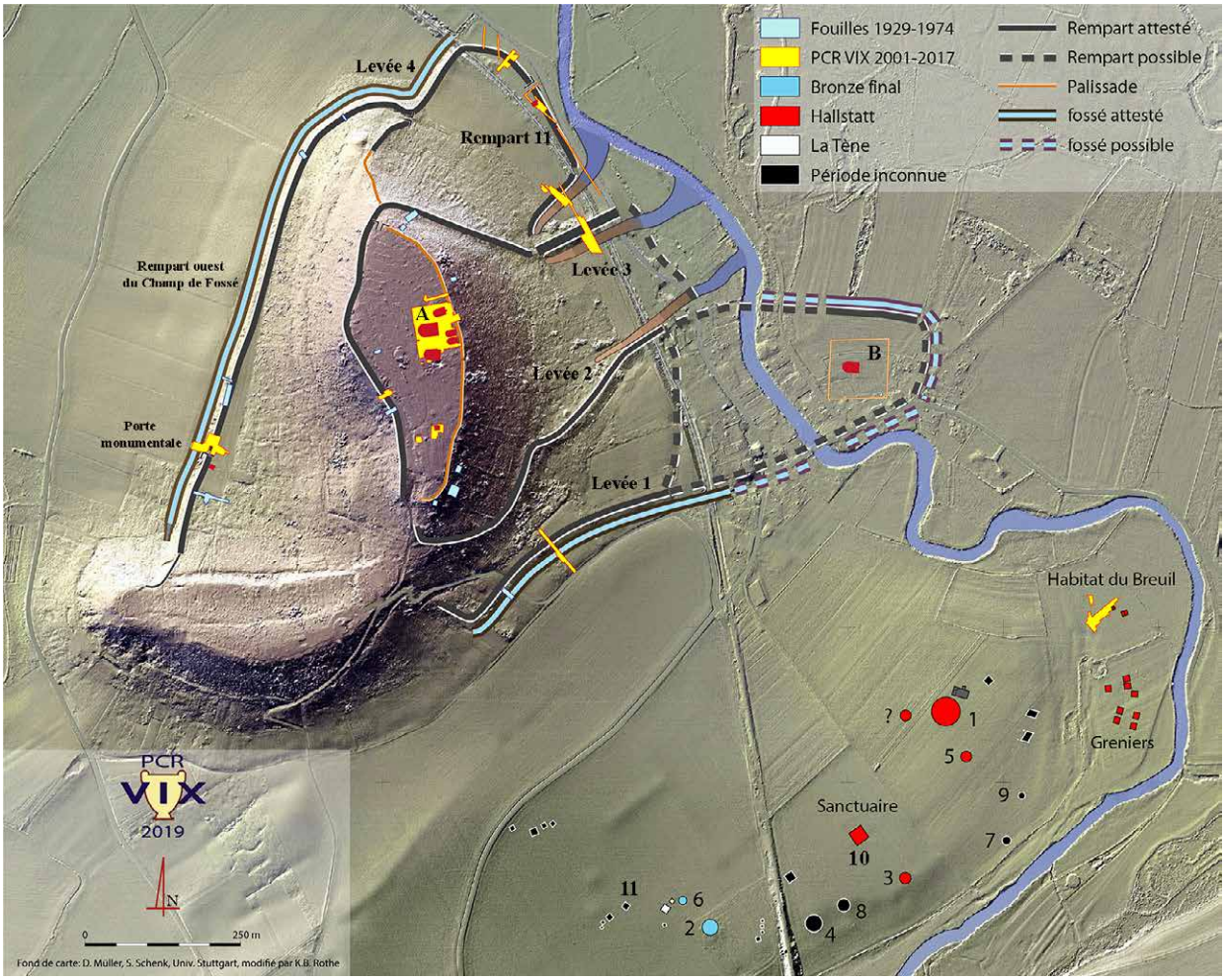


Figure 21.1. General plan of the aristocratic complex of Vix-Mont Lassois: main excavated structures (large apsidal buildings dated to Hallstatt D2-D3; protohistoric funerary structures dated to Late Bronze Age IIIb – Hallstatt D1/D2/D3 – La Tène C-D1). 1) princely barrow; 2) tumulus 2; 3) tumulus 3; 4) tumulus 4; 5) tumulus 5; 6) tumulus 6; 7) tumulus 7; 8) tumulus 8; 9) tumulus 9; 10) Hallstatt sanctuary at *Les Herbues*; 11) Middle and Late La Tène cemetery. A) enclosure with large apsidal buildings; B) apsidal building no. 6 (B. Chaume 2020, computer-aided design by K.B. Rothe, based on LiDAR data by W. Böttinger, D. Mueller, and S. Schenk).

question. But he adds what can be taken to represent three new criteria: a territorial unit (defined by the limits of the city's territory), a political entity (the Assembly, seat of the government of Phocis), and a symbolic dimension (the myth of the hero founding the city), which together give Panopeus the status of a city, although this remains a highly debatable point. Such a perspective amounts to establishing a hierarchy of the criteria used to define the trans-historical concept of a city, even though Pausanias does not frame it as such, merely highlighting the physical traits of an agglomeration. These are defining elements but are not sufficient for a theoretical model.

In *Critias*, Plato (end of 5th century BC) seemingly goes further in his conceptual view, proposing (five centuries before Pausanias) a descriptive framework for the city of Athens that imagines, in a kind of retrospective reconstruction, what the city may have looked like 9,000 years earlier. He repeats this approach when dealing with Atlantis in the same dialogue. The text gives pride of place to the concept of the city, defined by six headings: *anthropogony*, *ethnography*, *economy*, *topography*, *chorography*, and finally *astugraphy* (which refers to the town *-astu-* proper, its organisation, and boundaries). Plato's method of definition and his model constitute a challenge since his intent was clearly archaeological.

Figure 21.2. Magnetometry plot of Mont Lassois' upper plateau (Harald von der Osten-Woldenburg). Interpretation: B. Chaume.

Each of Plato's headings has the value of a prototype and feels remarkably modern in approach. That we owe Plato, admittedly not only a philosopher (the first or one of the first), the definition of a city calls for a re-evaluation of the ancient written sources on the subject. Our modern compartmentalisation of academic subject areas and their narrow focus no doubt explain why protohistorians have tended to neglect the seminal Classical texts.

Yet Plato, Herodotus, Pausanias, and many others have tried, often successfully, to set out a clear paradigm for the city or *polis*. Of course, it is not the intention here, nor is it possible in a brief article, to review all the sources from Antiquity that are pertinent to the topic. At Vix-Mont Lassois (Burgundy, France), it is possible to identify some organisational criteria, while other aspects are speculation at this stage, as I shall try to demonstrate.

21.2 Poligraphy[1] of a city: the case of Vix (fig. 21.1)

21.2.1 The hilltop settlement on the plateau of Saint-Marcel

Mont Lassois is a coherent and organised complex consisting of a quasi-urbanised space (a plateau on the summit comprising some 5 ha), a defensive circuit (on the edges of the plateau, its slopes, and at the foot of the flanks of Mont Saint-Marcel), burial grounds, and open settlements in the Seine Valley. Significant remains found on the plateau of Saint-Marcel and in the cemeteries at the foot of Mont Lassois date to the Late Bronze Age (Final Bronze Age III) (Chaume 2001; Chaume and Mordant 2011) (fig. 21.1). Thereafter, for a period of around two centuries, there was a hiatus in occupation until the Late Hallstatt period (Hallstatt D1).

The settlement on the upper plateau of Mont Lassois is arranged on either side of a north-south axis (fig. 21.2). This "main street" structures access to some fifteen enclosures delimited by palisaded ditches, which contained dwellings. In the south of the plateau, three buildings raised on piles represent enormous collective granaries.

The settlement's regular layout suggests that it was planned from the outset and that this building work was controlled by local authorities. Indications of a social hierarchy are discernible in the types of buildings erected and in the enclosed spaces: classic two-aisled houses are next to the monumental apsidal buildings.

Five large apsidal buildings stood at the heart of this plan, in the centre of the largest enclosure. Two were extraordinarily large: Building 1 is 35 m long and 21 m wide and Building 2 is 25 m long and 11 m wide (fig. 21.3) (Chaume *et al.* 2011). In 2013, a sixth apsidal building of equally monumental size (30 m long and some 18 m wide) was found in the enclosure next to the one containing the five other apsidal buildings. These buildings show the degree to which the Hallstatt craftsmen mastered carpentry. For Building 1, they created an inner space of 500 m^2, spanned by a roof whose ridge towered at least 15 m above ground level (fig. 21.4).

The exact purpose of this building remains hypothetical: was it a public or private building, a seat of power, or a religious or domestic space? It is likely that it fulfilled all these functions since the political and religious spheres were not separate in complex chiefdoms. Access to the plateau remains an open question, even though our Swiss colleagues from the University of Zurich have uncovered

1 See Kliebenstein and Pineau 2001.

Figure 21.3. Plan of the enclosure with large apsidal buildings on Mont Lassois' upper plateau (records by B. Chaume, S. Beuchot, N. Nieszery, and W. Reinhard, computer-aided design by K.B. Rothe).

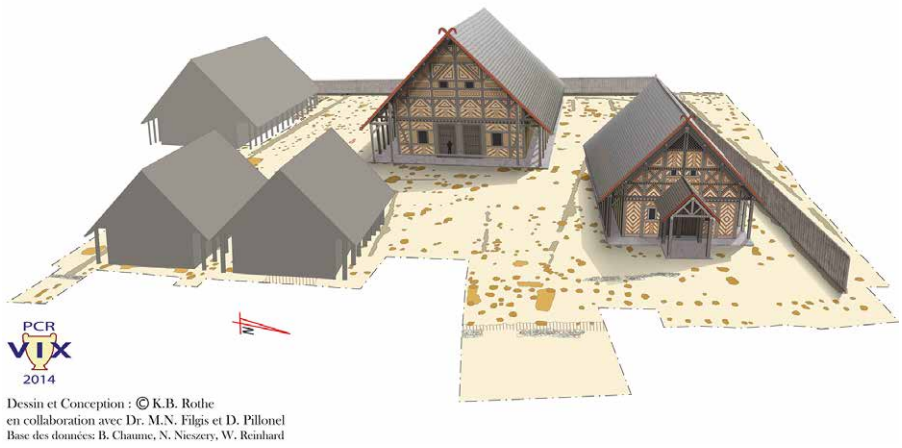


Figure 21.4. Reconstruction of the large apsidal buildings (computer-aided design by K.B. Rothe, based on excavation records by B. Chaume, S. Beuchot, N. Nieszery and W. Reinhard).

Figure 21.5. Western rampart of *Pfostenschlitzmauer* type on Mont Lassois' upper plateau (photograph: T. Pertlwieser).

Figure 21.6. Southern ditch flanking Rampart 3 (photograph: T. Pertlwieser).

Figure 21.7. Faced box rampart with mudbrick courses set in a channel leading to the Seine (photograph: T. Pertlwieser).

Figure 21.8 (right). The new large apsidal building (no. 6), discovered by magnetometry survey by the German Archaeological Institute (DAI), conducted by Friedrich Lüth and Rainer Komp, August 2018.

what is likely to be a monumental gate set in the western rampart at the site of Champ de Fossé. Another ascent to the plateau, via the eastern ramparts, may have existed, as suggested by the flattening of the ramparts' crests.

21.2.2 Monumentalising the defensive system

Our colleagues from the University of Vienna, O. Urban and T. Pertlwieser, believe they have identified two major phases in the construction of the defensive system of Mont Lassois. On the upper plateau, only the eastern edge appears to have been fortified by a rampart of *Pfostenschlitzmauer* type dated to the Late Hallstatt (fig. 21.5). Under this 9m-wide rampart, an earlier defence from the Late Bronze Age (Final Bronze Age III) had been built. Excavations have shown that the defences of Mont Lassois were monumental in character and went far beyond what was needed for purely defensive purposes. For example, the bank on which Rampart 3 was built (of which hardly anything remains) was 4 m high and 30 m wide at its base. The ditch that flanked it on the southern side was impressive, being 25 m wide and 10 m deep (fig. 21.6). The interior area protected by this complex defensive system (*intra muros* space) was some 40-45 ha in extent and we are only just beginning to understand how it was organised.

21.3 A harbour at Vix?

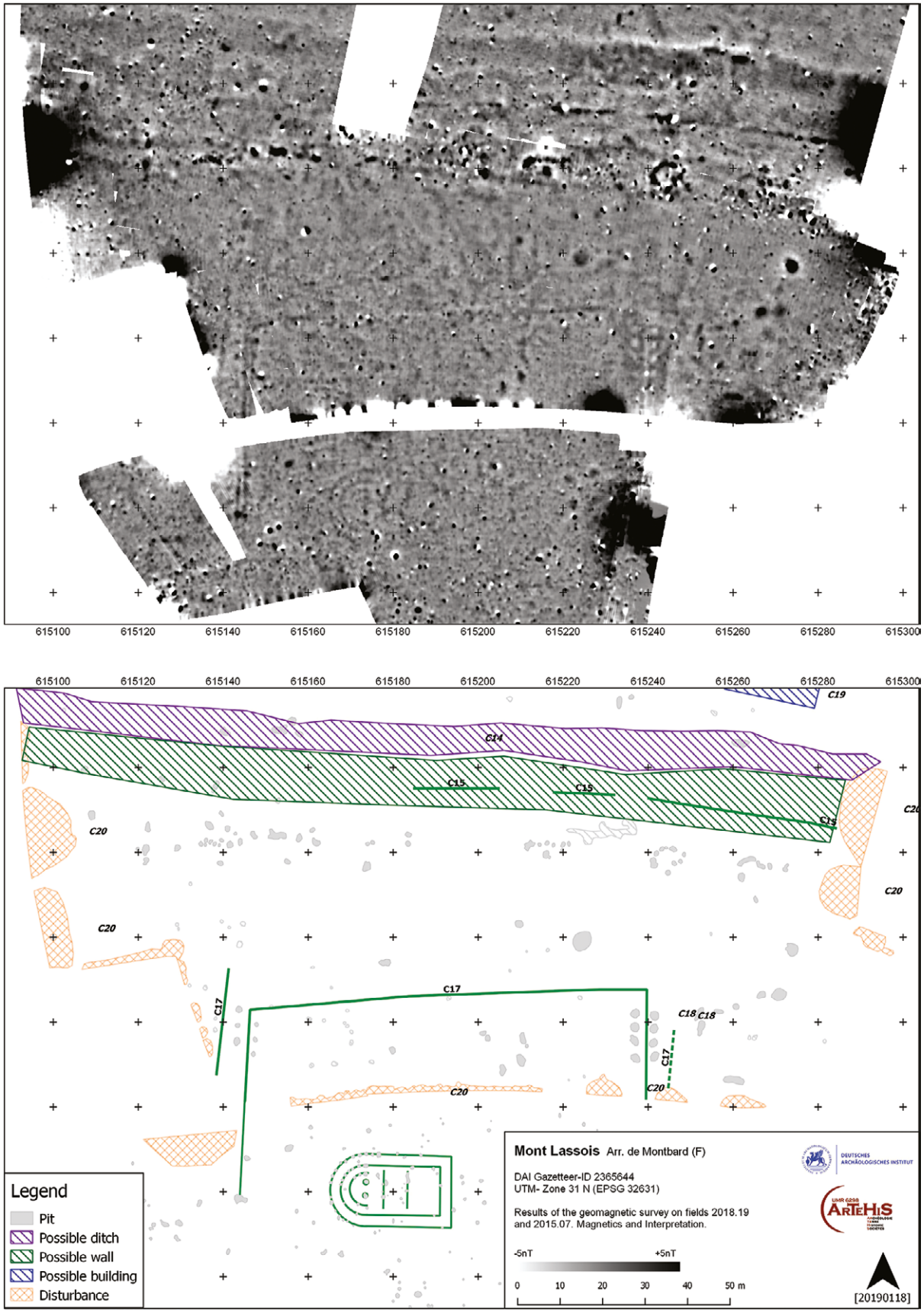
The latest investigations at Vix (2016-2018) have revealed traces that may imply that the Seine was used as a transport route (Chaume 2020 in press). Current indications appear to suggest that a channel, starting from the base of Rampart 11 at the foot of the northeastern flank of Mont Lassois, was joined to the Seine, which was some 30 m away at this point. A structure, no doubt with a defensive purpose, was erected in this channel (fig. 21.7). That may, however, not have been its sole function: could it also have been a bridge, a barbican, or a dam?

It is possible to envisage that a harbour on the Seine once existed at Vix. There are indeed certain clues pointing in this direction, but they are yet too incomplete to conclusively support this hypothesis. While no archaeological evidence has been found so far to confirm the presence of a harbour or installations serving such a purpose at the foot of the princely seat, such a hypothesis is not incongruous in theory, since harbours were primarily transfer sites between two natural milieus, *i.e.* water and solid ground. Pauli's (1993, 1994) hypothesis was based on the same pragmatic and functional observation, but to propose that this alone would explain the princely seat phenomenon at the end of the Early Iron Age was a risky path to follow, as it is little more than a guess and requires further proof.

21.4 A *suburbium* at the foot of Mont Lassois

Geophysical surveys in the north-eastern sector of the site, on the right-hand bank of the Seine, conducted by a team directed by Friedrich Lüth and Rainer Komp from the German Archaeological Institute in Berlin, have revealed traces of a defensive system (?) likely corresponding to an extension in the plain of the hillfort's Ramparts 1 and 2. This extension of the circuit on the right-hand bank of the Seine enclosed a stretch of the river over several hundred metres (fig. 21.1). Within the enclosed area, the German Archaeological Institute's magnetometry survey of August 2018 identified a large apsidal building, 32.5 m long and 18 m wide, set within a palisaded enclosure enclosing an area of around 1 ha (fig. 21.8-9).

If the defensive structures that we suspect existed in this location, but which remain to be verified *in situ*, had been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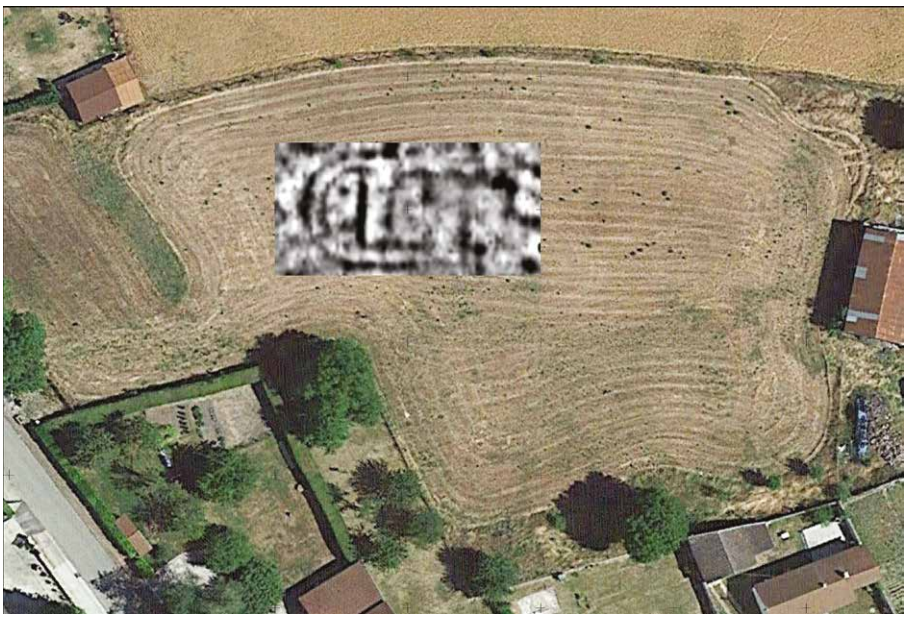

Figure 21.9. Resistivity survey of the newly discovered large apsidal building (no. 6) (Paul Cheetham, Bournemouth University, August 2019).

solely built to protect an access to the Seine, for example to gain access to its water supply, why then build a large apsidal building at their centre rather than erect such a building on the left-hand bank, at the foot of Mont Lassois, which was much easier to defend? Surely, we need to formulate other hypotheses for the presence of these ramparts, including explanations that do not merely envisage the protection of the newly discovered "palace" but comprise the safeguarding of potential harbour installations and landing places.

The newly discovered large apsidal building, the sixth at Vix/Mont Lassois, occupies an unusual location, given that the other five were built on the upper plateau. The building, seemingly of an aristocratic nature, is not the only settlement structure between the Seine and the foot of Mont Lassois. The plan of another settlement area was partly recorded by aerial survey in 2011 and complemented by the German Archaeological Institute's geophysical survey of 2016. The Hallstatt site lies in a location named *Le Breuil*, on the major course of the Seine (fig. 21.10). The magnetometry survey revealed a series of granaries whose siting, very close to the left bank of the river, is quite surprising. Indeed, it is difficult to understand why the Hallstatt occupants of Vix would have chosen such a location for setting up vast storage facilities on piles in a sector that, today (and this needs highlighting) is a floodplain. We must suppose that the hydrological and/or climatic conditions were substantially different between the beginning of the Early Iron Age (a period of worsening climate) and the end of the Early Iron Age, when a warmer climate set in around the middle of the 5th century BC. Such fluctuations, observed at a European scale, changed the course of the rivers and had an impact on the economy, thus putting pressure on Hallstatt society as a whole. For Vix, a thorough analysis of the transformation of the course of the Seine over a very long span of time, which would substantiate one or several scenarios that could explain the choice of installations on the banks of the river in Hallstatt times, is still outstanding. A project designed to tackle such questions is currently being considered.

21.5 The concept of urbanisation and the Hallstatt princely seats

Current research suggests that an attempt at urbanisation took place north of the Alps, from the west of Bavaria to east of the Berry. Both internal (Champion 1982) and external factors combined during the Hallstatt period to make it possible to create enlarged territorial principalities centred on one site where the governing institutions, be they political, economic or ideological, converged. In some cases, these centres evolved to become quasi towns. We know that urbanisation was associated everywhere, and over a relatively short time span, with the adoption of a form of state organisation characterised by the establishment of an administrative body designed to maintain order which tended towards a monopoly rather than legitimate violence. Writing features logically among the tools of administration. The still all too rare discoveries of inscriptions on locally made ceramic vessels in protohistoric contexts north of the Alps can be taken to indicate that some indigenous people became conscious of the importance of this means of communication. Indeed, it signals the emergence of an urban and state-run society. The disappearance of atelo-urban communities (Brun and Chaume 2013, an opinion shared by O. Nakoinz 2017, 95; Krausz in press) during the next three centuries supports the notion that this process

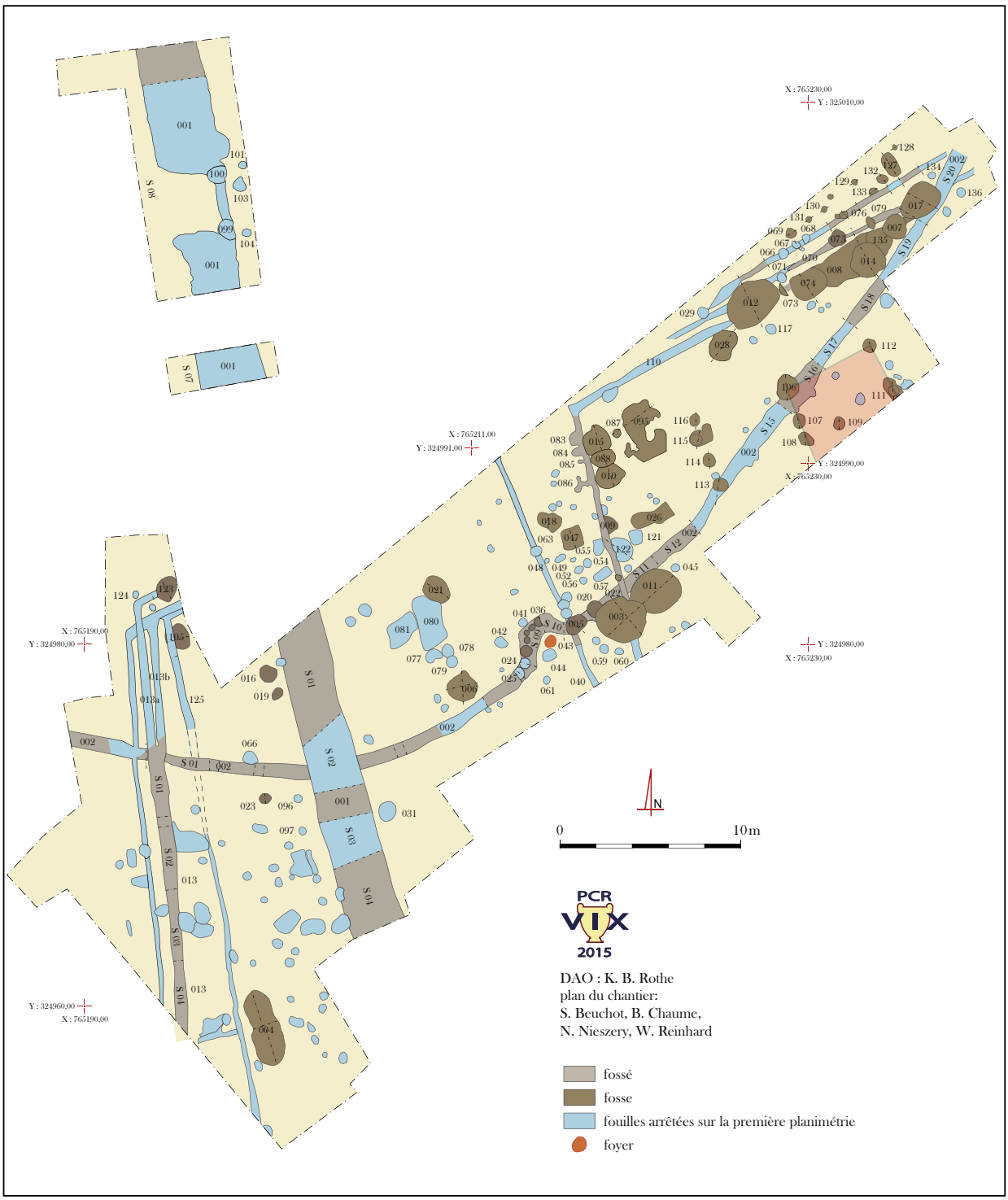

Figure 21.10. Hallstatt settlement and *Viereckschanz*e at *Le Breuil* (commune of Vix) (records and plans: B. Chaume, N. Nieszery, W. Reinhard and S. Beuchot in AutoCAD; computer-aided design manipulated in Illustrator by K.B. Rothe).

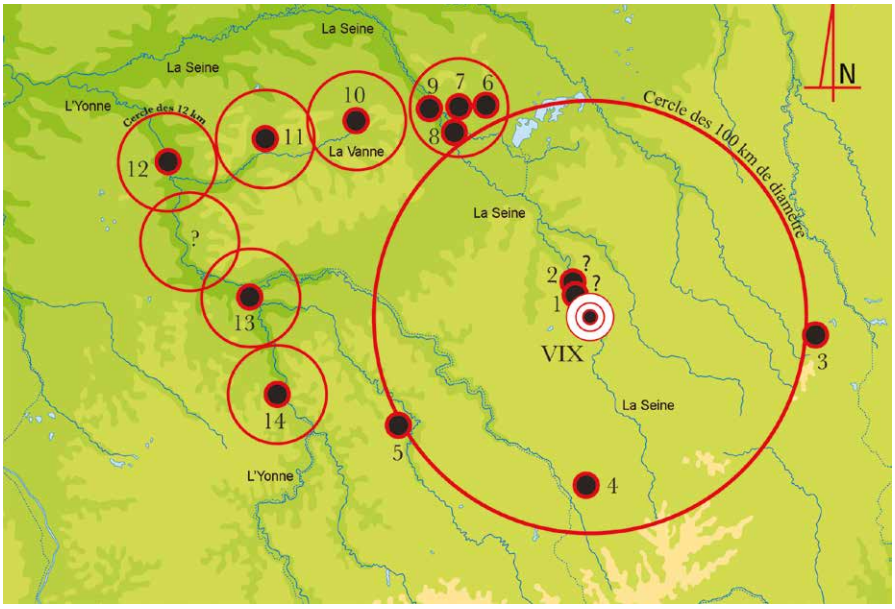

Figure 21.11. Distribution map of vehicle burials and/or of burials with imported goods, dated to the transition period Hallstatt-La Tène and to La Tène A in the vicinity of Mont Lassois, the region of Troyes and the valleys of the Vanne and Yonne: 1) Le Bas des Fautrés (commune of Gomméville); 2) Mussy-sur-Seine; 3) tumulus of La Motte Saint-Valentin (commune of Courcelles-en-Montagne); 4) Alésia; 5) tumulus of Tormancy (commune of Massangis); 6) Bouranton; 7) Lavau; 8) Buchères "Michaulot"; 9) Barberey "Saint-Sulpice"; 10) Estissac "La Côte d'Ervaux"; 11) Molinons "Les Craises"; 12) Cuy "Ferme de Noslons"; 13) Charmoy "Le Haut des Marquettes" ; 14) Gurgy "La Picardie" (B. Chaume 2020).

was interrupted from the 5th to 2nd century BC. A further argument reinforces the impression that the process was incomplete: there are no peripheral cemeteries, which normally surround cities and towns, *i.e.* necropoleis in the true sense of the term and not merely burial grounds comprising a few dozen graves, as attested so far.

The sites of the Heuneburg (Fernández-Götz and Krausse 2013; Krausse *et al.* in press; this volume; Nakoinz 2017), Vix (Chaume 2001; 2020; in press; Chaume and Mordant 2011), and Bourges (Augier and Krausz in press; Milcent 2004; see also Ralston this volume) probably reveal the existence of a form of organisation developed outside the Mediterranean sphere, which was in the process of becoming urbanised at the end of the 6th century BC. These political entities were, however, short-lived, never lasting longer than a century, even in the most enduring cases. The concentration of several thousand people in the same location over a period of a few dozen decades implies a territorial and social organisation that is already quite coordinated, of a complex chiefdom type, as defined by A. Johnson and T. Earle (2000, 301-303). But the failure of this urban experiment - one that would be overcome only three centuries later - illustrates how fragile this social organisation north of the Alps was.

21.6 The territorial influence of a Celtic princely seat: the example of Vix

In the last chapter of a work published in 2001 (Chaume 2001), I tried to assess the territorial influence of a principality, believing it to represent a major challenge to research concerning the princely seat phenomenon of the Late Hallstatt period. To address this question, we need to strengthen the arguments in favour of a territory representing political entities that would go well beyond the norm known in protohistoric temperate Europe, *i.e.* of a size much larger than the 5 km radius around a central place estimated for the latter.

For Celtic principalities, the territory that is envisaged would be much greater, with a radius of 50 km (fig. 21.11) centred on a princely seat; this is a theoretical position, expressed on several occasions (Brun 1987; 1994; Brun and Chaume 2013; 2018; Chaume 2001; Härke 1979). The Celtic principalities had a territorial organisation that was centralising and hierarchical. They therefore needed to rely on sub-centres on the periphery of the territory controlled by the central authority. Such potentates probably had the task of overseeing the area politically and maintaining the "frontier posts" at its edges. So far, such hypotheses concerning the definition and division of space have, in my opinion, been insufficiently addressed and little has been undertaken to test them.

It is not unreasonable to think that the demise of the "Celtic princely seats" was accompanied, during La Tène A, and no doubt during the transition between Late Hallstatt and Early La Tène, by a takeover by vassal powers that previously acted as political and economic relays on behalf of the princely seats (Frankenstein and Rowlands 1978). The presence of very richly furnished La Tène A burials located on the edges of the 50 km radius around Mont Lassois (fig. 21.11), notably in the region of Troyes, indicates the emergence or the evolution of new aristocratic powers who claimed, in addition to part or all of their authority, control over communication routes and inserted themselves as intermediaries in trade relations with Marseille on the one hand and with northern Italy (especially the Golasecca culture area) on the other.

The implosion of the aristocratic powers during Hallstatt D2-D3 would explain a return during La Tène A to a quasi "natural" scale of control by the elites, *i.e.* a territory of some 5/6 km around a central site (fig. 21.11). I originally presented this model of the settlement pattern around Vix, Troyes, and the valley of the Vanne in my doctoral dissertation published in 2001 (Chaume 2001, 350, 351, fig. 232). This concept was taken up (but without citing its first appearance) by L. Baray in 2013 (Baray and Sarrazin 2013, 8-9, fig. 4, B) and, more recently, by B. Dubuis and V. Riquier (Dubuis and Riquier 2018, 232, fig. 9).

21.7 Conclusion

Present-day geographers use three criteria to define modern towns or cities: population size (over 5,000 people)[2], a diversity of activities, and networking with other establishments. Vix and the Heuneburg, to mention just two great sites, imploded shortly before the mid-5th century BC, probably from the combined effect of internal and external factors, including the following two aspects:

First, Hallstatt society, of a complex chiefdom type, found itself incapable of reaching the next level, the ultimate stage that would have led it to true urbanisation. The fact that this society did not use writing was one of the causes of such a failure, since writing is indispensable to ensuring the efficient functioning of a town in such essential domains as administration and managing the flow of material goods and food.

Second, a rupture or change of orientation in long-distance trade networks played an undoubtedly major part in the fall of Vix.

The aristocratic complex of Vix/Mont Lassois did not escape from this sudden, if not violent, end, as suggested by the fires affecting Building 1 and Rampart 3 or even the brutal destruction of the sanctuary at *Les Herbues*. The decapitation of statues on this site (a warrior and a woman, possibly the "Lady of Vix") illustrates the determination of the perpetrators of this misdeed to eradicate this remarkable monument dedicated to the commemoration of the founders and/or the most prominent members of the ruling dynasty from collective memory (in an act of *damnatio memoriae*) (Chaume and Reinhard 2003, 2007) and from the landscape in which it was set.

It is surely not by chance that the abandonment of the defended hilltop of Mont Lassois coincides with the destruction of the sanctuary at *Les Herbues* shortly before the mid-5th century BC. The attempts at urbanisation (Brun and Chaume 2013; 2018; Fernández-Götz and Krausse 2013; Kimmig 1969; Krausse 2010; Nakoing 2017) that took place north of the Alps, from west of Bavaria to east of the Berry, remained an incomplete experiment, which, together with Patrice Brun, I have dubbed "atelo urban" (from the Greek *atelo*, meaning incomplete, derived from *telos* or end, goal). The reasons for this failure are still poorly understood but they are likely to be of a systemic kind at a scale affecting the whole of Europe.

Translation: Madeleine Hummler.

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2 The numeric threshold that defines a city varies from country to country. In France, the National Institute of Statistics and Economic Affairs (Institut national de la statistique et des études économiques, INSEE) considers an average of 5,000 to represent the lowest number of inhabitants to qualify for this status. This order of magnitude -perhaps not coincidentally- is close to the figure of 5,040 citizens that Plato proposes in his *Laws* for an ideal city (Charbit 2002).

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Chapter 22

Bourges-*Avaricum*: A Western Example of a Princely Complex of c. 500 BC in Central France

Ian Ralston

Selected evidence from Bourges-Avaricum is rehearsed to outline the character of this settlement and its immediate surroundings in the mid-1st millennium BC. The accumulation of archaeological evidence over time is assessed against the marked differences in its accessibility to archaeological methods between the supposed 'acropolis', where remains of the period survive buried at considerable depth, and the periphery, where they occur in negative structural features reached directly below ploughsoil. Further contrasts are drawn between the core of the site in terms of the structures encountered, and those on the periphery and their respective chronologies. Variations in the nature of the peripheral settled zones are noted and suggested to be linked to different levels of central control and influence. The apogee of the site is considered to have endured for about three generations. Bourges-Avaricum is proposed as the core of a fragile micro-state, the substantial collapse of which is considered to be largely attributable to internal socio-political factors.

Keywords: Hallstatt D; La Tène A; Craft industries; Elite; Fragile State.

22.1 Introduction

Since the second half of the 19th century, both chance discoveries and fieldwork in and around the city of Bourges, in central France, some of it assiduously-reported and some of it less so, has provided frequent intimations of the significance of this place and its immediate hinterland towards the end of the Early Iron Age and (increasingly in more recent years) at the beginning of the La Tène period. Of equal importance in early drawing attention to Iron Age recourse to the site was the record of its part, as *Avaricum* of the Bituriges, in the events of the Gallic War in 52 BC, when it held out for almost a month, but ultimately unsuccessfully, against Julius Caesar's siege (Krausz and Ralston 2009). Caesar of course recounted the conduct of that siege in some detail in Book VII of the *Gallic War*. Referring with debatable accuracy to much earlier events, Livy's account of the decision of a King of the Bituriges, Ambigatus, to encourage a diaspora of his people, led by his nephews Segovesus and Bellovesus east and south respectively, was written a generation or so later. This event hints both at social stresses and overpopulation -in summary successful growth leading to the locality becoming ungovernable- and, indirectly, at the early integration of the Bituriges into wider continental patterns, perhaps in the 6th century BC, in the reign of Tarquinius Priscus (Fitzpatrick 2018; Nash

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in: L. Zamboni, M. Fernández-Götz & C. Metzner-Nebelsick (eds) 2020: *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, Leiden: Sidestone Press, pp. 361-376.

Figure 22.1. The position of Bourges-*Avaricum* in relation to other princely seats (after Fernández-Götz and Ralston 2017, fig. 1).

Briggs 2018; Peyre and Buchsenschutz 2008). It is worth stating that neither Bourges-*Avaricum*, nor any other place in the territory of the Bituriges, is specifically mentioned in Livy's account, but the evidence rehearsed below suggests that what is known of it fits well with its general tenor. Whatever value is placed on this particular testimony, field archaeology (including some precocious rescue work in advance of later 19th century development), place-name studies, and historical accounts have combined over the years to focus attention within the territory later ascribed to the Bituriges cubi on the Iron Age archaeology of Bourges and its environs. This archaeological evidence began to accumulate particularly from the third quarter of the 19th century, but has been transformed by extensive fieldwork on the periphery of the city, and more limited interventions in its core, beginning some forty years ago.

22.2 Siting and context

Set some 100 km south of the major bend in the Loire, Bourges (Cher: now in the Nouvelle Aquitaine region) occupies a low limestone promontory on the southern fringes of the Paris Basin at about 150 m in altitude between two tributaries -the Yèvre and the Auron- of the River Cher, itself an affluent of the Loire which flows northwestwards across the gently undulating, limestone agricultural plain of the Champagne berrichonne (Augier and Krausz 2012: Batardy *et al.* 2001). The site is located some 50 km west of the northward-flowing Loire near La Charité; and around 80 km as the crow flies north of the northern fringe of the upland Massif central. It is thus presently normally mapped as lying on the western periphery of the *Fürstensitze* zone (*e.g.* Fernández-Götz and Ralston 2017, fig. 1), being positioned some 185 km southwest of Mont Lassois and nearly 250 km northwest of Lyon (fig. 22.1). In wider cultural terms, during later prehistory, as Pierre-Yves Milcent (2010) has admirably drawn out, the province of Berry within which Bourges sits, lies at the cusp between west-central Europe -the *Westhallstattkreis* of the Early Iron Age- and the cultures of the Atlantic and Channel coast domains.

Alongside the pursuit of barrow excavations in its hinterland, and the recovery of 'stray finds' -the earliest of the Late Bronze Age and potentially of ritual import- from the low-lying wetlands marginal to the confluence of its main rivers northwest of the promontory, the Iron Age archaeology of Bourges has been intimately linked to cycles of development within the urbanised core of the modern city and around its periphery. In

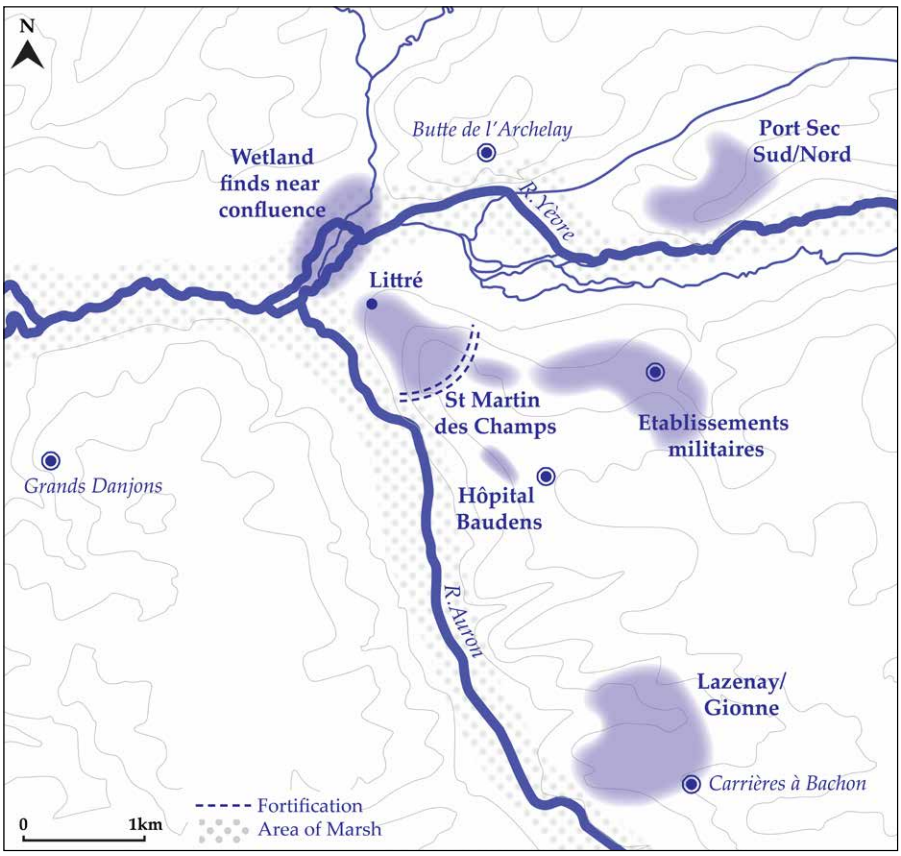

Figure 22.2. Selected key sites in and around Bourges (after Fernández-Götz and Ralston 2017, fig. 6).

the 19th century the key development was the relocation of elements of France's heavy armaments industry here, notably in the southeast of the city in the sector usually termed the *Etablissements militaires*. During this work important records were made by Jules Dumoutet, surely *de facto* one of the first 'urban archaeologists' in France, among others. Some of these finds in Bourges and in nearby communes such as Morthomiers, were recovered from funerary contexts, and included a range of imported metalwork especially from Italy, which further highlighted the apparent wealth and significance of Bourges and its immediate hinterland in the mid-1st millennium BC. For much of the earlier part of the twentieth century, discoveries were rather slower and more piecemeal, in keeping with the lessening rate of development of the place. But they included further significant accompanied burials, including a cremation recovered at the route du Dun -the main access route into the settlement from the southeast- in 1903. The accompanying grave goods, including small items of personal jewellery, have their origins in the Golasecca culture; and it seems likely that this elite burial is that of a lady of North Italian origin, who had died at Bourges (Milcent 2004). The grave goods recovered with other burials point to linkages in other directions, some rather nearer to hand, such as with Limousin.

The 1980s marked a watershed. Small-scale salvage excavations were increasingly undertaken, directed notably by Jacques Troadec and Olivier Ruffier in the core of the city as significant redevelopment took place; as well as then and thereafter on its southern fringes above the valley of the Auron when housing and leisure facilities (notably a golf course) were inserted into the peri-urban fringe (fig. 22.2). Transport infrastructure -a new roundabout on the inner ring road- spurred the discovery in the 1980s of the site of Saint-Martin-des-Champs, south of the urban centre and now well-known from P-Y Milcent's account (2007) of the mid-1st millennium BC remains encountered within the later cemetery there. But the 'peace dividend' of the reduction of the military estate around the periphery of Bourges has been the most significant recent change, freeing up substantial sectors, including Port Sec Sud (Augier *et al.* 2012), on the eastern side of the city, which will figure prominently as an example of the newer investigations below. One essentially-research excavation proved possible a number of years ago on the northwestern margin of the core of the site: this took place within the footprint of the foundations of the eye pavilion at the old hospital at the Hôtel-Dieu and its publication provided the opportunity to review other city-centre discoveries (Augier *et al.* 2007). Here

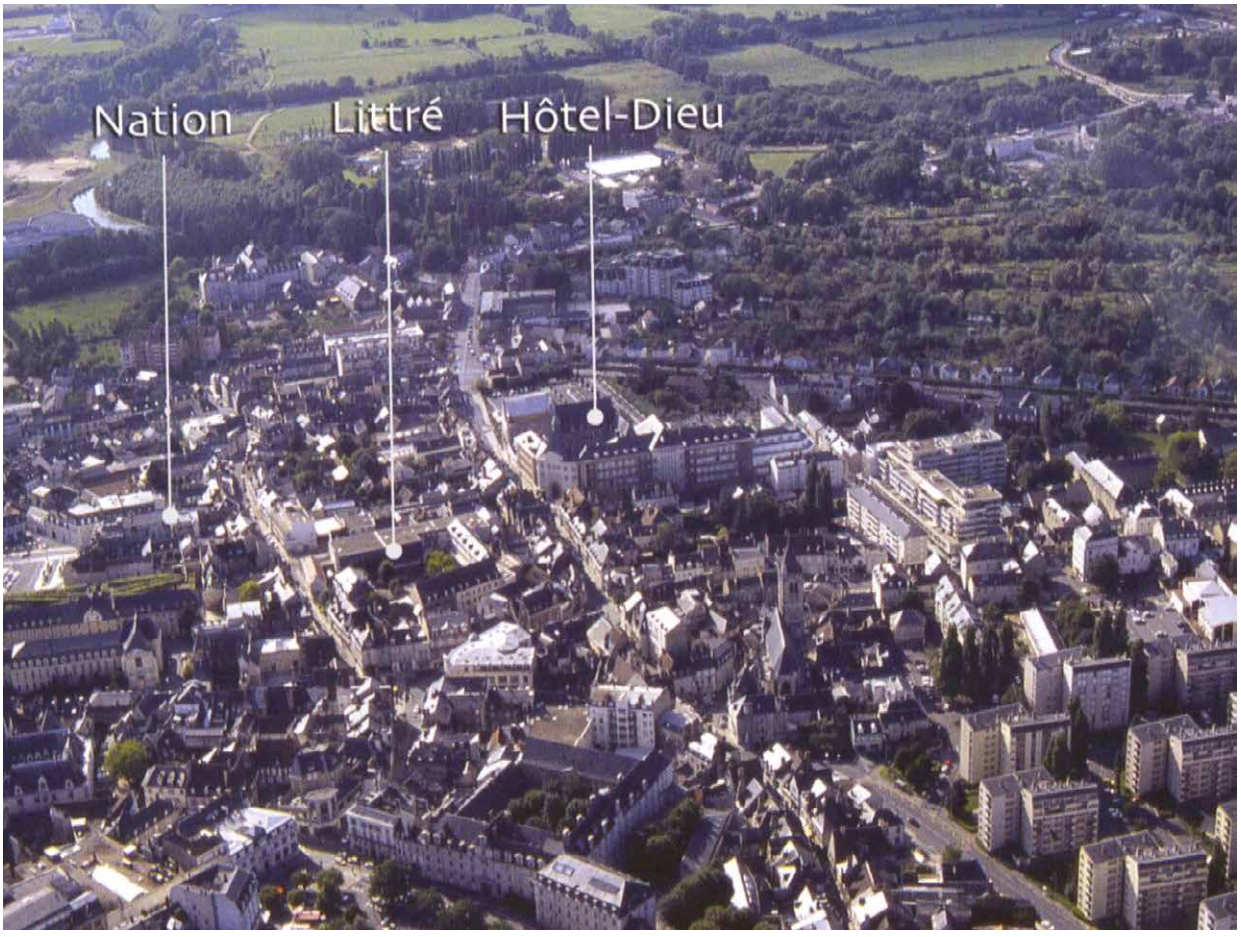

Figure 22.3. The position of key sites within the core of the city and set towards the north-west of the promontory looking north-west. Equivalent deposits were encountered in a small excavation at La rue de la Nation, which also provided evidence suggestive of a la Tène C sanctuary there (Augier et al, 2007) (photo: author).

remains dating to the Early Iron Age were encountered at a depth of several metres; in places the present-day streets of Bourges may be underlain by some ten metres of cultural deposits, accumulated during the successive rebuildings of the settlement during the Roman and subsequent periods. Bourges has a claim to be one of the most enduring settlements of temperate Europe still to be in use, even if its occupation has not been unbroken. Troadec (1996) provides useful maps of the successive chronological horizons represented within Bourges, while Augier *et al.* (2013) have started to identify morphological details of the underlying natural limestone promontory not now directly appreciable in the urban landscape.

The significant cultural deposits that have accumulated are emphasised as it helps to make plain that the recovery (albeit on a modest scale) of the core of Early Iron Age *Avaricum* is the by-product of a complex interplay between deposit modelling, subsequent land-use and building history, and the nature and scale of modern redevelopment. All this inevitably conditions both what survives and what is accessible for research and in what circumstances even if, a little counterintuitively, Early Iron Age material seems to have a better chance of *in situ* survival in the core of the site than does evidence for the internal arrangements within the Late Iron Age *oppidum*. The latter may have fallen more dramatically victim to the reshaping of the place in Roman times.

In essence our knowledge of settlement associated with Early Iron Age *Avaricum* thus involves melding two very different kinds of field archaeology: the examination of (mostly) negative features identifiable at relatively shallow depths on the peri-urban fringes; and infrequent and usually keyhole-scale opportunities to examine accidental survivals of a variety of kinds towards the centre of town. The latter are often recovered in small exposures -a recent estimate is that to date these may total approximately 400 m^2 (Augier and Krausz, forthcoming)- under a substantial overburden of Roman, medieval, and early modern developments.

22.3 Some key sites in and around Bourges

A primary concern is that, other than assuming its location on the modest summit of the aforementioned limestone promontory, crowned since c. AD 1200 by the imposing Cathedral of St Etienne, and tilting gently from there downwards to the northwest, we do not know in any detail the location or scale of the *enceinte* of the supposed 'acropolis' which is posited to have marked the heart of early *Avaricum*. It is often assumed that the key line of this enclosure, drawn across the easiest access, that from the south-east, became a casualty of subsequent major engineering -notably the original excavation of the massive V-shaped ditch, some 25 m wide at the surface and of the order of 10 m deep, which is the main component of the 1st century BC defences to have been identified archaeologically with certainty. This ditch was examined in the 1980s at the site of the modern Hotel de Ville; and can be assimilated with the circuit of defences that were overwhelmed by Julius Caesar's troops in 52 BC. Comparisons of its scale with one examined at Mont Lassois have however been drawn (Milcent 2014), but there is no evidence that it is of Early Iron Age date. If the ceramics from its uppermost fill are post-Conquest, the ditch is also known to cut, and thus be later than, a Middle La Tène pit (Bouchet 2017). Evidence of earlier earthworks here cannot be entirely dismissed but is however presently lacking; and there are as yet no sure indicators as to where the Early Iron Age *enceinte* may have run along the skirts of the promontory. Detached sections of ditch elsewhere, as within the *Etablisssements militaires* (Milcent 2007, 23-24) or, although more likely later in date, further south at Lazenay, hint at the possibility that the nature of the enclosing works at Bourges in the mid-1st millennium BC may have been more multi-facetted than a simple univallate enclosure, but in the meantime this is largely speculation, even if recent interventions on broadly contemporary earthworks elsewhere, as at the Glauberg or Mont Lassois, allow the possibility that subsidiary enclosures delimiting Bourges-*Avaricum* may have extended considerably beyond the central promontory. They may even have enclosed some of the more peripheral sites considered below, although this is not presently demonstrable.

As regards occupation evidence from the core of the city attributable to the later part of the Early Iron Age, this falls into two principal series. One consists of very fragmentary remains, essentially ceramics, recovered in developments not far northwest of the ditch at the Hôtel de Ville and near the axial route through the site, currently occupied by the rue Moyenne and essentially on the alignment of its medieval and Roman predecessors. These were recovered during 1980s projects for example at what is now the retail development of the Enclos des Jacobins (Augier *et al.* 2007). Some considerable distance downslope to the northwest, more substantial, if still small-scale, remains were found. Of these, the most significant stratified deposits were encountered preserved within the sub-structure of a Roman building when inserting an underground gymnasium at the town-centre high school, the Collège Littré (Augier *et al.* 2007). This set of evidence, and that recovered in research excavations nearby at c. 4.5 m depth in the courtyard of the hospital at the Hôtel-Dieu (Augier *et al.* 2007), provide the kernel of what is known about the nucleus of the site (fig. 22.3). It has been argued that the important settlement evidence recovered here is set on artificial terraces levelled into the sloping limestone bedrock but, while such activity intimates significant engineering tasks (perhaps not dissimilar in scale and effort to what might have been required to build an encircling wall), it is not currently possible to discount the possibility that the structural and material evidence identified here comes from settings not unlike that of the Talhau buildings at the Heuneburg; in other words outside a smaller *enceinte* set further upslope towards the crest of the promontory, rather than looping downslope here to encompass this settlement, perhaps entailing a footprint of some 40 ha (Brun and Chaume 2013) or more (Augier and Krausz forthcoming). An enclosure placed some distance upslope could still have extended to well over 10 ha, and thus been of a respectable size in 'princely seat' terms without enveloping the main Early Iron Age settlement evidence presently known from the heart of modern Bourges. The point is emphasised here not to diminish the archaeological results achieved to date, but simply to stress that the extent, configuration, and exact position of a putative Late Hallstatt 'acropolis' within Bourges remains imprecisely known.

The single most informative site in the apparent core of the settlement is that discovered at the Collège Littré. Despite the small scale of this intervention, the preservation of significant stratified deposits within a monumental Roman structure allowed the identification of three successive Late Hallstatt occupation deposits, the first established on the underlying limestone. Structural evidence included substantial sleeper-beam trenches forming parts of a major timber building, only a fragment of which could be recovered; it had been rebuilt, still during the Early Iron Age, on the same alignment (fig. 22.4). Painted plaster had adorned this structure, one intimation of its elite status. Successive horizons included imported black-, then red-figure, Attic pottery accompanied by local wheel-finished vessels; the different series of painted- and wheel-finished local ceramics are a recurrent feature on sites at Bourges the study of which by Laurence Augier has done much to refine the chronologies of the numerous assemblages in which they occur. A small animal bone assemblage included, slightly exotically, but in very

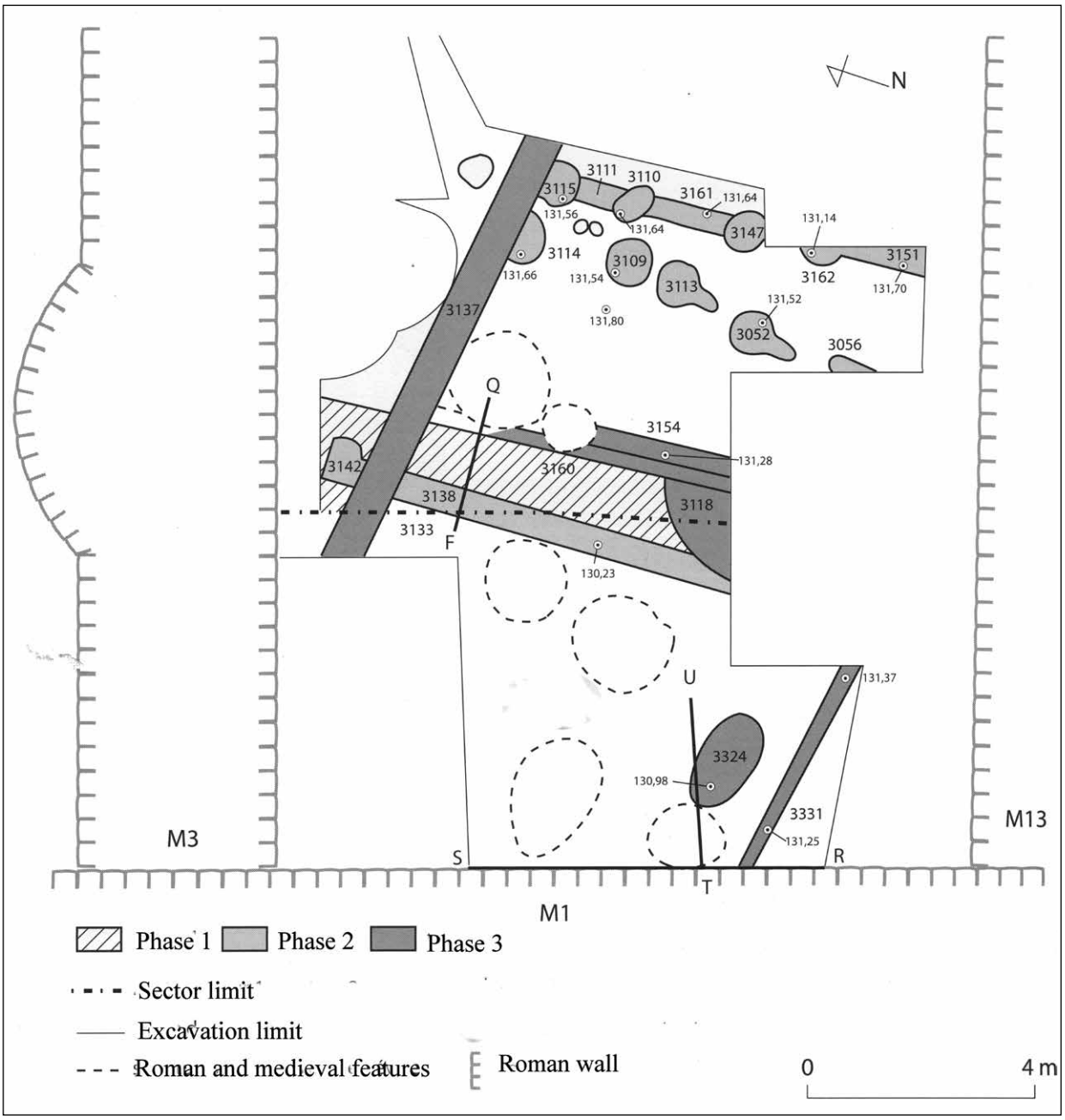

Figure 22.4. Plan of the structural features indicating the alignments of the successive Early Iron Age constructional phases encountered at depth in the Collège Littré excavation (modified after Augier et al. 2007, fig. 21.6).

small numbers, hunted species as part of the diet. Initial use belongs to Hallstatt D1, after which the assemblage spans Hallstatt D2/D3; one, unstratified, La Tène A brooch marks the end of this sequence and is in fact one of the few Early La Tène items to have been recovered in the core of the site. It is also noteworthy that fire seems to have accompanied the destruction of at least the third of the horizons here. Others have taken a more optimistic reading of this evidence in terms of the archaeological recognition of urban traits in the core of Bourges (*e.g.* Milcent 2014, table 4.1), but the present writer's view remains guarded in light of uncertainties over the position of the Late Hallstatt *enceinte*.

Further northwest along the same slightly raised spur of land as occupied by the Collège Littré site, sits the courtyard of the Hôtel-Dieu, the former hospital of Bourges. Within the footprint of the foundations of its demolished eye pavilion (fig. 22.5), added in the later 19th century, it was

Figure 22.5. Early Iron Age (and later) features encountered at depth within the demolished building in the courtyard of the Hôtel Dieu, looking south. Scale: 1 m (author).

possible to dig down to the surviving ground surface (also disturbed by the base of medieval wells and Gallo-Roman burials), where additional Early Iron Age finds were made, along with structural evidence in the form of a pile of clay including informal mud-bricks ('mottes'), probably the byproduct of the demolition of a structure, and -elsewhere on site- further painted plaster. The indications are again for elite buildings and occupation but, as remarked above, it is formally impossible to state whether they lay within the Early Iron Age 'acropolis' enclosure.

Other key investigations fall outwith the core of the assumed site, although they may have been enclosed by outer earthworks and/or lines of ditching, as hinted at above. Some 2 km southeast of the elite occupation sites just discussed and equally several hundred metres to the southeast of the alignment of the massive Late La Tène ditch (and the putative Late Hallstatt enclosure line at approximately the same position) sits the medieval cemetery of the church of Saint-Martin-des-Champs, some of the graves of which were cut through 5th century BC 'negative' features, the principal examples of which to have survived later disturbance being a small series of rectilinear semi-sunken workshops (Milcent 2007). Further examples have since been recovered nearby, notably in the grounds of the decommissioned military hospital -the Hôpital Baudens. The Saint-Martin-des-Champs series is important in that the material culture recovered indicated that the principal structures had functioned as workshops. They produced evidence for the practice and products of a range of craft activities including the making of cannel-coal objects, bone items and high-quality ironworking, but two features in particular highlighted the importance and novelty of the evidence recovered here. One was the quality of the ceramics; not only was there the wheel-finished locally-made pottery with rilled decoration the reader has already encountered at the College Littré and Hôtel Dieu, but there were also sherds of Massaliote transport *amphorae* and sherds of high-quality Attic red-figure drinking vessels. Here was thus strong evidence that the consumption of imported wine had not been restricted to elite circles, as had previously been posited in other Late Hallstatt milieu, but had also taken place in what appears firmly an artisan setting. While the total area excavated at Saint-Martin was only a little over a hectare, and the insertion of the graveyard had obviously entailed much subsequent disturbance, Pierre-Yves Milcent (2007) felt able to suggest that the relative regularity in the spacing of the

Figure 22.6. Aerial view, looking north-west, of excavations within the former military area at Port Sec Sud, set between the river Yèvre and its tributary, the ruisseau de Langis (author).

two short rows of semi-sunken workshops indicated that the mid-1st millennium layout here had possibly been planned, providing another indication of the existence here of a 'top-down' organisation.

Other opportunities to excavate in advance of development further out from the core on the south and southeast of Bourges and on the limestone plateau above the east bank of the river Auron around Lazenay, some 3 km from the assumed core of the site, have provided further complementary evidence for the importance and extent of Bourges in the mid-1st millennium BC. A major, if much reduced, ditched barrow, les Carrières à Bachon, sat atop the ridge at Lazenay (Milcent 2010). It covered the burnt remains of a wagon box (the wheels and their fitments were absent) into the dying embers of which a gold La Tene A ram's-headed pin (*idem* Abb 15) had been pushed; the grave of a young child of about 8 years of age, set in a shallow rectangular chamber, near-central and cut into the subsoil, and with grave goods including a gold earring and a bronze belt fitment; a subsidiary, likely female, grave in a stone cist was accompanied by a torc. Despite the elaboration of the mound construction, which included clay lumps mounded over the central graves, there were clear signs of the rapid insertion of a robber's trench, which attained the central deposit -which had been placed in a cylindrical pit: to guess from its size, it may have originally contained a cordoned bucket, but this can only be speculative, before the robber's trench exited the mound by passing over, and slightly disturbing, the aforementioned child's grave (Augier *et al.* 2001). Other barrows have been investigated in the immediate periphery of Bourges since the 19th century (and further examples are known from cropmarks); an example excavated in the 1980s lay on the plain to the west of the Auron at Bourges on the line of the new ring-road at Les Grands Danjons. Of elaborate construction, but substantially robbed in antiquity, this too may originally have contained a vehicle (Milcent 2004, 447). The biggest surviving barrow that seems likely to be part of the series generally encircling the putative 'acropolis' sits north of the promontory, overlooking the wetlands bordering the Yèvre. La Butte de l'Archelay / Archelet (fig. 22.2) is a major mound, unexcavated, and currently crowned by a substantial house!

The examination of other sites demonstrates the mid-1st millennium BC extension of 'greater *Avaricum*' north of, and thus across the wet lowland valley of, the River Yèvre, and to the east of La Butte de l'Archelay. Of these, the most extensively excavated is Port Sec Sud, lying some 3 km northeast of the 'acropolis' promontory and bordering the principal route towards the northward-flowing River Loire some 50 km away at La Charité-sur-Loire. An American military base during the Great War and subsequently a French military storage facility, this is another 'peace dividend' site which had escaped modern arable cultivation and was archaeologically accessible prior to its redevelopment. As at Lazenay, archaeological deposits here with rare exceptions are confined to negative features cut into the subsoil at the bottom of a shallow soil horizon. In all, some 11 ha have been examined on the site of the former military storage facility here (fig. 22.6). As elsewhere on the periphery of Bourges coherent plans of post-built buildings are remarkable for their rarity (although they do exist they generally lack dating evidence) and it seems reasonable to posit that much of the architecture of the settlement implied by the quantities of material culture and the negative features recovered at Port Sec cannot have depended on earthfast timbers. Most of the structures identified, contrastingly, consist of storage and other forms of pits, and an extensive series of generally-shallow rectilinear depressions, usually interpreted as workshops (Augier *et al.* 2012). These, differently orientated, have mean dimensions of just over 3 m by a little under 2.5 m, and variously display the presence of post-holes to support an axial ridge or other covering arrangement as well as further negative features within them, perhaps originally housings to stabilise work-benches or the like. While military reshaping of the local landscape from the latter stages of the First World War onwards has undoubtedly eradicated some archaeological evidence, other areas were marked by much better archaeological survival. In general, apart from very locally and distinctly more informally than at Saint-Martin-des-Champs, indications of top-down planning are hard to read into the organisation of the Port Sec structural evidence. The impression is of relatively dispersed, organic growth, some of it perhaps distributed along trackways (cf. Milcent 2012; 2014). Activities at Port Sec Sud (and indeed its lesser known neighbouring sector of Port Sec Nord), included intensive craft work which was plainly integrated into the wider *Avaricum* domain but, as will be contended further below, there seems no reason to consider that the different semi-peripheral zones around Bourges need have developed in identical fashion; organisation may have been imposed from above in one sector, but rather more *laissez-faire* attitudes may have prevailed elsewhere.

Although there are numerous structures interpreted as semi-sunken workshops at Port Sec Sud (fig. 22.7), the material culture recovered from these and other features here represents secondary redeposition, and unfortunately not objects in primary position. The dominant impression is of newly-discarded material (sherds are not abraded) rapidly deposited to infill the features. The distribution of finished objects and items in course of production across the site shows variations, indicating, for example, that ironsmithing seems to have been primarily focused towards the western limits of the excavated area, whereas the working of copper alloys was centred further south and east, where it included fragments of drum-footed brooches discarded in the course of production. That said, evidence of ironsmithing (Filippini 2015; 2017) -bars, tools, items rejected in the course of production, slag, and hammerscale- is in fact widely present within the features of Port Sec Sud (fig. 8), reflecting the nearby presence of reasonable quality winnable iron ores (as in the Fôret d'Allogny: Dieudonné-Glad 1992) -a resource to which centuries later Caesar would draw attention as contributing significantly to the reputation of the Bituriges.

Port Sec is some 3 km distant from, but intervisible with, the assumed core of the site of the promontory running northwest from the present cathedral site, rather further from the centre than the other craft sectors so far recognised as at Saint-Martin-des-Champs / Baudens and elsewhere in the *Etablissements militaires*. Furthermore these latter likely lay relatively close to the axial route -the rue Jean Baffier formerly the route de Dun- along the promontory running southeast from the core area, whereas Port Sec was positioned across the marshy lowlands bordering the Yèvre. It has been tentatively suggested above that there may have been differences between these two sectors: seemingly more imposed organisation at Saint-Martin-des-Champs, but markedly less at Port Sec. That said, in both these settings Mediterranean imports have been recovered directly in amongst the debris of craft industries -the distribution of sherds of Attic red-figure and of Massaliote *amphorae* (fig. 22.9) for example at Port Sec extending widely across the identified features (Augier *et al.* 2012; Brun and Chaume 2018, fig. 9 for some comparative figures on the representation of this material at Bourges). The evidence points incontrovertibly to such material not having been restricted to elite contexts. While a little Hallstatt D3 material was recovered at Port Sec Sud, the bulk of the evidence from here is attributable to La Tène A1, and so dates later than the principal evidence recovered from the core of the site.

As the archaeological evidence from Bourges and its immediate periphery accumulates, so does it become possible with slightly raised confidence to address questions regarding the scale of the site in the decades around 500 BC. That said, any estimate is at the mercy of factors of detection and investigation, and of the interpretation of excavations of markedly different scale.

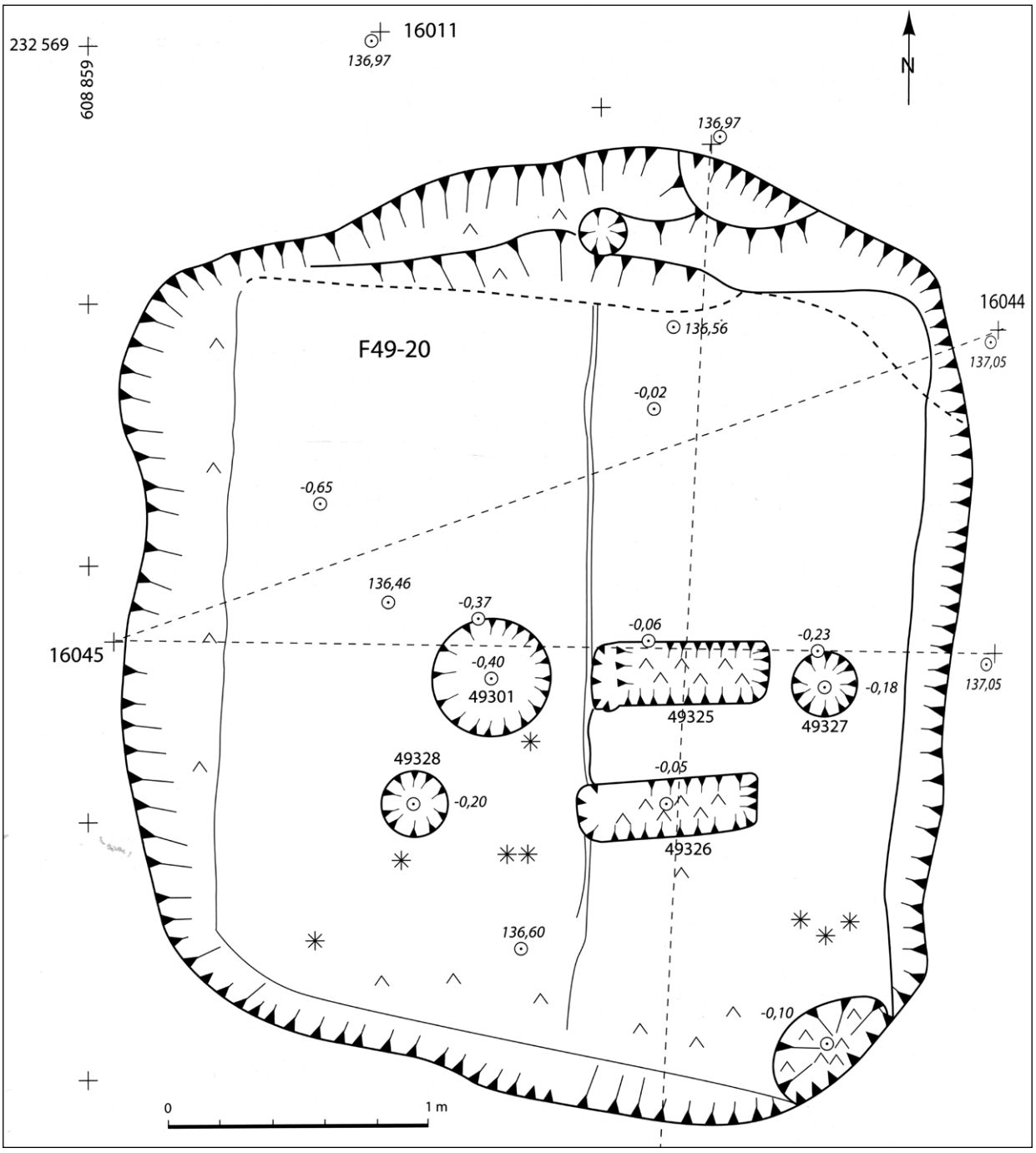

Figure 22.7. Port Sec Sud Feature 49-20. Plan of one of the larger semi-sunken features, vertical-sided and surviving to c. 0.8 m deep. Internal features include post-holes, and two rectangular cuts, perhaps housings for a wooden fitment, which succeeded a shallow slot in the floor. Over 5000 items, dominated by animal bone, were recovered from its secondary fills. They included an Attic sherd, rare fragments of coral and amber, and small quantities of debris related to working iron, copper alloys and lignite (after Augier *et al*. 2012, vol. 2, 332-5).

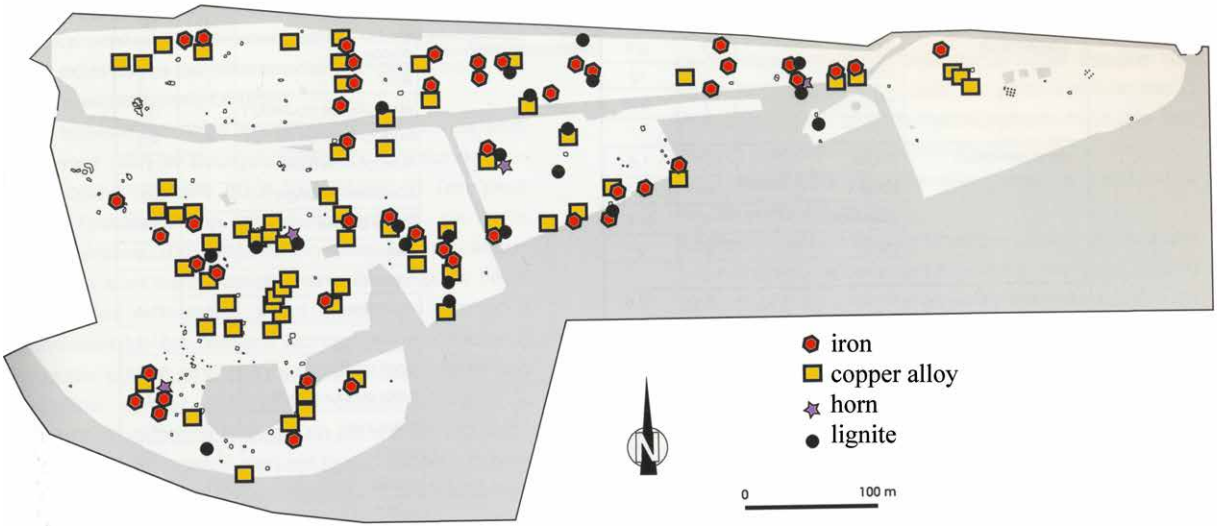

Figure 22.8. The distribution of evidence for the most commonly represented craft industries at Port Sec Sud (modified after Filippini 2015, fig. 50).

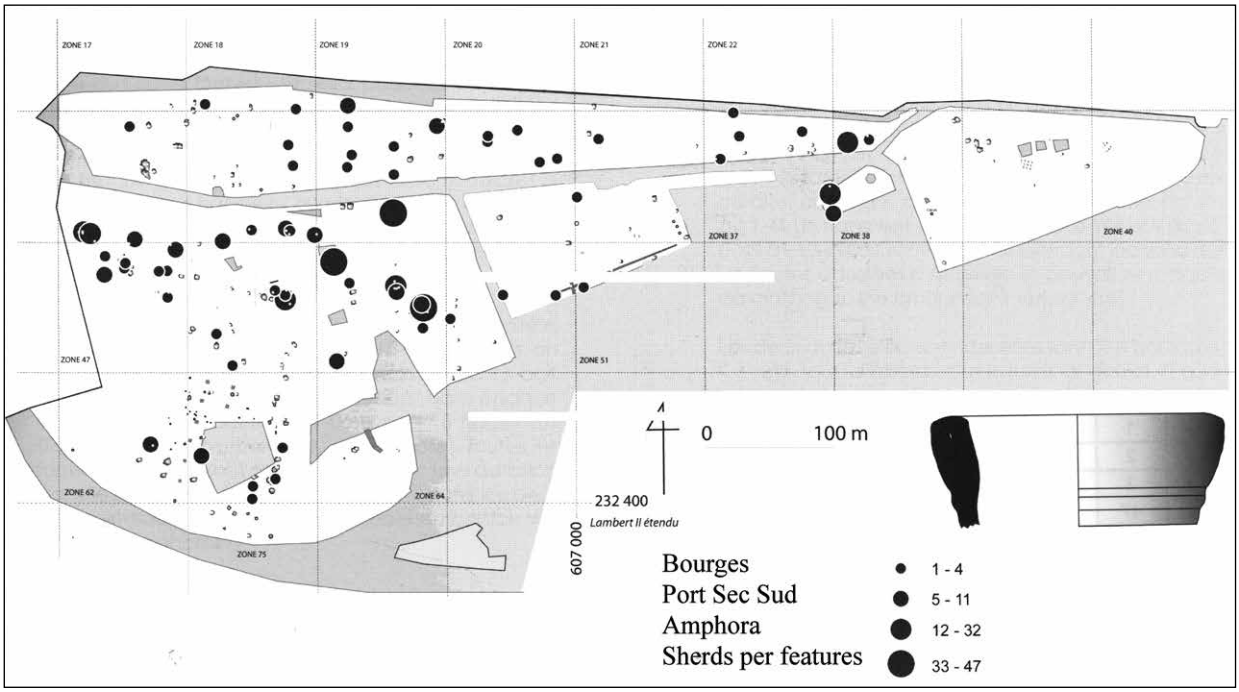

Figure 22.9. The widespread distribution of imported *amphorae* sherds in the excavated features at Port Sec Sud. Massaliote sherds were dominant (399 examples) but Etruscan (19) and Greek (or from *Magna Graecia*) (3) examples were also recovered (modified after Augier *et al.* 2012, vol. 1, fig. 49).

Most attention over the past thirty years or so, ultimately largely linked to rhythms of development, has been directed to the southeast of the modern city centre as far out as Gionne / Lazenay (Buchsenschutz and Ralston 2001), to the northeast towards Port Sec and nearby sites such as Le Porteau, just into the neighbouring commune of Saint-Germain-du-Puy, and to the intermediate area closer in to the urban core, in the area of the former *Etablissements militaires*. In general, there has been less opportunity for interventions across the river Auron in the direction of the Champagne berrichonne to the west, where however the Grands Danjons site identified prior to the insertion of the then-new ring-road, and a small number of features examined when the Centre de Secours was built,

are intimations of further possibilities on the western margin. More recently, a further semi-sunken rectangular workshop was identified prior to housing development at Les Grandes Varennes, a multi-phase small rural site in the neighbouring commune of La-Chapelle-Saint-Ursin (Augier 2015), about 4-5 km west of the core of the site as the crow flies -and so further than Port Sec is to the east. This too produced imports. The northern limit of the site, potentially across the Yèvre, is altogether unclear although, on analogy with sites elsewhere, the major barrow at the Butte de l'Archelay perhaps indicates that its surroundings lay beyond the settled zone.

22.4 Overview and chronological considerations

It would plainly be excessive to claim the whole area encompassed by the outlying points mentioned here as representing an 'urban' phenomenon; and there are manifestly included zones within this extensive sector which could not have been settled, such as the lowlying marshy environs of the Yèvre. As has been remarked above, more especially in relation to the settlement evidence from the Collège Littré and the Hôtel Dieu at the sloping apex of the promontory, it is not formally demonstrable whether they lay within any mid-1st millennium BC enclosing earthwork or wall system. If Port Sec lacks the indications of planning recognised at Saint-Martin-des-Champs, the scale of the artisanal activities and the associated range of features there strongly intimate an 'urban' as opposed to a 'rural' context for these remains; the nature of the La Tène A1 occupation of this area looks very different from that in subsequent centuries when the main archaeological evidence of sustained use here is the occasional battery of storage pits. Contrastingly, even if very few imported sherds became incorporated in features at sites such as Le Chemin de Gionne (Buchsenschutz and Ralston 2001), nearer the Auron below the Lazenay ridge, and again latterly marked by a substantial battery of storage pits, the evidence here -artefactual as well as structural- looks altogether 'rural' in character.

The dispersed nature of the small-scale interventions in the direction of La-Chapelle-Saint-Ursin means that any assessment of the peri-urban character of settlement around the western fringe of Bourges-*Avaricum* is necessarily constructed on a flimsier basis. Nonetheless, there may be a case to argue for smaller patches of craft activity, on occasion placed within modest rural establishments, dispersed near the peri-urban fringe on this side of the site. There seems no compelling reason to advocate that the nature of mid-1st millennium BC development need have been identical in form around the margins of Bourges-*Avaricum*. Overall, the variability in the scale and character of the peripheral activities around the site would seem to accord well with an argument for the rapid and relatively unplanned growth of both craft manufacturing and settlement. The sudden upswing in this must surely have correlated with inward migration to the site, and that by different groups of people whose relationships with, and ties to, those already there may have been variable. While this is entirely a conjectural reconstruction, unplanned but significant growth in activity and population may go some way to explaining some of the variations amongst the sites around the semi-periphery of Bourges in the decades around 500 BC.

It should be remarked in parentheses, however, that the description of these sites as a 'semi-periphery' implies the continuation of elite occupation of the 'acropolis' on the promontory, but this is not formally demonstrable on any scale for the beginning of the La Tène period. An alternative way of reading the evidence would be to envisage the peripheral craft-working sites, notably Port Sec Sud, as the product of people drawn in towards the node offered by Bourges-*Avaricum* for economic or other reasons, but organising themselves in a more 'bottom-up' fashion and potentially living around a core now much less frequented than previously. That said, the present author's view is that the absence of other than desultory signs of the elite on the central promontory at this time is more probably an artefact of survival and detection. The core may indeed have been weakened, but in light of our general perspective on the importance of the elites within these societies (*e.g.* Buchsenschutz and Ralston 2012) a vacuum at the centre of the densely-settled area -at least for any measurable length of time- seems unlikely.

Such a view is enhanced by the seemingly short-lived, but asynchronous, character of most of the sites identified within or on the periphery of Bourges. This has been apparent since the pioneering syntheses of Martin Almagro Gorbea, Jean Gran-Aymerich, and collaborators in the 1990s (underpinned largely by the chronology of the Mediterranean imports *e.g.* Gran-Aymerich 1997; Gran-Aymerich and Almagro Gorbea 1991, Gran-Aymerich *et al.* 1993), as well as those subsequently produced by P-Y Milcent (2004: especially metalwork) and latterly by Laurence Augier (Augier 2012; Augier *et al.* 2009; most recent synthesis in Augier and Krausz forthcoming). As well as the dating indicated by items imported from the Mediterranean world and that provided by metalwork, Augier has been able to make use of evidence derived from the seriation resulting from her detailed study of the locally-produced pottery. With the exception of the initial horizon at the Collège Littré which, with imported Attic black-figure ceramics, was in use in Hallstatt D1 and thus around 600 BC, all the key settlement sites which can be closely dated belong to the end of Hallstatt D (2/3) and the initial phase of La Tène A (*i.e.* A1). For Augier, the proportions of different locally-made ceramics present in different site assemblages point to a succession of sites, some essentially of La Tène A1 (and so c. 475-425 BC), and a different suite attributable

to the final phases of Hallstatt D and thus the generations belonging to the preceding half century (Augier and Krausz forthcoming). Other interpretations of other datable materials intimate slightly longer occupations for some, but not all, sites. Overall, however, the broader pattern seems reasonably plain: the apogee of Bourges as an important mid-millennium centre will have lasted on the order of three generations, after which its decline is marked, but its abandonment is never complete.

What is manifestly clear, however, is that the great expansion of Bourges-*Avaricum* as a settled place, as the evidence is currently available, spans the generations from Late Hallstatt D into the initial phase of La Tène A. It none the less certainly does not spring *ex nihilo*, as there is undoubtedly earlier settlement, beyond the earliest recovered evidence from Collège Littré mentioned above, for example in Hallstatt C on the southern periphery of the site at Les Chassepins at Lazenay. Evidence is however lacking for such settlement elsewhere towards the core of the site. Equally, not all domestic activity ceases at the end of the first phase of La Tène A, but again evidence for continuing activity is all but absent in the heart of the site. Arguing from the absence of evidence is at best contentious, not least in light of the recurrent reshaping and redevelopment of the promontory of *Avaricum* in the Late Iron Age, through Roman times and across subsequent centuries, but support for the apparently short-lived nature of the settlement is evidenced at Port Sec Sud, for example, where there are relatively few signs of intercutting features or similar structural indications of repair and replacement in the craft/settlement structural evidence which would indicate longer-term use.

22.5 Interpretation and conclusion

In sum, what we have termed the princely complex at Bourges-*Avaricum* is focused on the promontory edging the river Auron and cut at its northwest end at the confluence with the Yèvre, where an area of lowland wetland seems to have been the focus of earlier special deposits which continued into the Iron Age. The subsequent long urban development of Bourges means that opportunities to reach its early occupation layers are limited, but -most significantly still from rescue excavations beneath the Collège Littré over thirty years ago- there is undoubtedly important and wealthy 6th and 5th century settlement evidence surviving, if fragmentarily, there. Whilst it may be reasonable, in light of the topographic setting, to assume that this settlement was within the principal *enceinte* of Bourges-*Avaricum*, neither the existence nor the emplacement of this has been identified in any detail, and it is not impossible for such settlement to have been external to any enclosure. Traces of other ditches, most notably those examined within the *Etablissements militaires* primarily in the 19th century (Milcent 2010, Abb. 6) provide a little support for the idea of further subsidiary enclosures, as known from other 'princely seat' sites such as the Glauberg.

At a variety of locations and at varying distances from the assumed core of the site, there are other areas of settlement marked in particular for the 5th century BC by the presence of semi-sunken workshops which provide evidence for a range of craft manufacturing. As the evidence is currently known, these are seemingly organised with lesser or greater formality and the quality of the material culture indicates that the status of their inhabitants (Filippini 2017) was such that they could obtain a range of southern raw products and imported materials. Contrastingly, domestic architecture remains poorly known. Some of the semi-sunken workshops are equipped with post-holes (Augier *et al.* 2012, Ch. 2), small scatters of basically undated post-holes are known on some sites on the margins of the complex (*e.g.* Le Chemin de Gionne) and rare plans of small post-built structures have been identified, as on the eastern periphery of Port Sec Sud, adjacent to the barrow at les Carrières à Bachon, Lazenay, and at Les Grandes Varennes, but the quantity of evidence is modest. The indications are that the architecture of this period at Bourges did not for the most part rely for its structural strength on earthfast timbers. There were housings for substantial sleeper-beams in the small exposure at Collège Littré and informal mud-brick was deposited at Hôtel-Dieu, both on the core of the promontory. Other styles of architecture, more challenging to identify archaeologically, may be anticipated.

It is not possible in a short essay to adequately review all the nuances presented by the evidence which has accumulated about Bourges and its immediate territory in the middle of the 1st millennium BC. Nor can we revisit the issue of Bourges' potential wider territory, except to repeat an earlier observation that the promontory finds itself towards the northeast of a zone marked by rich burials and generally more plentiful broadly contemporary evidence to the south and west, rather than to the east (Augier and Krausz, forthcoming; Batardy *et al.* 2001). To that extent, Bourges may have developed towards the margin of its zone of direct influence, rather than centrally within it. It is plain that the general area was already significant in the preceding centuries (Batardy *et al.*, 2001; Krausz 2016; Milcent 2004), but what changes towards the mid-millennium -at least as the evidence has accumulated until now- are the indications of elite settlement on the central promontory between the Auron and the Yèvre, and the physical extent of the surrounding evidence for craft and other activities which seem to be linked, more or less intimately, with what was happening on the central promontory. Its discontinuous character makes deriving an estimate for the overall size of this settlement hazardous and contentious, but it would be possible to

support an overall 'footprint' for craft and settlement activity extending to approximately 200-250 ha, although the lack of available evidence across a bigger zone that has confirmed findspots of the relevant period underscores that these numbers are in essence a guesstimate. At several of the sites around the periphery, the recurrent impression is of locations which for the most part were occupied only relatively briefly; classically, few features are inter-cut. In general, the material culture too points in the main to a relatively short-lived episode. Where later evidence has been recovered, as in some of the major storage pits at Port Sec Sud, or in the later imports at a potentially longer-lived site such as Le Chemin de Gionne at Lazenay, quantities are much reduced or their character is substantially different. Before 400 BC, taking a wide view, both the density and intensity of settlement and related activities in and around Bourges-*Avaricum* had declined substantially. If this is not quite the sentiment expressed about more-recently abandoned glens in the Scottish Highlands, that 'everyone who ever mattered is dead and gone' (Hunter 1995), none the less there seem indications that the archaeological evidence should surely correlate with some momentous changes occurring early within La Tene A, perhaps two or three decades before 400 BC.

I have previously described the developments at Bourges and in its hinterland between the later phases of Hallstatt D and the beginning of La Tène A as constituting a 'fragile state' (Fernández-Götz and Ralston 2017; Ralston 2010) whose rise was swiftly followed within a few decades by a seemingly rapid decline. In the modern world, the concept of a 'fragile state' has been amply defined by key international actors from the UK Department for International Development to the World Bank and the European Union. These bodies have focused on a range of significant issues affecting fragile states ranging from poor governance to their inability to guarantee security, the prevalence of widespread economic and social disruption within them, to the perceptions of a significant proportion of the population which does not regard the state as possessing a legitimate framework for the exercise of power. Archaeologists too have theorised many aspects of the collapse of complex societies. In a recent review, Levitt (2019) has outlined a number of not-dissimilar factors, usually working multiply, that are considered to underlie the collapse of, generally considerably grander, ancient states: the failure to guarantee food supplies; to defend against external aggression; to maintain sufficient internal cohesion; to provide an ideology to sustain the prevailing social and political order; and to impose their will across their territory. It is of course exceedingly difficult to interpret the working of such factors readily from the mute remains of the 5th century BC at Bourges-*Avaricum* with which archaeologists have to deal, although some aspects can of course be more straightforwardly perceived than others. To take an analogy from physics, at present Late Hallstatt and Early La Tène Bourges-*Avaricum* remains an atom where we know far more about its electrons than the protons and neutrons of its nucleus.

If archaeologists have a tendency to seek out description and analysis for the seemingly-uncontentious successes of early urbanisation and state development, we should perhaps recollect historian, Norman Davies's, view, expressed in his *Vanished Kingdoms* of 2011:

> "*In reality, life is far more complex; it consists of failures, near misses and brave tries as well as triumphs and successes. … ungrasped opportunities and false starts … are commonplace … transience is one of the fundamental characteristics both of the human condition and of the political order. Sooner or later, all things come to an end. Sooner or later, the centre cannot hold. All states and nations, however great, bloom for a season and are replaced*".

In the case of the micro-state considered here, and its urbanising central place, it would seem that thorough although not total collapse came sooner, rather than later. Why did this early micro-state die? Of the causes Davies identifies in his conclusion to his case studies, both external and internal, as well as voluntary and involuntary drivers are identifiable. The five he diagnoses are implosion, conquest, merger, liquidation and 'infant mortality'. Here the middle three may be excluded, in the absence of any clear sign of another actor. It seems most likely that implosion -perhaps compounded by an inability successfully to manage, integrate, or control the results of inward population movement in the medium term (by which I mean a generation or two), which must surely have been essential to drive the rapid expansion of the occupied area and the economy that are indicated, as Augier and Krausz (forthcoming) have recently noted- was significant. In addition, figuratively rather than literally, 'infant mortality' -the failure to develop sufficiently robust organs of state- is intimated. Krausz (forthcoming) has gone on further to develop such a model of calculated opposition to the state.

The concept of 'ephemerality' is one frequently levelled at the short-lived political, economic and social structures that emerged in west-central temperate Europe in the mid-1st millennium BC. Viewed in terms of the *longue duree*, that is a reasonable charge (Brun and Chaume 1997; 2013). Whilst there are plainly significant developments in and around Bourges in preceding generations, as the settled area within a more extensive territory it appears to have been at its zenith at longest for perhaps three generations. Ephemeral, indeed; albeit this was not an insignificant or brief interlude for those alive at the time. In terms of duration, a modern equivalent is the Soviet Union, which forms the last case-study in Davies's book.

Acknowledgements

This paper draws on field- and other work at Bourges in which I collaborated with colleagues in what is now the Service archéologique de Bourges-Plus led successively by M. Jacques Troadec and Dr Laurence Augier, as well as with Drs Olivier Buchsenschutz and Pierre-Yves Milcent, all of whom deserve my thanks. I am also grateful to Dr Sophie Krausz for sight of papers in advance of their publication and other advice. None of them however bears any responsibility for the perspectives I have presented here.

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Chapter 23

The Early Iron Age Central Place at Most na Soči (NW Slovenia)

Snežana Tecco Hvala

Archaeological discoveries at Most na Soči (its former name is Sv. Lucija or S. Lucia in Italian) have placed it among the most prominent Early Iron Age sites in the south-eastern Alps. It is located in the valley of the river Soča/Isonzo at its confluence with the Idrijca. The cemetery with almost 7,000 graves from this period ranks among the largest necropoleis ever excavated in Europe, while the extensive rescue excavations in the settlement revealed many habitation traces. They provided numerous constructional details, the rich remains of interior furnishings, and important data on the infrastructure, offering insight into the planning, architecture, connective infrastructure, craft production, residences and burials of lower elite, social diversity, public places, and ritual practices. Investigations of the settlement also yielded large archaeozoological and archaeobotanical assemblages. The analyses of architectural and organic remains, raw material, and products indicate advanced construction techniques, efficient animal husbandry, crop cultivation, diet, production, votive offerings, and also exchange of goods within short and long distances. The research indicates that Most na Soči was already inhabited in the Late Bronze Age (13th century BC), but the settlement reached the greatest extent in the Late Hallstatt period (6th and 5th centuries BC). At that time, the Iron Age territorial community of the Posočje region, known as the Sv. Lucija cultural group, gained its maximum extent with the colonisation of the mountainous hinterlands and remote valleys. The development of Most na Soči shows that it was an important settlement and a central place in the Posočje region, and points to the process of synoecism or centralisation in the Early Iron Age, followed by disintegration in the Middle La Tène period, and reintegration in the 1st century BC with continuity into Roman times.

Keywords: Early Iron Age; Southeastern Alps; Most na Soči (S. Lucia presso Tolmino); Settlement; Urbanisation; Centralisation.

23.1 Introduction

Discoveries and large-scale excavations from the mid-19th century onwards have placed Most na Soči on the archaeological map as a prominent and significant Early Iron Age site in the southeastern Alps. It is located in the valley of the river Soča/Isonzo at its confluence with the Idrijca (fig. 23.1). The river valleys have served as natural communications, both now and in the past. To the north the Predel/Predil pass leads to Carinthia in Austria, to the south there is a connection to the Adriatic via the Friuli plain, and eastward to the Ljubljana basin. Additionally, reaching the Soča valley is the Mediterranean climate that

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Figure 23.1. Aerial view of Most na Soči from the west (http://www.dolina-soce.com. Photo: P. Petrignani).

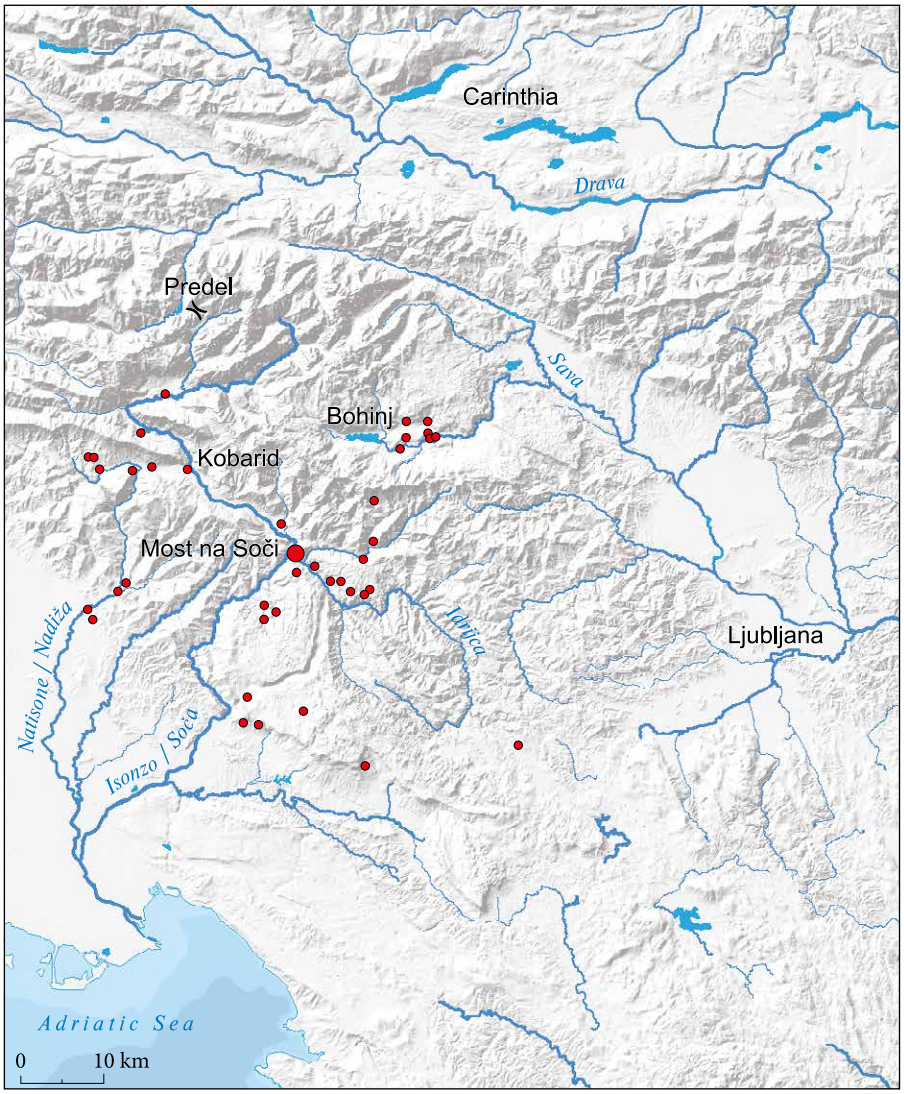

Figure 23.2. Sites of the Posočje Iron Age community known as the Sv. Lucija group (after Dular and Tecco Hvala 2018b, fig. 1).

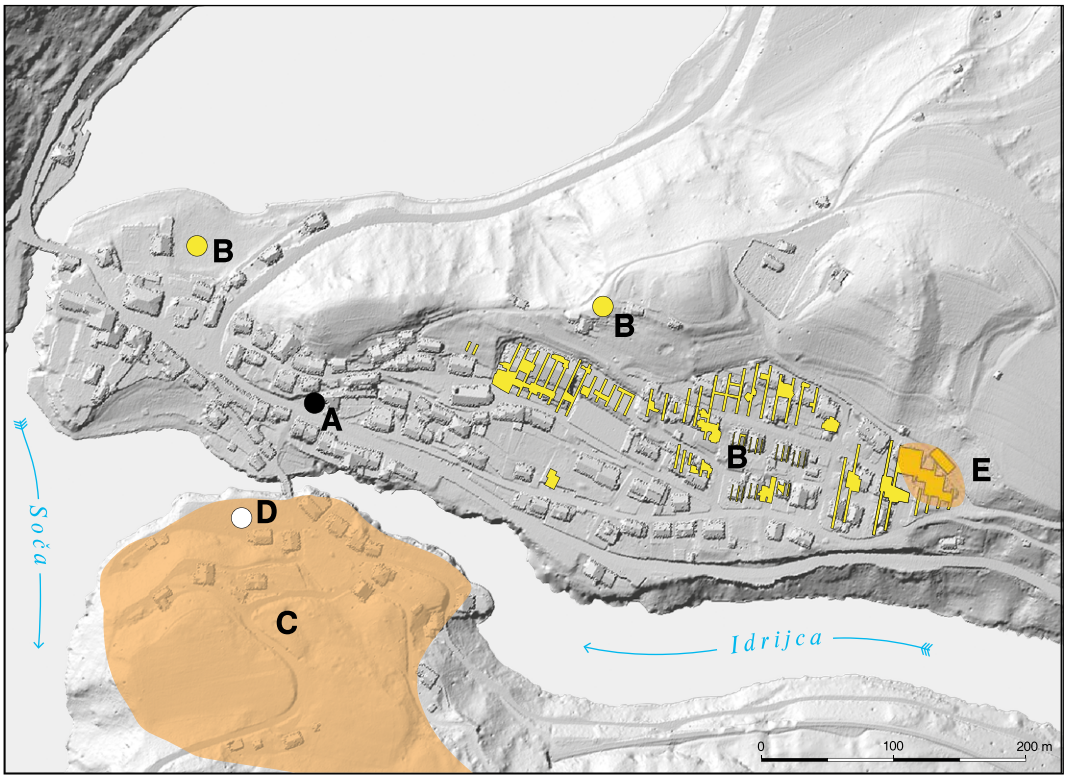

Figure 23.3. Areas of documented habitation remains and burials at Most na Soči. A – Bronze Age D house; B – Hallstatt D, La Tène D and Roman-period settlement; C – Hallstatt C and Hallstatt D cemetery; D – Hallstatt D, La Tène and Roman-period burials; E – La Tène D and Roman period cemetery (after Svoljšak and Dular 2016, figs. 5 and 19; Dular and Tecco Hvala 2018b, figs. 2 and 3).

extends to the high plateaus and the mountains with their harsher Alpine climate surrounding the valley. The region, also known as Posočje, has altitudes ranging from 150 to 2864 m a.s.l. and is primarily covered by forests, alpine meadows, and pastures, but arable land is scarce.

In archaeological literature, Most na Soči is better known under the former name of the village, *i.e.* Sv. Lucija or S. Lucia presso Tolmino in Italian. This name was introduced in the archaeological nomenclature with the investigations of the vast Early Iron Age necropolis. Between 1884 and 1902, Carlo Marchesetti and Josef Szombathy from the museums in Trieste and Vienna excavated almost 7,000 graves on the left bank of the Idrijca. The discovery played a pivotal role in recognising the cultural identity and chronological framework of the Early Iron Age phenomenon in the region defined as Sveta Lucija or Santa Lucia cultural group (fig. 23.2) (Gabrovec 1966; 1999; Gabrovec and Svoljšak 1983; Teržan and Trampuž 1973).

The early investigations focused on the cemetery and not much was known about the associated settlement until the 1970s, when extensive archaeological interventions began on the right bank of the river Idrijca after a severe earthquake hit the Posočje area. As part of the new urban development plan the area intended for buildings was archaeologically investigated with densely spaced trenches (fig. 23.3). The decade-long excavations were carried out by the museum of Nova Gorica under the leadership of Drago Svoljšak. The results have offered a unique and comprehensive glimpse into the interior settlement structure during the Iron Age (Dular and Tecco Hvala 2018a; Svoljšak and Dular 2016) and the Roman-period, and revealed a small cemetery with around 160 burials located just beyond the eastern perimeter of the settlement complex.

In the new millennium, further rescue investigations unearthed new habitation traces and burials dating to the Iron Age and Roman period on both banks of the Idrijca. These archaeological activities were conducted by Miha Mlinar, curator at the museum in Tolmin (Mlinar 2020 in press; Mlinar *et al.* 2008).

23.2 Size of the settlement and population

23.2.1 Settlement area

The prehistoric settlement extended across the sunny terraces on a promontory above the confluence of the Idrijca and the Soča (fig. 23.3). The riverbanks bounded it on the west and south, while its perimeter in the north

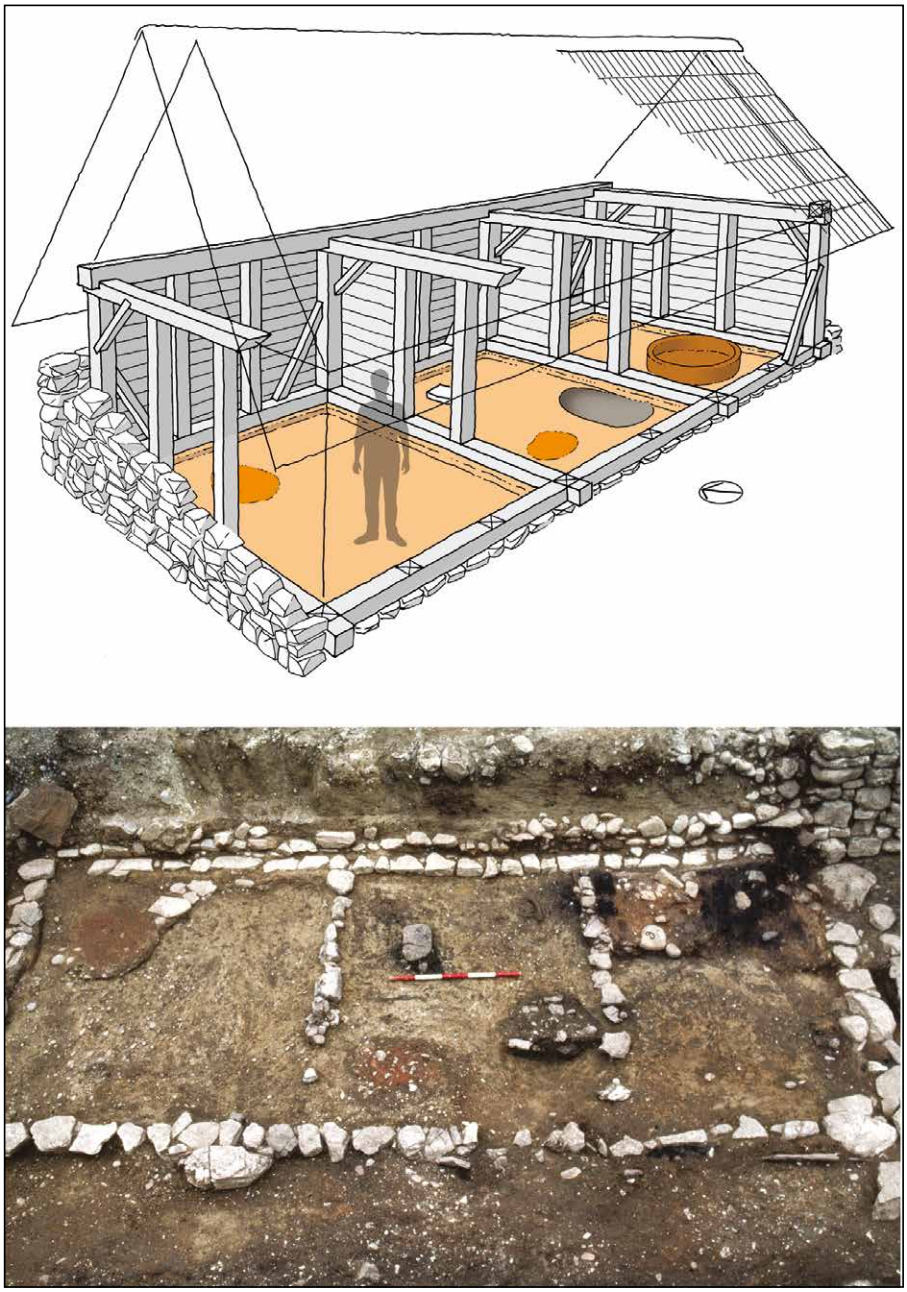

Figure 23.4. Architectural remains of House 15A in the Most na Soči settlement and its reconstruction (after Svoljšak and Dular 2016, fig. 116; Svoljšak 2018, fig. 12).

is less clear, but certainly included the three peaks on the promontory. Scarce finds that came to light on the slopes during earthworks lend some support to this hypothesis. To the east, Iron Age habitation traces extend to the line of stones visible on the LiDAR image but have yet to be investigated. The line may represent the ruins of a stone wall, part of which was unearthed during excavations behind the easternmost Iron Age building.

Excavations have shown that the promontory was already inhabited in the Late Bronze Age, *i.e.* Bronze Age D or *Bronzo recente* (13th century BC). The scarce building remains from this period were discovered in the western part of the promontory (fig. 23.3 A) and consist of only three post holes, but numerous ceramic sherds (Svoljšak 1988-1989, 371 ff). The settlement structures excavated along the northern perimeter and in the eastern part (fig. 23.3 B) all date to the Late Hallstatt period (6th-4th centuries BC; the Sv. Lucija IIa, IIb, and IIc phases in the local chronology) (Dular 2018, 147 ff; Mlinar *et al.* 2008, 201 ff).

This indicates a gap in habitation continuity between the Bronze Age and the Late Hallstatt period (Hallstatt D). However, the burials on the left bank of the Idrijca span from the beginning of Hallstatt to the La Tène period, showing that it is unlikely for the promontory only to have been settled in the Late Hallstatt. The area was resettled in the Late La Tène

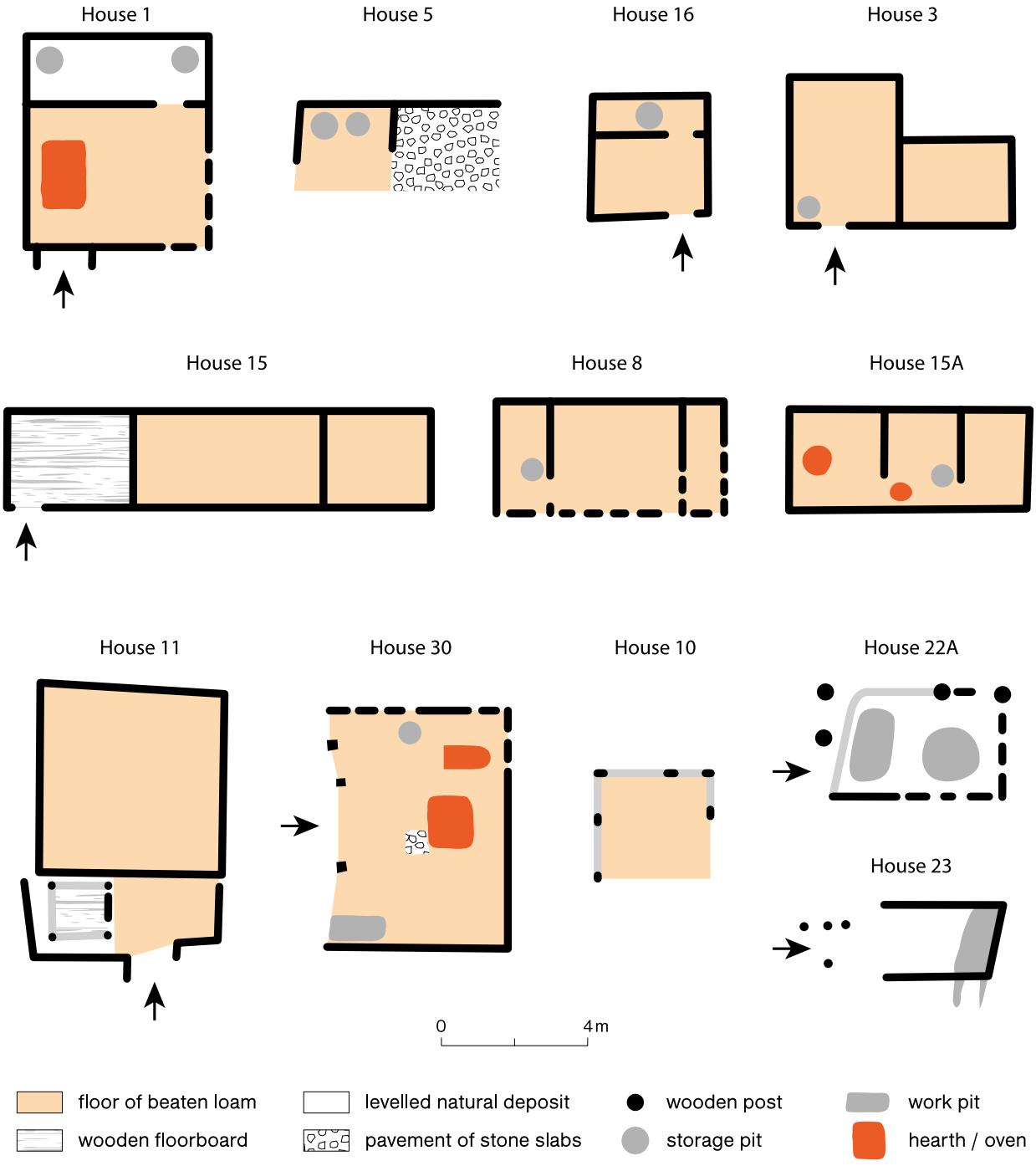

Figure 23.5. Schematic plans of the Iron Age houses at Most na Soči (after Dular and Tecco Hvala 2018b, fig. 42).

(late 2nd and 1st centuries BC; the Sv. Lucija IV phase), albeit to a much more limited extent, and later in the Roman period. A small cemetery just southeast of the settlement, and several burials on the left bank of the Idrijca are attributable to the last two periods (fig. 23.3 D and E). Considering the known perimeter, the Iron Age settlement at Most na Soči stretched roughly across 13 ha. Of these, some 4 ha were investigated and revealed the remains of 39 Iron Age buildings and 32 locations of dispersed habitation traces (Svoljšak and Dular 2016). This gives a density of approximately ten buildings per hectare.

Figure 23.6. Decorative ceramic plaque from House 23 in the Most na Soči settlement (after Dular and Tecco Hvala 2018b, fig. 48).

23.2.2 Burials

Towards the end of the 19th century more than 6400 graves were unearthed on a vast terrace above the Idrijca (fig. 23.3 C) and an additional 76 cremations have come to light in recent decades (Marchesetti 1885; 1893; 1899; Mlinar 2020 in press; Teržan *et al.* 1984-1985). The time span of the necropolis and the number of burials give an approximate estimation of the size of the Iron Age population at Most na Soči. Using the formula P = n/(t/30); P = population, n = number of burials (7000), t = duration of burial (500 years), 30 = duration of a generation (cf. Nikulka 2016, 139 ff), we calculated that the settlement had an average of 420 people per generation. Considering the surface area of the settlement, measuring over 13 ha, this would mean the density of 32-33 people per hectare (Dular and Tecco Hvala 2018b, 91 f), or three to four people living in one house.

23.3 Function of buildings

The Iron Age architecture at Most na Soči is comparable with other prehistoric buildings from the Alpine and Subalpine areas, but with a number of specific traits that led Drago Svoljšak to coin the term the 'Posočje type house' (Svoljšak 2018, 167 ff).

The construction work on such a house began by preparing a levelled ground on the inclined terrain of the promontory. The construction pit was dug into the natural deposit on three sides. Their stepped or vertical walls were lined with stone slabs or most frequently with drainage walls constructed of stone rubble in the drywall technique. The buildings had stone foundations, which apparently sufficed in protecting the wooden walls from moisture. The superstructure consisted of wooden sleeper beams and posts connected with mortise-and-tenon joints and reinforced with braces (fig. 23.4). Only a handful of houses also had earth-fast posts. The wooden frame of the buildings was covered with wooden planks.

The buildings were mainly rectangular or square in plan. The size of those with fairly well-preserved ground plans ranges roughly from 6 to 28 m^2. They had one or more rooms, most frequently two, with one of them usually smaller, barely a metre wide (fig. 23.5). The floors were of beaten loam, in some parts covered with wooden floorboards. Only one building (House 5) had a floor of large stone slabs in one of its rooms. Most buildings had entrances in the south or southwest, although two were open to the west (Houses 23 and 30). A third of all investigated buildings was furnished with a hearth located in the main large room, as well as one or more round pits in the smaller rooms. Several single-roomed buildings had large rectangular pits that took up most of the interior surface.

The interior furnishings of some buildings included ceramic plaques, which presumably served as wall decoration (fig. 23. 6). Their fragments are the most lavishly decorated ceramic finds from the Most na Soči settlement. They were recovered in greater numbers from Houses 1, 3, 15A, and 23. The first three of these houses also yielded fragments of large storage containers or silos made of clay with inclusions of plant temper, coarse-grained sand, and grog. The presumably cylindrical or barrel-shaped containers had the capacity of 250 to 450 litres and weighed around 200 kg once dried, which made them unsuitable for moving (Dular and Tecco Hvala 2018b, 14 ff).

The building interiors revealed many and varied small finds ranging from parts of costume, pottery, and utensils to the remains of foodstuffs. The differences in ground plan, interior furnishings, presence of pits (work, storage), household items, and the remains of foodstuffs prompt the question of building function.

23.3.1 Residential buildings

The buildings closed off on all four sides and probably covered with a gabled roof are interpreted as residential units. They were mostly well built and furnished with household features, *e.g.* pits and *pithoi* for storage, quernstones, portable ovens and baking lids for cooking on open fire, an array of pottery for preparing and serving food, as well as ceramic rings and bobbins presumably associated with textile production.

Among the largest and best constructed Iron Age buildings at Most na Soči was House 15 which contained three rooms (fig. 23.5). The central and the east room had floors of beaten loam, while the west room had wooden floorboards. It had no pits or hearths, but other furnishings and finds rank it among the wealthy households. Another three-room building was excavated in its vicinity, House 15A. It had a hearth and a *pithos* in the west room (fig. 23.4), which was probably used as living quarters, while the central room most likely served as a workplace, and the east room as pantry. The east room had a large container and other storage vessels, numerous decorative plaques and a larger quantity of animal bones (Toškan and Bartosiewicz 2018, 484).

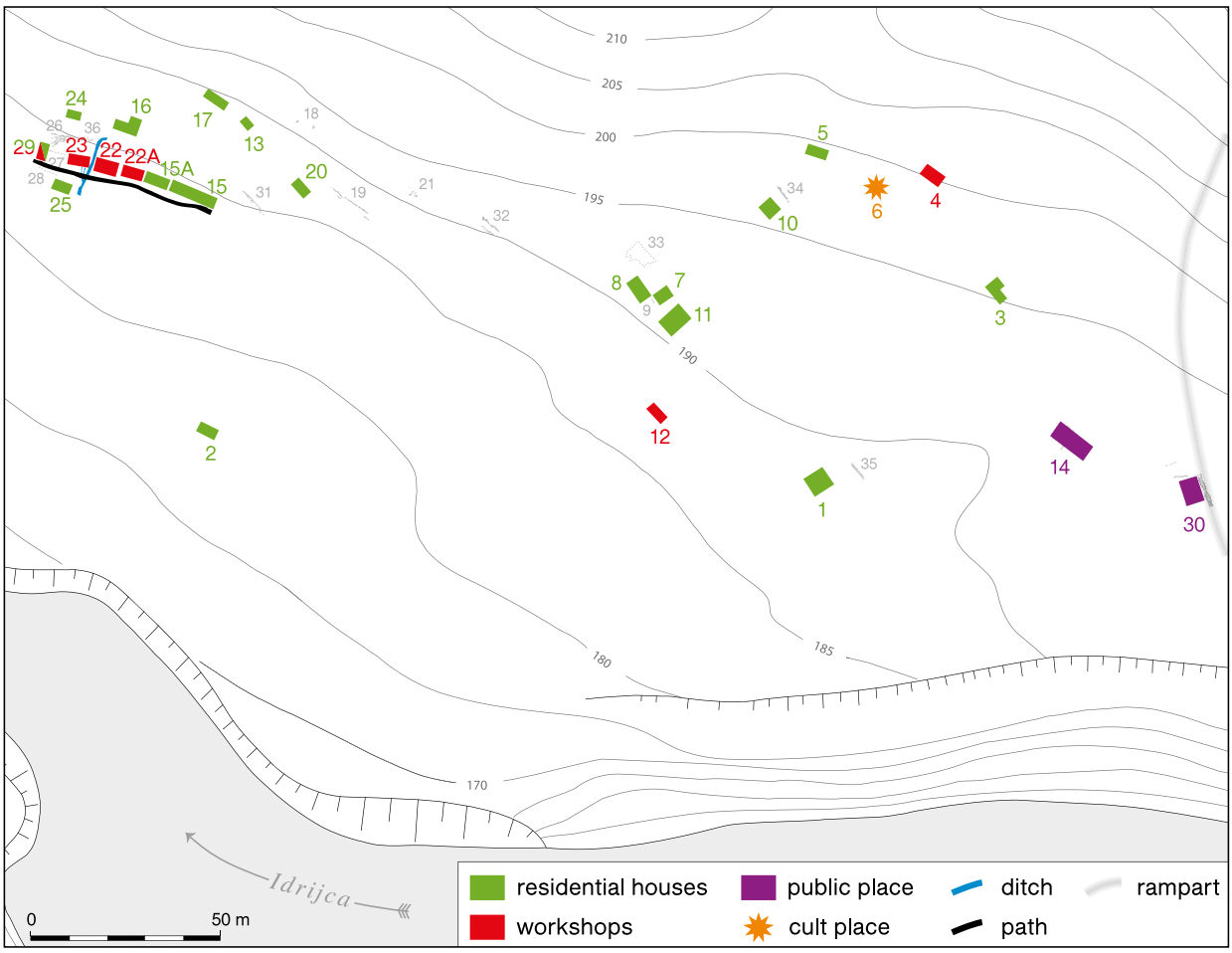

Figure 23.7. Internal layout of the Iron Age settlement at Most na Soči (after Dular and Tecco Hvala 2018b, fig. 60).

The largest and best-preserved building of the settlement is House 11, located in the centre of the investigated area (fig. 23.7). It had one spacious room and an anteroom with a wooden structure (granary for storing crops?) in the west part. The east part had a loam floor and probably a projecting roof. Other roughly contemporary buildings in proximity (Dular 2018, 151 f, fig. 2) include House 7, where a pit held the remains interpreted as a 'seed bank' of crops comprising several types of wheat, two types of barley, rye, and millet. Apart from cereals, the pit contained several grains of bitter vetch, hazelnut shells, tens of fragments of walnut kernels, and a charred piece of the common fig (Motella De Carlo 2018, 379 ff). Another nearby building is House 8 with three rooms. It revealed interesting finds, such as a ball of trachyte, probably used for grinding together with a quernstone, and a bar-shaped bronze ingot with a high lead content and chemical composition that suggests it served as pre-monetary currency (Laharnar 2018, 221 f; Šmit and Laharnar 2018, 322 ff).

House 1 had a more isolated location, in the south-eastern part of the settlement (fig. 23.7). Its interior was divided into two rooms; the large room was furnished with a hearth, a storage container, a *pithos* and decorative plaques, while the smaller room had storage pits. The movable furnishings of the house included a quernstone, ceramic rings, and loom weights.

House 3 deviates from the usual rectangular form in its L-shaped ground plan. The west, probably residential room, had a pit dug in a corner that held a jar. The east room may have been used for storing and working as it was furnished with a large container, a *pithos*, and decorative plaques. A concentration of ceramic rings in the northeast corner suggests the location of a loom. It also yielded the bones of a dog (Toškan and Bartosiewicz 2018, 471 ff) that probably did not end its life as food, but can rather be seen as a sacrifice or a pet that was kept within the household even after death.

The only building with a stone floor was House 5, which also yielded a rare ceramic find, *i.e.* an Attic *skyphos*. The analysis of the interior layout, furnishings, and small finds suggests that large houses had separate rooms intended

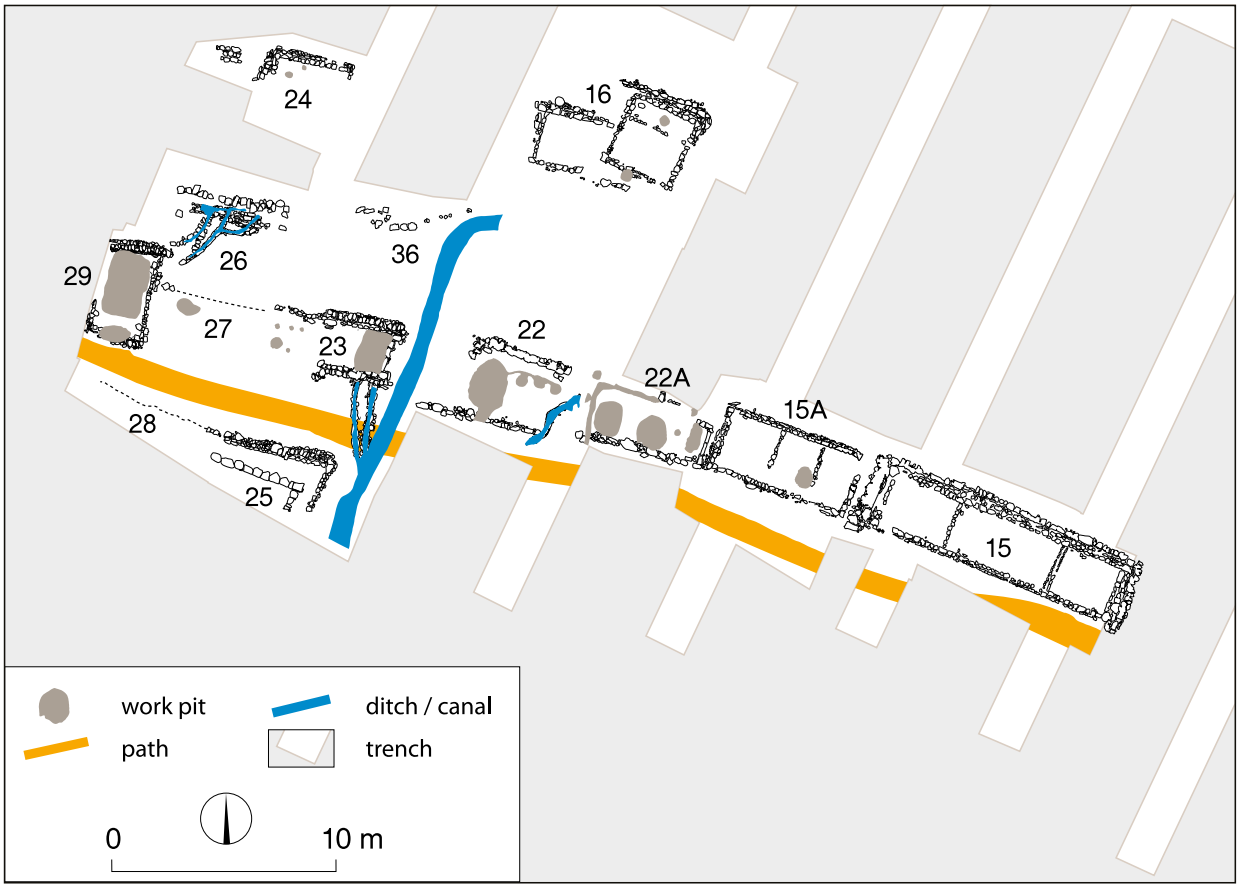

Figure 23.8. Connective infrastructure and buildings in the northwestern part of the Iron Age settlement at Most na Soči (after Svoljšak and Dular 2016, fig. 224).

for habitation, storage and work, while smaller and more modest ones combined all these functions into a single room (*e.g.* Houses 2, 7, 10).

23.3.2 Workshops

The single-room buildings with one or more sides open have been interpreted as workshops (Houses 4, 12, 22, 22A, 23, and 29). Their architectural remains were poorly preserved, which may in part be the consequence of a poorer quality of construction. Additionally, most of them lack drainage walls and often solid foundations. They were probably covered with single-pitch roofs. Given their construction of earth-fast posts, Houses 22A and 23 were almost certainly sheds (fig. 23.5). The floors in this group of buildings were made by simply levelling the natural deposit. A large portion of the functional surfaces was taken up by pits of different shapes and sizes – almost all of them had large rectangular or oval pits and none had either a hearth or storage vessels (ceramic containers, *pithoi*). Houses 4 and 22 revealed three small pits and a larger one that were connected by a narrow and shallow canal (fig. 23.8). Other small finds point to differences in the work processes taking place there. Houses 4 and 29 contained pieces of molten bronze, as well as a mould, casting ladle, whetstone, and iron tools, which indicates that they were probably foundries, while House 23 may have been a potter's workshop. The wide variety of pottery types found in this workshop with similar finds from numerous residential buildings (cf. Grahek 2018, 249 ff) suggests that it supplied a large portion of the local household needs.

We may assume that these buildings were more or less open because of the work involving an open fire. It also seems that pottery making and metallurgic activities, which certainly required special technical knowledge and skills, were not part of a self-sufficient household economy.

23.3.3 Social assembly places

House 14 stands apart from other buildings in the great number and diversity of pottery finds (cf. Grahek 2018, 249 ff), which is in stark contrast with its poorly surviving architecture and interior furnishings, which only consisted of a well preserved large hearth with the bedding of small cobbles and a coating of loam (Svoljšak and Dular 2016, 106 ff). Numerous and diverse cooking, serving, and drinking

vessels (jars, platters, dishes, beakers, *situlae*, and goblets) were found in this building, but no pits or storage vessels, such as *pithoi* or ceramic containers. It also yielded a large quantity of domestic animal bones including meaty parts of cattle, which indicates that slaughtering or dismemberment, as well as meat preparation took place here (Toškan and Bartosiewicz 2018). Other finds are very few, consisting of only two fragmented iron knives, a fragment of an iron spearhead, and a bronze, serpentine fibula.

House 30 also shows a specific character. It was located at a distance of some 20 m from House 14, but was later in date (Dular 2018, 153 f). It was open on the west side, where the roof was supported by three posts placed into square holes lined with stone slabs. Along the south wall, it had a large rectangular pit, which has been identified as a feature of workshops. Contrary to other workshops, however, House 30 was large and well-built with the floor of beaten loam. It was furnished with a large hearth and a domed oven that contained incompletely burnt animal bones. Excavation records show that pieces of baking lids and portable ovens were found in the area of the hearth, next to which was a stone surface that might have served as a worktop or shelf. Houses 14 and 30 could be interpreted as public spaces of political and social significance intended for assembly, where inhabitants discussed matters of common interest and other important events in the life of the community, as well as enjoying symposia.

23.3.4 Cult place

House 6 in the northeastern part of the settlement (fig. 23.7) has been identified as a burning-offering place (Dular and Tecco Hvala 2018b, 79 ff). Very little of it survived, as it was largely destroyed by a mortar-bound stone building constructed on the same spot in the Roman period. Only the contours of the construction pit were discernible. The pit was filled with an up to 75 cm thick layer of dark brown earth mixed with burnt stone rubble, charred organic remains and an array of broken objects. A row of stones that resembled a drystone wall lay at the bottom along the northwest wall. Assuming a square ground plan, the structure would have occupied roughly 25 m^2.

The fill contained numerous pieces of charred wood and cereals (*e.g. Panicum miliaceum, Avena/Secale, Vicia ervilia, Setaria italica*), several pieces of hazelnuts and walnuts (Motella de Carlo 2018, 379 ff; Tolar 2018, 446 ff), as well as some lumps of hardened and burnt organic remains of a porous structure resembling bread or cake. Among the finds were three pieces of charred textile, which most likely formed part of the same piece of canvas woven of flax or hemp fibres. A thread and hence a seam was identified in one of the textile pieces, which indicates that the offering was a garment (Grömer *et al.* 2018, 453 ff). The bone remains consist almost exclusively of cranial and foot skeletal elements of domestic animals, most of them belonging to ovicaprids, followed by cattle and pigs. The cut marks observable in some of the bones may have occurred during ritual activities (Toškan and Bartosiewicz 2018, 490 ff). This suggests animal sacrifice and feasting, although only one bone was burnt.

The most abundant among the over 200 objects surviving in the fill of the construction pit are bronze buttons, which are believed to have been sewn onto garments and belts as adornments. The same function can be supposed for the small annular beads of yellow, white, and blue glass. Also, relatively numerous are fragments of metal vessels and ring jewellery, while fibulae and pendants are fewer in number. The assemblage further includes several red coral pendants and Norican silver coins. The chronological analysis of the artefacts indicates that the burning-offering place was in use over a long period of time, throughout the Late Hallstatt and again in the Late La Tène (Laharnar 2018, 224 ff). It seems that the location of the cult place persisted in the memory of the local population.

The votive offerings mainly comprise elements that suggest rituals connected with the female sphere. In addition to jewellery, there were pieces of textile and a spindle, possibly a symbolic expression of spinning the threads of human destiny. The remains of foodstuff and animals mirror the cult of fertility. Elements of male dress are strikingly absent, though this is in congruence with the funerary rituals of the Posočje community that did not practise offering weapons into graves until the end of the Early Iron Age. The range of offerings and the location within the settlement indicate that the cult place may have been connected with the worship of a local female deity. The local character is discernible from the fact that there are other known cult places in Posočje and the surrounding areas, most of them not yet systematically investigated.

23.4 Built environment

23.4.1 Fortification

The rivers Soča and Idrijca with their precipitous banks and more than 20 m deep beds (the river gorges are flooded today with the dam for a hydropower station) offered sufficient natural protection to the settlement on the west and south. On the north side, it was protected by three peaks, which would have been of strategic importance since they afforded a panoramic view over the Soča valley. The promontory was only relatively easily accessible from the east, where a belt of stones running north-south and across the highest eastern peak has been recorded. Test trenches may reveal whether this belt, clearly visible in LiDAR images (fig. 23.3) actually represents a rampart. In its line further to the south, the Goriški muzej excavated an up to 1.5 m thick drywall enclosure that certainly represents the eastern perimeter of the settlement (fig. 23.7). Marchesetti, who remains the

foremost authority on prehistoric hillforts in the region, perhaps had this particular part of the settlement in mind when writing about defensive walls that continued towards the top of the hill (Marchesetti 1893, 316 f).

Some time ago, Drago Svoljšak launched another hypothesis of the settlement itself not needing such fortifications as the two rivers provided sufficient protection together with a series of smaller hillforts at a distance of approximately 20-35 km from Most na Soči (Svoljšak 1984, 117; 1986). The supposed hillforts indeed have strategic positions controlling the points of access along the main valley routes. Though the hypothesis is certainly intriguing, it requires further evidence for confirmation. Such a large-scale defence system covering the whole of the community's territory with a central command anticipates a highly organised society and it is not clear whether the Posočje Iron Age community reached such a level of organisation.

23.4.2 Connective infrastructure

Excavations unearthed four short sections of a roughly 1.4 m wide path that ran along the row of workshops and houses in the westernmost part of the investigated settlement (fig. 23.8). The path had a 10-20 cm thick surface layer of medium-grained gravel laid on the levelled natural deposit. The buildings were orientated with entrances on their longer sides facing the path.

The westernmost part of the settlement also revealed a 17 m long section of a large drainage ditch. It had a NE-SW orientation in the first 3 m, after which it made a turn southwards. Its gradient in this section was on average 18 cm per running metre. For the most part, the ditch was dug into the hard conglomerate. It was U-shaped in cross section and measured up to 1 m in depth and 0.60 m in width. It was filled with stones, earth, and rare pieces of loam daub on the top, while the fill toward the bottom became sandier (water sediment) and mixed with animal bones and sherds of prehistoric pottery; even a bronze fishhook was found in it (Svoljšak and Dular 2016, 221 f).

Two drainage canals led into the ditch from the pottery workshop (House 23), beginning at the large work pit in the workshop interior and merging with the drainage ditch some four metres further south. A more complex drainage system was identified in House 26 with a shallow groove along the drainage wall, from which canals ran under the foundations and under the house floor. The walls of the canals were lined and covered with stone slabs. The same construction was documented for the winding canal in the intermediate space between Houses 22 and 22A, both interpreted as workshops. No other remains of infrastructure were recorded in the excavated area, neither livestock enclosures, garden fences, nor storage facilities, with the exception of the small square structure incorporated into the anteroom of House 11 that may have functioned as a granary. House 10 (fig. 23.5) possibly had a similar function after its renovation.

23.4.3 Spatial planning

The excavated traces of the built environment have all the elements of spatial planning – communication as the main spatial determinant and buildings that line it – coming together to form a functional whole. The investigated area, which does not exceed 30% of the total surface of the ancient settlement, shows two noticeable groupings of buildings, one more dispersed in the east and a denser one in the west where four workshops stood together in a row (fig. 23.7). The observations that most of the buildings had the same NW-SE orientation with entrances on the south side, that they were constructed in the same technique and renovated within the same construction pits or plots, the strict separation of the habitation and burial areas, as well as the existence of a path and drainage canals, have led Drago Svoljšak to suggest that the layout of the settlement was carefully planned with a more or less uniform grid of houses that did not change much throughout its existence of more than two centuries. In short, he posited that the settlement exhibited the beginnings of an urban centre (Svoljšak 2001).

However, the layout of the settlement shows neither a strict organisation of space nor a division between residential and artisans' quarters. The workshops are not concentrated in one area, but rather dispersed and surrounded by residential houses, some of which were among the wealthier ones. This proves that the function of the buildings did not greatly affect the interior layout of the settlement and that it is not possible to talk of strictly separate production and residential quarters.

23.5 Social and economic features

23.5.1 Social diversity and lower elite

The analysis of ground plans, interior furnishings, and small finds from individual buildings has indicated a possible differentiation between wealthier and more modest residential houses. The most distinguished are Houses 1, 3, and 15A with large storage containers and decorative plaques reminiscent of the architectural terracottas known from the Mediterranean. Also special is House 5 with floors of stone slabs and an imported Greek vessel. However, the available data reveal neither a clear spatial segregation between the wealthy and the modest houses nor a building with a prominent location or even separated from the rest by an enclosure. The wealthier houses were located in different parts of the settlement and spread across the whole of the investigated settlement (fig. 23.7), which speaks against a clear social stratification of the Iron Age residents of Most na Soči. Even more, the diet of the people living in the wealthier houses did not differ from those of the poorer households in terms of variety and age of animals at death, as well as the share of more or less meaty body parts. On the other hand, only the well-off households revealed the remains of game (with

the exception of antlers), suggesting that hunting was a privilege of the prominent members of the community (Toškan and Bartosiewicz 2018, 480 ff).

Social diversity is slightly more perceptible in the burials on the left bank of the Idrijca (fig. 23.3 C and D). The community characteristically cremated their dead, placed the remains from the pyre directly into the grave pit, and covered it with a stone slab (Gabrovec 1966, 5 ff; Teržan and Trampuž 1973, 437 ff). Only 8% of all burials were inurned and these also stand out in terms of grave goods. Items of foreign provenance and other rarities as a rule occur in the urn graves that were frequently stone-lined and covered with a heap of stones, but not spatially separate (Bergonzi *et al.* 1981; Boiardi 1983; 1984, 99 ff). The majority of them date to the 6th and 5th centuries BC, *i.e.* Sv. Lucija IIa and IIb of the local chronology. It appears that the more affluent members of the community were buried in urns and may have represented the local elite. This prompts the question of what enabled the emergence of the elite.

23.5.2 Economic base

The mainstay of subsistence was agriculture. In fact, it was the mainstay in the area until recently, orientated towards rearing sheep and cattle, as well as wood production. These are the activities most suitable to the natural conditions in this alpine region with deep ravines, steep slopes, and great differences in altitude. Better conditions for habitation and crop cultivation are found in the small basins at the junction of valleys, where the climate is milder and arable land is more abundant. In their mountainous hinterland, the climate is harsher, water sources more modest, and vegetation cycles shorter, offering conditions more suitable for seasonal activities, such as pastoral farming.

The archaeozoological assemblage from the Iron Age settlement at Most na Soči is the largest (n = 11.767) of its period from the southeastern Alpine area. The identifiable finds comprise 98.5% domestic animals and only 1.5% wild species. Sheep/goats (51%), cattle (37%), and domestic pigs (10%) prevail among the domesticates, while the remains of dogs, horses, and hens are scarce (Toškan and Bartosiewicz 2018). The finds indicate efficient animal husbandry. The age-at-death analysis shows that milk and wool were as important as meat and fats. Sheep, for example, were slaughtered at the age of 3-5 years, when their meat still had a culinary value, but had provided several seasons worth of wool and milk. The cattle population mainly consisted of adult individuals, which could provide more milk and were also useful as draught and pack animals, the deformations on the extremities of older individuals indicate their use for these purposes. Quite a different age-at-death profile has been established for pigs, which were slaughtered in the first three years of their life. The single hen bone shows that poultry rearing was not (yet) significant in the household economy. Game is mainly represented by the remains of red deer and wild boar. The low share of game in the assemblage indicates that it was not an important food source. Antler and horn finds often bear traces of being worked and suggest their use as raw material (Toškan and Bartosiewicz 2018, 493 ff). Most na Soči had a plentiful supply of fodder, with vast meadows in the immediate vicinity and seasonal pastures in the mountainous hinterland. Residents may have practised transhumance, although the economic exploitation of the alpine areas during the Iron Age is still poorly known (cf. Cevc 2006; Horvat 2006, 21 ff).

We can also speculate on the location of the prehistoric fields based on the supposition that soil fertility mainly depended on soil composition, configuration of the terrain, as well as hydrologic conditions and climate. The settlement provided evidence of crop cultivation, which was comprised of several types of wheat (common, einkorn, emmer, spelt), two types of barley (common and two-row), rye, and millet. The greatest number of grains belongs to millet, followed by rye, while other species are only represented with a few grains (Motella de Carlo 2018, 379 ff; Tolar 2018, 445 ff). In the immediate vicinity of Most na Soči, there are roughly 60 ha of land to the north and east that are very suitable for cultivation, today, both areas are used as fields and pastures. The potential arable surface increases if the radius of cultivation is extended to 4 km from the settlement, which corresponds with an hour long walk, which is still considered economically viable for prehistoric communities (Dular and Tecco Hvala 2007, 198 ff; Higs and Vita-Finzi 1972). The sum of the available arable surface within this radius is almost 900 ha, which is sufficient even for much larger agglomerations than the Iron Age settlement at Most na Soči (Dular and Tecco Hvala 2018b, 92 ff).

We know very little about the vegetation of the Iron Age Soča valley as no pollen diagrams are available. The carpological analysis of the charred wood from the investigated area indicates a predominance of deciduous forests (Motella De Carlo 2018, 363 ff). The highest percentage belongs to oak, slightly lower is the silver fir, while Scots pine, Norway spruce, and beech are less common. These tree species were used in construction. It can also be assumed that most household items were made of wood, a perishable material that rarely survives through the ages. Rare artefacts of wood from the settlement and necropolis offer some support of this assumption. However, it should be taken into account that the Iron Age settlers selected the tree species best suited for construction purposes, not just those available in the immediate vicinity but possibly also from more remote valleys.

There are indications that some raw materials were coming from more remote valleys. For example, the petrological analysis of querns from the settlement has shown that 85% of them were made of quartz

Figure 23.9. *Skyphos* from House 5 in the Most na Soči settlement (after Svoljšak and Dular 2016, Pl. 25: 1).

	600	500	400	100 BC
House	Phase IIa	Phase IIb	Phase IIc	Phase IV
18				
1				
2				
9				
14				
22				
23				
24				
29				
15A			?	
15	?		?	
8	?			
10	?			
4				
6				
3				
19				
22A				
30				
11				
12				
26				
5				
7				
16		?		
25				
31				
33				
35			?	

Figure 23.10. Time span of individual Iron Age houses in the Most na Soči settlement (after Dular 2018, fig. 2).

conglomerates (Horvat 2018, 350 ff). To obtain this raw material the inhabitants of Most na Soči had to travel 20-30 km to the east to reach the closest deposits of Carboniferous and Permian clastics.

Other raw materials for making tools and jewellery were also not locally available. The numerous local forms of metal jewellery and vessels characteristic of the Posočje Iron Age community clearly show that the inhabitants of Most na Soči engaged in secondary production of bronze. There is even direct evidence of the casting process taking place in the settlement. The results of the analyses of raw bronze, ingots, and finished products have revealed two types of copper alloy: one with a high lead and low tin content, the other with a low lead and high tin content. The former was detected in the raw bronze and shaft-hole axes, while finished products such as jewellery were made of an alloy with a maximum of 20% lead. The discriminatory analysis that took into account the trace amounts of cobalt, nickel, arsenic, silver, and antimony revealed a great heterogeneity of raw copper, which indicates that the founders from Most na Soči used copper from different ore deposits (Šmit and Laharnar 2018). The closest copper ore deposits lie 20-30 km east of Most na Soči.

Pieces of slag recovered from the settlement prove that ironworking was also practised. Analysis has shown that the slag was not a by-product of the primary production (reduction of iron ore), but rather extruded while heating iron lumps on the smith's hearth (Lamut 2018). In the absence of rich iron deposits in the immediate vicinity, iron was most likely obtained in the Bohinj area around 30 km away, an area that the Posočje community colonised for its rich deposits of high-quality pisolitic iron ore (fig. 23.2). It can be surmised that the primary production of iron took place in Bohinj, whence semi-finished products were transported to the valley of the Soča in the form of bloom or blocks (Trampuž Orel 2012, 26 f), with one iron block actually having been found in House 7 (Lamut 2018, 340 ff).

23.5.3 Imports

The objects of foreign origin from the settlement and even more numerously from the associated cemetery reflect the long-distance exchange of goods (Dular and Tecco Hvala 2018b, 110 ff). Direct evidence of trading with the Apennine Peninsula might be seen in a bronze ingot in the shape of a shaft-hole axe (from House 15A) and the fragments of the *ramo secco* ingots (from Houses 3 and 13), which perhaps served as pre-monetary currency (Šmit and Laharnar 2018, 328 f; Trampuž Orel and Heath 1998, 237 ff). Even more compelling is a *skyphos* with the decoration characteristic of the Saint Valentin class of the Attic pottery production (fig. 23.9) from House 5 (Grahek 2018, 286; Svoljšak and Dular 2016). The burnt offerings at the cult place included

unworked pendants of red coral (Laharnar 2018, 225); the closest coral reefs are in the coastal waters of the Tyrrhenian sea (Cherici 1999, 181 ff; De Marinis 1997, 153 ff). Two balls of trachyte from Houses 8 and 16 are also made of foreign material, they were probably used as the movable parts of querns together with larger lower stones that were stationary. The nearest known trachyte deposits are in the Euganean Hills (Colli Euganei), south of Padua (Bernardini 2005; Horvat 2018, 352 ff). The cultivated fruits of fig and walnut possibly came from the Mediterranean and their remains from House 7 (Motella de Carlo 2018) are the only recorded fig or walnut remains from the pre-Roman period in the southeastern Alpine area. A Mediterranean cultural influence can also be perceived in the ceramic plaques (fig. 23.6) and large storage containers or silos. Several grave goods mirror connections with areas to the north, among the most exclusive being glass cups with parallels in Hallstatt and nearby sites, as well as horse gear similar to the finds from the wagon graves of the Western Hallstatt cultural group (Dular and Tecco Hvala 2018b, 109 ff; cf. Egg 1985, 342 ff).

These foreign elements show that Most na Soči formed part of a wide network of connections between the eastern Mediterranean, the Apennine Peninsula, and continental Europe. We can infer from the historic circumstances and the geographic position that it played the role of an intermediary in the metal trading between the Alps and *Caput Adriae* (Dular and Tecco Hvala 2018b). Another possible factor may have been the growing needs of the Venetic and Etruscan towns in the Po Plain, which Most na Soči supplied with cattle and animal products, and possibly wood.

23.5.4 Neighbourhoods

Most na Soči is not the earliest known Iron Age agglomeration in the upper Posočje region. In nearby Tolmin (fig. 23.2), situated in the same basin some 5 km upstream, excavation in 1960 revealed a cemetery with 463 graves (Svoljšak and Pogačnik 2001; 2002) associated with an as yet unidentified settlement where burial commenced at the transition from the 2nd to the 1st millennium BC. These early burials represent the first, formative phase of the Posočje community. A detailed analysis of the grave goods has shown elements of different cultural and geographic provenance (Teržan 2002, 99 ff). The costumes comprise items with close parallels in both Pannonia and northern Italy; the female jewellery even includes an Aegean component, while other grave goods suggest that the first artefacts of iron came to Tolmin via the maritime route. Tolmin's strength began to wane during the Sv. Lucija Ib phase and declined towards the end of the 7th century BC, the reasons for this are as yet unclear, although it does coincide with the rise of Most na Soči. The high number of graves excavated on the left bank of the Idrijca at Most na Soči (Marchesetti 1885; 1893; 1899; Teržan *et al.* 1984-1985) shows a significant population increase in the subsequent phases at Most na Soči.

The small basin around Kobarid, some 16 km to the north, where the route from Friuli along the river Nadiža/Natisone enters the Soča valley, was also inhabited during the Iron Age (fig. 23.2). While not much is known of the settlement in Kobarid, the cemetery yielded more than 1500 graves, as yet unpublished. Based on Marchesetti's brief excavation reports, Stane Gabrovec attempted to outline the main characteristics of the cemetery and observed that the earliest grave goods chronologically correlated with those from Tolmin, while the majority of the graves dated to later periods (Gabrovec 1976-1977). The beginnings of Kobarid thus predate those of Most na Soči, but their subsequent development is comparable. The relationship between these settlements may be illuminated by a study of the complete set of material evidence, including the archaeological finds kept in the Trieste museum that have not been integrally published.

23.6 Conclusion

Excavation results indicate that the settlement at Most na Soči reached the greatest extent in the Late Hallstatt period (fig. 23.10), with the excavated area having yielded no Early Hallstatt finds. Burials may show the same trend or climax in population size, but this is merely a hypothesis for the time being, pending more detailed chronological analysis of the grave groups. The development of Most na Soči as outlined above points to a process of synoecism or centralisation in the Early Iron Age, followed by disintegration in the Middle La Tène period and reintegration in the 1st century BC with a degree of continuity into the Roman era.

With the estimated surface area of just over 13 ha, the settlement ranks among the large agglomerations of the southeastern Alpine area (cf. Dular and Tecco Hvala 2007). Considering the attributes proposed by Michael E. Smith (2016) for determining the nature and scale of urbanism, Most na Soči is surprisingly closely comparable to the Heuneburg and Manching, two Iron Age settlements in southern Germany (Fernández-Götz 2016; 2018; Fernández-Götz and Krausse 2012; Sievers 2007), although it is considerably smaller in terms of settlement and population size. The great number of associated attributes (density, civic architecture, craft production, fortification, connective infrastructure, cult and public place, planning, residences and burials of the lower elite, social diversity, imports) show Most na Soči as an important settlement and a central place in the Posočje region. It is less comparable to the Venetic centres in the Po plain with highly advanced urban

layout of a street grid, drainage system, pre-planned functional division, and advanced architecture.

Surprisingly, the number of people living in present-day Most na Soči (413 persons)[1] is almost equal to the population of the site during the Iron Age. Moreover, the modern village covers the same area and belongs to the municipality of Tolmin. What was Most na Soči in the Iron Age: a village or a town? The current state of research does not allow a clearer definition of its character, but given some of the urban features, it could have been determined as a centre of the Posočje Iron Age community.

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Chapter 24

The Dürrnberg Salt Metropolis: Catalyst of Communication and Complexity in La Tène Central Europe

Holger Wendling

The Eastern Alps have always been less of a separating barrier than a connecting communication space, which since the Neolithic has enabled a multitude of cultural contacts and impulses. Since the Bronze Age, when the mining, distribution and use of metals contributed considerably to social differentiation, the traces of supra-regional contacts in the area around the Salzach River and valley network have noticeably increased. In this context, the exploitation of local mineral resources -copper and salt- is of fundamental importance. It led to the formation of Bronze and Iron Age "special economic zones" in the Mitterberg area and on Dürrnberg near Hallein. There, in a supra-regionally important economic hub, an industrial site developed from 600 BC, which differed considerably from previous and simultaneous patterns in the region in terms of social and economic organisation, and settlement structure. Whether settlement complexity of this important "salt metropolis" reveals urban patterns, however, is the subject of recent analysis and discourse.

Keywords: Late Hallstatt; La Tène; Settlement structure; Burial; Salt mining; Social differentiation; Crafts; Trade; Communication; Complexity; Urbanisation.

24.1 The Salzach region – Corridor of Communication

Ancient traffic routes characterise the Greater Salzburg Area, the course of which has made the region an important communications corridor from prehistory until today (Wendling 2018a, 103-119). The distinctive element is the Salzach River, which flows from the *Inneralpen* eastwards along the High Tauern Mountains and finally winds northwards in a significant bend. Here it dominates a wide valley, which sometimes narrows into a small passage which can be easily controlled. A supra-regional perspective illustrates the ideal traffic-geographical situation at the intersection of important communication routes: the later Roman road network, which perpetuates older Iron Age routes, shows the connections to the west along the foot of the mountain and the north-south routes linked to the rivers (Sommer 2016) (fig. 24.1). To the north, the Salzach Valley opens into the relatively flat Alpine foothills. The Salzach finally drains, after the Saalach flows from the west, into the Inn and thereby ultimately connects to the Danube. In the south, the valleys of the tributaries depart from the Salzach Valley in almost exact north-south direction and lead to the Tauern passes. These finally allow a relatively unproblematic access to Carinthia and Tyrol and beyond to northern Italy and to the *Caput Adriae*.

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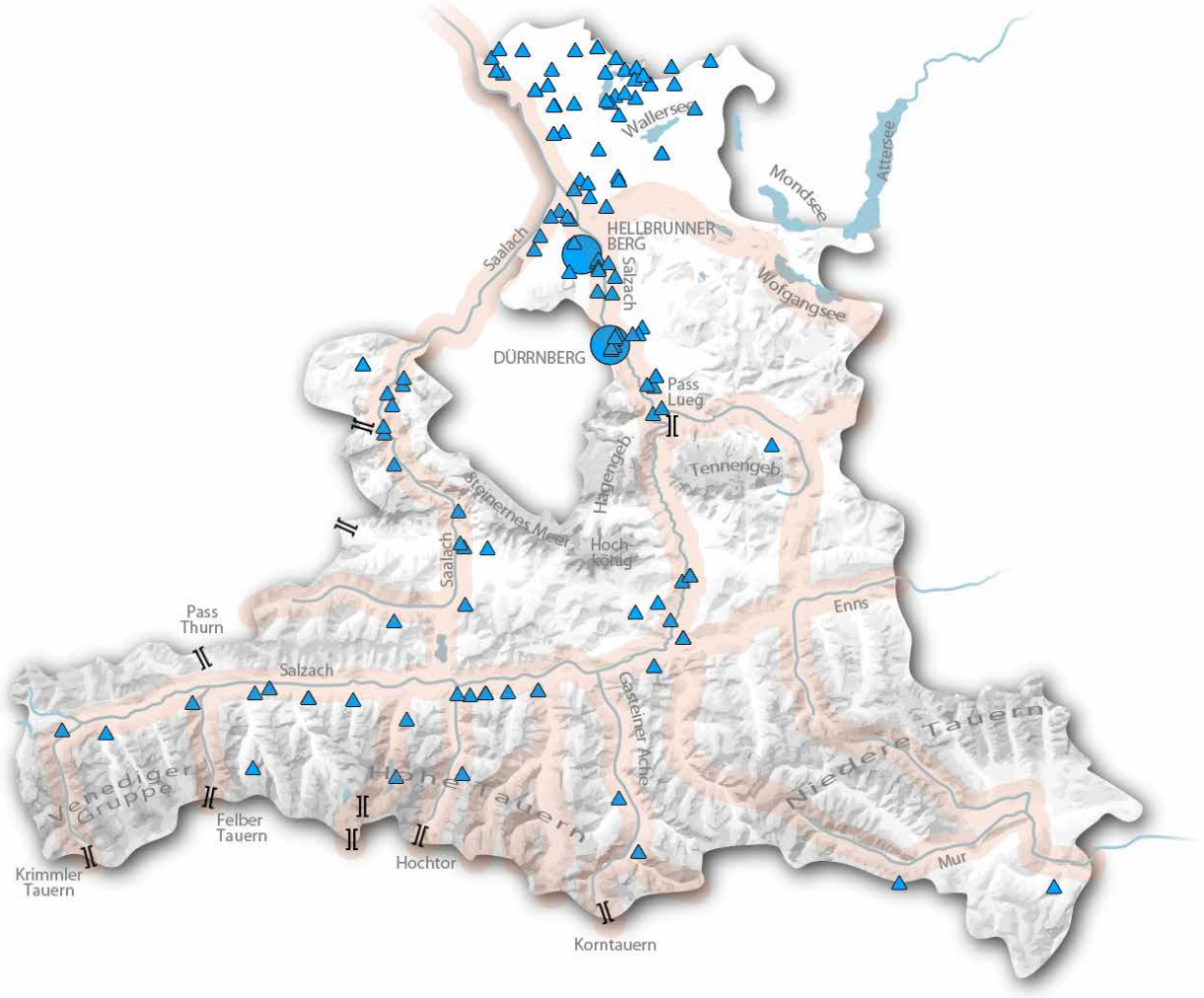


Figure 24.1. Map of today's *Bundesland Salzburg*, the Salzach Valley region and Hallstatt period sites (H. Wendling, map base: S. Müller, Barcelona).

In addition to the excellent topographical situation, a diversity of mineral resources played a fundamental role in the development and supra-regional communication of the Salzach area, at least since the Early Bronze Age (Stöllner 2011; Stöllner *et al.* 2012; Wendling 2018a, 33-43). In the second half of the 2nd millennium BC, copper mining started in the Mitterberg region, where two main economic factors -the supra-regional trade and the exploitation of resources- are clearly symbolised in the well-known Pass Lueg deposit (*ibid.* 72-76; Lippert 2011). The hoard, which was laid down at an important bottleneck of the Salzach Valley, contains the crested helmet and a bronze axe as signs of economic and political power, and in addition pickaxes and some copper ingots as symbols for the mining of ores and the access and control of resources.

At the beginning of the Iron Age, in Hallstatt C, a further intensification of contacts with the south can be observed, which finally culminates during Hallstatt D and the Early La Tène period. This intensification is certainly related to the second outstanding source of raw materials, salt, which was obtained in the nearby, but structurally very different, centres of Hallstatt and Dürrnberg (Stöllner 2002a; 2002b; 2007). The mining on the left side of the Salzach and the shipping of the vital resource led to exorbitant wealth and a focal position in an ancient 'global network'. In connection with the excellent traffic conditions offered by topography, salt and trade became driving forces in the development of the Dürrnberg from a 'special economic zone' to a proper 'salt metropolis'.

24.2 Assessing settlement complexity

The evaluation of prehistoric settlement complexity has been a defiant task in archaeology, especially in the broad field of pre-Roman, *i.e.* Iron Age societies in Europe (*e.g.* Collis 2014). Within the framework of ancient

urbanisation research and against the background of a specific prehistoric situation of sources, models of city definition were used that were borrowed from ancient history, at least in German-speaking archaeology. As a 'checklist approach' they were intended to make the existence of certain defining characteristics of a 'city' or 'town' objectively verifiable. The most commonly used concept, Frank Kolb's set of criteria for an ancient city (Kolb 1984; 2007), is based on the definition and criteria of urban spaces, which have been used in modern urban geography since Max Weber (1921). It names six classification features: topographical and administrative unity of the settlement, population of several thousand inhabitants (places around 1000 inhabitants are considered borderline cases), pronounced division of labour and social differentiation, diversity of the built environment, urban lifestyle, and the role of the settlement as a central place for the surrounding area.

For prehistoric conditions, however, only the economic and social differentiation, diversity of buildings and architecture, and proof of centrality seem to be sufficiently assessable. Furthermore, the qualitative and quantitative assessment of the individual criteria remains problematic both in this case and in other approaches which focus on prehistoric examples. Ambiguous formulations such as 'sub-urban/pre-urban' or 'early urban/protourban' give a rough idea of the stage of development, but are hardly suitable for a concrete approach (cf. *e.g.* Hänsel 2005; considering the Heuneburg, cf. Kimmig 1983, 86). Rather, they reflect a fundamental uncertainty in dealing with the concept of urbanisation, and often also an apparently conscious avoidance of clear denomination (Jung 2017, 20-21).

For a plausible definition, recent archaeological research on the ancient city has highlighted the dynamic character of urban development and the relative dimension of the quality of urban space. Robin Osborne (2005, 4-7), for example, characterises ancient urbanisation as a continuous process, which has a gradual, transformative character "as a phenomenon which admits of degrees". This qualitative assessment of the degree of urbanisation is one of the central points of an innovative approach developed by an interdisciplinary working group for the German Archaeological Institute. An "Archaeological Catalogue of Criteria for the Evaluation of Urban Spaces" allows a qualitative and quantitative assessment of the urban status of prehistoric settlements at a certain point in time or in individual settlement phases and settlement areas (Fröhlich and Wendling 2013, 40-41; Wendling 2013, 461-462; 2018d, 166-171). Here, criteria were formulated that are verifiable in an archaeological way and, as variable attributes, allow for a fluctuating, gradual qualification within the framework of a polythetic classification. In this way, they avoid the problem of a binary 'yes/no' evaluation in the manner of a 'checklist approach' (see also Fernández-Götz *et al.* 2014, 8-9). The criteria are:

- Continuity of use and sustainability of urban settlement.
- Topographical seclusion and compression of building and infrastructure.
- Functional and formal differentiation of building structures.
- Role as a centre of social interaction and political communication.
- Finally, and of paramount importance, concentration and diversification of crafts, trade, and service facilities.

The basis of these attributes is in most cases the relative expression compared with simultaneous examples of low complexity. Although an archaeological approach to such settlement units is often problematic, the rural, agriculturally orientated base -the farmstead or hamlet- can provide a proxy value. However, whilst those criteria are deliberately intended to achieve measurable and mathematically calculable values, no such qualification can be provided in the context of this paper. Nevertheless, I will try to assess the variable settlement complexity of the Dürrnberg Special Economic Zone with the help of the criteria mentioned above. In doing so, external influencing factors, but also the intrinsic impulse factor of the Dürrnberg as a social, economic, and cultural catalyst, and as an agent of urban complexity will be critically examined.

24.3 Dürrnberg settlement complexity

24.3.1 Concentration and diversification of crafts, trade, and service facilities

Trade and contact are prime movers of social change and differentiation and thus fundamentally foster settlement complexity in local and regional perspective. As an eminent example of supra-regional communication, the so-called 'Southern Imports' from Greece, *Magna Graecia*, and Etruscan Italy are a characteristic element of the West Hallstatt circle (Eggert 1989; 1991; Fischer 1973; Kimmig 1983; Wendling 2015, 225-228). For the '*Osthallstattkreis*', however, those contacts were frequently considered to be of peripheral significance or a temporary phenomenon in comparison to the more central Golasecca culture, for example (Kimmig 1983, 30-32). Recent finds and reconsiderations of the routes and impact of southern goods in the eastern Hallstatt sphere and the evolving La Tène culture have considerably altered this view. Dürrnberg and nearby Hellbrunner Berg (identified by some as the easternmost so called 'princely seat') at the

Figure 24.2. Appropriation of external stimuli of material culture becomes evident in the spectrum of the Dürrnberg beaked flagons (*not to scale*): the Etruscan original from grave no. 59 (left) is reproduced in ceramic (grave no. 353) and leads to an indigenous adaptation of the flagons in the Early La Tène period (Salzburg Museum and Keltenmuseum Hallein; photos: R. Poschacher, T. Rabsilber).

Figure 24.3. A tiny fragment of an Attic black-glaze bowl was recovered from the so-called "valley settlement" at the foot of Dürrnberg. It corresponds to the completely preserved *kylix* from Dürrnberg grave no. 44/2 (Keltenmuseum Hallein; photo: C. Kossmann).

ambiguous border of these two Early Iron Age cultural spheres played a prominent role in these networks of communication and exchange (Moosleitner 1979; Stöllner 2002c, 405-408; 2015a; Stöllner *et al.* 2003; Wendling and Irlinger 2017). Down-the-line barter or gift-exchange of eastern alpine societies via passes and communication corridors transferred Mediterranean objects, ideas, and also people to the salt distributors, who controlled the gateway to Central Europe.

From very early in Dürrnberg's occupation -salt mining started in Hallstatt D1, c. 600 BC and soon was followed by local funeral activity- an influx of foreign goods and acquisition of blatant wealth through salt exploitation and distribution became manifest in burial furnishings. In Hallstatt D2/D3, towards the end of the 6th century BC, imports from Etruria and Greece occurred in considerable numbers. An early example is a beaked trefoil jug in female burial no. 59 (fig. 24.2) (Rabsilber *et al.* 2017, 40-47). These original imports were later imitated

in different materials and forms by local craftsmen, as can be seen with a contemporary ceramic jug from grave no. 353 (*ibid.* 501-517; Wendling 2019, 172, 187). Eventually, the *Schnabelkannen* reached their heyday in the Early La Tène period with the Celtic beaked flagon from Dürrnberg grave 112 as one of the most famous objects of Iron Age archaeology in Europe (Moosleitner 1985; Wendling 2018c). In addition, a large number of ceramic and wooden imitations with an open or tubular spout from both Dürrnberg and Hellbrunner Berg testify to an intensive indigenous reception and appropriation of southern models (Dehn 1969; Delnef 2003; Hell 1930). This appropriation included both material culture and customs or ideas, like the notion of collective feasting and conspicuous consumption.

The reception and transformation of external stimuli is illustrated by an Etruscan *stamnos* with only one handle -the second is a modern, apparently false addition- that was deposited in grave no. 63 (Pauli 1978, 33). The custom of separating handles from grave vessels is a common funerary feature in prehistoric Italy, at least since the Villanovan period (Guggisberg 2004, 185 with note 46). A similar action is attested at the Hallstatt C (8th/7th century BC) cemetery at Uttendorf on the upper Salzach. In this instance, a single fragment of an Este-culture ceramic *situla* served as a symbolic or prestigious item with special meaning (Moosleitner 1992, 38-39; Wendling 2018a, 108-109). The underlying custom of destruction or manipulation of grave goods may be associated with deliberate mutilations of human bodies regularly attested in the Dürrnberg graves (Wendling 2018b; 2020). Such practices in the ritual treatment of material culture reflect phenomena that were widespread in the burial customs during the Urnfield Period and before, not least in southeast Europe (Chapman and Gaydarska 2007; Duerr 2013; Harrell 2015). Numerous examples of manipulations of grave goods can be found in the following Iron Age in Hallstatt Central Europe and Archaic Greece (Alexandridou 2013; Augstein 2019). Most likely, in this case the Salzach corridor also played an important role as a cultural recipient and source of further inspiration and transmission of ideas (*e.g.* Repka 2018).

As a more substantial reference, the number of foreign goods illustrates the extensive network in which Dürrnberg interacted from a central position due to its vital resource (Zeller 2002a; 2002b; 2003). The La Tène A period chariot grave no. 44, whose inventory includes Baltic amber, a cowrie shell possibly from the Indian Ocean, remains of grape wine in a huge bronze flask, and apart from other prestigious items, an Attic black-glaze bowl from Athens' *kerameikos* amply signify this focal position at the zenith of Dürrnberg's prosperity (fig. 24.3) (Pauli 1978, 311; Penninger 1960, 357-363; 1972, 76-80; residue analysis: Specht 1972). Similarly, an Etruscan *situla* apparently thrown into the river Salzach at Laufen, some kilometres north of Dürrnberg, together with the beaked jugs and *stamnos* reflects the acquisition of foreign drinking vessels, but also the appropriation of associated customs and traditions (Heger 1973). Furthermore, Dürrnberg's role in the transformation and dissemination of exotic goods has recently been underpinned by a quite singular find in the Iron Age 'valley settlement' at the foot of Dürrnberg (cf. Penninger 1974; Stöllner 1996, 95-99): Another tiny fragment of an Attic black-glaze *kylix* was recovered from an unstratified context near an alleged harbour, where salt was shipped to destinations in and beyond the Alps (fig. 24.3). This specimen additionally closes the gap between the upper Italian or Adriatic area of origin and a concentration of Greek pottery in Bohemia, which according to this, in the 5th century BC made its way north via the eastern Alps and the Dürrnberg junction (Bouzek and Dufková 2015; Bouzek *et al.* 2017).

This Early La Tène system of economic and cultural connectivity as represented by grave no. 44 perpetuates an earlier, Late Hallstatt 'global network', which, however, partially operated in another direction. This Hallstatt period network is best represented by the combination of grave goods in one of Dürrnberg's richest female graves in the Eislfeld necropolis (Wendling 2019). Burial gifts in grave no. 353 include a headdress of hollow golden balls and hair rings, a variety of fibulae, one of them gold-plated, a set of very rare bronze vessels, a ceramic imitation of an Etruscan beaked jug, and a very unusual glass spindle whorl. The distribution of the types of those grave goods in the circumalpine region draws a very vivid picture of trans-regional communication and reveals far-reaching contacts of the Dürrnberg population at mid-1st millennium BC (fig. 24.4). Close, possibly personal, relations are particularly evident to the western Hallstatt region, while strong impulses came from *Caput Adriae* and northern Italy (Wendling 2014; 2019, 184-188). Raw material for numerous coral inlays from Dürrnberg or a unique glass cup from Hellbrunner Berg also originate from there. Like two more cups from Hallstatt and one example from nearby Helpfau-Uttendorf (AT-OÖ), this vessel possibly came from Most na Soči (SL) with its large number of similar vessels (Haevernick 1958; Moosleitner 1979, 69-70; Stöllner 2002c, 155-156; Wendling 2018a, 110). The glass whorl, which in turn illustrates the appropriation and passing on of cultural-ideological content with a peculiar female-related religious-social meaning, originates from the same area (Wendling 2019, 184-185, 189; cf. Metzner-Nebelsick 2009). Other, more 'profane' groups of materials had to be imported from far away for further processing and the production of objects for local use, but also for re-export in long-distance trade. Above all, these include raw materials for special goods, such as graphite for ceramic production, lignite

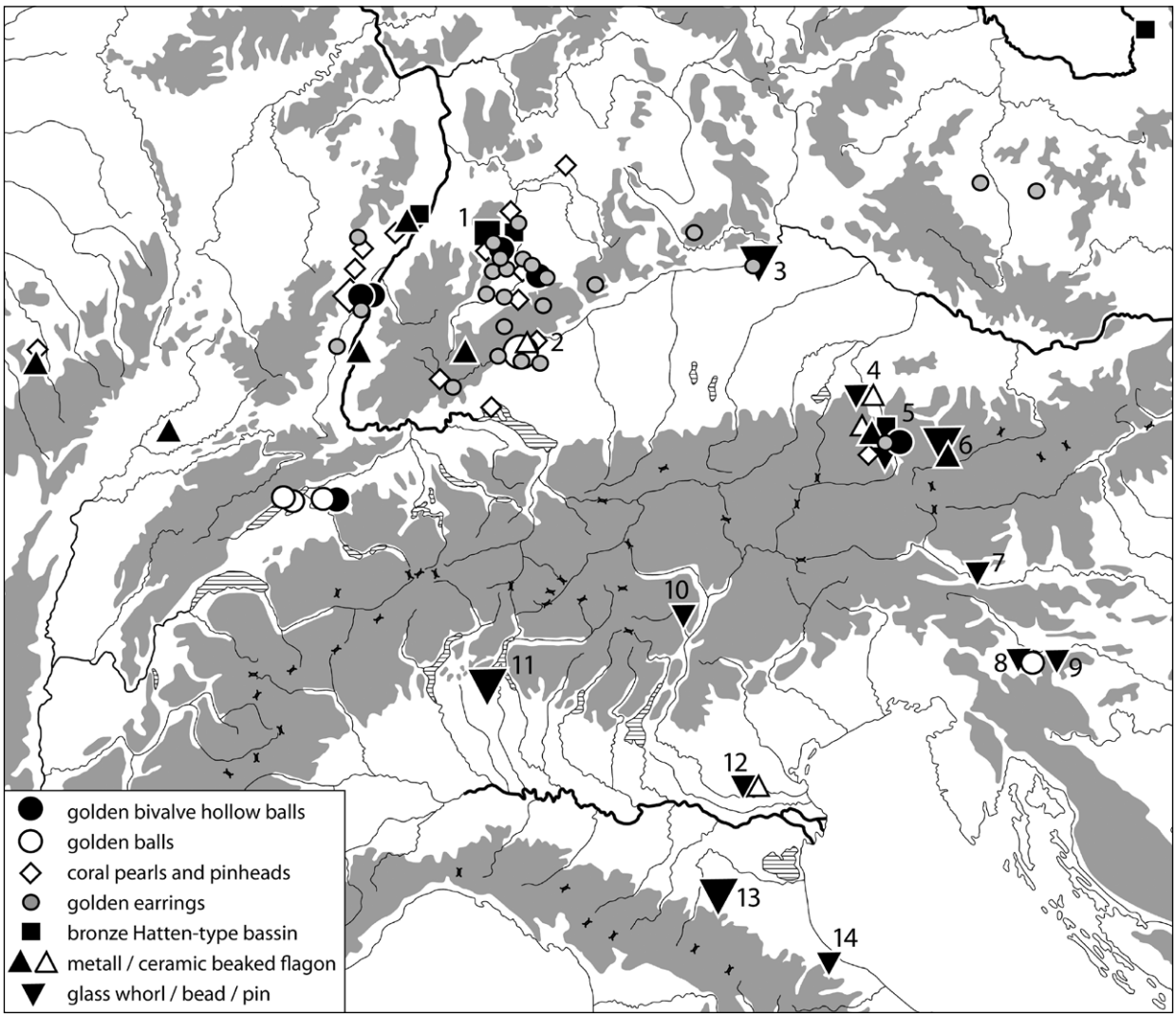


Figure 24.4. Import and appropriation of bronze vessels, gold jewellery, and glass items from grave no. 353 illustrate widespread contacts of the Dürrnberg community in the Late Hallstatt period: 1 Hochdorf – 2 Heuneburg – 3 Ilmendorf – 4 Dürrnberg – 5 Hellbrunner Berg – 6 Hallstatt – 7 Frög – 8 Magdalenska Gora – 9 Stična – 10 Sanzeno – 11 Como – 12 Este – 13 Bologna – 14 Verucchio (Dürrnbergforschung, H. Wendling).

or sapropel and raw glass mass, and raw metal (iron, copper, tin), as well as gold and silver. Thus, as a 'global player' in a network operated by a reciprocal system of cultural, economic, and social input and dissemination, Dürrnberg may literally be termed a *metropolis*.

This focal position in trade and exchange also worked on a sub-regional scale. Here, Dürrnberg is incorporated into a reciprocal system of supply and demand, which includes animal and vegetable food, and objects of daily use, but also building and raw materials (Stöllner 2002a, 84-88; 2007, 318-322; 2015a, 331-332; Stöllner *et al.* 2003, 179-185). Contacts with the inner alpine region take an intermediate position between long-distance and local trade. These brought raw materials and finished products to the salt centre, but possibly also suggest the influx of people to the Dürrnberg. Peculiar ceramics from the Rhaetian Central Alps, which are documented in several settlement and burial contexts, may also indicate the presence of 'foreigners' in a 'cosmopolitan' environment (Zeller 1992).

The extraordinarily good preservation of finds in graves, settlements and in the salt mines allows detailed statements on the food and consumer goods supply of the Iron Age community on a more local basis. Analyses of faunal remains show that Dürrnberg was dependent on the supply of live animals, especially older cattle, both for the food supply of its inhabitants and for the production of secondary goods (Stöllner *et al.* 2003, 167-171; Pucher 1999; 2015). Furthermore, the predominance of cattle

bones in several samples may indicate further processing of slaughter products that were re-exported to the surrounding area after local preservation with salt. The same economic mechanisms may apply to the supply of leather and bone products to the Salzach region (Groenman-van Waateringe 2002; Russ-Popa 2005). Other crafts practiced on the mountain, such as pottery- and textile-making, metal, or wood processing, may also have served a more local-regional sales market in the immediate vicinity (Stöllner 2002a, 85; Stöllner *et al.* 2003 152-154). The supply of wood for house and mine construction is likely to have been covered by a rather local catchment area. Botanical and dendrological analyses confirm a systematic, albeit not necessarily sustainable, timber industry (Boenke 2002; 2015; Lobisser 2005, 128-133; Stöllner *et al.* 2003, 158-163). Similar to the supply of meat, the supply of vegetable food is likely to characterise the Dürrnberg as a place of consumption and only to a lesser extent as a place of production. Cereals and pulses as the miners' primary foodstuff may have been imported from the flat landscape of the Salzburg basin, whereas local horticulture and collecting activities may have met the demand for vegetables or (wild) fruit (*ibid.* 146-149; Boenke 2002; 2005a; 2005b; 2015; Stöllner 2002a, 88; Swidrak and Schmidl 2002). In addition to salt intended for the regional market, there were also special products whose efficient production is only conceivable in a central location with economic dimensions such as Dürrnberg. Metal goods and tools, but above all individual fancy goods such as bronze, glass and jet jewellery, but also fine textiles as attested so delicately in the salt mines, were probably delivered to the surrounding area (Stöllner 2002a, 85-86). Consequently, in addition to its obvious role as a centre of long-distance trade, Dürrnberg was most likely integrated into a local exchange network that supplied the agriculturally unfavourable settlement location with subsistence goods. In return, the mining centre expanded its initially highly specialised salt production to include a range of everyday consumer goods and speciality goods. Concentration and diversification of trade and service facilities could hardly be greater.

The same applies to the diversity of craft production, some sectors of which have already been briefly mentioned (Lobisser and Löcker 2002; Moosleitner 1991, 170-172; Stöllner *et al.* 2003, 158-161; Zeller 1984b). Craftsmanship on Dürrnberg includes -as a rather basic commodity- wool processing and textile-making. Finished products and tools, such as fragments of wooden carding tools, spindle whorls, weaving weights, and sewing needles, as well as the textiles preserved in the salt mines document both areas (cf. Grömer 2009; Lobisser 2017, 313-315; Stöllner 2005). As activities carried out by women and girls on a household-level, they had a high symbolic and social value, which could sometimes take on a religious dimension (cf. Wendling 2019).

Semi-products, waste, and tools are proof of iron and non-ferrous metal smiths, and forgers. The large amount of high-quality bronze jewellery and vessels in the Dürrnberg graves reveals the level of craftsmanship and hints at a local specialised workshop. However, whether the famous Dürrnberg bronze flagon was produced on-site, is a matter of debate (Moosleitner 1985, 91). Apart from finished goods, re-assessing of older finds proves the presence of a goldsmith's workshop in the Early La Tène period. In the vicinity of a house in the Ramsautal settlement, fragments of ceramic casting moulds have been identified, which were used for creating bar-shaped ingots (Stöllner 2018; Schachinger and Wendling 2019, 182-188). Tiny golden globules or *prills* were microscopically determined as residues of the casting process on the moulds' surfaces (fig. 24.5). The local production of gold ingots poses some questions, however: local scrap metal or gold in smaller quantities may have been externally acquired and cast into bars in order to fall back on material deposits for future precious metalwork. In addition, the bars could also have served as an end or intermediate product and means of accumulating wealth or redistributing taxes or revenue. In this respect, the presence of early Celtic gold coins is of interest, as they demonstrate that Dürrnberg was an active part of a supra-regional monetary system beginning in LT C (Schachinger and Wendling 2019, 178-179; 186).

Ubiquitous ceramic residue and waste is evidence of local potters' workshops, who had been producing highly specialised mass goods on the potter's wheel since the Early La Tène period. A support plate of a potter's wheel is a unique example of the Iron Age use of this new technique (Moosleitner 1974). In the Later La Tène period, the industrial manufacture of glass arm rings and beads used a similar technology. Residues of glass production have been found in the Ramsau Valley settlement (Brand 2002, 110-111).

Pyxides and their lids, wooden bowls, cups, and vessel bottoms were produced with the rotating mechanism of the lathe (Lobisser 2017, 267-272). These were mainly made of local pip or stone fruit, however raw material for a walnut *pyxis* is probably of external, northern Italian or upper Adriatic origin (*ibid.* 426; Küster 2008). Moreover, the shape of the *pyxides* does not imitate domestic ceramic models, but Greek archetypes. Since corresponding originals made of ceramics, alabaster, or glass from the Mediterranean have not yet appeared in a Central European context (Bonomi and Guggisberg 2015), an import of organic pieces can be assumed.[1] Examples of wooden lathe-made *pyxides* are extremely rare, with specimens from Early Iron Age Scythian burials having been interpreted as local imitations of Greek ceramic originals (Rieth 1941, 94-96).

1 However, this is apparently not the case with a *kylix*-like vessel from Uffing at Staffelsee in Bavaria, which may be a local imitation (Capelle 1976, 25-26; Kossack 1959, 106-107; Rieth 1941, 88).

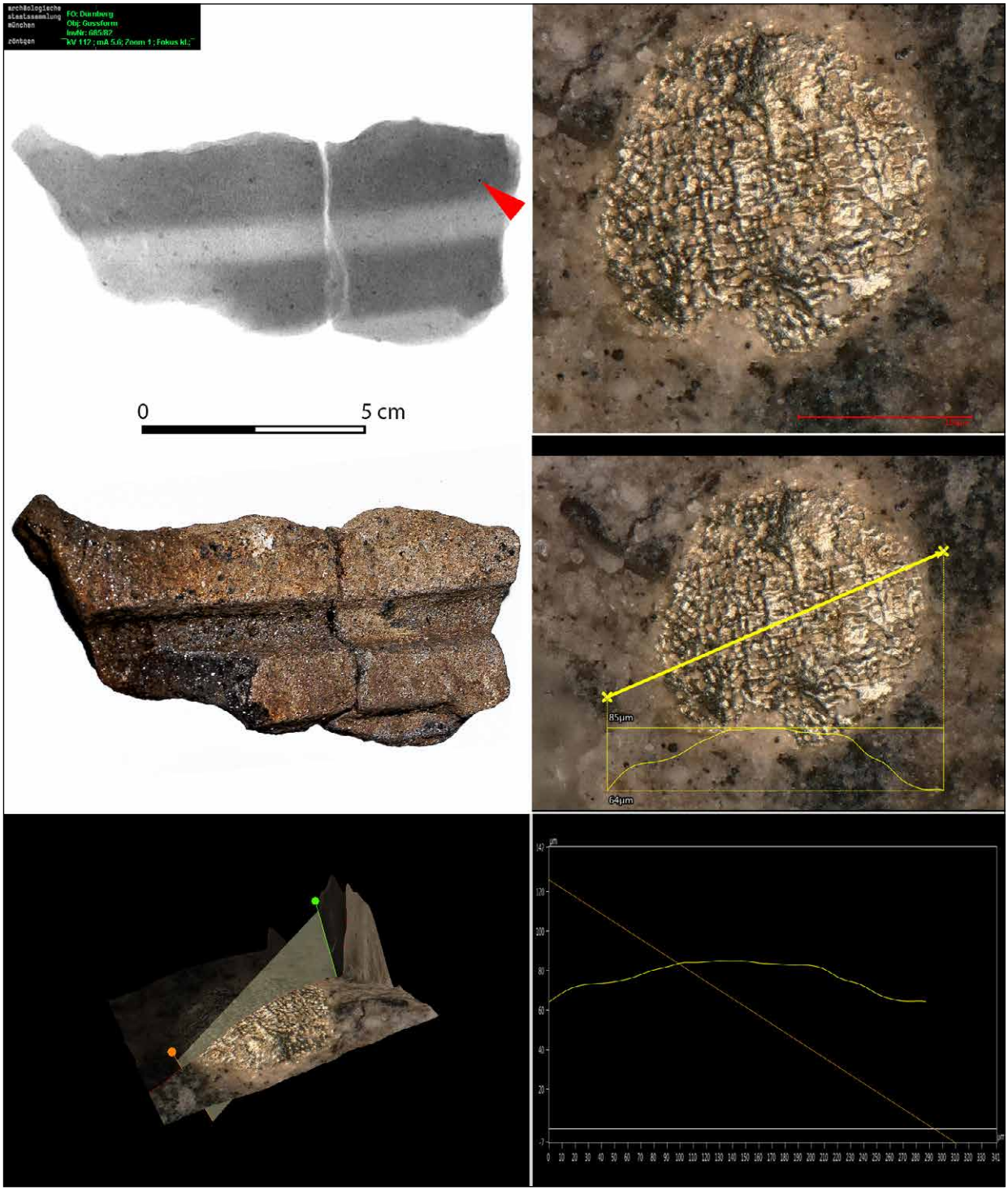


Figure 24.5. Microscopically and radiologically proven gold beads confirm that ceramic moulds were used to cast long, rod-shaped gold ingots (Salzburg Museum; photo: S. Friedrich, Archäologische Staatssammlung München).

Other cylindrical wooden cans were recently excavated at the Hallstatt period "Bettelbühl" burial mound near the Heuneburg (Krausse and Ebinger-Rist 2018, 53). Quite similar in form, they were made from boxwood, which apparently was not available near the Heuneburg at this time and thus also suggest the importation of either raw materials or finished objects.

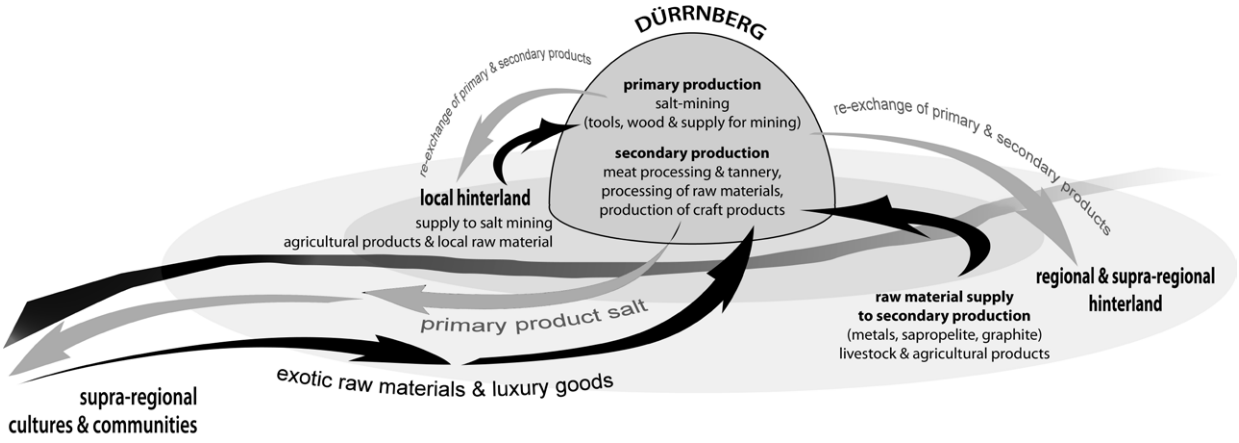


Figure 24.6. Economic model of the Dürrnberg salt-mining centre and its connection with sub-regional, regional, and supra-regional communities and cultures (H. Wendling, after Stöllner *et al.* 2003, 180 fig. 37).

On Dürrnberg, the use of the lathe is further proved by wooden conical cores, representing production remains, and was also used for the efficient production of regularly formed Hallstatt period amber beads. Carvers worked 'exotic' organic materials like amber, lignite, or coral, as well as bone and antler, for example used for knife handles. In woodworking, they produced elaborate furniture: grave no. 352 preserved relics of a delicately carved and painted death board or sofa (*kliné*) (Wendling 2017, 55). Remnants of wooden musical instruments (lyre and pan flute) appear as products of specialised wood processing, while also conveying social significance (Lobisser 2017, 318-324). Other wooden items include tools for weaving, knee shafts for axes and pickaxes, the latter used for mining salt (Boenke 2005b, 475). Pine shavings were needed in huge quantities to light the underground galleries and had to be split on site in the various supplier settlements.

The economic diversity of the Dürrnberg mining settlement is fundamentally different from the conditions in settlements in the immediate and distant surroundings (fig. 24.6). Although the economic structure is based entirely on the monopoly position as a salt supplier, it became a 'self-runner' beyond salt production over time. In this respect, Dürrnberg had for a long time -until the emergence of the large settlements of the Late La Tène period- been unrivalled in terms of both quality and quantity of crafts, trade, and service facilities. As an equivalent to those later phenomena, which became widespread in Central Europe from LT C, Ferdinand Maier (1974) referred to Dürrnberg as a "large industrial settlement" (*industrielle Großsiedlung*).

24.3.2 Centre of social interaction and political communication

It may come as a surprise that despite the large number and variety of cemeteries, graves, and burials, no conclusive interpretation of Dürrnberg's social structure has yet comprehensively succeeded (*e.g.* Pauli 1978, 505-520; *contra* Aspöck *et al.* 2007, 121-123; 138). In addition to the fragmentary and biased funerary record, the integration of settlement and -above all- mining data offers unique perspectives of social interpretation (*ibid.*; Stöllner 2015a, 332-333; 2015b, 341-342; Stöllner *et al.* 2003, 184-185). Still, the special character of social differentiation in historic and contemporary mining communities makes conclusive interpretations difficult (Stöllner 2012). At the same time, Dürrnberg reveals so many peculiarities in all areas of material and ideological culture which render any comparison with other Iron Age communities rather problematic. However, for the criterion of social (and political) communication, general indications meaningfully underpin the status as a complex centre even within a supra-regional comparison.

Whatever interpretation explains the apparent imbalance in the quality and quantity of tomb furnishings, this reflects a social diversity that ranges from prominent to subordinate members of society. Although the temporal inequality of the burial places makes it difficult to make firm statements, a general social fragmentation seems to be evident, which is effective in individual kinship groups or lineages. This social differentiation may also be reproduced by analysis of palaeofaeces which document uniform eating habits and widespread parasitic infestation (Aspöck *et al.* 2007; Boenke 2007). In an integrating approach, Thomas Stöllner suggests the 'Celtic clientship system' for explaining differentiation in wealth and status of miners and alleged political/economic elites (Aspöck *et al.* 2007, 123). It has been

assumed that this social system is a consequence of intra-familial differentiation due to inheritance rules, which have hardly been considered as a socio-structural phenomenon in Iron Age archaeology (Wendling 2010). Such a segmentary lineage society is based on kin-related ties and may well exhibit differentiation in rank and individual prestige, possibly caused by inheritance (Brandt 2010, 17-19; Service 1962). As a model for the Dürrnberg mining community, it was already postulated in principle by Ludwig Pauli and Ferdinand Maier, and may be reproduced both in the context of graves and in the method of mining (Maier 1974, 339-340; Pauli 1978, 505-510). Recent mining archaeology seems to support the interpretation of what Stöllner (2015a, 332) calls "clan units", which invested in mining and trade as segmentary population groups. The fact that considerable parts of these "salt families" (Maier 1974, 339-340) actually worked underground could be indicated by individual, large-scale mining caverns, which required continuous and broad investment of labour (Aspöck *et al.* 2007, 110; Stöllner 2002a, 80-81; 2015b, 341; Stöllner *et al.* 2003, 136).

Leather children's shoes in the mine suggest that considerable sections of the population were involved in these economic activities. The evidence of strenuous child labour stands in curious contrast to the furnishing of some Early La Tène children's graves with numerous amulets, which were intended to protect small children from danger and harm in a most precarious phase of life (Pauli 1975, 15-26). Analysis of a unique sort of human legacy preserved in the salt mines, impressively illustrates the generally poor living and working conditions below and above ground. In addition to the food remains preserved in human palaeofaeces, the parasite finds in particular paint an unembellished picture of existence in a highly confined and unhygienic space, which raised social interaction to a forced high level (Aspöck *et al.* 2007, 113-115; Boenke 2007; Stöllner 2002a, 81; Stöllner *et al.* 2003, 146-152).

The political interaction of the salt centre with its immediate and distant surroundings was assessed ambivalently: As a 'service provider', the Dürrnberg would have been approached by external customers and thus have taken on a role as an economic and political subject to external powers (*e.g.* Kossack 1982, 103-104). However, the aforementioned variety of finds of supra-regional origin suggests that the salt metropolis took a more active role in economic interaction and consciously directed the salt supply (fig. 24.6). Such an economic leading role is only possible through active political communication with neighbouring and more distant participants in the system. To this extent, the highly complex production and trade structure forces constant political interaction in the form of alliances and economic pacts, trade agreements, and marriage ties. The exotic goods in the graves are the result of this reciprocal exchange of gifts between supplier and buyer (Stöllner 2002a, 83).

Beyond the obvious signs of social differentiation and political interaction in the graves and in the economic mechanism, few structures provide concrete evidence of the criteria mentioned. However, these show a well-rehearsed and generally profitable social interaction. For example, the drainage ditches built in the damp settlement area of the Ramsau Valley, which were continuously kept open and separated the individual houses, are proof of a community-based infrastructure. Such products of a superordinate group identity may have politically and socially merged the subunits, which were separated both in cemeteries and in clan-operated mining districts. Whether this reflects and adapts tendencies in urbanisation in the Mediterranean is a matter of discussion. In these cultures, early urban patterns "emerged by synoecism of clan-structured families" (Tomedi 2017, 197; transl. HW).

Furthermore, religious beliefs and cult practices are regarded as fundamental mechanisms of social and political communication. They are particularly visible in the manifold funeral customs with complex concepts of post-funeral adoration of the dead (Lavelle and Stöllner 2018, 148-151; 2019, 279-288; Wendling 2018b, 168-170; 2020). Certainly, the funeral itself was a major occasion of social interaction involving the manipulation of dead bodies, extraction of grave goods, or modification of graves (Weiss-Krejci 2018). This is particularly evident in the complex custom of cremation in special areas with multiple pyres (Wendling and Wiltschke-Schrotta 2015, 308). The burning of the dead involved particular ceremonies, including deliberate destruction of objects and, most likely, offerings of foodstuff. Corresponding non-funeral rites may have been performed in public ceremonies at special cult areas. These ceremonies may have comprised communal feasting, burning of ceramic vessels, and offerings of animals. A burning site ("*Brandopferplatz*") in the upper area of Dürrnberg may have been used as a place of such communal religious gatherings (Zeller 2002b). Similar offering sites, *e.g.* Salzburg-Morzg "Goiserberg" and "Hellbrunner Berg", Bad Reichenhall "Langacker", and Kuchl "Rehrlpalfen", indicate separate religious communities in the region, which forged their communal identities in their respective places of worship (Wendling 2018a, 56-58). This may also account for two geological features that attract the view both from Dürrnberg and from the depths of the Salzach Valley: The so-called "Barmsteine", huge upstanding rock cones quite difficult to access may have served as visual foci and ideological landmarks for the adjacent population. Similar to natural features elsewhere, these sites may have been used as places of worship or initiation (Bockisch-Bräuer and Mühldorfer 2016). However, without any archaeological evidence, these interpretations remain mere speculation.

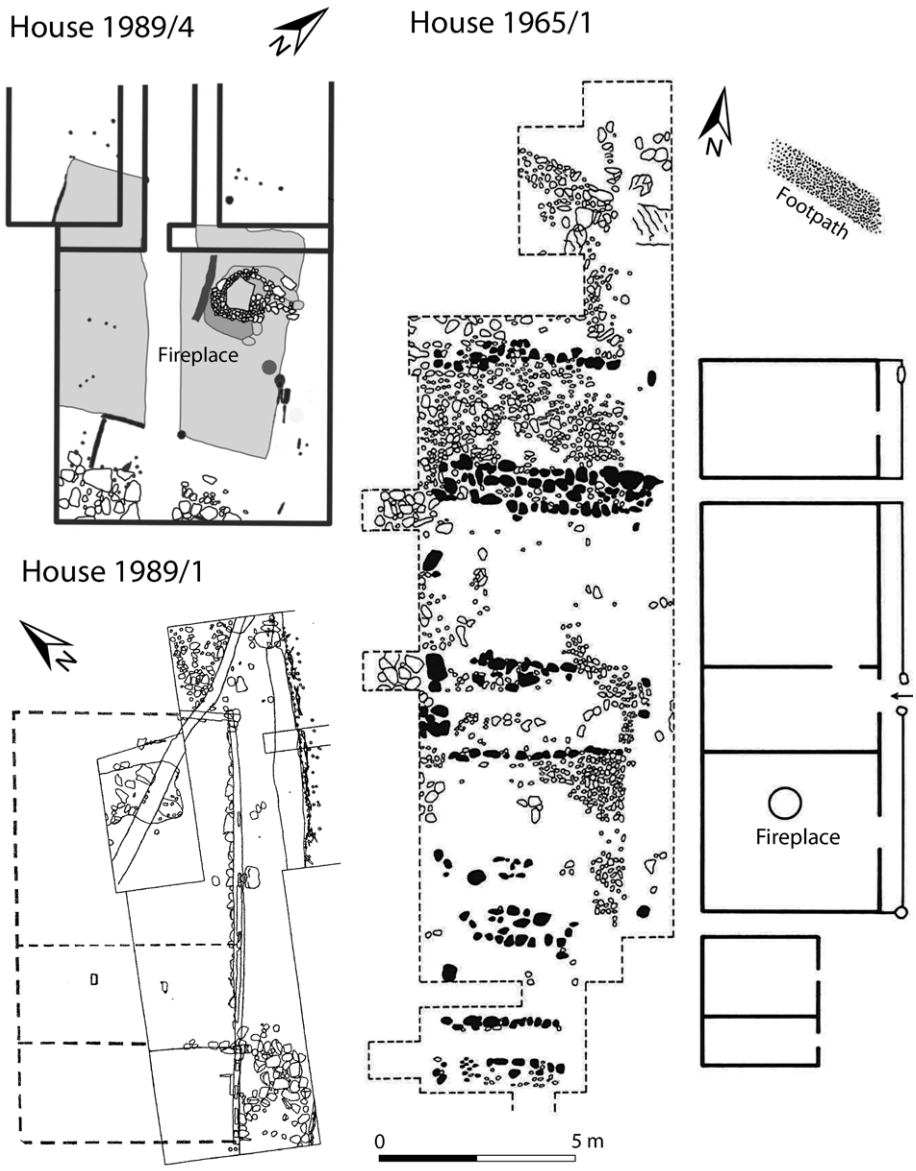


Figure 24.7. Ground plans of buildings in the major settlement in the Ramsau Valley and its vicinity (after Pauli 1986, 269 Abb. 62; Lobisser 2005, Abb. 76; courtesy of T. Stöllner).

24.3.3 Functional and formal differentiation of building structures

However difficult it may be to correlate the structural and content backgrounds of the buildings, formal complexity is one of the most measurable values in an archaeological context. Unfortunately, the length-width index only offers an adequate value if the number of ground plans is sufficiently large, so the few Dürrnberg layouts do not provide a sound database. Furthermore, many ground plans are only recorded in sections, so only vague statements can be made about original size and overall shape. Most of the buildings were uncovered in the main settlement in the Ramsau Valley, in other areas of the Dürrnberg only smaller sections of settlement areas were documented (Lobisser 2005; 2015; Moosleitner and Penninger 1965; Zeller 1984a, 8-24; 1984b, 200-201; cf. Brand 1995).

Dürrnberg houses, which otherwise offer one of the best insights into Iron Age wooden architecture, follow a rather homogeneous scheme (Lobisser 2005, 138-141; 2015, 352): At least four ground plans show long rectangular shape and, with dimensions of up to 13.4 x 5 m (House 1982/2), some of them reach considerable dimensions (fig. 24.7). The frequent interior division in this group into three segments speaks for a different use of the individual areas of the house. In addition to their residential function, parts (rooms?) of the buildings may also have served commercial purposes, as the above-mentioned mould fragments in the vicinity of House 1982/2 suggest. They furnish evidence of a goldsmith's workshop

in or nearby the rectangular building. Different fireplaces, which were used as religiously connoted cooking facilities or as commercial furnaces, further indicate functional variability. Craft use was likely in house 1989/4, where a fireplace measuring 1.6 x 1.6 m indicates a metal or glass workshop (Lobisser 2005, 141-144). The special architecture of the building underpins the difference in use compared to the multifunctional rectangular buildings. While those were constructed as foundation beam buildings on a stone base, the small, square workshop building (5.4 x 5.2 m) was a post and beam construction. House 1989/3C is an intermediate in terms of form and structure: The swell-beam building consists of an almost square main room, to which a small porch is attached, as in the case of the long rectangular buildings. Here, too, it is likely that it was used for craftsmanship. This also applies to a small La Tène A/B square block wall construction on a stone foundation measuring about 5 x 5 m, which was excavated in 1996 at the "Lettenbühel" area (Zeller 1997, 30-32). Iron slag and a crucible for bronze smelting attest to metal production. A La Tène C/D pit house that was recently excavated at the "Hochbichl" hill is also likely to have been used commercially (Preinfalk *et al.* 2015, 329). This dwelling type would of course have been impractical in the damp ground of the Ramsau Valley and thus may rather be preserved at other higher elevations on the Dürrnberg. Whether positive anomalies in geomagnetic measurements represent such settlement structures or burial chambers cannot be decided without excavation.

Additionally, the differentiation of the Dürrnberg built environment may be transposed into the third dimension, since numerous wooden remains of the rising buildings are preserved in the wetland of the Ramsau Valley. They show a rich variety of wall constructions, ranging from round timber, beam, and plank walls to wickerwork constructions generally plastered with clay (Lobisser 2005, 29-55; Lobisser and Löcker 2002). Roof cladding also included different types, for example with wooden hanging and laying shingles or possibly thatched roofing (Lobisser 2005, 55-60). Unfortunately, the variability of the architectural solutions, unlike the length-width index, cannot be adequately translated into a measure of settlement complexity. This is due to the problematic quantifiability *per se*, as well as perhaps being a result of social differentiation within a segmentary lineage society. The ethnographic record shows that diversity of material culture and technical or formal variability in building design, which is otherwise quite homogeneous, is a common feature of lineage-related settlement layout (Brandt 2010, 20-21).

Finally, another area of settlement research provides at least relative insights into the settlement complexity of Dürrnberg and its immediate vicinity. Although there are no house locations in the valley settlement on the banks of the Salzach, a functional differentiation can be concluded from the different location of the two settlement areas (Penninger 1974; Stöllner 1996, 95-99). It is unclear whether the complete concentration of the 'trade' sector at the port site on the Salzach bank was accompanied by structural and, above all, social distinction. Hallstatt and La Tène period burials in the vicinity of the settlement could, however, be signs of an independent, socially and ritually closed community. The complex interplay of production and distribution of settlement at the separate locations can be compared, at least in principle, with patterns of other large ancient settlements, such as the structural and content-related distinctions between *arx* and *suburbium* or *(akro-)polis* and *chora* (cf. Kimmig 1969, 97-98; *critically* Jung 2005, 184-185; Schweizer 2008, 402). Similar interpretations may be valid with regard to settlement location on Dürrnberg itself. Both the Late Iron Age settlement on "Hochbichl" and the Late Hallstatt/Early La Tène period occupation on "Ramsaukopf", high above the settlement in the Ramsau Valley, mark a distinctive spatial separation (Irlinger 1995). However, whether this distinction represents a segregation of a single social group or rather a communal task in favour of the entire mining population cannot be sufficiently verified.

24.3.4 Topographical seclusion and compression of building and infrastructure

The concentration of residential and commercial buildings in clearly defined settlement areas is one of the most significant features of complex or urban structures in prehistoric times (fig. 24.8). The criterion can be easily quantified theoretically by relating the total settlement area (or, as a proxy, the excavated area) to the built-up area. On Dürrnberg, however, this is problematic because of the small-scale, scattered excavation trenches and the long-term focus on burial archaeology. In the largest settlement excavation to date on "Hallersbichl" 2015, no house locations were uncovered, whereas in the Ramsau Valley only partial ground plans were revealed. Moreover, the excavated area seems to be too small to draw reasonable conclusions and does not necessarily represent the entire settlement complex. The index would thus not integrate empty or less densely built-up areas in other, peripheral zones. Consequently, if a viable solution is to be found, another approach must be used as a proxy for the overall settlement density: The number of phased floor plans can be recorded in whole numbers which gives at least an approximate prospect of settlement layout and density in the Ramsau Valley based on the 1988/89 excavations (Lobisser 2005, 351). Occupation started c. 460 BC (Hallstatt D/La Tène A) with two rectangular houses on elevated platforms separated by passageways and open drains. In La Tène A (c. 400 BC), occupation intensified with three houses covering the same area. The overall pattern represents a very regularly and densely occupied zone

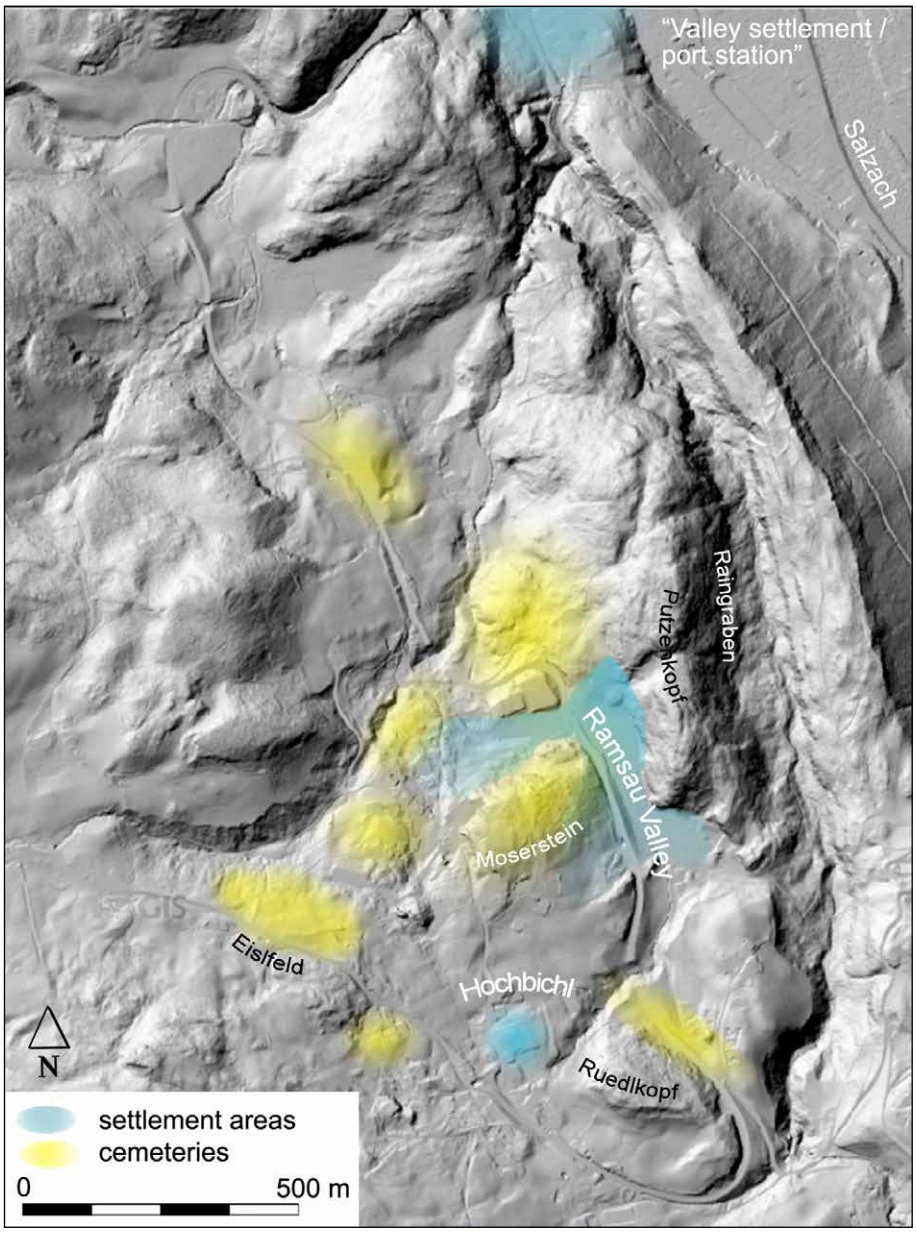


Figure 24.8. DEM of Dürrnberg with cemeteries, major settlement areas, and lowland settlement ("port station") in the Salzach Valley (Dürrnbergforschung, H. Wendling; map base: SAGIS).

with directly adjoining houses and narrow corridors and drainage ditches which were reinforced by wattle walls. No less than about 300 simultaneously existing house locations are assumed in this central location (Aspöck *et al.* 2007, 110; Stöllner 1998, 139; Stöllner *et al.* 2003, 159). After the settlement was affected by extensive flooding, the last phase in LT B/C shows a thinned-out occupation with two houses within the excavated area in the 3rd century BC (Lobisser 2005, 351).

Thus, at least in the central area of the main settlement of the Ramsau Valley, an extraordinarily densely built-up zone existed at the height of the economic activity, which, according to excavation, continued to the edge of the valley and the adjoining slopes (Moser 2007; Moosleitner and Penninger 1965; Zeller 1984a). The compressed settlement structure and aligned buildings with a homogeneous layout (with a few, functional exceptions) is only superficially a sign of minor complexity. The limited archaeological record may rather disguise elaborate social structures: The uniform settlement and building layout thus reproduces characteristic patterns of segmentary lineage societies by forming a body of joined uniform settlement units representing corporate segments of society (Brandt 2010, 19-21).

The central settlement in the Ramsau Valley is supplemented by other settlement areas which probably were located in the vicinity of the scattered cemeteries and beyond (Stöllner *et al.* 2003, 172-177). The overall pattern

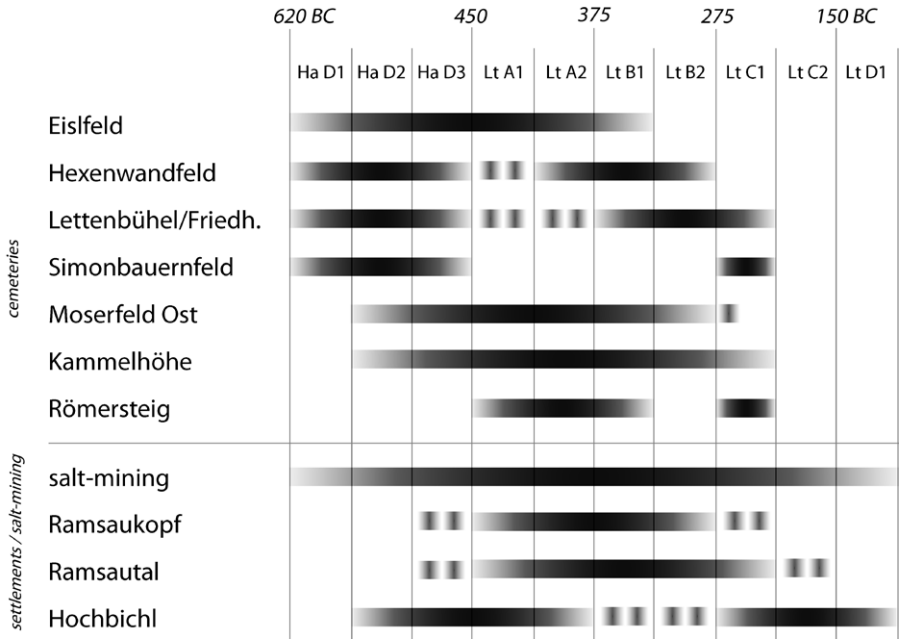


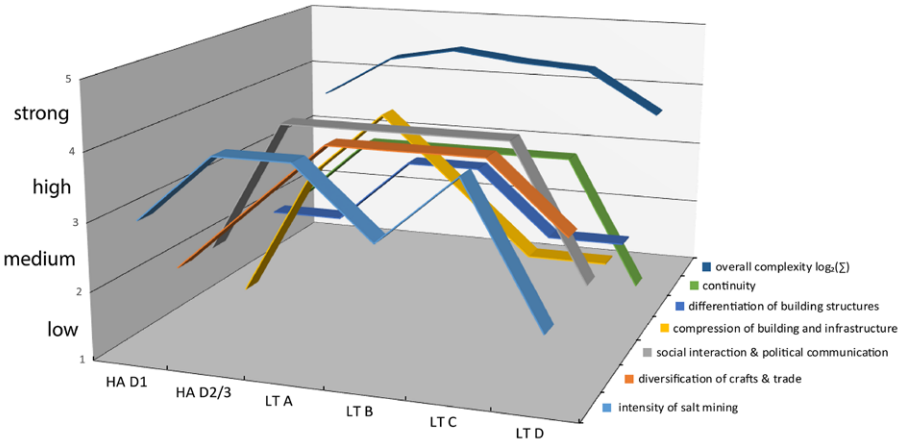
Figure 24.9. Schematic chronology of Dürrnberg settlements, cemeteries, and mining activity (Dürrnberg-forschung, H. Wendling).

of occupation on Dürrnberg may reflect social (or ritual?) separation within the entire population. However, it seems inappropriate to infer social from structural complexity or vice versa in an attempt to define the urban character of a settlement and its inhabitants. For example, ethnographic analogies of polyfocal centres are similar both in structure and extent to the settlement patterns of the Dürrnberg and other Early Iron Age centres like Bourges in central France (Moore 2017, 288). As low-density centres, some African settlement clusters constitute foci of multi-polar occupation and economy, however, they do not reveal any coherent urban patterns.

The general distribution of settlement finds on Dürrnberg reflects a massive population concentration and density of building structures that is hardly recognisable in contemporary settlements in the surrounding area (Brand 1995; Stöllner 2002, 90-91). Although calculations of the population figures are only possible with reservations (cf. Schumann in press), they are based on solid assumptions about the mining performance and its residues. Estimates are based on 1,000-2,000 people as permanent residents during the heyday of the Special Economic Zone (Aspöck *et al.* 2007, 110; Stöllner 1998, 138-140; 2002a, 80-81; 2015a, 332; Stöllner *et al.* 2003, 159, 184). With regard to the population and the differentiated, yet decidedly dense building structures, a highly complex community existed on the Dürrnberg at least from the 5th to the 3rd century BC. Its quality in comparison to contemporary settlements in the area of the Late Hallstatt/Early La Tène cultures, which were predominantly characterised by rural structures, can certainly be described as "urban".

24.3.5 Continuity of use and sustainability of the urban settlement

The chronological dimensions of the Dürrnberg settlement are sufficiently well defined by finds from graves, settlements, and mining (Stöllner 2007, 331-334) (fig. 24.9). However, the exact beginning of mining activity cannot be sufficiently deduced, since any prospecting and preparatory work up until the deposits worthy of mining were reached can only be roughly outlined (Stöllner 2015b, 336). At least the beginning of salt mining can be narrowed down quite precisely to the first quarter of the 6th century BC (d567 BC) and correlates with the relative chronological data from the oldest burials (Sormaz and Stöllner 2005; Stöllner 2007, 324-325). Although there is quite a fluctuation in intensity and spatial distribution, especially in the settlement system and the use of the various burial sites, there is evidence of continuous settlement, economic, and burial activity from this time until the 3rd century BC. The apparent end of activities in the course of La Tène C (3rd century BC) is due to changed burial customs and thus does not represent a real discontinuity. Evidence of mining activities up to the last century BC and, above all, the latest numismatic and archaeological evidence from the settlement area on the "Hochbichl", however, attest to the continuity in settlement until the first half of the 1st century BC (Wendling and Irlinger 2017, 14; Schachinger and Wendling 2019, 171-172, 189-190). Traces of subsequent intensive Roman occupation are, however, not known in this Late La Tène settlement focus on Dürrnberg. The end of salt mining, or its presumed relocation to present-day Bad Reichenhall, also remains obscure (Stöllner 1999, 69-74; 2015b, 342). A few fragments



	HA D1	HA D2/3	LT A	LT B	LT C	LT D
overall complexity log2(sum)	3,58	4,25	4,46	4,32	4,25	3,58
intensity of salt mining	3	4	4	3	4	2
diversification of crafts & trade	2	3	4	4	4	3
social interaction & political communication	2	4	4	4	4	2
compression of building and infrastructure	1	3	4	3	2	2
differentiation of building structures	2	2	3	3	2	2
continuity	2	3	3	3	3	1

Figure 24.10. Schematic attempt to assess the variable complexity of the Dürrnberg salt metropolis on the basis of social, economic, and structural criteria (Dürrnberg-forschung, H. Wendling).

of *terra sigillata*, a handful of Roman *fibulae*, and three worn coins of Trajan and Hadrian (Schachinger and Wendling 2019, 190) rather signal the meagre aftermath of a flourishing community. Five hundred years of intense economic activity is a timespan that sufficiently justifies the integration into the spectrum of Iron Age complex settlements - even more so, as it seamlessly spans the gap between Late Hallstatt and Early La Tène, which affected a number of allegedly 'urban' sites in central Europe.

24.4 Dürrnberg as centre, town, metropolis?

The interpretation of major Early Iron Age settlements in the western Hallstatt Circle (and partly in the Early La Tène culture) has been the subject of numerous discourses since Wolfgang Kimmig (1969) first addressed them as "seats of nobility" (*Adelssitze*). Their definition, denomination, the social role of their rulers, their economic basis, and -related to this- their connection with contemporary cultures, especially south of the Alps, are still central subjects of Iron Age archaeology. The history of the 'princely seat' problem has been extensively discussed elsewhere (Jung 2005; Schier 2010, 375-380; Schweizer 2006; 2008; cf. Wendling 2015). In the last two decades, intensive research at various sites has increasingly shown that the individual hilltop sites, which were long subsumed under the delusive term 'princely seats', can hardly be described as a homogeneous phenomenon (cf. Krausse 2010; Sievers and Schönfelder 2012). Rather, depending on geographical transport connections, local availability of raw materials, previous occupation with a specific ideological background, and individual settlement and social dynamics, very different factors seem to have contributed to the emergence and development of those central locations (*e.g.* Rieckhoff and Biel 2005, 85-86; Brun and Chaume 2013, 336; Schier 2010, 391).

Recently, the complexity of those 'princely seats' has been discussed against the background of 'urbanisation' (Fernández-Götz 2018, 119-126; Krausse *et al.* 2016; critically Rieckhoff 2019, 58-59; Schumann in press). Thereby, "the socio-geographical definition of urbanisation as a diffusion of urbanity, *i.e.* urban lifestyle, allows us to distinguish between settlements that fulfil all the criteria necessary for cities and secondary, pseudo-urban structures" (Schweizer 2008, 410; transl. HW). The question inevitably arises, however, how the "criteria necessary for cities" can be measured at all. In addition, one may critically reflect on the purpose and aim for which the term "urban" is intended to be used. In recent discussions on urbanisation in antiquity and prehistory, it has become clear that a static and rigidly differentiated definition of the 'concept of the emerging city' is hardly helpful. It is not a gain of knowledge to distinguish "sub-urban" from "early urban" or "fully urban" settlements (Fernández-Götz *et al.* 2014, 9). A dynamic approach to an urbanisation process "which admits of degrees" (Osborne 2005, 7; cf. Nakoinz 2013; see also Fernández-Götz this volume) should be able to better grasp the changing complexity of Iron Age central settlements.

Where does Dürrnberg fit into such a process of becoming complex? Obviously, the salt settlement in the 6th century BC is a new foundation 'on a greenfield site', which initially focused solely on exploitation of the vital resource (Stöllner 2002a, 86) (fig. 24.10). Without knowing by whom the founding initiative was carried out, its origin thus resembles some new foundations in the course of the Greek

colonisation of the Mediterranean (Tsetskhladze 2006-2008). In some of these, too, raw material deposits or supply, may have played a decisive role in the choice of settlement location (cf., however critically, Trejster 1996, 146-148). Soon after the development of salt mining, an intensification in regional and supra-regional contacts due to the distribution of salt and the necessity of subsistence supply, which was quasi-forced upon the specialist miners' community, became apparent. Quite abruptly, the salt centre was consequently integrated into a global network of economic, social, and political relationships. Dürrnberg instantly reached the highest level of the settlement hierarchy in central Europe with regard to both intensity and frequency of contacts and structural complexity. The steady increase in economic differentiation was accompanied by an intensification of social interaction and political communication. The Dürrnberg attracted goods, ideas, and, above all, people from far away on both sides of the Alps. The highly complex economic mechanisms and social structures can be seen not least in the centralisation with simultaneous differentiation of settlement areas and building forms. The complexity of the processes of salt production and distribution and the inseparably interwoven social and political structures cannot be valued highly enough. As a singular "special economic zone", Dürrnberg is difficult to compare with other central settlements of the Late Hallstatt and Early La Tène periods. It stands out as a solitary feature of the regional and supra-regional settlement structures (Stöllner 2007, 334-342; Stöllner *et al.* 2003, 184-185). In this respect, Dürrnberg was one of the major nodes of transmission of cultural traits in a wide spanning European network. It worked as a magnet for cultural stimulation and personal pursuit of success, but also as a catalyst and transformer of external impulse - possibly including the urban lifestyle that began to develop in the south (Brun and Chaume 2013, 330-333; Tomedi 2017).

Eventually, it becomes obvious that large parts, if not all, of the economic power of the Dürrnberg was based on the exploitation of salt. However, the exorbitant success achieved by Dürrnberg's mining districts from the very beginning is due to the interplay of mineral deposits and the ideal geographical location for trade and exchange. In contrast to Hallstatt, which Dürrnberg was bound to overtake economically over the course of time, this is the reason for the special quality of the mining district: A 500 BC global player at the centre of a worldwide network with a unique mineral feature, Dürrnberg can justifiably claim the title of an European Iron Age salt metropolis.

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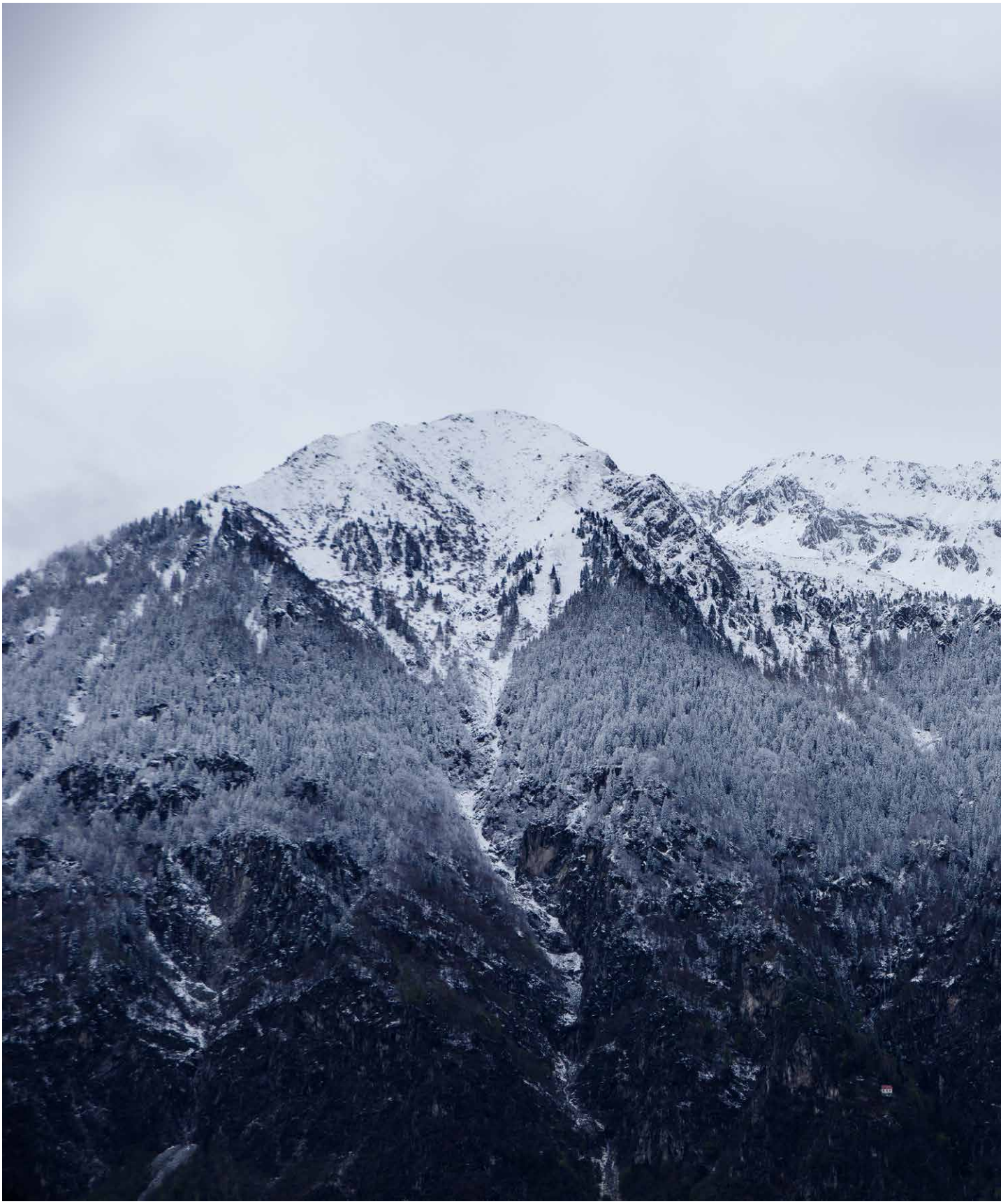

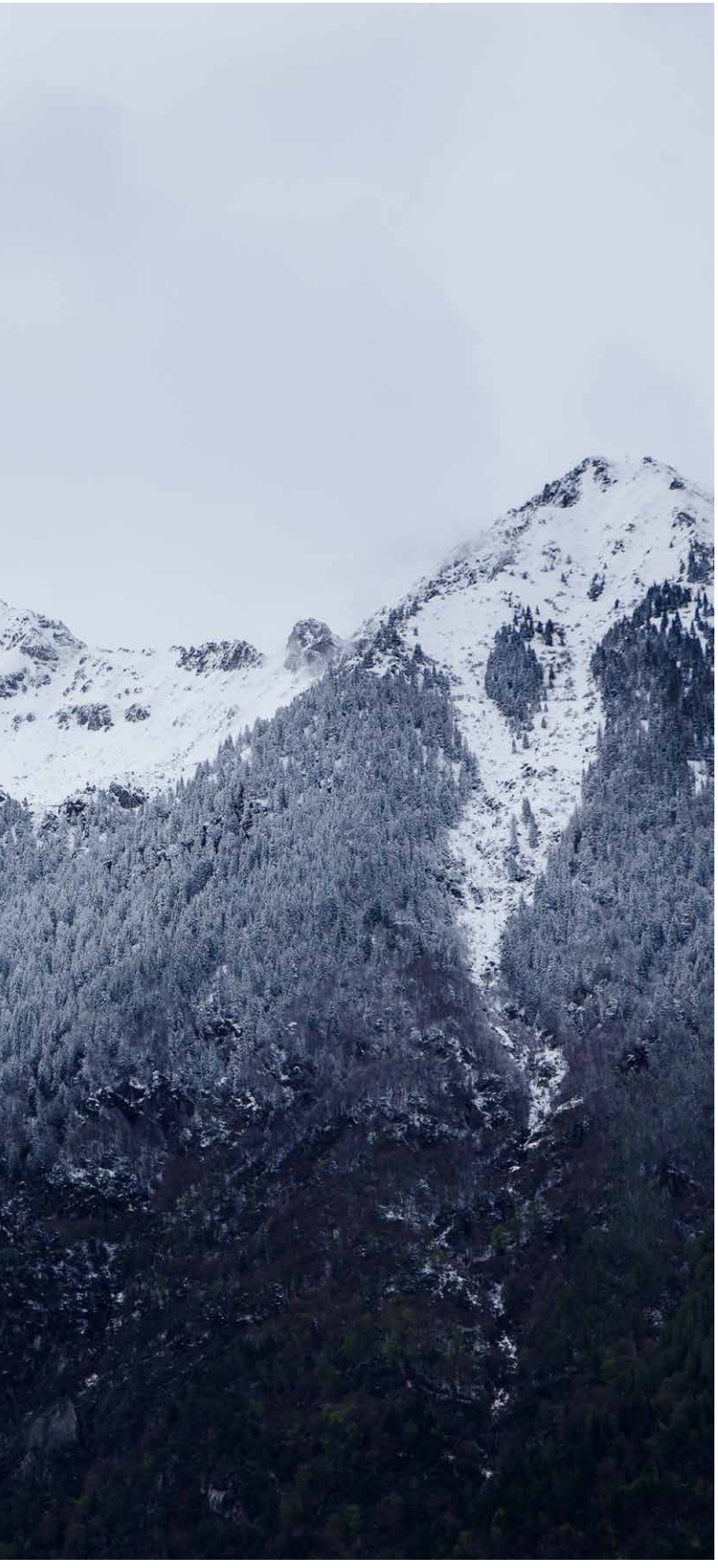

PART 4

CONCLUDING THOUGHTS AND COMPARATIVE PERSPECTIVES

Chapter 25

The Mediterranean at the Periphery of Urban Origins

Corinna Riva

The legacy of the intellectual turn towards networks and interdependence over the first twenty years of the 21st century has led to the dismantling of ethnocentric perspectives on the 'ancient city' in the Mediterranean. Scholarship in Mediterranean archaeology is furthermore no longer interested in urban origins; the consequences of urbanism are nowadays, on the other hand, the object of lively research. This development runs parallel to new data and research in regions north of the Alps that give us a multifarious and complex picture of urbanism, which runs counter to any centre-periphery narrative vis-à-vis the Mediterranean. The proceedings of Crossing the Alps have furthermore demonstrated that what cities do is more compelling than questions about their origins.

Keywords: Mediterranean urbanisation; Social construction of urbanism; Comparative approaches.

25.1 Introduction

Stimulated by the latest research on Trypillia sites in Ukraine sometimes defined as 'mega-cities' (Chapman *et al.* 2019; Gaydarska *et al.* 2019 with previous bibliography), global perspectives have foregrounded varieties of early urbanism, thus raising fresh interest in the origins, character, and function of urban forms at a supra-regional and global scale (Wengrow 2015; Frangipane and Manzanilla 2018). Moreover, they have generated much impetus towards debunking ethnocentric concepts of urbanism and therefore reconsidering or proposing afresh models, definitions, or attributes that are heuristically useful for comparative analysis across time and space (Smith, M.E. 2016; more generally Fernández-Götz and Krausse 2016a; Gyucha 2019). Among the consequences of these recent research developments, two seem to me to be particularly striking as far as the broader region and object of analysis of the conference *Crossing the Alps* are concerned. Firstly, the realisation that there is no monolithic urban form. On the contrary, the variety of what we consider to be urban is not only detected cross-culturally and trans-regionally, but also within a single regional context, as seen in 6th and 5th centuries BC continental Europe north of the Alps, or even at a single site, as remarkably demonstrated by the large settlement of the Heuneburg on the Upper Danube in southwest Germany where low-density urbanism co-existed with zones of high density habitation (Krausse *et al.* 2016).

Indeed, most recent comparative research on urbanisation has underlined the importance of distinguishing between urbanism and dynamics of population aggregation

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(Gyucha 2019). At the same time, scholarship on the Classical city *par excellence* has noted the role of such dynamics at a regional level in the making of Athens and the different temporal scales of engagement with Athens by neighbouring communities, which was part and parcel of urban life (Osborne 2019). The second consequence is the instability and non-linear evolution of urbanism especially when we consider the social hierarchisation that is usually associated with it and the role of the intensification of power in promoting urbanism, whichever form it might take (Fernández-Götz *et al*. 2014; Fernández-Götz and Krausse 2016b, 12-14; 2016c, 331), but, at the same time, in undermining social stability (Smith, C. 2019).[1]

Global perspectives may thus seem to have benefitted how we think of cities at the so-called centre within Eurasia, that is to say, the Mediterranean, as much as its periphery, which, we should strongly argue, is and should no longer be deemed so. In fact, this benefit from global perspectives is not as real as it may seem, as I point out below.

In this short paper, I intend to do the following: 1) in emphasising 20-year-old attempts at assailing the urban category in the Mediterranean, I examine the varied effects of these attempts since then and the extent of their impact beyond the basin; 2) I draw out and wish to underline interdependence and exchange as a constant of the *Crossing the Alps* conference programme more than early urbanism and its origins, a trend that follows from earlier attempts at understanding Mediterranean urbanisation itself (Cunliffe and Osborne 2005) and network thinking more generally, and hence the dynamics, rather than the statics, of urbanism (Purcell 2005); 3) lastly, I wish to advocate for more on what cities do and less on cities' origins. Insisting on origins and/or early stages rather than effects ultimately constrains us into a narrower path of definitions and attributes (Smith, M.E. 2016) and a continuing distinction between centre and periphery rather than providing a mechanism for truly comparative analysis that combines micro- and macro-scale approaches to the evidence over a longer-term than we care to allow: the Classical city can be part and parcel of such comparative analysis along with the Neolithic mega-city of Ukraine. Interdependence and exchange, on the other hand, are two of the many causes and effects that we can explore in linking the socio-political dimension of what cities do, which includes the immaterial world of religion and ideology, including the social construction of urbanism and related ideas (*e.g.* citizenship/community membership), with the economic one, which has come to the fore in some most recent and forthcoming studies of urbanism in the Mediterranean (Manning 2018; Loy in press a and b).

1 See Wengrow (2019) for an argument, from a global comparative perspective, against social evolution

25.2 The problematisation of the urban category and its impact across the Mediterranean

Scholars of the Iron Age and Archaic Mediterranean seem to be suffering from urbanisation fatigue: in an introduction chapter to a forthcoming volume from a conference – *Making Cities* – on Mediterranean urbanism and economic production, C. Smith (in press) reluctantly speaks of urbanisation, and instead prefers to define it as a package of settlement change, population aggregation, and the consequences of both.

It is easy to see the source of this reluctance in the explicit focus of *Making Cities* on the economic impact of urbanism rather than urban origins (Gleba and Marin Aguilera in press), but we are undoubtedly heirs to the last twenty years of scholarship, which has progressively abandoned origins in favour of interaction and relationships: urban consequences, not urban beginnings, have now taken centre stage. While this is a result of broader 21st century network thinking in the social and historical sciences, the earliest argument in favour of doing without origins was also and simultaneously a plea to avoid the urban category altogether, which was strongly rebuffed by ancient historians (Harris 2005, 29-34; Shaw 2001, 444-447), in a paradigm-changing attempt to explain the long-term history of the Mediterranean in its fragmentation, ecological uncertainty, strategies for interdependence, and vital connectivity (Horden and Purcell 2000).

The first decade of the 21st century saw this paradigm-changing attempt take effect, directly or otherwise, right at the centre of Mediterranean urbanism, namely the Greek world, as evolutionary and ethnocentric ideas on the (Aristotelian) city were starkly laid bare, the *polis* as we knew it came under attack (Vlassopoulos 2007a; 2007b), and a new impetus to understand alternative forms of Greek political communities came to the fore (Hall 2016, 286-288; Morgan 2003; on these developments see Riva 2014). At the same time, comparative analysis on urbanisation on a Mediterranean-wide level has also highlighted interdependence to explain the phenomenon and hence the inherent dynamics of it (Osborne 2005), as well as the normality of change *vis-à-vis* social constructions of urbanism, of its time and its permanence (Purcell 2005; more on this below). Attention to Mediterranean-wide urbanism has also provided a much needed view of Rome's urban making *vis-à-vis* other polities, such as Corinth and Syracuse, with similar urban trajectories and economic needs before Rome's distinctively military and political strategies to accommodate an increasingly larger state were adopted (Purcell 2010; see also Terrenato 2019). Long-term perspectives, as far as the 1st millennium BC Mediterranean is concerned, have moreover afforded not simply the analysis of later changing relationships between cities resulting from the emergence of hegemonic

states, such as Rome itself or Carthage and their larger, far-reaching structures transcending the city-state, but also an understanding of how coeval Greek historiography saw the emergence of *polis* alternatives, which Rome and Carthage represented, thus problematising the *polis*' political and social organisation itself (Purcell 2017, esp. 342-344).

The problematisation of Mediterranean urbanism has thus come full circle as modern historians and archaeologists have dismantled older scholarly traditions at the very heart of the so-called ancient city. One cannot argue likewise for the regions traditionally placed at the conceptual margins of such a model, namely pre-Roman indigenous Italy, where evolutionary approaches have been strong enough to divide the peninsula between an urban core, namely the Central Tyrrhenian region with Rome and southern Etruria (Vanzetti 2004), and a periphery despite the availability of new finds across that periphery which allow us to paint an alternative scenario through a parallel perspective to that developed elsewhere (for Central Italy, see Riva 2014). Indeed, *Crossing the Alps* has systematically brought together scholars working on broader regions that have stood for too long at the margins of, respectively, the Mediterranean urban core, namely Central Europe, and the Italic core, namely northern Italy. But even at the urban core of Italy, despite the lion's share of scholarly attention received, lack of specific sets of data, *i.e.* detailed evidence of comparable quality to what we have for the Heuneburg today, about the rural sites surrounding the largest urban agglomerations and the internal organisation of these latter, has left questions on urbanisation still anchored to an elite-centred perspective (cf. Riva 2010). This is afforded by the evidence of cemeteries, elite houses, cult centres, and the earliest traces of urban monumentality and permanence such as fortification ditches and walls. While landscape approaches have tried to circumvent this problem (Stoddart 2016) and recent work has thrown important light on the internal road network and topography of the large south Etruscan agglomerations (Cascino 2019; Guaitoli 2016; Marzullo 2018; Materazzi and Pacifici 2020; Pocobelli 2004), it remains symptomatic that one of the most important and decades-old field projects at these agglomerations have been largely limited to religious structures (Bonghi Jovino 2001; Bonghi Jovino and Bagnasco Gianni 2012; Bonghi Jovino and Chiaramonte Treré 1997; Chiaramonte Treré 1999; though now see Marzullo 2018).

A salutary contrast is given to the western Mediterranean with particular reference to the Iberian Peninsula where research has never been haunted by the ethnocentrism of the so-called 'ancient city' (*sensu* Purcell 2010, 580). On the contrary, variability in the nature and patterns of settlements across the landscape, from Phoenician coastal towns to indigenous *oppida* of different forms and following different trajectories of continuity and change have prevented the fossilisation of single urban models or evolutionary perspectives. Additionally, they have led scholarly attention towards other questions in relation to those patterns, from colonial-indigenous relations, to economic production and the effects of the capitalisation on natural and symbolic resources by socially dominant groups across the landscape (Bonet Rosado and Mata Parreño 2009; Bonet Rosado *et al.* 2016). Power, in all its forms and practices, and at multiple scales from the landscape to the site and the object, has been ultimately at the centre of scholarship on the Iberian Iron Age rather than urbanism *per se* (Grau Mira 2014; Grau Mira and Vives-Ferrándiz Sánchez 2018).

25.3 *Crossing the Alps*: the effects and consequences of urbanism

Indeed, research questions on economic processes of production and redistribution and the socio-political mechanisms that fuelled them and were, in turn, stimulated by them, seem to have been at the centre of the debates at *Crossing the Alps* more than early urbanism and its origins, despite the programmatic intention to discuss the latter. Earlier discussions on recent field research across the Alps that has radically changed our views on urbanisation in the region have, after all, already emphasised the ability of urban settlements to develop an economic system of 'agglomeration', a phrase borrowed from geography, and connectivity across their hinterland (Brun and Chaume 2013, 326).

At the same time, recent claims (Smith, M.E. 2016, 164-166) that ancient or pre-modern urbanism was of a political rather than economic nature fails to recognise that political power in such early urban contexts, whether of rulers or elites, was ultimately the power to attract and monopolise exchange and resources as well as to stimulate local production, directly or otherwise. Importantly, this power could not only have been about maintaining prestige, as indicated by the funerary destruction of wealth, but also about capitalising on an ever widening network of contacts and interdependence (cf. map in Broodbank 2013, 508).[2] By gathering specialists across the different regions between northern Italy and Continental Europe, *Crossing the Alps* has further highlighted the complex entanglement of this widening web (Brun and Chaume 2013, 327-329).

Recent research, furthermore, has employed novel archaeobotanical methods on assemblages from Early Iron Age sites in southwest Germany, including the Heuneburg, and has successfully built a multifarious picture of agricultural and therefore economic production, whereby local communities employed diverse strategies

2 See the so-called 'Uuruk expansion' in Mesopotamia for a comparative case on the relationship between early urbanism and commercial expansion (Wengrow 2015)

and practices for crop and animal husbandry. Yet, specific attention was paid to barley production that fed, literally as well as metaphorically, into local elites' diacritical feasts (Styring *et al.* 2017). This key finding demonstrates what has been argued for some time (Brun and Chaume 213, 333-336), namely that the economic systems of the societies across the Alps were far more complex than previous assumptions about a so-called gift or a prestige economy ever allowed us to imagine. These assumptions, in fact, seem to be implicit in M.E. Smith's claim of the political nature of early urbanism; if so, it contains a primitivist prejudice and an evolutionary outlook that ultimately risks maintaining Continental Europe in a core-periphery relationship with the Mediterranean.

In a recent study on urban growth in Tyrrhenian Etruria, on the other hand, I have attempted to argue precisely against such a prejudice and outlook in reverse, that is to say, by problematising the transformation of exchange systems, away from the usual assumptions of a shift between a prestige and mercantile economy in 6th century BC Etruria (Riva 2017; in press).

The key point to be made, however, is that in the context of changing economies and interdependence, all cities are political, by which I mean ideological. However much or little hierarchy an urban society may have, certain aspects and elements of the built environment, from regular house plots to fortifications, some of which are deemed by archaeologists as evidence of the urban nature of a settlement (cf. attributes in Smith, M.E. 2016, 159), may point to the materialisation of what Purcell has called 'ancient social theory', that is to say, the material manifestation of an urban order that is imposed, rather than organically produced, and is ideologically driven by a rhetoric of stability and permanence, of which we find a correspondence in later Greek and Roman literary sources (Purcell 2005, 260-262). While Classical Greek cities are the epitome of this phenomenon of the later 1st-millennium-BC Mediterranean, but which begins in the Archaic period, this argument may also fit some of the major agglomerations across the Alps. In discussing these latter, Fernández-Götz and Krausse (2016b, 13) have aptly borrowed a Foucauldian phrase, 'a new technology of power', which seems to lead their argument in this direction. This by no means involves taking a top-down approach to what urban centres and their structures did. On the contrary, recognising certain signatures of the built environment in terms of the rhetoric of stability and permanence means simultaneously considering the continuous challenge and disruption brought upon it by social interaction in and across these centres, which is inherently dynamic for the reasons -interdependence and economic networks- treated above.

One of the objects of study, in so far as is possible from the available sources, therefore remains the tension between this rhetoric and the disruption of it by socio-economic change, whether in the spatial, performative, and legal definition of private and public, the intervention, either by maintenance or destruction, into the materialisation of permanence, or other (Purcell 2005, 264-267). Importantly, this tension is also about an engagement with the concepts of time and temporality, itself a social construct, that is far from univocal or monolithic. On the contrary, anthropologists, archaeologists, and historians have widely shown that such concepts were open to multiple mnemonic practices, both below and at the level of the urban radar. They were furthermore open to manipulation and structuration both in their material and immaterial dimensions that ranged from cultural traditions and life cycles to ideological fabrications, epitomised by the mythology of city foundations and founders (Smith C. 2015, 365) or ritual deposits and interventions at highly symbolic foci like fortifications and gates (Grau Mira and Vives-Ferrándiz Sánchez 2018, 94-98), and other acts of memorialisation, commemoration and destruction (Herzfeld 2004; Lucas 2005; Van Dyke and Alcock 2003).

Whether and to what extent this tension between material permanence and social change applies to Iron Age Eurasia only, or can be extended to other forms of urbanism across time and space raises, in turn, the question on how far one can stretch the range of comparison. Recent global comparative analyses of early and pristine cities from Mesopotamia and Ukraine to China (Wengrow 2019), for instance, speak of civic identities and citizenship institutions counterbalancing power and wealth centralisation, and thus ensuring social cohesion. But how and to what extent the built environment responded to such institutions and identities has not yet been tackled (though see Stone *et al.* 2004). Such long-range comparisons between cases stretched so far and wide may ultimately prove beneficial. Closer to home, so to speak, examining the effects of an ideology of urban permanence in its different material forms is not only possible, but potentially fruitful. Some of the contributions at *Crossing the Alps* have been devoted to sites in northern Italy -Spina, Adria, Forcello di Bagnolo San Vito- where perishable material such as wood, straw, and reeds, made the built environment of the city. These three sites, often characterised as trade hubs rather than cities, in fact, epitomise the role of interdependence and growing economic networks in the urbanism of this region (Bonomi *et al.* this volume; Komp *et al.* this volume; Mistireki and Zamboni this volume). Their urban plans are more or less coeval to that of Marzabotto, which controlled the southern route into Tyrrhenian Etruria (Govi *et al.* this volume). In fact, the adoption of the Greek Attic foot at Marzabotto, Spina, Forcello, and San Cassiano di Crespino, a small settlement in the hinterland of Adria (Govi 2017), suggests a shared system of city planning,

and hence shared ideas of urban organisation and order (cf. Izzet 2007, 165-207). Yet, the wetland environment of brackish lagoons in the Valli di Comacchio, where Spina is located, and the employment of perishable construction materials superimposes on such ideas a different kind of urban time measured by different scales of duration and cycles not just in the building of the city, which included a large artificial water canal running north-south across the settlement and a network of smaller and minor canals in a remarkable feat of hydraulic engineering, but also in the maintenance and refurbishment of this network, house blocks, and other built structures (Cremaschi 2017; Purcell 2005 on maintenance rhythms; Zamboni 2017).

Hence, while archaeologists often cite durability as a criterion for urbanism (cf. Brun and Chaume 2013, 326), the above example highlights a tension between resilience -an 'ancient social theory' of urbanism encapsulated in the order of the city plan- and fragility, that is the ecological instability of an environment which required land reclamation even before habitation could be established (for Spina, see Marchesini and Marvelli 2017). Ultimately, we learn that fragile agglomerations are part and parcel of the same phenomenon of urbanism as the resilient ones (Fernández-Götz and Ralston 2017; Rondini and Zamboni this volume). The question of fragility and change, maintenance, and refurbishment, can furthermore be explored in social terms at the micro-scale of the house unit wherever the resolution of our evidence allows it. This is the case with Marzabotto, a site that has received remarkable scholarly attention since its discovery in the 19th century (Govi *et al*. this volume): here, the excavation of house units, some of which hosted workshops and production areas, has uncovered different phases of renovation, as is the case of House 1, Regio IV, Insula 2, which went through four phases in the space of a hundred years (Govi and Sassatelli 2010a), illustrating the force of social dynamics *vis-à-vis* the mark of urban permanence and its institutionalisation, which is encapsulated by the naming of the city itself, Etruscan *Kainua*, found inscribed on a bowl at one of the main sanctuaries dedicated to Tinia (Govi and Sassatelli 2010b). While recognising that sites such as Marzabotto offer a unique glimpse into micro-scale change *vis-à-vis* macro-scale transformation, they nevertheless demonstrate the heuristic potential of an approach that combines, at different analytical scales, the causes and effects of urbanism sited in the dynamics of interdependence, economic production, and exchange and the ideational and ideological statics of it *vis-à-vis* social interaction and disruption.[3]

25.4 Conclusion: the Mediterranean periphery of urban origins

In so far as urbanism is concerned, Mediterranean archaeology is today at an interesting junction: no longer concerned with origins, it has been witnessing a growing interest in the consequences of urbanism in all its facets, particularly in regards to the economic systems and exchange networks, which it generated and stimulated, from production and resource exploitation (*e.g.* Biella *et al.* 2017) to redistribution and knowledge transfer, which has notably become a prominent object of study in relation to textile production (Gleba 2008; 2014; Gleba and Marin Aguilera in press). Importantly, these consequences were not limited to large urban agglomerations. They were the result of far more complex historical dynamics that go well beyond urbanism: the case of Iberian *oppida* such as La Quéjola and Alt de Benimaquìa and their highly organised wine production from the 7th century BC testifies to the capitalisation of a colonial-indigenous interface by local communities that transformed the local economy (Celestino Pérez and Blánquez Pérez 2007). In this respect, the case of wine-producing Iberian *oppida* provides a nuanced picture of these consequences, which can be contrasted with global perspectives (Fuller and Stevens 2019).

This kind of research, however, is not carried out to the detriment of questions about the institutions and the political and social practices that made the city. In this respect, scholarship on the Greek world is leading the way partly as a result of the combination of, and fruitful dialogue between, archaeological and historical questions: forthcoming archaeological research, for example, which highlights the primary role of economic networks, preceding political and religious networks, in the making of the Archaic *polis* in the Aegean region (Loy in press b) coexists with recent studies of Athenian ideas of citizenship that have moved away from long-standing interpretations that are excessively narrow on their focus upon Aristotelian ideas (Blok 2013; 2017; Stuurman 2019 for a global perspective on citizenship). These recent studies can, in turn, provide much scope for comparison with other examples of participation and community membership elsewhere (*e.g.* at cult sites and *oppida* in Eastern Iberia, Grau Mira 2014).

These scholarly developments have gone hand in hand with radically new perspectives on urbanisation north of the Alps; it is perhaps not a coincidence that the proceedings of *Crossing the Alps* have developed beyond the original intentions of the conference organisers. The result, in my view, has been positive in that focusing on urban origins risks pushing us to expand the urban category and thus the urban periphery, rather than debunking the notion of periphery altogether. The conference contributions and proceedings have, by contrast, achieved precisely the latter.

3 Christophersen's (2015) approach towards an urban archaeology of social practice goes along parallel lines in thinking of the dynamics of urbanism.

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Chapter 26

Untold Riches of the Urban Form Central to the Pre-Roman European Experience

Simon Stoddart

This closing paper reviews the richness of circum-Alpine urbanism, uncovering a vibrancy and diversity of the urbanism that will be unexpected to the non-specialist scholar. This is a region linked as much as divided by the Alpine ranges. Some of the salient features of this region are its inherent variety along lines of tempo, stability, and size of the nucleated form, where the monumental was created by the organic as much as by the inorganic materials that are traditionally expected from the nearby Mediterranean world. The data of this region should be considered as important for comparative urbanism as those of the rest of the Mediterranean, particularly once rural settlement is as well-known as in these other regional examples.

Keywords: Urbanism; Connectivity; Ritual; Infrastructure; Quantification.

A typical generalised account of the European Early Iron Age is that only the Mediterranean littoral and Eastern France/Western Germany are the worthy, exemplary, foci of urban research, and this coverage is reduced to Etruria and Greece when the grand narratives of the Axial Age (Jaspers 1949) are written by non-archaeological outsiders. For this view of Europe, the intervening zone of Cisalpine Gaul was a mere medium through which the mighty Mediterranean was transmitted by phenomena such as situla art. This is a view partly reinforced by the accounts of ancient authors from Greece and Rome, who gave the impression of entering a transitional world not worthy of the same level of attention as Etruria to the south (Ewins 1952; Purcell 1990, 11-12). This timely conference puts that mistaken idea to rest by stressing the importance of Northern Italy in the formation of urbanism, a point made earlier by other scholars (Bonfante 1981; Capuis and Gambacurta 2015; Guidi 2008; 2010), here revealed in all its detail by numerous stimulating papers.

The Alps were and continue to be no barrier, a point made emphatically by the transmission of disease as these very words are finalised. In the most recent genetic accounts, the link between Germany and northern Italy is an important part of this modern narrative (Forster *et al.* 2020) as well as a medieval memory (Cesana *et al.* 2017; fig. 1), and one clear illustration of the movement of people as well as capital and goods. This interconnected space centred on the Alps has a deep history albeit in different political times. The narrative started at least in the Neolithic (Barfield 1994), continued into the Iron Age studied here (Chytráček this volume; De Marinis and

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Casini this volume; Krause this volume; Wendling this volume), and endured through many ages into the time of Jakob Fugger of Augsburg southwards (Häberlein 2012; cf Nebelsick conference presentation) and Niccolò Machiavelli (Lee 2020) northwards, as well as beyond into our own age. We must, nevertheless, take historical lessons against overemphasising these connections. One of the most elaborate accounts of connectivity between the Fugger and the Medici was based on a lecture tour in 1942 of Fascist Italy, and clearly had an explicit political purpose (Von Pölnitz 1942). Such accounts of the Fugger – Medici connection also raise questions of the relative agency of recognisable actors in the urban processes of their age. Indeed, the evidence of such action has to be inferred almost as much in the early modern period as it has to be in the 1st millennium BC. The work of Häberlein (2012, 3-6) has a further engaging similarity to our task in the 1st millennium BC, by addressing the entanglement between agency, structure, and process in the urban communities of the early 16th century AD. He also places the economic infrastructure of mining at the centre of his analysis of urban prosperity (cf. Wendling this volume). We can ask rhetorically whether both the societies of the 1st millennium BC and the mid-2nd millennium AD were governed generically by social norms of "benefit and reputation" and notably the need to contribute to the common good (*Gemeiner Nutz*) which moderated the accumulation of wealth. In this respect, early 16th century society was still pre-modern and pre-capitalist.

The similarities probably end there. Social anthropological training instructs us to expect different forms and outcomes of urbanism, in their role as "places of identity and meaning" (Pardo and Prato 2012, 13) accompanied by sociological distinctiveness (Pardo and Prato 2012, 17), even within one regional tradition (Kenny and Kertzer 1983). Urbanism is a very cultural phenomenon, even while permitting instructive comparison between its forms (Stoddart 1999). African urbanism is notably informative in this respect (Krapf-Askari 1969). Both qualitative and quantitative comparisons can be made, but the result should not be squeezed into one structural account. Approaches based on traits, lists, and criteria, dating back to Childe (1950) tend to be appropriate for particular regional traditions that do not transfer culturally or globally.

Within this volume, the diversity of definitions transfers into the diversity of cited theoretical literature. It is perhaps a sign of the crossing of intellectual traditions assembled in this volume and the post post-processual age in the intellectual world that there is no one prominent theoretical discourse detectable in the citation of scholars of urbanism and connectivity. At least twenty different authors not immediately relevant to the region are cited in support of an interpretative framework of urbanism and related issues (in chronological order of publication: Weber 1921; Christaller 1933; Childe 1950; Service 1962; Leroi Gourhan 1964; Fried 1967; Braudel 1967; Heighway 1972; Alexander 1972; Renfrew 1973; Braudel 1976; Fox 1977; Kolb 1984; de Polignac 1984; Appadurai 1986; Bourdieu 1987; Gringmuth-Dallmer 1996; Stoddart 1999; Smith 2004; Cowgill 2004; Nakoinz 2010; Dietler 2010; Schier 2010; Bowman & Wilson 2011; Fletcher 2012; Collis 2014; Fisher & Creekmore 2014; Smith 2016; Gyucha 2019; Levitt 2019; Nakoinz 2019). Of these, excluding self-citation, only five authors, Weber and Braudel from an earlier age, and Collis, Nakoinz and Smith from a recent, have attracted at least two citations. We are in an intellectual world of diverse interpretations of urbanism.

One notable trend, which is compatible with a sense of some *longue durée* structure of cross-Alpine history (cf. Treherne 1998), is the resurgence of the Medieval model (Gringmuth-Dallmer 1996) while discarding the classical model for the extra Mediterranean Iron Age (Kimmig 1969; 1997). This approach has been particularly sponsored by Pearce (this volume), drawing on Braudel (1967), Heighway (1972), and Alexander (1972) (who also supported African comparisons, cf. Stoddart 2014) to define his argument. Pearce's critique of the teleological nature of the classical model, does also apply to the use of the medieval model or indeed to the use of the early modern model of the Fuggers of Augsburg. This is for the simple reason that, following Wheatley (1971) in his study of the long tradition of the Chinese city, urbanism remains a very cultural phenomenon and each society will have had a different series of specific traits that defined the details of their urban experience.

In spite of this variation, scholars (including the current writer) and urban dwellers alike do have some broad sense of what the urban entails. Urbanism comprises a level of nucleation (although precise quantification is contested), a series of materialised symbols of identity (which can be recorded in burial and the built environment), and a different way of thinking. The first allows considerable comparison cross culturally (Fletcher 1995; Johnson 1977; Peterson and Drennan 2012; Stoddart 2020a; 2020b; Stoddart *et al.* 2020). The second two elements introduce the richness of cultural variation. The first two elements are central to archaeological discourse, but the third is a challenge for archaeological data, albeit necessary to face.

Urbanism has returned as a key research theme now that this mode of existence is the majority lifestyle on the planet (United Nations 2015) and this conference is a reflection of that trend. More specifically in this seminal conference, now recorded in print, the intellectual silos of the many scholarly nations assembled, partly based on language, have been elegantly broken down by bringing different traditions together. The term urbanism has strong linguistic roots and embedded characteristics from

the Mediterranean world. This is a world largely of long generations of powerful places, epitomised by eternal cities (Fulminante 2014; Greco *et al.* 2015). However, within Europe there are many other urbanisms that are more delicate (Gailledrat *et al.* 2018; Stoddart 2017) or fragile (Fernández-Götz 2018; Fernández-Götz and Ralston 2017; Krausse *et al.* this volume; Ralston 2010; Ralston this volume), more typical of the central European examples of the 1st millennium BC. In this respect northern Italy is both part of the Mediterranean enduring and robust pattern (*Felsina*-Bologna), and of the more delicate tradition (Marzabotto and Spina), and the volume brings out this contrast with examples from Western and Central Europe (Chytráček this volume; Ralston this volume). Instability may be related to the difficulty of handing on institutional power or to changing levels of connectivity. In the case of an *emporium* such as Spina (Mistireki and Zamboni this volume), it may be difficult to distinguish cause from effect. Does an *emporium* disappear from lack of trade or does the local political power change such as to lose or reduce access to that trade?

In part, the conference has revisited very old issues, revived by new sets of data. There is the long-standing question of the definition of urbanism itself (see also Fernández-Götz this volume). In other regions, the Tripolye nucleations (Gaydarska 2019) have been thoroughly investigated as an out of period phenomenon. Urbanism, at one level, is strongly embedded in its cultural context and, at another, a phenomenon that can be readily compared. Some scholars have for a long time raised the question of the density of urbanism (Fletcher 1995) and urban archaeological excavation (research and rescue work) and remote sensing (Welc *et al.* this volume) are now practising sufficient open area method to investigate the layout of cities and thus the phenomenon of "rural" urbanism, that is extensive open areas, even cultivation, within the boundaries of towns. From these methods, we can begin to assess the character of nucleation.

There is an even longer tradition, now in the process of rediscovery, that ritual was often at the heart of the urban form or, at least, some traditions of the urban form. Fustel de Coulanges (1864) and more recently Wheatley (1971) based their whole concept of urbanism on ritual foundation, attracting, by degrees, society and politics in a more permanent association. The *oppidum* of Závist is an example from Bohemia that appears to fit this processual pattern, since ritual, at least in its later phase, appears to have been central to its purpose (Chytráček this volume). Similarly, the Ipf appears to have had an important ritual purpose, both in its creation and its dismantling (Krause this volume). This motivation for urbanisation is more clearly seen in some of the later foundations such as Marzabotto (Govi *et al.* this volume), but may lie hidden in the foundations of other urban developments. One of these is the *Piazza VIII Agosto Structure* in Bologna which Ortalli (this volume) compares to the textual evidence of ritual assembly that is traditionally interpreted from the Iguvine tables. There are widespread dangers in imposing later accounts on an earlier unrecorded history (Stoddart 2012), but the importance of ritual in the early development of many cities is very likely and many other papers draw on this theme as an important contribution to urban life in places as diverse as Most na Soci (Tecco Hvala this volume) and the Dürrnberg (Wendling this volume).

In part, the conference has revived issues that have never fully disappeared. Climate, another new preoccupation of our age has been brought back into focus as a potential trigger of urbanism (perhaps hinted at in Saracino and Guidi this volume; Tecco Hvala this volume): nucleation may have offered some level of certainty in a visibly changing natural world. Similarly, the importance of urban infrastructure never disappeared. The long-standing models of production have their individual contributions within the volume in terms of metal (Iaia this volume) and salt (Wendling this volume). The physical infrastructure is traditionally seen in the built environment including fortification (Krause this volume). Even in this respect, this volume adds new dimensions by establishing that monumentality can be constructed of organic materials that would have had an equal impression on their living populations to those of earth and stone which have survived in more visible archaeological form for us today. The site of early Bologna (Ortalli this volume) and later Spina (Mistireki and Zamboni this volume) convey this important message. Furthermore, new applications of archaeological science can now deepen the investigation of other features of infrastructure, including matters such as geoarchaeology (Bonomi *et al.* this volume) and agricultural production (Krause this volume; Mistireki and Zamboni this volume; Tecco Hvala this volume).

Connectivity has always been an important underlying thread of the European Iron Age, all the more so in this precise region with its implicit interconnections between the Mediterranean and Central Europe, the connection of two important economic power regions, whose importance goes deep into prehistory. Indeed, at one important level, urbanism is dependent on migration, because urban growth generally requires input from outside the town, since internal growth rates, especially in conditions of increased disease, can never be sufficient. This is a point particularly noted by de Marinis and Casini in the drawing of population from Castelletto to Milan. Models, including those illustrated by ethnography (Nebelsick conference presentation) have also provided all-embracing explanations which can be tested by the flood of new data, especially from the modern economic power houses of the Po plain to the south of the Alps and the Danube to the north.

The conference also benefitted from the explosion of new issues which have emerged. One fundamental matter is the tempo of urbanism, increasingly supported by greater chronological control, in spite of the centring of the development of pre-Roman European urbanism within the time frame of the Hallstatt radiocarbon plateau. In central Italy, this issue of tempo has become part of the interpretative framework by laying stress on the difficult concept of proto-urbanism, through an emphasis on the deep seated roots of urbanism that are not simply based on external interaction. To a certain extent this concept of proto-urbanism has been transferred to northern Italy, albeit with the realisation that urbanism in Verona was slower compared with Etruria (Saracino and Guidi this volume). One important aid to this more detailed temporality has been provided by dendrochronology, perhaps more so in Germany, most notably at the Bettelbühl burial where timbers have been precisely dated to 583 BC (Krausse *et al.* this volume). The precision of time measurement has taken on a new value, in the realisation that urbanisation involves the action of people, and some record of the temporality they registered is extremely important. Furthermore, the mosaic of urbanism in both the Po and Danube valleys, comprised both enduring urbanism over many hundreds of years and a delicate urbanism that was more experimental and only lasted a few generations. In the same way as Etruria, northern Italy comprised both enduring settlements (Verona) and more short-lived settlements such as Marzabotto (Govi *et al.* this volume) and Spina (Mistireki and Zamboni this volume). The involvement of people not only encapsulated their temporality but also their thinking. More emphasis is being given to the important fact that urbanism is not just about doing, but also about thought processes and this is accessible not only to textual periods. For much of this period in northern Italy, literacy was restricted, but evidence does provide inscriptions of offices such as the *zilath* of Rubiera (Ortalli this volume). Other structured evidence is derived from cemeteries (Gambacurta this volume). The structure of urbanism gives clues to issues not only of citizenship and property but also of theatre and identity. Indeed, the application of concepts of theatre (cf Grimes 1976) to urbanism offers powerful opportunities of comparison between the open area excavations of Marzabotto (Govi *et al.* this volume) and theatrical urbanism in the New World, linking ritual to time (Janusek 2016) and to the concept of the theatre state.

An overwhelming impression from the volume is the availability of new and well researched data. This observation extends beyond the obvious revolution in knowledge of the Heuneburg region brought about by focused research (Krausse *et al.* this volume) to include the importance of rescue archaeology in some of the vibrant modern urban centres of northern Italy (*e.g.* Bergamo and Bologna). Moreover, data are no longer simply retained for individual use, but increasingly shared in a way that allows a much more rapid advance in understanding. This move towards open access data (cf Stoddart *et al.* 2020) is clearly the way forward so that the next Milan conference will be as successful as the last. The next challenge is to subject the plethora of data to both a *Quellenkritik* of its validity drawn from local knowledge and an external comparative analysis that has the capacity to break down the highly invested tropes of local tradition (Drennan and Peterson 2012). This conference has already brought together these elements on a European scale. It would be worth making a further comparative investment at a more global scale (such as initiated by Gambacurta this volume), now that the data are so rich and widely available.

What is perhaps less evident is the comparable coverage of rural settlement, even if alluded to by Iaia (this volume) and covered elsewhere by Forte and von Eles (1994). By contrast, progress is being made in the Heuneburg region to establish the role of non-fortified sites which must have played an important role in sustaining the more obviously visible monumental remains (Krausse *et al.* this volume, drawing on Abele *et al.* 2018; Hansen *et al.* 2016; 2018). Nevertheless, most of the contributions still concentrate on the urban centres, and their relationship to their countryside is yet to be fully determined. The many systematic surveys of parts of the more southern Mediterranean, notably Etruria and Greece have allowed a more balanced picture (even if such studies require a considerable *Quellenkritik* of their sampling and research practice) than a number of the presentations recorded in the volume. The degree of urbanisation of a society relates not just to the intensity of urbanisation in the central places, but also to the relative presence of population in the city and countryside. It remains difficult to answer this question for northern Italy in the 1st millennium BC, except in the more general of terms.

In spite of this relative lack of understanding of rural settlement, there is considerable agreement about the importance of landscape in determining geopolitics (Gambacurta this volume). Sometimes the geopolitics defy apparent logic of simple spatial rules of social and political distancing. This phenomenon is apparent in Etruria (Redhouse and Stoddart 2011; Stoddart 2020a) where the urban structures of Vetulonia and Roselle competed for space in the circum Maremma region of Central Italy. A comparable situation occurs in the Nördlinger Ries of Southern Germany where the proximity (4.5 km) of the Ipf and the Goldberg (Krause this volume) has been difficult to understand ever since the time of Gerhard Bersu. In both cases, the Maremma and the Nordlinger Ries, one explanation lies in the refined chronology and a switch in importance of Vetulonia to Roselle, from the Goldberg to the Ipf.

A closely related emerging element is the quantification of urbanism. The first quantification of relationship between nucleation and countryside has yet to be achieved in the circum-Alpine region to the level possible in the arid arable landscapes as already discussed. Much more has been achieved in the comparative quantification of the urban centre. Fletcher (only cited by Gambacurta and Fernández-Götz in the contributions to the conference) has emphasised two dimensions: size and density.

The size of larger settlement is regularly presented both in this volume and similar syntheses (Capuis and Gambacurta 2015) and permits one level of comparison. In the Bronze Age antecedents to most the papers presented here, there is considerable variety as shown by Pearce's exemplification of the *Terramare* (with a modal value of 2 ha, the sites can range over much larger sizes (Santa Rosa di Poviglio 7 ha; Case del Lago 22.5 ha; Case Cocconi 60 ha). The succeeding periods also show a considerable variation. The largest sites are comparable to those of Etruria and Latium (Oppeano (Verona) 80 ha (in Este1); Montagnana 70 ha (in Este 1); Este Canevado 65 ha (in Este1 and 100 ha later); Padova 120 ha; Oderzo 60 ha; *Felsina* (Bologna) 175 ha; Como (200 ha); Heuneburg 100 ha; Bourges 250 ha). It is notable that north of the Alps (prior to the *oppida* of the last centuries BC) only the Heuneburg (Krausse *et al.* this volume) and Bourges (Ralston this volume) achieved (and then fleetingly) a nucleation of a similar level to what is much more common in northern Italy. A further range of settlements are more comparable in size to the boundary settlements of Etruria such as Acquarossa and Bisenzio (Most na Soči 13 ha; Bergamo starting with 2.5 ha (in the Final Bronze Age) and growing to 8.5 ha (in the 8th century BC) and then 24 ha (in the 6th century BC); the Ipf (23 ha); Milan 17-20 ha; Marzabotto 30 ha; Verucchio 40 ha; Concordia 40 ha; Palse 40 ha; Gazzo Veronese 25 ha). What is much more difficult to judge is the quantity of smaller settlements below 10 ha (Spina 6 ha; Goldberg 4 ha; Castiglione Mantovano (4.5 ha); Castion di Erbe 4 ha; Gradisca 3 ha; Treviso 4 ha), and of course this relates to a relative lack of study of smaller, more rural settlement.

A further impression of urbanism is of the variety of its internal implementation and density. The planned concentric structure of Hallstatt Bohemia contrasted with the rectangular princely farmsteads of the Heuneburg (Chytráček this volume). The Heuneburg political environment can now be broken down into different units of different size: the *Burgberg* of 3 ha, the *Vorburg* of 1.5 ha, and the *Aussensiedlung* of 100 ha (itself broken down into 1-1.5 ha modular units). Furthermore, the surrounding landscape of rural settlement and a landscape of the ancestors (Arnold 2002) had additional focal points in other defended centres: the Alteburg 2 ha and the Grosse Heuneburg (itself divided into component parts (the *Hauptburg* of 5 ha and the *Vorburg* of 1.5 ha). In other regions, the rectangular *Herrenhof* farmsteads in Hallstatt Bohemia (Chytráček this volume) provided an alternative manifestation of "un-urban" power, not unlike the much later *Viereckschanzen* that succeeded the nucleations of the Heuneburg in Baden-Württemberg (Stegmaier 2017). A variety of different, more concentrated settlement structures have been found on the Ipf and the Goldberg (Krause this volume). Large and small houses, workshops and social assembly places have been found in Most Na Soci (Tecco Hvala this volume). Variety is also shown by the multilingualism of inscriptions where they occur (cf. Mullen 2013), such as in Spina (Mistireki and Zamboni this volume).

All this cultural variation of urbanisms fits well within the tapestry of urbanisms and alternative manifestations of political power (particularly in the uplands) that are emerging within 1st millennium BC Europe. To take but two examples, south French *Oppida* (Py 1993) and ports or trade of Phoenician tradition (Aubet 1993) are all part of that urban network which transformed Europe in the 1st millennium BC, but radically different in terms of their urban outcome. The contributions in this volume have powerfully added to the range and richness of our knowledge of this urban experience, opening up avenues of comparison in other parts of the world.

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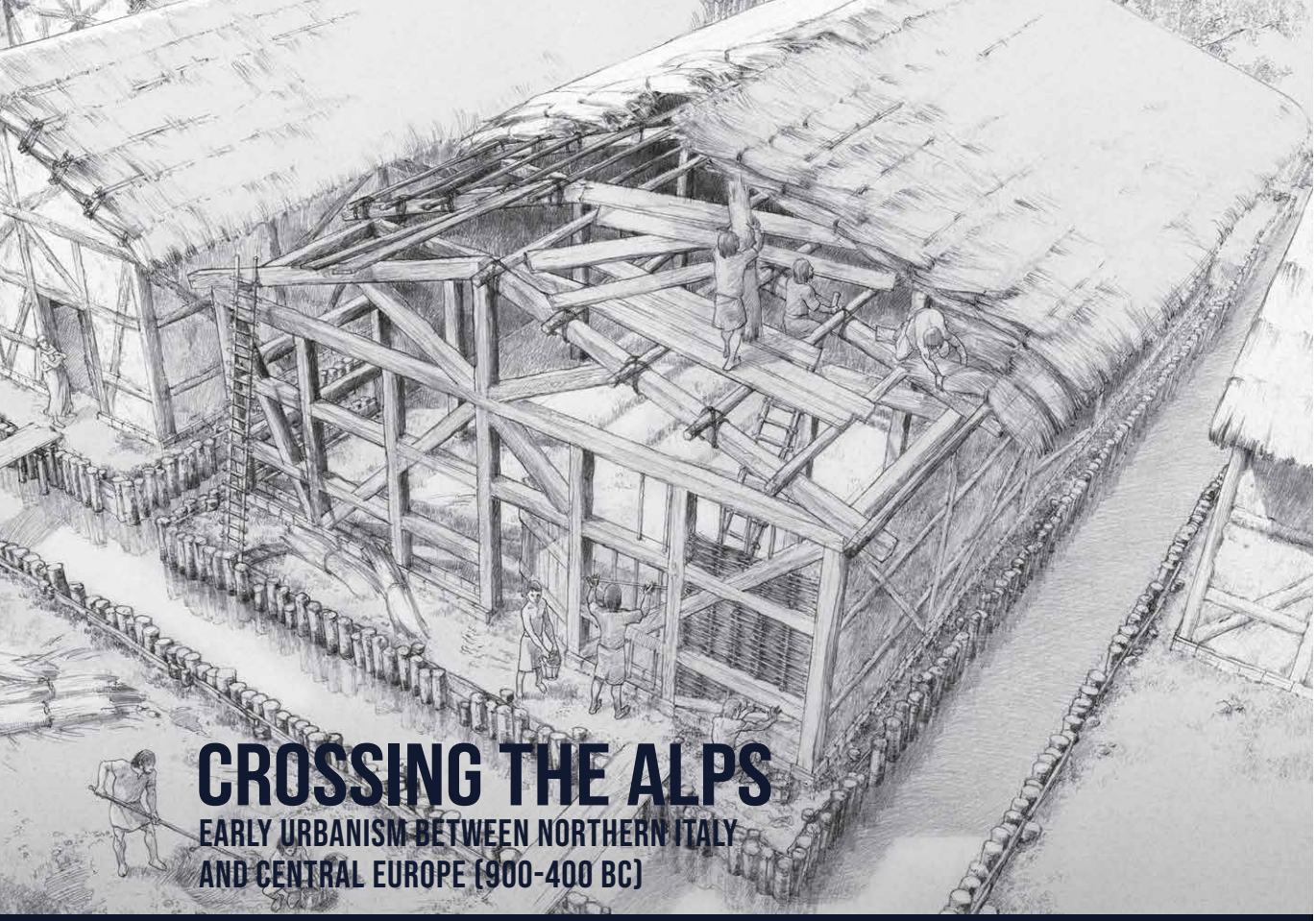

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