

Late Prehistoric Fortifications in Europe: Defensive, Symbolic and Territorial Aspects from the Chalcolithic to the Iron Age

Proceedings of the International Colloquium 'FortMetalAges',
Guimarães, Portugal



edited by

Davide Delfino, Fernando Coimbra, Daniela Cardoso and Gonçalo Cruz



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Contents

List of Figures	iii
List of Contributors	viii
Late Prehistoric Fortifications in Europe: Defensive, symbolic and territorial aspects from the Chalcolithic to the Iron Age	1
Davide Delfino, Fernando Coimbra, Gonçalo Cruz and Daniela Cardoso	
My home is my castle? Thoughts about the archaeological axiom of the distinction of fortified and unfortified sites, referring to ethnographical records	5
Andy Reymann	
A new overview of the later prehistoric hillforts of Britain and Ireland	15
Gary Lock and Ian Ralston	
The chronology of the defensive systems at Los Millares (Santa Fe de Mondújar, Almería, Spain)	31
Fernando Molina González, José Andrés Afonso Marrero, Juan Antonio Cámara Serrano, Alberto Dorado Alejos, Rafael María Martínez Sánchez and Liliana Spanedda	
Fortified and Monumentalised Landscapes of the Beira-Douro region between the 3rd and 1st millennia BC: Architecture, Scenarios and Symbology	44
Alexandre Canha	
Terraced-walled settlements in Bronze Age Liguria (north-western Italy): can we speak of Iron Age ‘castellari’?	55
Davide Delfino and Angiolo Del Lucchese	
From earth to wood: the ramparts of Ratinhos (Moura, Portugal) as an example in the transition between the Late Bronze Age to the Early Iron Age	63
Luis Berrocal-Rangel, António Carlos S. Silva, Rosario García Giménez and Lucía Ruano	
Another post in the fence. Proto-urban delimitations in Final Bronze Age and Early Iron Age Northern Italy	75
Paolo Rondini and Lorenzo Zamboni	
The appropriation of settlement space in Western and Central Europe during the Iron Age	90
Caroline von Nicolai	
Some symbolic and chronological aspects of rock art of the Hillfort Culture, northwest Iberian Peninsula	104
Fernando Coimbra	
Fortifications of the Early Iron Age in the surroundings of the Princely Seat of Heuneburg	113
Leif Hansen, Dirk Krause and Roberto Tarpini	
The fortifications of the Heuneburg lower town: A summary and evaluation of the 2000-2008 excavations	123
Manuel Fernández-Götz	

Compartment ramparts in the <i>castros</i> of northwest Iberia	135
Jorge Camino Mayor and Esperanza Martín Hernández	
The Iron Age hillforts of Gipuzkoa (Basque Country): settlement patterns, fortification systems and territory control	149
Sonia San Jose, Antxoka Martínez, Xabier Peñalver, Carlos Olaetxea, Javier Prieto Domínguez and Juncal Calvo	
Excavations at Caerau Hillfort, Cardiff: Towards a narrative for the hillforts of south-east Wales	163
Oliver Davis and Niall Sharples	
The <i>oppidum</i> of Manching: Examining the construction and defensive capability of a Late Iron Age fortification	182
Thimo Brestel	
The fortifications of Colle Le Case: a new study of Samnite enclosures in Molise (Italy)	196
Francesca Di Palma	
Walls and <i>Castros</i>. Delimitation structures in the proto-historic settlements of Entre Douro and Vouga region (central-north Portugal)	215
António Manuel S. P. Silva and Gabriel R. Pereira	
Reviewing a pre-Roman <i>oppidum</i> in northern Portugal. Summary of the archaeological works carried out at <i>Citânia de Briteiros</i> (Guimarães)	229
Gonçalo Cruz and José Antunes	

List of Figures

A. Reymann: **My home is my castle? Thoughts about the archaeological axiom of the distinction of fortified and unfortified sites, referring to ethnographical records**

Figure 1: Settlement at Kings Island, as photographed by Allen Shattuck in 1888	7
Figure 2: The Tlingit Fort Daax Haat Kanadaa (49-SIT-244), in the background the rocky archaeological site of Yaay Shanoow (49-SIT-132).....	8
Figure 3: The defensive network on Northern Gulf Island, Strait of Georgia, British Columbia, Canada.....	9
Figure 4: Outer wall of the village of Karat Konso, Ethiopia	12

G. Lock and I. Ralston: **A new overview of the later prehistoric hillforts of Britain and Ireland**

Figure 1: The Atlas set of confirmed (reliability of interpretation) hillforts in Britain and Ireland	20
Figure 2: The Atlas set of confirmed small forts in Britain by the OS criterion of under 3 acres	21
Figure 3: The distribution of multivallate (including partially multivallate) forts in Britain on current morphology regardless of enclosed area.....	22
Figure 4: Densities of total confirmed hillfort numbers by the areas of historic counties, ranked into quartiles	23
Figure 5: Densities of numbers of hillforts over 1 ha in extent by the areas of historic counties ranked into quartiles.....	24
Figure 6: The Atlas set of the 270 confirmed hillforts in Britain and Ireland which are at least 5 ha in extent in at least one of their configurations.....	25
Figure 7: Pie-chart of the hundred largest hillforts in Britain and Ireland by country.....	25
Figure 8: The Atlas set of confirmed promontory forts in Britain and Ireland (N=963), highlighting the 55 examples over 5 ha in internal area.....	26
Figure 9: (A) The Atlas distributions of confirmed forts with excavation evidence for timber-framing or timber-lacing in their enclosures	27
Figure 9: (B) The Atlas distributions of confirmed forts with evidence of vitrification from either surface or excavated evidence.....	28
Figure 10: Chevaux-de-frise associated with confirmed hillforts in Britain and Ireland. Only 19 examples, predominantly along western coasts, are recognised.....	29

F. Molina González *et al.*: **The chronology of the defensive systems at Los Millares (Santa Fe de Mondújar, Almería, Spain)**

Figure 1: Los Millares, southeastern Iberia	32
Figure 2: Los Millares – between the Rambla de Huéchar and Río Andarax	32
Figure 3: a) Map of the Los Millares settlement, necropolis and hillforts; b) Los Millares and surrounding sites and necropolises.....	33
Figure 4: a) Los Millares necropolis and settlement (including banks/walls); b) Hillfort 1 with ditches.....	34
Figure 5: a) General aerial view of the four defensive lines of Los Millares; b) The northern area of the outer wall (I) with towers and successive bastions; c) Main gate in outer wall (I); d) The central area of the outer wall (I), with the main gate and a view of the outer ditch.....	34
Figure 6: a) View of defensive wall II; b) View of defensive wall III; c) View of the citadel (IV); d) View of hillfort 1	35
Figure 7: A contiguous phases bayesian model from Los Millares radiocarbon dates according to their stratigraphic phases	39
Figure 8: a) ‘Sum of probabilities’ curves of Los Millares radiocarbon dates according to their stratigraphic phases; b) ‘Sum of probabilities’ curves of Los Millares radiocarbon dates according to their provenance areas	41
Table 1: Available radiocarbon dates for Los Millares.....	37
Table 2: Bayesian calibration results following a model of contiguous phases (without overlapping or hiatus) of the set of dates from the Los Millares archaeological complex	40

A. Canha: **Fortified and Monumentalised Landscapes of the Beira-Douro region between the 3rd and 1st millennia BC: Architecture, Scenarios and Symbology**

Figure 1: The Beira-Douro region within the Iberian Peninsula	45
Figure 2: Administrative areas (city councils).....	45
Figure 3: Settlements with at least one defensive system.....	47
Figure 4: Landscape Units defining the project area.....	48

D. Delfino and A. Del Lucchese: **Terraced-walled settlements
in Bronze Age Liguria (north-western Italy): can we speak
of Iron Age ‘castellari’?**

Figure 1: Map of Liguria showing positions of the settlements referenced	56
Figure 2: Dry-stone wall, settlement of Genova-Brignole	57
Figure 3: Map of Genova showing the Early Bronze Age wall	57
Figure 4: Position and stratigraphy of the Castellaro di Camogli.....	58
Figure 5: Left: Castellaro di Zignago. A) Mt Dragnone; B) Settlement area. Right: Plan and stratigraphy of southern area.....	59
Figure 6: Plan of the settlement of Bric Reseghe	59
Figure 7: Wall of the settlement of Bric Reseghe	60
Figure 8: Plan of the Castellaro di Uscio	60

L. Berrocal-Rangel *et al.*: **From earth to wood: the ramparts of Ratinhos (Moura, Portugal)
as an example in the transition between the Late Bronze Age
to the Early Iron Age**

Figure 1: 1. Late Prehistoric sites with vitrified stones along the walls. 2. The Guadiana River and the site of Ratinhos and other main Late Bronze Age hill-forts	64
Figure 2: 1. Plan of Ratinhos after the 2004-2007 excavations. 2. View of Ratinhos hill and the northern wall from the North.....	65
Figure 3: Single-layer plan of the constructions of the acropolis, and the relations of the measurements of these buildings	67
Figure 4: 1. Section of the Late Bronze Age rampart at the third line; 2. View for the LBA rampart from south.....	68
Figure 5: 1. Section of the Early Iron Age rampart; 2. View from west, with location of the post holes A1 and A2	69
Figure 6: 1. Plan and section of the Early Iron Age rampart with the vitrified or fired remains. 2. Samples of fired clay and vitrified stones from this rampart.....	70
Figure 7: Stone and clay samples with the mineral composition results obtained by X-ray diffraction (XRD).....	72

P. Rondini and L. Zamboni: **Another post in the fence. Proto-urban delimitations
in Final Bronze Age and Early Iron Age Northern Italy**

Figure 1: North-eastern Italy in the FBA (11th-10th centuries BCE), with the main sites mentioned in the text	76
Figure 2: Plans of different FBA and EIA sites from north-eastern Italy.....	78
Figure 3: Plans and reconstructive illustrations from the FBA sites of Calcinato Ponte S. Marco, and Treviso.....	79
Figure 4: North-eastern Italy between the FBA (11th-10th centuries BCE) and Early Iron Age (9th-7th BCE).....	80
Figure 5: Wooden palisades of the EIA from Padova, and Este	80
Figure 6: <i>Felsina</i> /Bologna in the EIA: 1) plan of the site; 2) archaeological features in Piazza Azzarita; 3) the excavation in Piazza VIII Agosto.....	81
Figure 7: 1) Eastern Romagna in the FBA; 2) Scheme of the 2011-2017 excavation trenches; 3) The EIA ditch and the palisade; 4) An <i>impasto</i> handle, from a layer of the palisade; 5) The palisade, view from the north.....	83
Figure 8: Verucchio Pian del Monte: 1) plan of the EIA boundary structures; 2) profile of the double ditch.....	84

C. von Nicolai: **The appropriation of settlement space in
Western and Central Europe during the Iron Age**

Figure 1: Location of Late Iron Age hillforts studied in this paper	91
Figure 2: Cross-section of a typical hill-fort rampart showing the possible locations of deposits and burials.....	92
Figure 3: <i>Oppidum</i> of Mont-Vully. Deposit of two lower jawbones of a cow in one of the post-holes of the southern tower	93
Figure 4: <i>Oppidum</i> of Stradonice. Implement deposit placed in a pit cut into the bank of the rampart.....	94
Figure 5: <i>Oppidum</i> Yverdon-lès-Bains. Wooden statue and its location in the backfill of ditch 2	94
Figure 6: <i>Oppidum</i> Altenburg-Niederstein. Mass find in front of the rampart	95
Figure 7: <i>Oppidum</i> Basle. Skeleton discovered within the <i>murus gallicus</i> . Horizontal section of the <i>murus gallicus</i> at the bottom level of the skeleton.....	96
Figure 8: Wallendorf hillfort. Location of a child's skull deposited in the rampart.....	97
Figure 9: Evolution of the phenomenon between the Early Bronze Age and the Late Iron Age.....	99
Figure 10: Evolution of the phenomenon during the Late Iron Age	99

F. Coimbra: **Some symbolic and chronological aspects of rock art
of the Hillfort Culture, northwest Iberian Peninsula**

Figure 1: Area of the Hillfort Culture	105
Figure 2: The warrior from Monte do Castelo	105
Figure 3: Hunting scene (?) from the hillfort of Sanfins	106
Figure 4: Footprints and cup-marks from the Roriz hillfort	107
Figure 5: Incised fish from the Hillfort of Formigueiros.....	107
Figure 6: Segmented circle from Briteiros	108
Figure 7: Engravings from Crastoeiro	108
Figure 8: Stone with cup-marks from the hillfort of Valinhas.....	109
Figure 9: The same stone displayed in the Arouca Museum	109
Figure 10: Swastikas: from Guifões (left) and Giadighe (right), with cup-marks in a cross shape.....	110

**L. Hansen *et al.*: Fortifications of the Early Iron Age in
the surroundings of the Princely Seat of Heuneburg**

Figure 1: Model of the Heuneburg with the hilltop plateau, lower town and outer settlement in the first half of the 6th century BC.....	114
Figure 2: The environs of the Heuneburg with further hilltop sites, rural settlements and burial mounds of the Hallstatt and Early La Tène periods	114
Figure 3: The Heuneburg near Herbertingen-Hundersingen. The mudbrick wall and masonry plinth during the excavations of 1968	115
Figure 4: The Heuneburg near Herbertingen-Hundersingen. Masonry foundation of the lower town gate.....	116
Figure 5: LIDAR scan of the Alte Burg near Langenenslingen.....	117
Figure 6: The Alte Burg near Langenenslingen. Corner situation with the inner face of the main wall	117
Figure 7: The Alte Burg near Langenenslingen. The internal end of the peripheral wall.....	118
Figure 8: LIDAR scan of the Große Heuneburg	119
Figure 9: Große Heuneburg near Zwiefalten-Upflamör. View of the outer face of the two-shell wall	119
Figure 10: Große Heuneburg near Zwiefalten-Upflamör. North section through the fortification in the north-west	120

**M. Fernández-Götz: The fortifications of the Heuneburg lower town:
A summary and evaluation of the 2000-2008 excavations**

Figure 1: Plan of the Heuneburg agglomeration during the mudbrick wall phase	124
Figure 2: Overall plan of the 2000-2008 excavations in the surroundings of the Heuneburg hilltop plateau	124
Figure 3: Photograph of the skull fragment from the area of the Heuneburg car park excavations	125
Figure 4: Thanks to the excellent preservation of the wooden finds beneath the northern tip of the plateau, traces of working with hatchet, axe and adze were visible.....	127
Figure 5: Neck of an amphora from <i>Massalia</i> discovered in the inner ditch at the foot of the hilltop plateau.....	128
Figure 6: Aerial view of the lower town gatehouse. The cross walls reduced the width to 2.50 m	129
Figure 7: Strongly burned mudbrick fragments from the gatehouse's upper structure	129
Figure 8: Stone plinth of the gatehouse in the lower town: East side with the parallel wall that served as a base for stairs.....	130
Figure 9: Painted pottery from the ditch in front of the gatehouse of the lower town.....	131
Figure 10: Idealised reconstruction of the gateway of the Heuneburg lower town	132

**J. Camino Mayor and E. Martín Hernández: Compartment ramparts
in the castros of northwest Iberia**

Figure 1: Map and front view of Moriyón rampart.....	136
Figure 2: Stratigraphy and superposition of the modular wall over the previous one of La Campa Torres	137
Figure 3: Stratigraphy and excavation. In the centre the old wall cut by the modular wall	139
Figure 4: Table of C14 dates. The rectangles are marking areas of overlap, between the <i>termini post quem</i> -above- and <i>termini ante quem</i> -below- in each settlement, as field of probability for the construction of the walls	140
Figure 5: Cellagú hillfort: walls with modular divisions	141
Figure 6: Modular divisions at La Loma, Santibáñez de La Peña	144
Figure 7: Modular rampart of Troy VI (XV-XIII cent BC), a clear example of the aesthetic use of modules and according to M. Korfmann the wall has features to prevent earthquake damage	145
Map 1: The Cantabrian area with modular ramparts.....	138
Map 2: The Iberian Peninsula with compartment box ramparts	142

**S. San Jose *et al.*: The Iron Age hillforts of Gipuzkoa (Basque Country):
settlement patterns, fortification systems and territory control**

Figure 1: Hillforts	150
Figure 2: Some of the materials from the hillforts of Gipuzkoa	153
Figure 3: LiDAR digital model and topographic redefinition of some hillforts of Gipuzkoa	155
Figure 4: High hillforts isolated from their surrounding environment	157
Figure 5: Topography of Intxur (Albiztur-Tolosa) with the walls in black	158
Figure 6: Views of the interiors of some excavated walls and a sketch model of an Iron Age wall from Gipuzkoa	158
Figure 7: Plan of the main entrance to Munoaundi.....	159
Table 1: Carbon-14 dating from the Iron Age hillforts of Gipuzkoa	151

**O. Davis and N. Sharples: Excavations at Caerau Hillfort, Cardiff:
Towards a narrative for the hillforts of south-east Wales**

Figure 1: Hillforts in Wales	164
Figure 2: Map of Glamorgan showing topography and location of hillforts	165
Figure 3: Simplified plans of selected hillforts mentioned in text.....	167
Figure 4: Location map of Caerau Hillfort showing 'urban' context.....	170
Figure 5: Composite geophysical survey plan of the interior of Caerau	171
Figure 6: Section through the inner hillfort rampart on the northern side of the hillfort	172
Figure 7: Simplified plan of Trench 3 showing roundhouses and other features.....	173

Figure 8: Late Bronze Age metalwork finds recovered from around Caerau Hillfort.....	176
Table 1: Published radiocarbon dates from hillforts in Glamorgan.....	169
Appendix 1: Glamorgan hillforts.....	180

T. Brestel: The oppidum of Manching: Examining the construction and defensive capability of a Late Iron Age fortification

Figure 1: Manching. Schematic map of the oppidum with the excavated areas and the sections through the rampart.....	183
Figure 2: Manching. Section XV through the rampart showing the complex stratification of the ramp.....	184
Figure 3: Manching. Plan of the archaeological features from the wall in section XV.....	184
Figure 4: Manching. Reconstruction of the three phases of the rampart based on the excavated features from section XV.....	185
Figure 5: Manching. Plan of section XIII featuring the eastern gate with the 'Holzkastensperre'.....	186
Figure 6: Manching. Schematic plan of the oppidum with the excavated areas, archaeological features and the hydrography.....	187
Figure 7: Manching. Proposed graphical reconstructions of the eastern gate.....	188
Figure 8: Manching. Distribution of the weapons during LT C and LT D. Hatched areas mark high concentrations of weapons.....	189
Figure 9: Manching. A: One of the caltrops found in the oppidum. B: Detailed distribution map of the features with weapons and caltrops in the 'Zentralfläche' area.....	190
Figure 10: Distribution of the oppida with murus gallicus – and Pfostenschlitzmauer – constructions.....	191

F. Di Palma: The fortifications of Colle Le Case: a new study of Samnite enclosures in Molise (Italy)

Figure 1: Colle Le Case external enclosure, first section.....	197
Figure 2: Colle Le Case external enclosure, second section.....	197
Figure 3: Colle Le Case external enclosure, first section (detail).....	197
Figure 4: The tratturo Castel di Sangro-Lucera that crosses the territory of Pescolanciano.....	198
Figure 5: Network of tratturi.....	199
Figure 6: Civita of Civitanova del Sannio, hill fort to check the tratturo Castel di Sangro-Lucera and Trigno river.....	200
Figure 7: Territorial classification, in evidence the area of investigation.....	201
Figure 8: Traces of quarry activities (detail 1).....	202
Figure 9: Traces of quarry activities (detail 2).....	202
Figure 10: A small sherd of pottery founded near the top of hill.....	202
Figure 11: Dry stone enclosure, between localities Colle Le Case and Monte Caravello, maybe a corral.....	203
Figure 12: Survey map.....	203
Figure 13a: HDS7000 the laser scanner used to examine the walls of Colle Le Case.....	204
Figure 13b: HDS7000 the laser scanner used to examine the walls of Colle Le Case (detail).....	204
Figure 14: The graphic restitution of reflectance value: external walls, first section.....	205
Figure 15: The graphic restitution of reflectance value: external walls, second section.....	205
Figure 16: The graphic restitution of reflectance value.....	206
Figure 17: The graphic restitution of reflectance value.....	206
Figure 18: The graphic restitution of reflectance value.....	206
Figure 19: Michele Battista the shepherd who accompanied me in the most impervious areas.....	207
Figure 20: Colle Le Case: a reconstruction hypothesis.....	208
Figure 21: Colle Le Case in visual contact with the other fortified centres.....	209

A.M.S.P. Silva and G.R. Pereira: Walls and Castros. Delimitation structures in the proto-historic settlements of Entre Douro and Vouga region (central-north Portugal)

Figure 1: Proto-historic hillforts in the Entre-Douro-e-Vouga region.....	217
Figure 2: Senhor dos Aflitos, Arouca. Wall made from a single alignment of stones.....	218
Figure 3: São Julião, Albergaria-a-Velha. Top view and drawing of the wall.....	219
Figure 4: São Julião. Hypothetical reconstitution of the boundary structure.....	219
Figure 5: Cidade, Arouca. Drawing of an archaeological trench in the boundary structure.....	221
Figure 6: Salreu, Estarreja. Top view and drawing of the wall (sector K).....	222
Figure 7: Salreu, Estarreja. Hypothetical reconstitution of 'platform wall'.....	222
Figure 8: Ovil, Espinho. A perspective of the ditch.....	222
Figure 9: Valinhas, Arouca. A view of a simple stone wall.....	223
Figure 10: Romariz, Santa Maria da Feira. Inside face of the upper wall.....	223
Table 1: Boundary/defensive systems in the castros of the region between the Douro and Vouga rivers.....	224

G. Cruz and J. Antunes: Reviewing a pre-Roman oppidum in northern Portugal. Summary of the archaeological works carried out at Citânia de Briteiros (Guimarães)

Figure 1: Drawing of Citânia de Briteiros in 1791, with a representation of the different lines of walls and the orthogonal roads.....	229
Figure 2: A view of the acropolis of the Briteiros oppidum during excavations by Martins Sarmiento.....	230

Figure 3: A detail from the 1892 topographic survey of Citânia de Briteiros made by Álvaro de Castelões.....	230
Figure 4: General plan of the Briteiros <i>oppidum</i> showing the known archaeological structures	231
Figure 5: A view of the south-western bathhouse at Citânia de Briteiros	233
Figure 6: A schematic plan of the 'House of the Spiral' (left); a plan of the archaeological trenches carried out in the compound (right)	234
Figure 7: The central courtyard of the 'House of the Spiral', with the stone pavement, during excavation works	234
Figure 8: A general view of the 'House of Auscus' during the 2008 excavation works	236
Figure 9: A schematic plan of the 'House of Auscus' (left); a plan of the archaeological trenches dug in the compound (right)	236
Figure 10: The stone element with the epigraph 'Aus[ci]'(?), collected in the 2009 excavation campaign.....	238

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Another post in the fence. Proto-urban delimitations in Final Bronze Age and Early Iron Age Northern Italy

Paolo Rondini and Lorenzo Zamboni

Abstract

This paper addresses the early-urbanisation phenomenon in north-eastern Italy, between the Final Bronze Age and the Early Iron Age periods (11th-7th centuries BCE), focusing on delimitation and perimeter structures as a key element of social and settlement changing. The Po Plain played a crucial role in the complex picture of urban civilisation phenomena, due to its position between the Mediterranean and central Europe, it has, however, been underrepresented in recent archaeological discourse. The main case-study of this paper is the site of Verucchio, where ongoing excavations are providing new evidences for the urban-like settlement, dating back to the 9th and 8th centuries BCE, including a wooden palisade and perimeter earthworks. This evidence will be compared to other data from relevant settlements of the southern-alpine region.

Keywords: urbanization, wooden palisade, Final Bronze Age, Early Iron Age settlements, Po Plain

Introduction

A review of the early urbanisation phenomenon in north-eastern Italy is presented in this paper, focused on the crucial period between the Final Bronze Age (11th-10th centuries BCE, hereafter FBA) and the Early Iron Age (9th-7th centuries BCE, hereafter EIA). The investigated region is the fertile alluvial plain situated between two major mountain ranges, the Alps and the Apennines, with the main river, the Po, and several tributaries and secondary streams (Figure 1). We adopt, as sample items, wooden and earthen structures, discovered through recent excavations in several key sites, and interpreted as delimitation, defensive, and boundary works.

Furthermore, the main objective of the research is to highlight, beyond the scope of the current literature, the role of this region at the transition between the 2nd and 1st millennium BCE, when the population patterns drastically changed, creating the first centralised and powerful sites of this European region.

According to an ongoing debate,¹ signs of a centralisation process appear almost simultaneously on both sides of the Alps during the first part of the Iron Age. A crucial issue is whether it was a 'diffusion' from the south that drove early urbanisation in temperate Europe, or was there an independent local 'tradition' which led to urban models differing from the Greek and Roman types.² In this broader framework, northern Italy holds

a strategic position between the Mediterranean world and central Europe, providing a long-term history of proto-urban civilisation, from the pile-dwellings of the Bronze Age to the first large settlements, seemingly coeval to those in central and southern Italy and in Greece. Despite an impressive increase in discoveries and excavations over the last twenty years, the region south of the Alps still remains largely overlooked by archaeological research, due to few published data, barely known to international audiences.

Moreover, scholars have paid more attention to the complex phenomenon of urbanisation and 'Early State' formation in central and southern Italy,³ where a more established tradition of studies – and the highest amount of excavation and survey data – have shown different development patterns of urban models for the main historical sites (i.e. *Veii*, *Caere*, *Tarquiniia*, *Vulci* and *Rome*), including progressive growth, displacement, *synoecism* between previous villages, and the foundation of new towns.⁴ The more consistent conclusions of these studies, albeit different positions, have perhaps identified the consistency of an internal process already underway at the end of the Bronze Age, partially rejecting the traditional diffusionist perspective of a deciding influence from the presumably more developed Mediterranean civilisations. From our perspective, rather than diminish the clear relevance

¹ Buchsenschutz and Ralston 2012; Fernández-Götz and Krausse 2013; Fernández-Götz and Krausse 2016; Fernández-Götz 2017; Krausse *et al.* 2016.

² Collis 2016; Pétrequin 2013.

³ Alessandri 2013; Attema *et al.* 2016; Fulminante 2014; Guidi 2006; 2008; 2010; Pacciarelli 2001; 2016; Riva 2010; Steingraber 2008; Stoddart 2016; Terrenato and Haggis 2011; Vanzetti 2002 (all with previous literature). For Etruria and *Latium Vetus* more categories of evidence, besides settlement excavations, are available and enhanced, including burial and social aspects, religion, art, written sources, and, however controversial, ethnicity.

⁴ Guidi 2010: 17-18.



Figure 1: North-eastern Italy in the FBA (11th-10th centuries BCE), with the main sites mentioned in the text (P. Rondini).

of Etruria and central Italy in this multifaceted process, the next step is to offer a detailed analysis to the north-eastern part of the Italian peninsula.

In this paper, specific ideas on early urbanisation will be focused on the archaeological evidence of boundary, defensive and perimeter structures, which could be major factors in identifying the ongoing centralisation process in this region. Despite this perspective having already been stressed in Etruria and central Italy,⁵ it appears thus far much less well emphasised in the southern Alpine regions.

Addressing cultural issues, the specific environment of north-eastern Italy should also be considered, since the vast alluvial plain, rich in water and timber, could be a highly unstable landscape,⁶ and subjected to various climate changes over time. However, this environment could easily determine long-lasting architectural and craft traditions, well adapted to the local resources. On the other hand, the continuity and stratification during the historical periods of many towns and cities have not contributed to the good preservation of wooden and earthen monuments, often almost invisible in the present landscape and only partially excavated and documented.

One last assumption concerns the estimated dimension of settlements (in hectares), frequently mentioned in the following paragraphs. It should be clear that these are merely the maximum assumed extensions of the whole settlement area through a certain period, often determined by the natural borders of the area (hillsides, ground elevations, or rivers), as well as by the eventual presence of various categories of landmarks, such as cemeteries, sanctuaries or extra-urban roads, and also based on some trenches and surveys, rather than extended and comprehensive excavations and geotechnical analyses.

The centralisation process in north-east Italy during the Final Bronze Age

The richness of the environment has allowed, during the Middle-Recent Bronze Age (1600-1150 BCE), the birth and bloom of the so-called *Terramare* culture,⁷ but also included the advanced stages of the long-lasting lake pile-dwellings of the southern Alps. This cultural phenomenon, characterised by arranged and often fortified villages, sometimes built on piles, is rightfully considered as a first attempt at a ‘proto-urban’ civilisation.⁸ After having established long-range European trades and reaching a high level of

⁵ Cifani, Guidi 2016; Fontaine, Helas 2016; Guidi 2008; 2010: 15; Ziolkowski 2005.
⁶ Bellintani and Saracino 2015; Ortalli 2010.

⁷ For an overview, see Bernabò Brea *et al.* 1997.
⁸ Pétrequin 2013.

know-how in both water management and structural woodworking, this civilisation quickly regressed in the late Bronze Age (1200-1150 BCE), and then abruptly collapsed around the second half of the 12th century BCE.⁹

While the lands south of the Po appear completely abandoned during the following centuries of the Final Bronze Age (11th-10th BCE),¹⁰ with only minor sites placed on the highest hills of the Apennines (including among others Bismantova, Monte Valestra, Ripa Calbana, Monte Titano),¹¹ the northern and north-eastern sectors display a different picture for the Final Bronze Age period (Figure 1).

In fact, after the collapse of the *Terramare* culture, in the wider picture of a strong decrease in human presence¹² for the first two stages of FBA, recent discoveries are bringing to light early evidence of a centralisation process, with the foundation and sometimes persistence of medium-sized settlements (from 4 to 14 ha). These sites are situated at crucial crossroads points in the Plain, such as the cases of Ponte S. Marco, Casalmoro, Montagnana, Frattesina (with its satellite villages), and Treviso (Figure 3, nos 4-5), and are often set on wide sites, slightly elevated, close to one or more rivers, but still protected from floods.

These sites are interpreted as 'central places',¹³ maintaining control of medium to high density settlement districts, and displaying an advanced economic network, with wide connections from the Baltic to the Aegean seas. Long-range trade is well proven by many bronze hoards discovered near the main sites.¹⁴ The major villages, rich and powerful, were in control of great portions of land and, while their geographical approach marks a clear discontinuity from previous *Terramare* land management, their need for protection exhibits technological solutions inherited from prior experiences. In fact, even when naturally detached from the surroundings by their choice of location, some of them, during the FBA, enclosed themselves with peripheral structures, including palisades, moats, ditches, displaying an overall impressive timber-working capability, probably linked to the previous *Terramare* crafting tradition.¹⁵

In the western sector lies the remarkable village of Ponte S. Marco (south of Brescia), established between

the Recent and Final Bronze Ages in a regular plan of rectangular houses set in a geometric grid of streets and channels (Figure 3, nos 2-3).¹⁶ During the FBA the site planimetry was restructured, and the whole settlement (maximum area 11 ha) enclosed by a complex perimeter setup, that has been excavated in its eastern part. This structure was a double-ring perimeter of palisade, built with large posts put inside two trenches, and strengthened by large rocks (Figure 3, no. 1). This site controlled a great number and variety of raw materials, and its commercial and cultural links are clearly directed northwards, toward the Alpine region, controlled by the Luco culture.¹⁷

In the present Veneto region, the site of Montagnana, with its 14 ha of probable settlement area, was the central place of an important district (Figure 2, no. 1). This village had a wooden palisade during the middle 10th century BCE, enclosing the south-eastern sector.¹⁸

The most important site of this period is Frattesina,¹⁹ a settlement of approximately 10-12 ha, but surrounded by a noteworthy near-site area with dense archaeological evidence, which form the major central locale of the north-western Plain during the period addressed (Figure 2, no. 2). The site, only partially excavated, is characterised by a regular grid of channels, east-west oriented, with a main central ditch that was probably connected, through complex earthen and timber works, with the main ancient river, the so-called 'Po di Adria' (a northern branch now disappeared). Founded during the 13th century BCE, Frattesina thrived until the late 10th BCE. Its core role within the northern Adriatic region is indicated by the outstanding variety and span of raw and semi-worked exotic goods present (such as amber, ivory and glass).²⁰

Early urbanism of the Early Iron Age

During the following phase, between the last stage of the FBA and the very beginning of the Iron Age (end of the 10th and 9th century BCE), the previous central places were abandoned, along with their districts, and a different territorial organisation was established in northern Italy during the 9th and 8th century BCE (Figure 4).²¹ This new model displays the rapid expansion of newly established large and powerful sites, ranging from those of medium size, around 25-80 ha, to large ones, between 100 and even 120 ha. The new locations were carefully selected, situated on flat river

⁹ Bernabò Brea *et al.* 1997: 745-756; Cardarelli 2009; 2015: 165-179; Frontini 2011.

¹⁰ de Marinis 1999; Harari and Pearce 2000.

¹¹ Bottazzi, Bigi 2008; Bietti Sestieri 1997; Pacciarelli, von Eles 1994; Zanini 1999; Zanini, la Pilusa 2009.

¹² A remarkable general trend is around 95%, according to Cupitò *et al.* 2015: 303.

¹³ Guidi 2008: 180; Bianchin Citton 2015.

¹⁴ Bellintani 1994.

¹⁵ Mele *et al.* 2013; Cremaschi and Pizzi 2011.

¹⁶ Poggiani Keller 1994; Poggiani Keller and Ruggiero 2008; Redolfi Riva 2017; Ruggiero 2004.

¹⁷ Poggiani Keller 1994, 102-105; for a general overview on the Luco culture, see: Marzatico 2012; Rageth 2010.

¹⁸ Bianchin Citton *et al.* 2015.

¹⁹ Bietti Sestieri *et al.* 2015; Bietti Sestieri *et al.* 2019.

²⁰ For the ongoing study of its cemeteries and their grave goods, see Cardarelli *et al.* 2015.

²¹ de Marinis 1999.

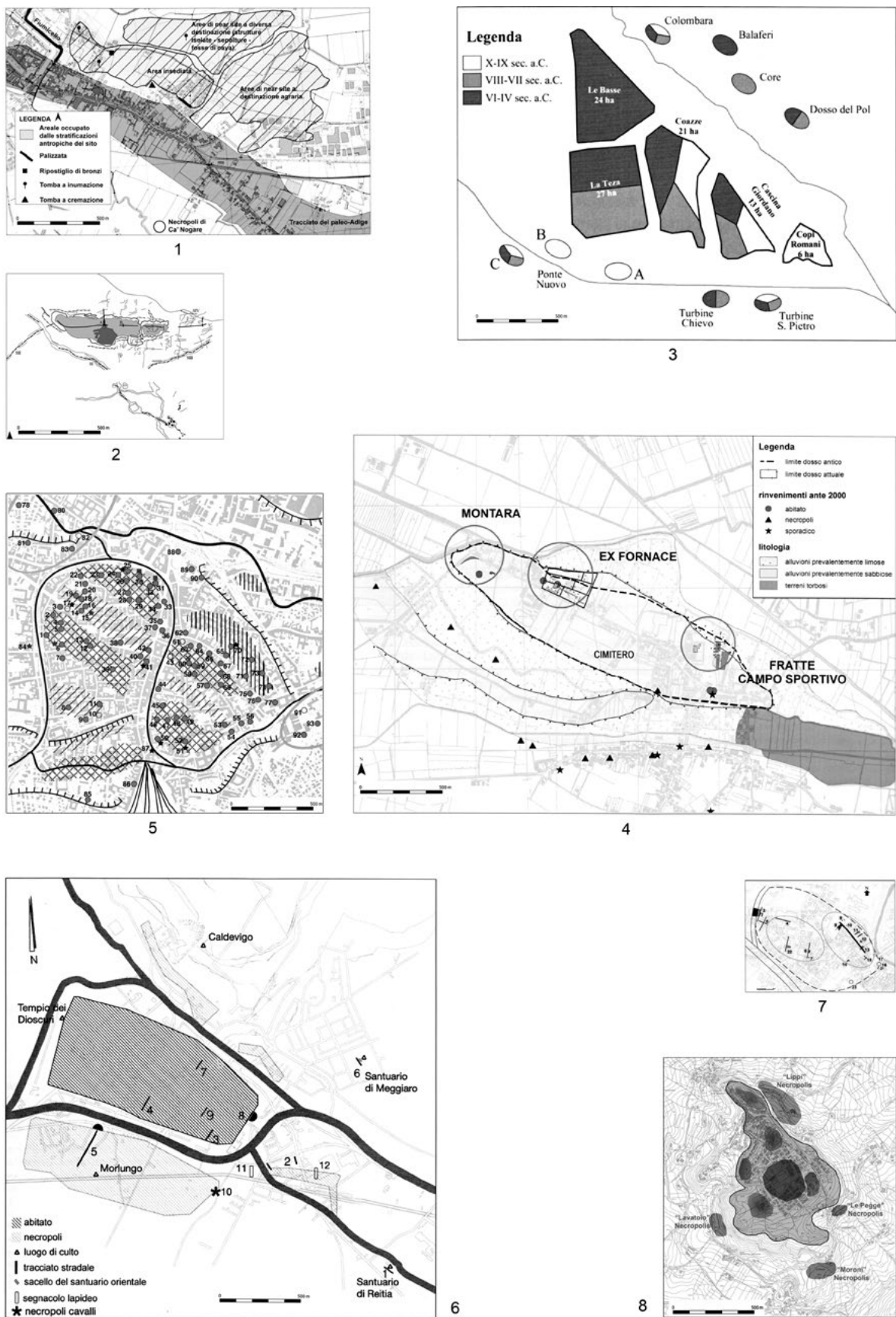


Figure 2: Plans of different FBA and EIA sites from north-eastern Italy. 1) Montagnana (after Bianchin Citton *et al.* 2015); 2) Frattesina (after De Guio *et al.* 2009); 3) Gazzo Veronese (after Gonzato *et al.* 2015); 4) Oppeano (after Candelato *et al.* 2015); 5) Padova (after De Min *et al.* 2005); 6) Este (after Balista and Ruta Serafini 2008); 7) Oderzo (after Capuis and Gambacurta 2015); 8) Verucchio (authors).

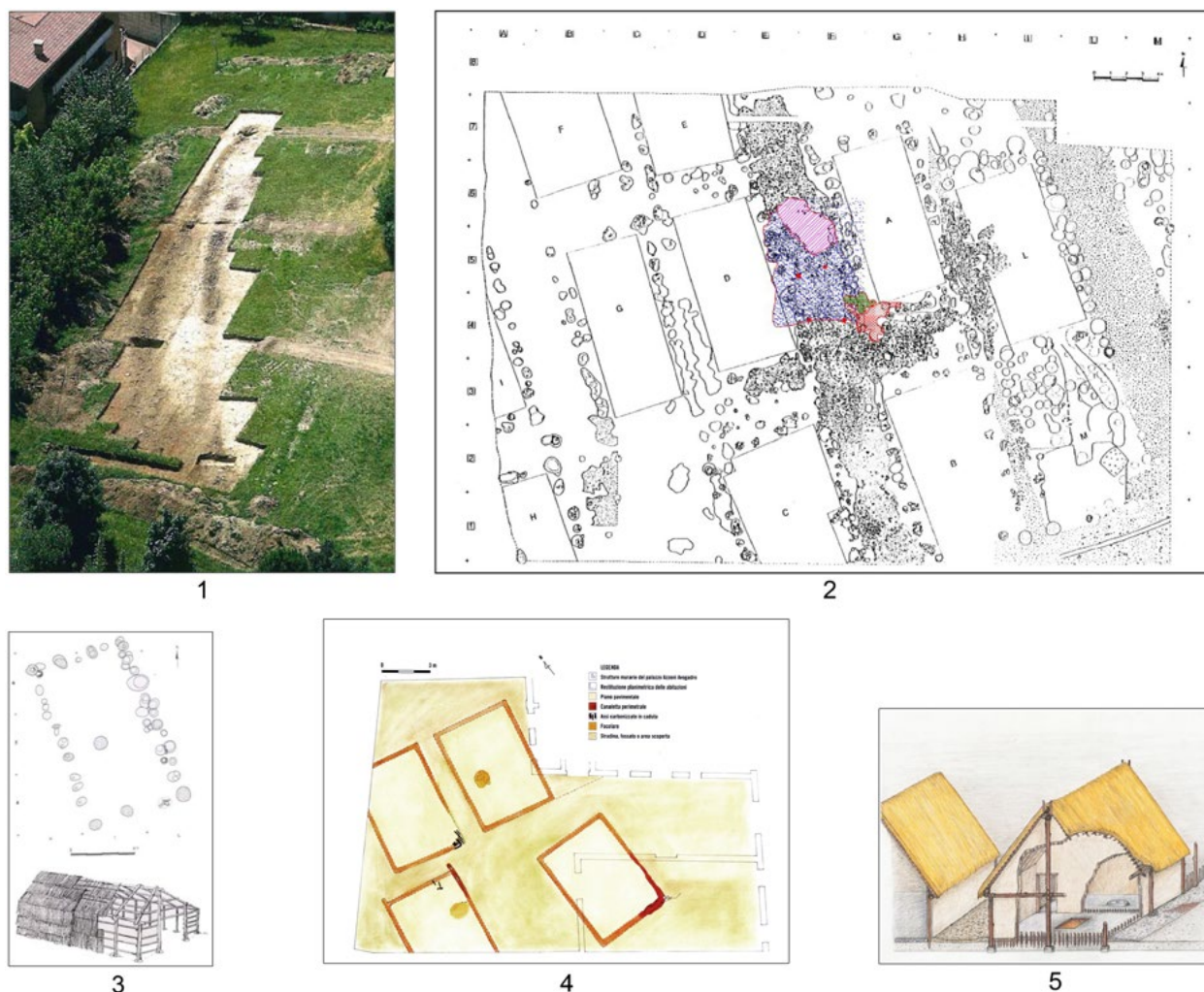


Figure 3: Plans and reconstructive illustrations from the FBA sites of Calcinato Ponte S. Marco (1-3, after Poggiani Keller 1994), and Treviso (4-5, after Bianchin Citton 2004).

terraces, raised over the surrounding wetlands, and always at the confluence between two or more rivers.²²

The relevant site of Este, for example, at the beginning of the Iron Age appears to be a settlement of nearly 100 ha.²³ Large water management structures and wooden fences around the perimeter are known thanks to preventive excavations (Figure 2, no. 6). An oak timber waterfront foundation of horizontal beams, in the south-eastern part of the perimeter (Figure 5, no. 1), is dated by dendrochronology²⁴ to the end of the 9th century BCE (825-795 cal. 95%).

The near site of Padova, already up to 120 ha in the 8th century BCE (Figure 2, no. 5),²⁵ had a similar perimeter defined by a double wooden palisade (Figure 5, no. 2), dated to the end of the 9th century (840 ± 130 BCE).²⁶

Another example of a centralised site of the early Iron Age is Oppeano, a settlement of 80 ha in the FBA period onwards (Figure 2, no. 4), which, during the 8th century BCE, was fortified with an earthen rampart and a ditch.²⁷

Several other sites of the north-eastern part of Italy, including Gazzo Veronese (Figure 2, no. 3), Verona, Vicenza, Altino, Oderzo (Figure 2, no. 7), and Concordia, Palse,²⁸ all show similar features and technical solutions, such as orthogonal grids, square houses and defensive timber structures, established between the FBA and EIA.

Another pivotal case study is the ancient city of Bologna, called *Felsina* in the Etruscan period. The site is only partially known, due to the continuous stratification through the millennia, but rescue excavations over the last twenty years²⁹ have

²² Capuis and Gambacurta 2015.

²³ Guidi 2008: 181; Capuis and Gambacurta 2015.

²⁴ Meadows *et al.* 2014 (a later phase of the palisade, with vertical posts, is dated 640-695 BCE, 85%).

²⁵ Guidi 2008: 182; De Min *et al.* 2005; Capuis and Gambacurta 2015.

²⁶ Balista *et al.* 1993; Balista 2005: 17.

²⁷ Balista 2004; Guidi and Salzani 2008; Cadelato *et al.* 2015.

²⁸ See Gonzato *et al.* 2015, and Saccoccio 2016 for recent data on Gazzo Veronese. Regarding eastern Veneto and Friuli, see Malnati *et al.* 1996.

²⁹ Curina *et al.* 2010.

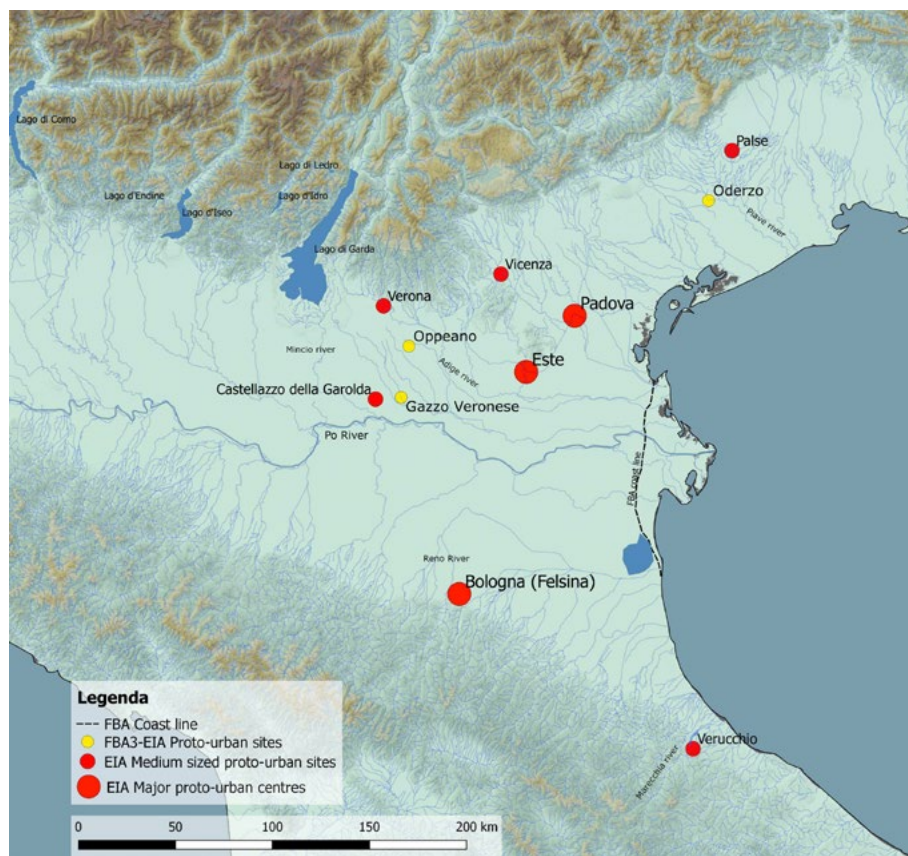
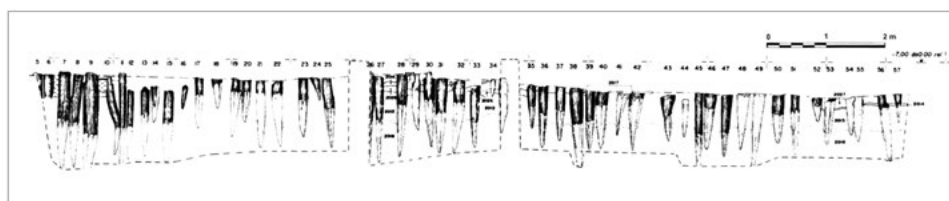


Figure 4: North-eastern Italy between the FBA (11th-10th centuries BCE) and Early Iron Age (9th-7th BCE), with the main sites mentioned in the text (P. Rondini).



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Figure 5: Wooden palisades of the EIA from Padova (1, after De Min *et al.* 2005), and Este (2, after Meadows *et al.* 2014).

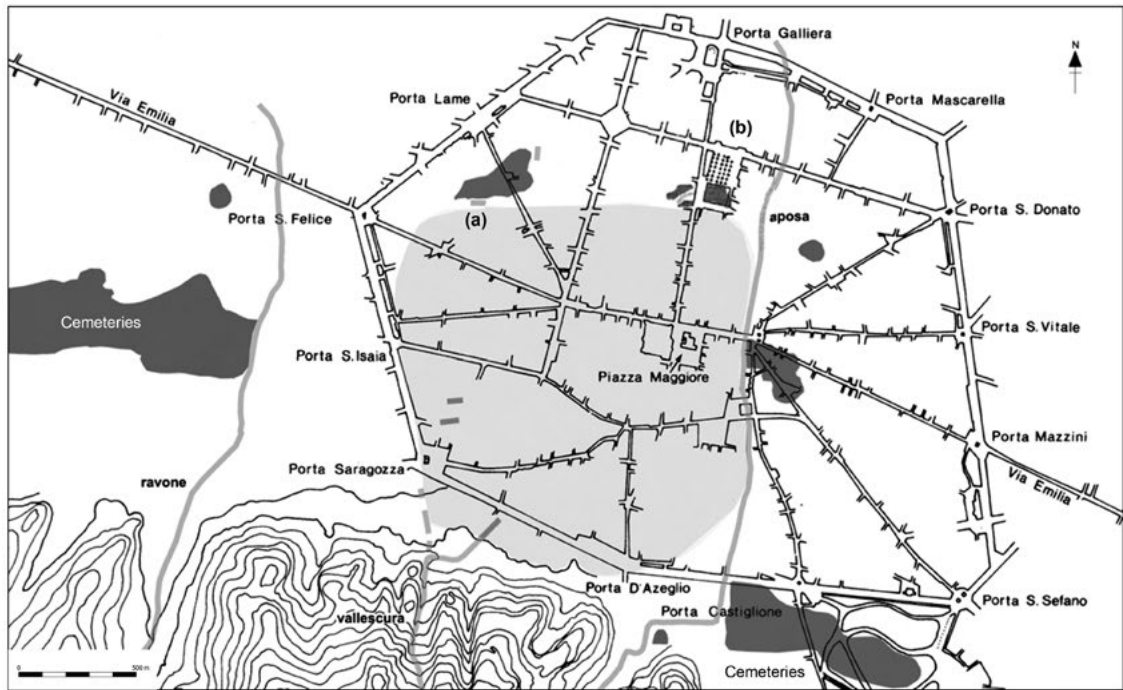
unearthed outstanding archaeological evidence of an early urbanisation process (Figure 6, no. 1). According to the latest studies, Bologna was a new foundation in the 8th century BCE, likely after the abandonment of five surrounding villages of the Early Iron Age (Castenaso, Budrio, S. Vitale, S. Donato, Fiera),³⁰

³⁰ Malnati *et al.* 2010.

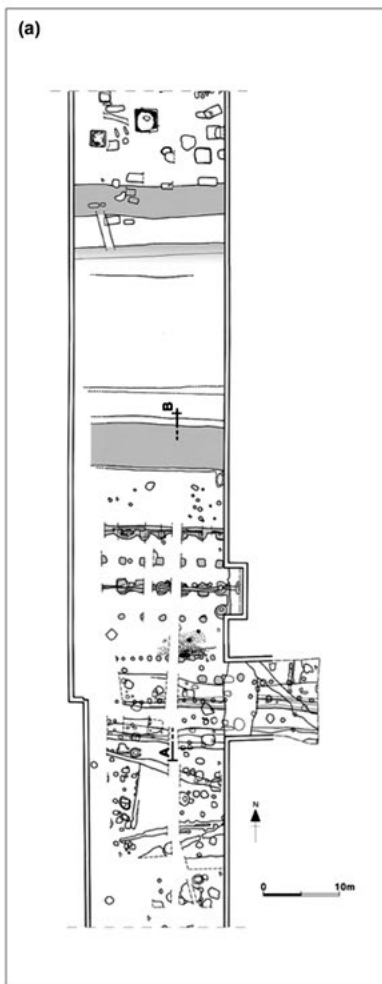
and at the foot of the hill of Villa Cassarini, likely a sacred or funerary place during the previous FBA period.³¹

Already in the early phases, the settlement size was impressive (around 180 ha), showing huge foundational

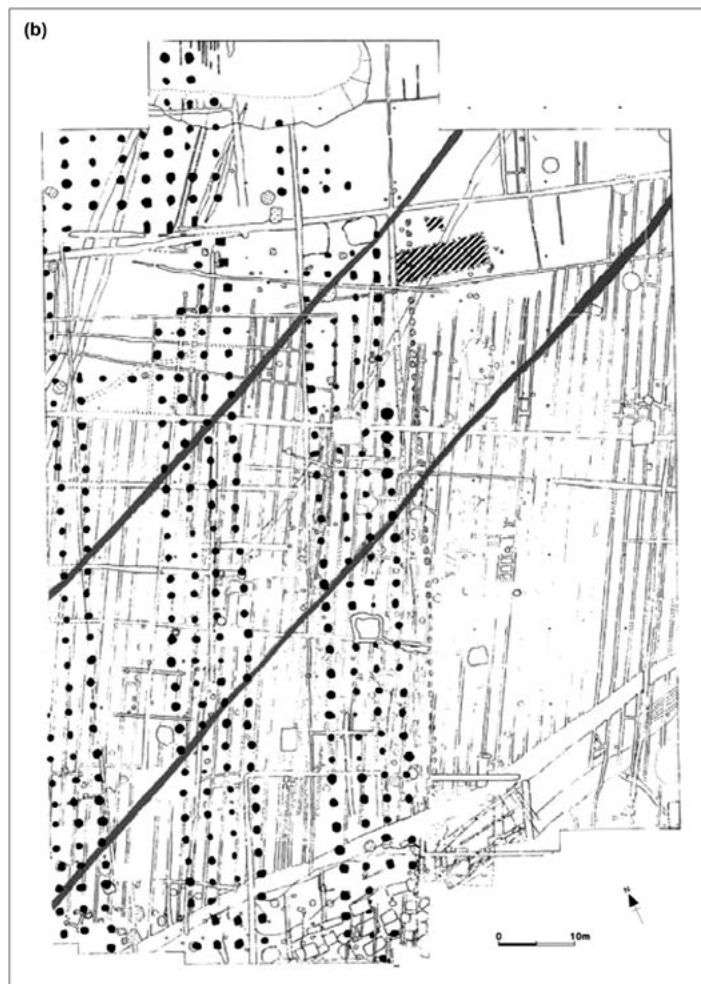
³¹ Ortalli 2008; 2010; 2013; 2016; Sassatelli 2015.



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Figure 6: *Felsina/Bologna* in the EIA: 1) plan of the site, with the settlement area in light grey, and the cemeteries in dark grey (after Ortalli 2010), and the boundary wooden structures ('a' and 'b'); 2) archaeological features in Piazza Azzarita (after Ortalli 2010); 3) the excavation in Piazza VIII Agosto (after Ortalli 2016).

structures, including large channels, and defensive structures in the northern sector.

The excavations in Piazza Azzarita, for example, uncovered a huge structure 40 m long with three channels at the front, to the north, and a complex alignment of timber palisades, at least three rows with planking (Figure 6, no. 2). The cemetery is located just outside these city walls.

An even bigger structure of about 100 m in length and 50 m wide was found in Piazza VIII Agosto, in the northernmost sector of the city (Figure 6, no. 3). Here, hundreds of large posts, with holes of more than 1 m deep, are aligned north-south in three rows, spaced 10 m apart. Each row is made of four posts placed every 3 m. According to the excavators, the hypothetical reconstruction indicates the presence of covered galleries, bridges, stairs and walkways, possibly for a complex fortification, a large workshop, or even a building for public meetings.³² It is worth mentioning that both the structures of Bologna, from Piazza Azzarita and Piazza VIII Agosto, were dismantled soon after their construction, during the 7th century BCE, for reasons not yet clear.

The Early Iron Age structures of Verucchio

In the south-eastern sector of the region, Verucchio was the main site for almost three centuries, between the 9th to the 7th centuries BCE. The settlement is positioned on a hilltop of maximum 45 ha (Figure 2, no. 8), in south-eastern Romagna, about 15 km from the Adriatic coast. This location granted control of both the mouth of the Marecchia river towards the sea and the Marecchia valley towards the mainland, which leads directly into the core of the peninsula, all the way to Etruria.

During the Final Bronze Age, the whole Romagna region was dotted with small settlements positioned on hilltops and cliffs, related to the Chiusi-Cetona *facies*, a material culture which linked the Po Plain sites, such as Frattesina in the north, to the northern and inner part of present Tuscany, Marche and Umbria to the south.³³ However, most of these sites were abruptly abandoned at the end of the FBA, while subsequently the site of Verucchio was chosen as the new centralised location. During the EIA, Verucchio displayed, through its unique grave goods, many signs of a highly hierarchised society, with a ruling class of powerful warriors and rich brides.³⁴

Between 2011 and 2017, the University of Pavia carried out new archaeological excavations inside the

settlement area of Pian del Monte, the south-eastern sector of the hilltop, where poorly documented discoveries were carried out in the late 19th and 20th centuries.³⁵ Our excavation discovered a series of earthen and timber structures, north-south oriented, composed of parallel furrows, two canals, a wide ditch, water wells, several pits, and a timber palisade.³⁶ Taking the excavations of the 1970s into consideration, partially documented in the archive data,³⁷ we estimate this earthwork system to have an overall length of over 70 m north-south, by at least 8 m wide (Figure 8, no. 1).

Regarding chronology, through three radiocarbon calibrations from the upper EIA layers the disuse of these structures is dated to the end of the 9th century BCE.³⁸ Pottery finds confirm this chronology, also suggesting a possible connection to the material culture of the previous FBA period, as shown, for example, by the typical impasto cup handles, shaped as anthropomorphic or zoomorphic figures (Figure 7, no. 4).

As a working hypothesis, this complex system of structures could be linked to drainage, water management and delimitation. As previously mentioned, water management was a basic skill of the former Bronze Age cultures from which, we assume, the know-how had been handed down.

The large timber palisade, discovered east of the ditches, shares their north-south orientation, documented with a maximum length of 11 m (Figure 7, no. 3). Its large posts were placed in holes 80 cm wide (maximum) and as deep as 60-70 cm, dug at the bottom of a ditch. Other smaller posts were placed between the large ones, at regular intervals (Figure 7, no. 5), with further evidence of a possible entrance or secondary feature being present.

Altogether, these considerable wooden and earthen works may have met both the functional defensive and delimitation needs of the settlement, although with the limited extent of excavations it is still unclear whether the boundary involves the whole centralised settlement of the EIA period, rather than a pre-existing, smaller village, eventually established on Monte dei Gigli, a low hill few meters east.

It is clear, however, that the dismantling of that large delimitation structure occurred well before the definitive collapse and abandonment of Verucchio, which took place only during the 7th century BCE.

³² Ortalli 2013.

³³ Bietti Sestieri 2012; Zanini 2013.

³⁴ Gentili 2003; von Eles 2015.

³⁵ Gentili 1988; Rondini and Zamboni 2016.

³⁶ Harari *et al.* 2017; Rondini and Zamboni 2016; Zamboni and Rondini 2018.

³⁷ Courtesy of the 'Soprintendenza Archeologia, belle arti e paesaggio per la città metropolitana di Bologna e le province di Modena, Reggio Emilia e Ferrara' Archive.

³⁸ Harari *et al.* 2017.

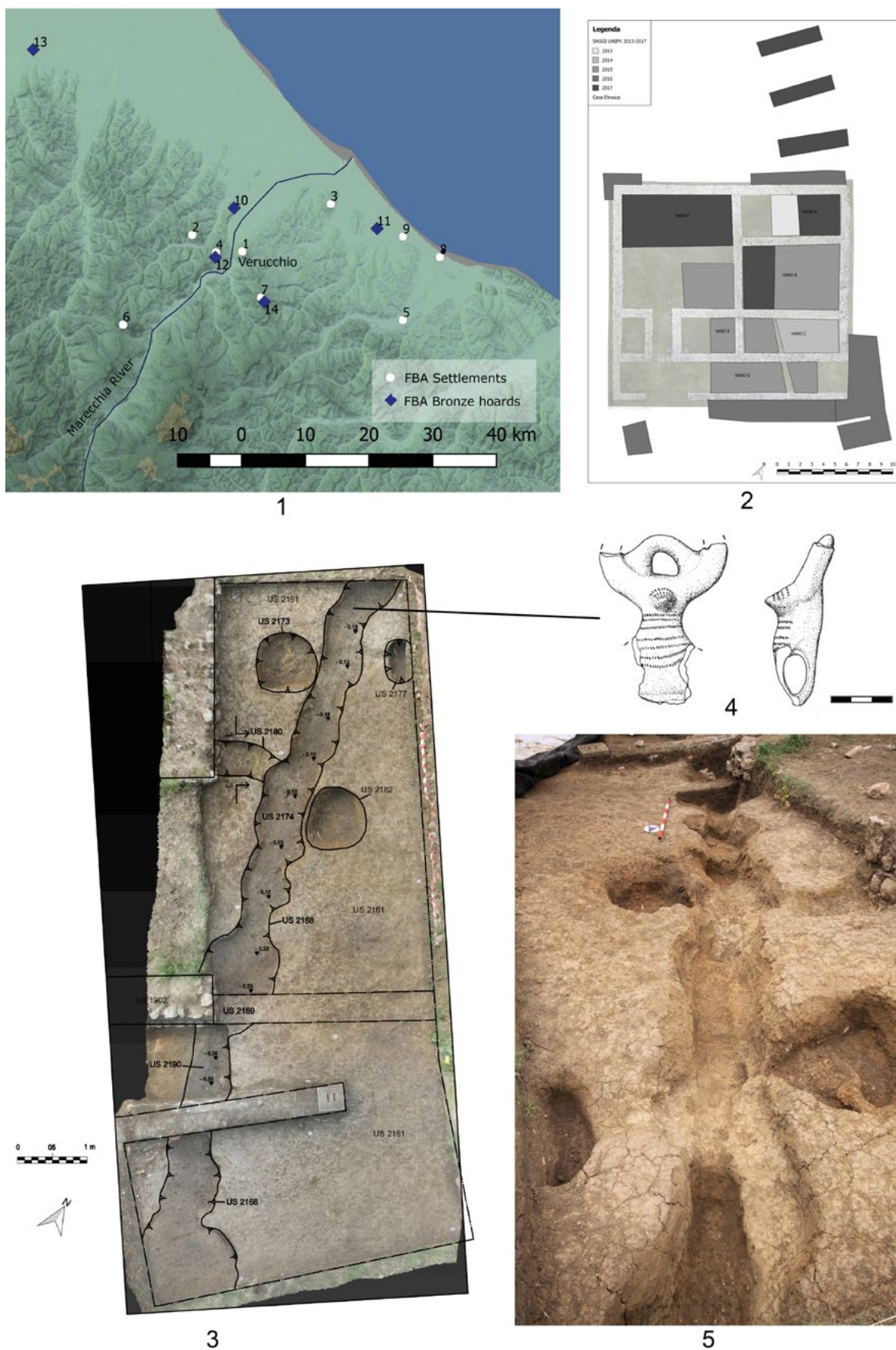
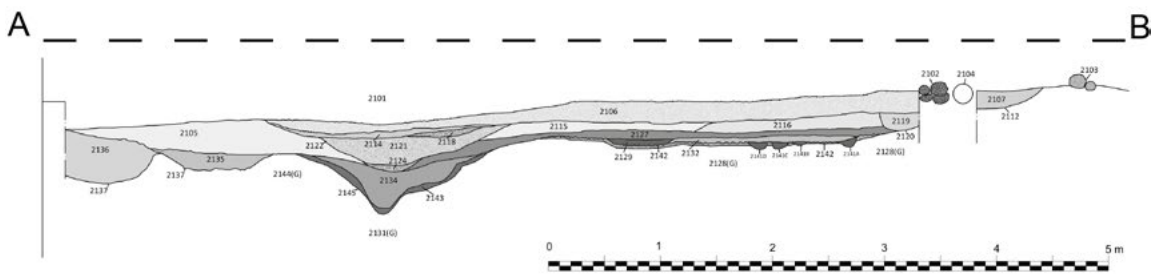


Figure 7: 1) Eastern Romagna in the FBA (P. Rondini); 2) Scheme of the 2011-2017 excavation trenches (authors); 3) The IIA ditch and the palisade; 4) An *impasto* handle, from a layer of the palisade (P. Rondini); 5) The palisade, view from the north (M. Harari, University of Pavia).



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Figure 8: Verucchio Pian del Monte: 1) plan of the EIA boundary structures, north-south oriented (B. Peverelli), with in blue the large ditch, in light grey pits and canals, and in orange the palisade; 2) profile of the double ditch (L. Zamboni).

What we have discovered, the filling of ditches, canals and fences during the late 9th century BCE, is a sign of a new layout of the settlement of Verucchio, probably linked to an overall change in the social structure, as also suggested by the grave goods.³⁹

The presence on the hilltop of previous FBA settlements, as well as the elements of continuity seen in the material culture, suggest that Verucchio should no longer be considered only as a 'colony', founded during the 8th century BCE by newcomers from the mainland Etruria, as presumed in previous literature.⁴⁰ Verucchio is more likely also the outcome of a local proto-urban process, which is much more comprehensible within the broader picture of the early centralisation phenomenon that occurred in north-eastern Italy, and towards the north Adriatic region, as mentioned in the previous paragraphs.

From a technological standpoint, it is possible to identify a local high-level craft tradition, deep-rooted in the Bronze Age cultures of the Po Plain, in the dimension and types of earthworks, defensive and boundary structures, as well as in the water management systems and wooden artifacts.

Discussion and further developments

Ongoing excavations in north-eastern Italy are providing increasing data regarding an early centralisation process, at least between the end of the FBA and the first centuries of the 1st millennium BCE. Since it appears to begin before the establishment of the Greek colonies of southern Italy, this phenomenon could be interpreted as an independent process, spread from local experiences and long-lasting traditions, strongly connected to the specific wetlands of the Po Valley. From this perspective, it is possible to even suggest a direct transmission of technical knowledge from the last Bronze Age cultures to the early Iron Age ones, in terms of settlements planning, architectural solutions and exploitation of resources. Particularly, perimeter structures like ditches, ramparts and timber walls, seem to be key features for these early urban sites, being foundational and essential elements, especially for the new central and powerful sites of the Early Iron Age.

Of course, several aspects still remain to be addressed. First we must understand the relationship between settlements and their surrounding landscapes, including the possible effects of climate change, as done for neighbouring regions.⁴¹ Other categories of finds should be considered as well, including the dispersal and the layout of cemeteries, the presence

and characteristics of sacred places, sanctuaries and shrines, as well as the scattered remains of extra-urban roads.

Another key aspect is the different lifespan of the delimitation works described. While in Este and in Padova, for example, wooden palisades appeared to be maintained for centuries after the foundation, in Bologna and Verucchio the dismantling and abandonment happened after a short period of use. This difference could be due to continuity versus change in settlement layout during the various phases of the Early Iron Age. In fact, the dismantling of a perimeter could be a sign of expansion or, instead, reduction of the shape and dimension of a proto-urban site. Only more extended excavations inside and outside the perimeter, while often prevented by the presence of modern disturbance in many present cities, could solve the question.

The latter aspect implies a broader issue of the continuity of the centralisation and 'urbanisation' process south of the Alps. As seen before in this region, there are cases of discontinuity, already during the FBA period (Montagnana), or during the EIA, as for example in the case-study of Verucchio, with the abandonment or displacement of major settlements, probably shifting towards different locations. Otherwise, there are several evidences of continuity, throughout the entire 1st millennium, even in historical times (Este, Padova), though the process is not always linear, and many events of crises and transformation are documented (Bologna).

Furthermore, these changes could be better understood when a social analysis of the proto-urban and urban settlements is approached, deepening the role of self-representation of the emerging aristocratic élites of the EIA, *vis-à-vis* possible more early 'egalitarian' instances,⁴² even addressing other categories of public monuments, households, and evidence of grave goods.

In conclusion, although this paper is more focused on the FBA and EIA periods, the process of urbanisation and the role of perimeter structures will have noticeable advances throughout the following centuries. It is only during the 7th and the 6th centuries BCE, also thanks to more direct Mediterranean contacts, that many of the central sites mentioned became cities (in the 'Classical' sense of the term), while new trading emporia were also founded from the Apennines to the Adriatic gulf. Amongst many examples, we could mention the case of Spina, founded during the second half of the 6th century BCE at the mouth of the Po, on the northern Adriatic coast. The excavations at Spina show the integration, within a new 'polis', of many architectural solutions of

³⁹ von Eles 2015.

⁴⁰ Guidi 2008: 180.

⁴¹ Fernández-Götz 2017; Magny 2013.

⁴² As suggested, for instance, for Bologna (Ortalli 2013).

the 'traditional' types previously described, including an urban layout planned in a wet environment, based on a regular system of water canals and rectangular blocks,⁴³ as well as perimeter and defensive structures made of several rows of wooden posts, last rebuilt during the 4th century BCE.⁴⁴

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This paper has been conceived, discussed and commented by both the authors in late 2017. L.Z. wrote paragraphs 1, 3 and 5. P.R. wrote the paragraphs 2 and 4. The excavations at Verucchio – Pian del Monte were conducted in the field by the authors, under the scientific direction of Maurizio Harari, University of Pavia.

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⁴³ Zamboni 2016; 2017.

⁴⁴ Buoite *et al.* in press.

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