McDONALD INSTITUTE CONVERSATIONS

Delicate urbanism in context:
Settlement nucleation in pre-Roman Germany

The DAAD Cambridge Symposium

Edited by Simon Stoddart

Delicate urbanism in context

McDONALD INSTITUTE CONVERSATIONS

Delicate urbanism in context:
Settlement nucleation in pre-Roman Germany

The DAAD Cambridge Symposium

Edited by Simon Stoddart

with contributions from
Ines Balzer, Manuel Fernández-Götz, Colin Haselgrove, Oliver Nakoinz, Axel G. Posluschny, Gerd Stegmaier, Anthony Snodgrass, Peter Wells, Günther Wieland, Katja Winger and Caroline von Nicolai

Published by:
McDonald Institute for Archaeological Research
University of Cambridge
Downing Street
Cambridge, UK
CB2 3ER
(0)(1223) 339327
eaj31@cam.ac.uk
www.mcdonald.cam.ac.uk

ISBN: 978-1-902937-83-0

Cover design by Dora Kemp and Ben Plumridge.
Typesetting and layout by Ben Plumridge.

Front cover: the Goldberg; back cover: the Danube at Kelheim.

Edited for the Institute by James Barrett (*Series Editor*).

Contents

Contributors vi
Figures vii
Tables viii

Chapter 1 Introduction 1
Simon Stoddart (Cambridge)

Part 1 **Regional differences** 7

Chapter 2 Early Iron Age *Fürstensitze* – some thoughts on a not-so-uniform phenomenon 9
Axel G. Posluschny (Glauberg)
Chapter 3 Urbanism of the oppida: a case study from Bavaria 27
Caroline von Nicolai (Munich)
Chapter 4 Ritual, society and settlement structure: driving forces of urbanization during the second and first century BC in southwest Germany 41
Gerd Stegmaier (Tübingen)

Part 2 **The rural dimension** 49

Chapter 5 The rural contribution to urbanism: late La Téne Viereckschanzen in southwest Germany 51
Günther Wieland (Esslingen)

Part 3 **The funerary dimension** 61

Chapter 6 Burial mounds and settlements: the funerary contribution to urbanism 63
Ines Balzer (Rome)

Part 4 **Comparative approaches** 85

Chapter 7 Quantifying Iron Age urbanism (density and distance) 87
Oliver Nakoinz (Kiel)
Chapter 8 Not built in a day – the quality of Iron Age urbanism by comparison with Athens and Rome 97
Katja Winger (Berlin)

Part 5 **Discussion** 103

Chapter 9 Discussing Iron Age urbanism in Central Europe: some thoughts 105
Manuel Fernández-Götz (Edinburgh)
Chapter 10 Urbanization in Iron Age Germany and beyond 111
Colin Haselgrove (Leicester)
Chapter 11 Urbanism: a view from the south 115
Anthony Snodgrass (Cambridge)
Chapter 12 On the origins and context of urbanism in prehistoric Europe 117
Peter Wells (Minnesota)

Bibliography 120
Index 134

Contributors

Ines Balzer
Deutsches Archäologisches Institut Rom, Via Valadier 37, 00193 Rome, Italy.

Manuel Fernández-Götz
Lecturer in Archaeology, School of History, Classics and Archaeology, University of Edinburgh, William Robertson Wing, Old Medical School, Teviot Place, Edinburgh, EH8 9AG, UK.

Colin Haselgrove
School of Archaeology and Ancient History, University of Leicester, University Road, Leicester, LE1 7RH, UK.

Oliver Nakoinz
Johanna-Mestorf Akademie / Institut für Ur- und Frühgeschichte, Christian-Albrechts-Universität, Leibnizstraße 3, D - 24118 Kiel, Germany.

Axel G. Posluschny
Keltenwelt am Glauberg, Am Glauberg 1, 63695 Glauburg, Germany.

Gerd Stegmaier
Institut für Ur- und Frühgeschichte und Archäologie des Mittelalters, Eberhard Karls Universität Tübingen, Schloss Hohentübingen, D-72070 Tübingen, Germany.

Anthony Snodgrass
Faculty of Classics, Sidgwick Avenue, Cambridge, CB3 9DA, UK.

Simon Stoddart
Magdalene College, Cambridge, CB3 0EU, UK.

Peter Wells
Department of Anthropology, University of Minnesota, 395 HHH Ctr, 301 19th Ave S, Minneapolis, MN 55455, USA.

Günther Wieland
Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart, Archäologische Denkmalpflege Ref. 84.1, Fachgebiet Prospektion, Dokumentation und Archäobiowissenschaften, Berliner Str. 12, 73728 Esslingen, Germany.

Katja Winger
Institut für Prähistorische Archäologie, Freie Universität Berlin, Fabeckstr. 23-25, 14195 Berlin, Germany.

Caroline von Nicolai
Ludwig-Maximilians-Universität München, Institut für Vor- und Frühgeschichtliche Archäologie und Provinzialrömische Archäologie, Geschwister-Scholl-Platz 1, 80539 München, Germany.

Figures

1.1	*Principal region of study.*	2
2.1	*Map of Princely Sites mentioned in the text.*	10
2.2	*Area of the magnetometer survey on the Glauberg.*	11
2.3	*The bronze Celtic style Schnabelkanne from the Princely burial 1 from the Glauberg.*	12
2.4	*The bronze Celtic style Röhrenkanne from grave 2 from the Glauberg.*	13
2.5	*Bronze double mask fibula from grave 3 from the Glauberg.*	13
2.6	*Life-size sandstone statue from a ditch at burial mound 1 from the Glauberg.*	14
2.7	*Model of a settlement hierarchy for the Early Iron age and alternative hierarchical model*	15
2.8	*20-km viewsheds from the Heuneburg and Bussen mountain.*	17
2.9	*Viewsheds of the Hallstatt settlements and Early La Tène settlements in the area around the Glauberg.*	18
2.10	*Slope based least cost path model of possible routes connecting sites with line-decorated pottery, also found on the Glauberg.*	19
2.11	*Location of the Princely grave on the Glauberg.*	20
2.12	*Sizes of the catchment areas that are reachable on foot within a one hour from a settlement.*	22
2.13	*Core settlement areas of the Marienberg environs in the Urnfield and the Hallstatt periods.y.*	23
2.14	*Core settlement areas of the Glauberg environs in the Urnfield and the Hallstatt periods.*	23
2.15	*Early Celtic style Fürstensitze and their relation to the borders of larger regions and major rivers.*	24
2.16	*Share of settlement sites per 100 years for the Late Bronze Age the Early Iron Age Hallstatt and the Early La Tène period.*	25
3.1	*Oppida and open agglomerations in the modern federal state of Bavaria.*	28
3.2	*Manching.*	29
3.3	*Kelheim.*	30
3.4	*Fentbachschanze.*	31
3.5	*Schwanberg.*	32
3.6	*Berching-Pollanten.*	34
3.7	*Passau.*	35
3.8	*Straubing.*	36
4.1	*Diagram of factors which favoured and led to a process of centralization and the foundation of oppida.*	42
4.2	*Map of southwest Germany with the two regions of investigation: Heidengraben and Heunebur.*	43
4.3	*Map of the Late La Tène oppidum Heidengraben.*	44
4.4	*Plan of the Burrenhof cemetery with Early Iron Age burial mounds and the complex Late Iron Age system of ditches.*	45
4.5	*Diagram of individual interests that influenced the process of centralization and dispersal during the Late La Tène period.*	47
5.1	*Aerial view of the well preserved Viereckschanze of Westerheim.*	52
5.2	*Ground plans and orientation of Viereckschanzen from Baden-Württemberg.*	53
5.3	*Plan and drawing of the finds from the excavation of K. Schumacher at the Viereckschanze of Gerichtstetten.*	54
5.4	*Example of a very well preserved rampart at Gerichtstetten.*	55
5.5	*Range of functional features of the Viereckschanzen.*	56
5.6	*Plan of the Viereckschanze of Königheim-Brehmen.*	57
5.7	*Plan of the excavated Viereckschanze of Ehningen.*	58
6.1	*Magdalenenberg.*	65
6.2	*Kappel am Rhein.*	65
6.3	*Burial mounds of Ha D1 to Ha D3 in the region of the Heuneburg and the Hohmichele and other burial mounds.*	66
6.4	*The Außensiedlung near the Heuneburg.*	67
6.5	*Clans drawn in from peripheral settlements to the Heuneburg and Außensiedlung and the settlement structures of the Heuneburg.*	68
6.6	*The Münsterberg of Breisach.*	69
6.7	*The occupation of the Münsterberg in Breisach.*	70
6.8	*The Heuneburg and the rebuilt Gießübel-Talhau-Nekropole.*	71
6.9	*The Hohenasperg.*	72

6.10 *The Hohenasperg near Stuttgart: Princely tombs.* 73
6.11 *Settlements of the Iron Age in the region of the Hohenasperg.* 74
6.12 *The Ipf near Bopfingen: digital terrain model with the fortification-system.* 75
6.13 *The two hillforts Ipf and Goldberg.* 75
6.14 *Niedererlbach.* 76
6.15 *Glauburg-Glauberg.* 78
6.16 *Glauburg-Glauberg: Tumulus 1 and environs.* 79
6.17 *Glauburg-Glauberg. Tombs 1 and 2 of Tumulus 1 and the sandstone statue.* 80
6.18 *Korntal-Münchingen Lingwiesen excavation.* 81
6.19 *Glauburg-Glauberg: aerial photo of the rebuilt Tumulus 1 and the ditch-system.* 82
7.1 *Global temperature, colluvial layers in southwest Germany, the Heuneburg population and the number of sites in the Heuneburg area mapped onto the same graph.* 92
7.2 *Factors influencing the behaviour of the two types of actors in the two agent based models.* 93
7.3 *Populations of some settlements and interpretation according to one simulation run of abm 2.* 93
7.4 *An alternative narrative of the Heuneburg development.* 94
8.1 *Ground plan of the acropolis of Athens and idealized 'drone' image of the acropolis of the Heuneburg.* 98
8.2 *Ground plans of Rome with the area surrounded by the Servian Wall marked in yellow and the oppidum of Manching with the main excavations.* 100
8.3 *Diversity of building structures in the northern part of the 'Südumgehung' at Manching.* 101
9.1 *Theoretical diagram of relations between the oppidum and its surrounding rural territory, based on the data of the Titelberg area during La Tène D.* 107
9.2 *Two examples of Iron Age low-density urbanism. A) Heuneburg; B) Bourges.* 108
9.3 *Idealized model of the Heuneburg agglomeration.* 109
9.4 *Idealized reconstruction of the centre of the oppidum of Corent.* 110

Tables

2.1 *Functions of Central Places and their appearance at Early Iron Age Fürstensitze.* 16
3.1 *Comparison of urban attributes of the sites.* 33
7.1 *The effect of some kinds of complexity reduction on two community size thresholds.* 91
9.1 *Archaeological urban attributes, with an application to the Heuneburg and Manching.* 106

Chapter 3

Urbanism of the *oppida*: a case study from Bavaria

Caroline von Nicolai (Munich)

Archaeological criteria for urbanism

The *oppida* were an essential part of the Late Iron Age settlement system in Temperate Europe. Since 1984, when John Collis published his study 'Oppida: Earliest towns north of the Alps' (Collis 1984), archaeologists have gradually acknowledged that these settlements can be considered urban. Nowadays, even some Early Iron Age settlements like *Heuneburg* or *Bourges* are classified as urban (Fernández-Götz & Krausse 2013, 483–5; Fernández-Götz 2014b, 158). Today, many scholars equate the *oppida* with the term 'town' (Fichtl 2000). However, the question arises whether this equation is always correct. Based on a case study from Bavaria, this paper examines which of the late Iron Age sites in Temperate Europe that are generally called *oppida* can really be considered urban.

Many archaeologists have developed criteria to define cities and to distinguish these from non-urban settlements. However, only those definitions and criteria that are considered useful for the purpose of this article will be briefly presented. According to Michael E. Smith, urban settlements are 'centres whose activities and institutions – whether economic, administrative or religious – affect a larger hinterland' (Smith 2007, 4). For Manuel Fernández-Götz and Dirk Krausse, an urban settlement is a 'numerically significant aggregation of people permanently living together in a settlement that fulfils central place functions for a wider territory' (Fernández-Götz & Krausse 2013, 480). Axel Christophersen considers 'urbanism' as 'the way of life developed in dense urban communities', whereas 'urbanization' is 'the process whereby towns are established' (Christophersen 2015, 113). To identify settlements that fulfil these characteristics, the German Archaeological Institute uses five major criteria in its model of urbanization: (1) the persistence of settlement activities; (2) the level of social and political interaction and communication which can be observed via the presence of communal structures, such as public open spaces for assemblies, markets, religious activities, as well as via communal building activities, for instance the building of a rampart or temples; (3) the building density; (4) the functional and structural variety of building structures; (5) the quantity and diversity of finds indicating craft and trade activities (Wendling 2013, 461–2). For the late Iron Age, in Temperate Europe, these finds include Roman imports such as metal vessels, amphorae, coins, or Hellenistic black-glazed pottery from Campania or Etruria; imports from the Alps such as fibulae or ceramics of the *Fritzens-Sanzeno* type; as well as coins, jet and amber objects. Michael E. Smith uses a series of archaeological 'urban attributes' to understand both the degree of urban development and the nature of urban processes. These include (6) the settlement size, i.e. the population, the area covered and the settlement density; (7) the social impact (urban functions), i.e. the presence of high élite burials, of large (high-order) temples, of civic architecture, of craft production, markets or shops; (8) the built environment, i.e. the existence of fortifications and gates, of a connective infrastructure, of intermediate-order temples, of residences of a lower élite, of formal public space, and the planning of an epicentre; (9) the presence of social and economic features, such as social diversification, of lower élite burials, neighbourhoods, imports and the practice of agriculture within the settlement (Smith 2017, 158–61). For the Late Iron Age, it seems also useful to evaluate five more criteria, viz. (10) the strategic location of the settlement relative to important trade routes; (11) an earlier occupation of the site during the Hallstatt and early La Tène period; (12) the existence of a planned urban layout; (13) the exploitation of raw materials such as iron ore or graphite in the surroundings of the settlement; (14) the practice of administrative and

political functions, indicated in the archaeological record by coin minting and writing. The potential urban character of the *oppida* and of other settlements in Bavaria will be studied below using these 14 criteria.

The *oppida* and unfortified 'centres of production and distribution' in Bavaria

Six fortified sites in the modern federal state of Bavaria are generally considered *oppida* (Fig. 3.1): *Manching* (district of Pfaffenhofen an der Ilm, Upper Bavaria), *Kelheim* (district of Bavaria, Lower Bavaria), *Staffelberg* (district of Lichtenfels, Upper Franconia), *Schwanberg* (district of Kitzingen, Upper Franconia), *Fentbachschanze* (district of Miesbach, Upper Bavaria) and *Leonberg* (district of Altötting, Upper Bavaria).

The *oppidum* of *Manching* is a key site of the European Iron Age and one of the biggest known *oppida*, with a total surface of 380 ha (Fig. 3.2). The site is situated on a low-lying gravel terrace, about 10 km south of the modern course of the Danube. In ancient times, an old river bed formed a natural river harbour. Together with other routes, the waterway offered an outstanding economic opportunity, enabling the formation of a node along important ancient trans-European routeways. The vicinity of iron ore sources in the wetlands south of *Manching* probably played a major role in the development of the settlement. The site was already settled in the late Hallstatt/early La Tène period. Geophysical survey revealed a *Herrenhof* (a 'chief's estate') with a double or even triple ditch system close to the eastern rampart. Two cemeteries with rich inventories of weaponry and jewellery indicate settlement activities during La Tène B and La Tène C1, but the corresponding settlements are so far unknown. However, these must have been the origin of the emergent unfortified settlement that developed as a synoicism in La Tène C2 (Wendling 2013, 464–6). A multiple phase temple was located at almost the exact centre of the later town (Sievers 2010, 90–8; Eller et al. 2012, 310). The settlement space was already densely occupied at the transition of La Tène C1 – La Tène C2 (around 200 BC), showing a multitude of house forms: from narrow, elongated constructions

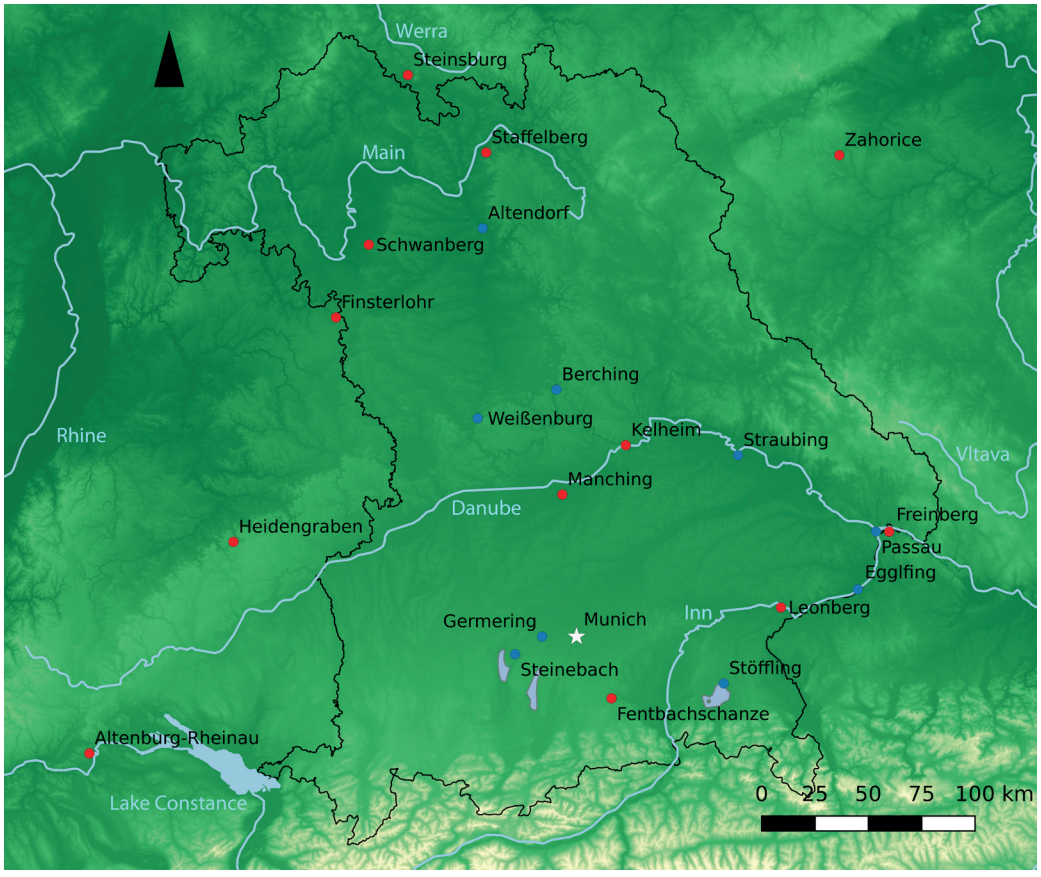

Figure 3.1. Oppida *and open agglomerations in the modern federal state of Bavaria studied in this paper. Red: supposed* oppida *with fortifications. Blue: unfortified agglomerations, probably centres of production and distribution (Author).*

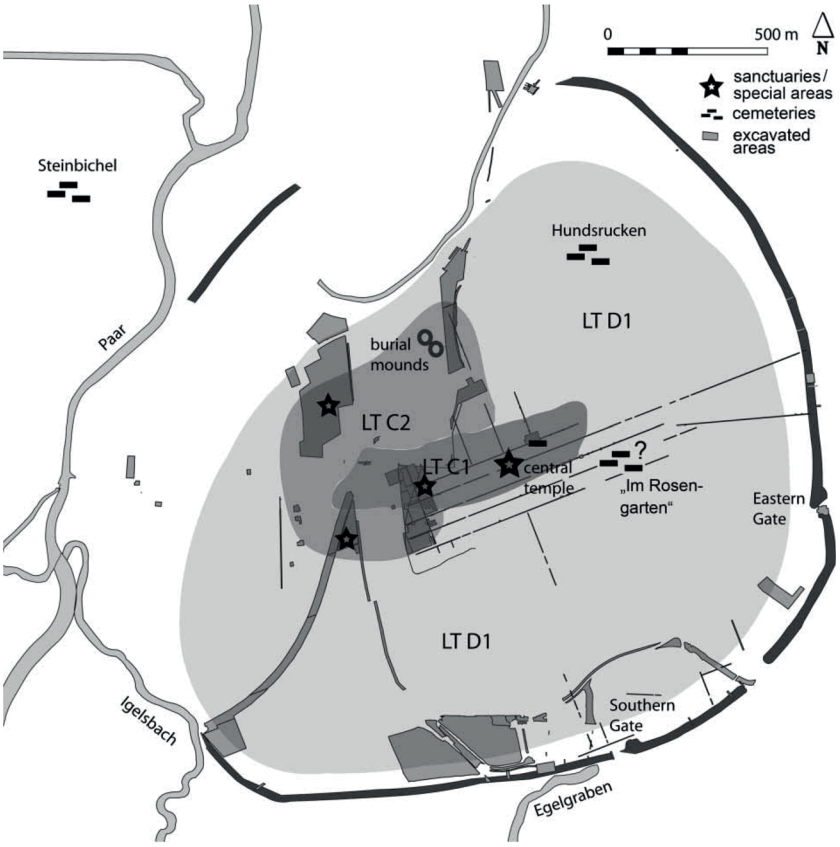

Figure 3.2. Manching*: schematic plan of archaeological sites and features, excavated areas, and settlement expansion from LT C1 to LT D1 (Wendling 2013, fig. 1).*

to small economic and storage facilities at one end of the range and to monumental residences at the other. This variability in building size and form is a good indicator of functional and social diversity. Moreover, at *Manching*, infrastructural amenities, such as wells or a complex street grid, were already built at a very early stage (Eller et al. 2012, 311–12; Wendling 2013, 475–6). Long-distance trade, mineral resources and specialized production such as wheel-turned pottery, copper and iron working, glass working, also played a major role in the development of the *oppidum*, as early as La Tène B2 (Gebhard 1989, 181–5; Wendling 2013, 470–3). The rampart that made *Manching* a true *oppidum* was erected around 140 to 120 BC, during La Tène D1 (van Endert 1987, 90–1; Sievers 2007, 104–11). The construction of the wall coincided with a distinct reorganization of the internal settlement layout. The occupation as well as trade and craft activities intensified after the erection of the wall (Wendling 2013, 480–1). However, after a short apogée in the first half of the first century BC, signs of economic and structural decline increasingly emerged, around 80–70 BC (La Tène D1b), when the major influx of southern imports ceased and a reduction of metal supply can be observed. The density and size of dwellings diminished until only a relatively sparse occupation was visible in the archaeological record. The organized layout of the town broke down. Finally, towards the mid first century BC, the settlement was abandoned (Sievers 2007, 135–42).

The *oppidum* of *Kelheim* is located at the confluence of the rivers Danube and Altmühl (Fig. 3.3). The fortification is situated between the two rivers on the steep-sided spur of the Hirschberg (Fig. 3.2) and *Michelsberg* (Fig. 3.1), up to 70 m above the Danube. Between the northern foot of the hill and the Danube, there is a plateau called *Mitterfeld* (Fig. 3.3). Three lines of fortification oriented north–south enclose the site. The oldest (Fig. 3.3a) on the summit of the *Mitterberg* were erected during the Bronze Age and rebuilt at the transition between Hallstatt and La Tène (Leicht 2000, 16–17). The central and the exterior rampart can be assigned to late La Tène (Figs. 3.3b and 3.3c), as well as another rampart which delimited the *Mitterfeld* to the

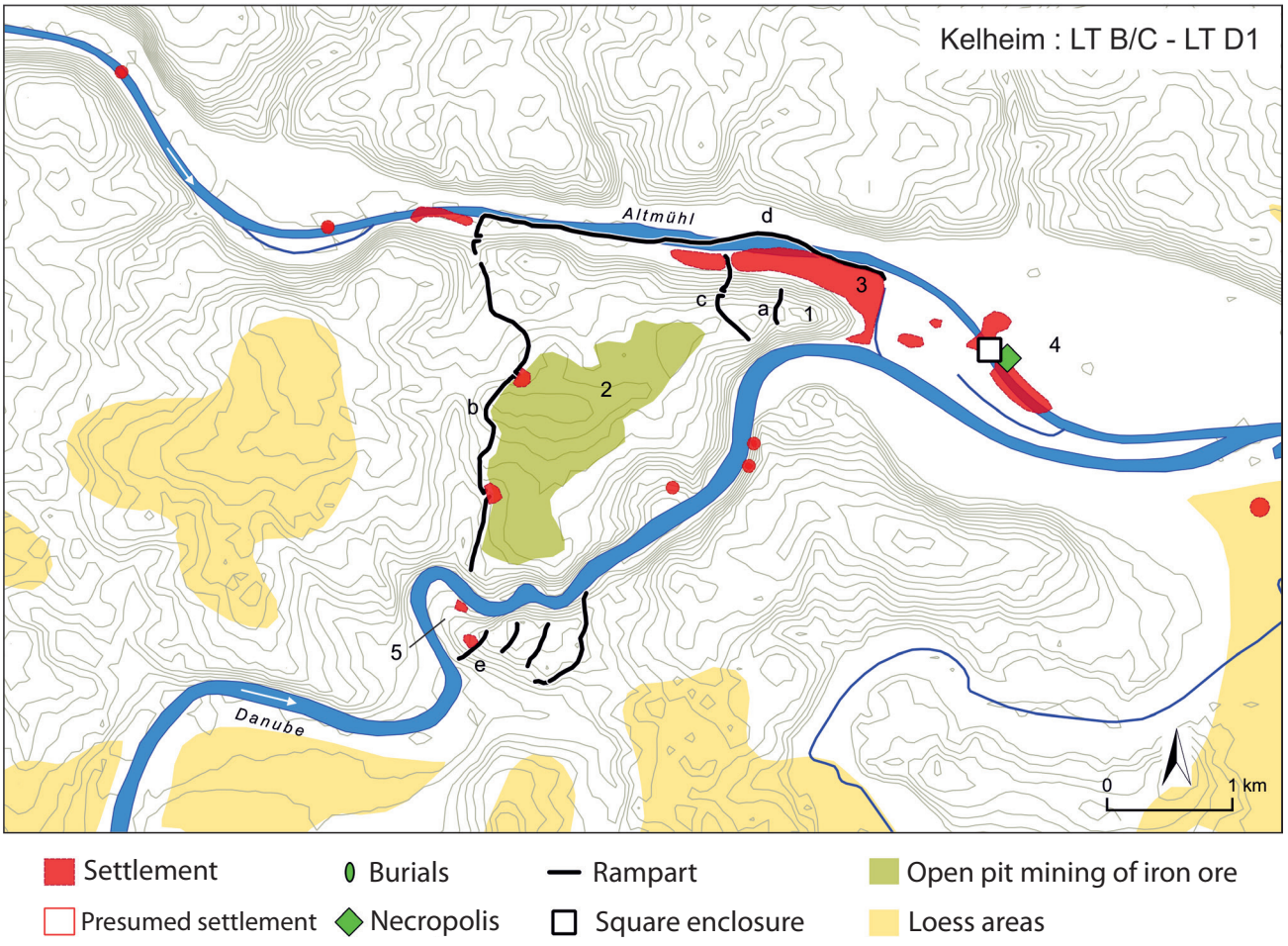

Figure 3.3. *Kelheim: occupation of the area during the middle and the late La Tène period. 1)* Michelsberg*; 2)* Hirschberg*; 3)* Mitterfeld*; 4)* Altmühlflur*; 5)* Frauenberg*; a) rampart on the* Michelsberg*; b) exterior rampart; c) interior rampart; d)* Altmühlwall*; e)* Wolfgangswall *(Tappert 2016, fig. 2, modified by the author).*

north (Fig. 3.3d) along the Altmühl river (Leicht 2000, 123–4). The walls of this latest phase, built towards the mid first century BC, defend an area of almost 600 hectares, which makes *Kelheim* one of the biggest *oppida* in Europe. The earliest settlement remains date from Hallstatt D3 to La Tène A, followed by a longer hiatus (Pauli 1993, 72–5, 87–8). La Tène finds discovered under the internal and the external walls, as well as several burials dating to La Tène B2 and C1 indicate that an open settlement preceded the development of the *oppidum* during La Tène C2 (Pauli 1993, 25–7). The densest occupation during La Tène C2 and D1 was confined to the settlement terrace of the *Mitterfeld*, where several enclosed farmsteads, pits and more than 40 silos were excavated. In this area, Mediterranean imports have been found as well as metallurgical activities including the production of coins (Pauli 1993, 39–43, 53–63; Sandner 2012, 79–95). On the *Hirschberg*, between the exterior and the central rampart area, several hundred pits were dug to extract iron ore, which was then processed in the *oppidum* (Pauli 1993, 35–9; Schäfer 2002, 219–25). *Kelheim*'s occupation ended during the transitional period between La Tène D1 and D2 (Pauli 1993, 89).

The *Fentbachschanze* is situated on a trapezoidal spur in the foothills of the Alps between the small rivers of Mangfall and Moosbach (Fig. 3.4). This spur measures 500 m in length and 350 m in width. Steep slopes naturally protect the site to east and north. The fortification that defends the spur ('Abschnittswall' in German) is located to the south, where the natural defence was considered insufficient (Irlinger 2007, 264). Today the rampart is still 9 m high, but its construction technique is unknown, although it was fronted by a ditch. In 1877, the ditch was still 2 m deep and 4 m wide, but can no longer be seen. The entrance was probably

situated to the east. Another rampart was eventually placed in front of the inner one, at a distance of 280 m. Paul Reinecke was the first archaeologist who defined the Fentbachschanze as an *oppidum* in 1930 (Reinecke 1930, 41, 46), but, up to now, the site has not been properly studied. Very limited excavation campaigns took place in 1877 and 1973, but they have only yielded a few finds, such as burnt clay, some iron objects, coins and fibulae. Metal detectorists have discovered more finds from the middle and late La Tène period, but also from the Bronze Age, the Urnfield period and from Roman times. Geophysical survey in 1995 has shown that timber buildings, pits, furnaces and fireplaces existed on the plateau, not only within the inner fortification, but also between the inner and the possible outer fortification (Faßbinder & Irlinger 1996,

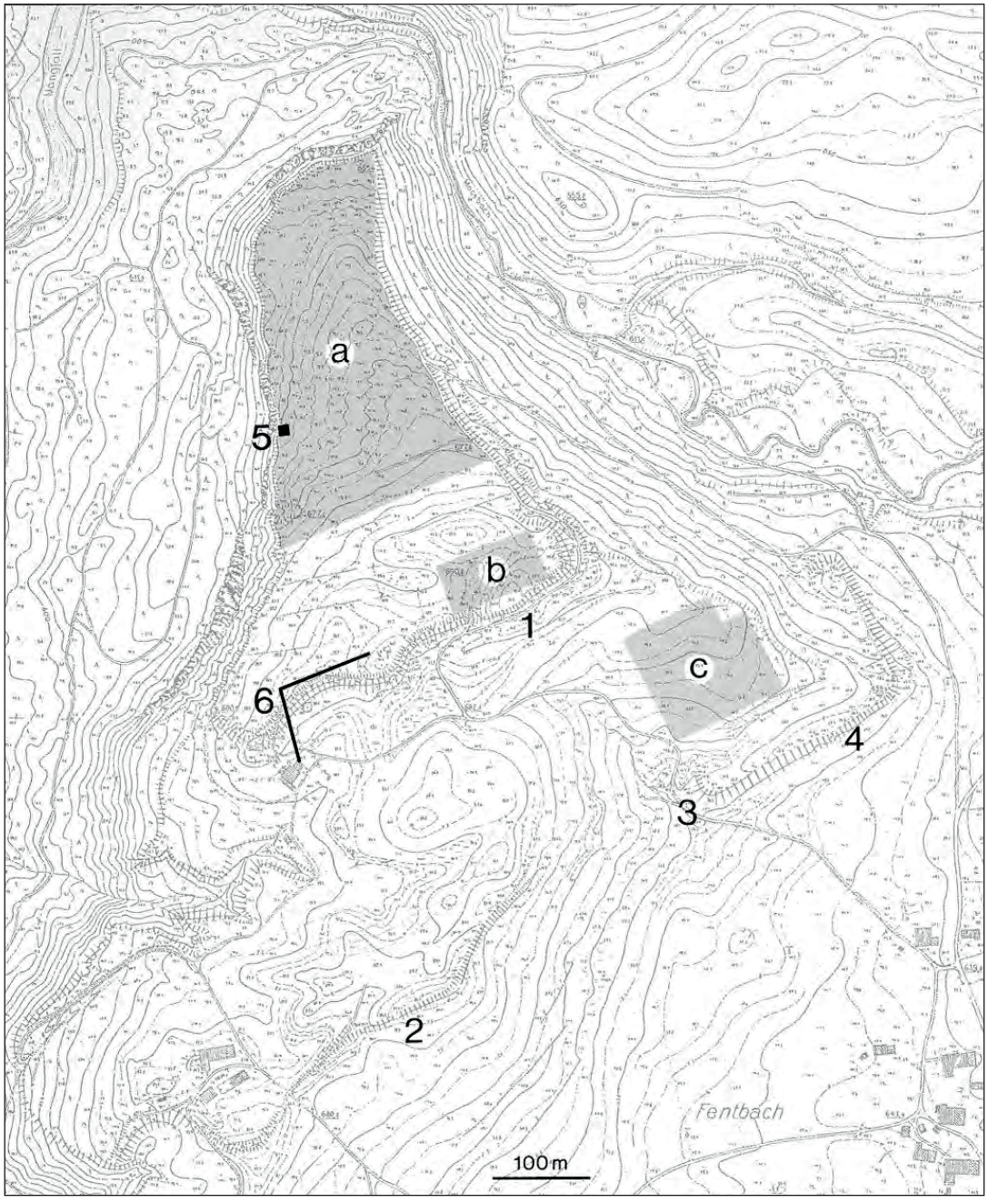

Figure 3.4. Fentbachschanze. *1) main rampart; 2, 4) external rampart; 3)* Zangentor *entrance? (gate with terminals turned in); 5) excavation 1965; 6) excavation 1973; a, b, c) magnetometer survey 1995 (Faßbinder/Irlinger 1996, fig. 1).*

199–202). However, it is impossible to attribute these features definitely to the Iron Age because of the lack of excavations (Irlinger 2007, 264).

The *Staffelberg* is an outlying escarpment of the Franconian Jura, with very steep slopes, that dominates the Main valley. A first fortification was erected on the *Staffelberg* in Hallstatt D, followed by another one that surrounded the uppermost plateau of 3 ha in La Tène A. This fortification was destroyed by fire around 380 BC. During the first half of the second century BC, several ramparts were built on the plateau and below, enclosing a total surface of 49 ha. So far, only a couple of post holes, pits and fire places of the late La Tène period have been excavated. Mainly ceramics and iron tools were found within the settlement, as well as several foreign coins from Gaul, Switzerland, Bohemia, Cappadocia and Rome and two coin punches. Glass jewellery was scarce. The *oppidum* was abandoned in the second half of the first century BC (Abels 2001, 466–9; Irlinger 2007, 263).

The *Schwanberg* is a 474 m high foothill of the Steigerwald that dominates the Main valley some 200 m below (Fig. 3.5). The hilltop of the *Schwanberg* is naturally protected by steep slopes to the north, west and east. The passage to the plateau to the south is barred by two ramparts and several ditches that are still very visible today. The first fortification system was already erected during the late Bronze Age and was rebuilt several times until the Middle Ages. A remodelling probably took place during the late Iron Age to enclose a total surface of 170 ha. The *Schwanberg* was frequented during the early and the late Bronze Age and again in the early and middle La Tène period (from La Tène B2 onwards). Finds of late La Tène date include ceramics, fibulae, iron tools, iron slags, a hoard containing 51 iron ingots, several glass bracelets, two gold and one silver coins. Most of these objects were discovered by metal detectorists. No archaeological features from the Iron Age have been excavated so far, so it is uncertain whether the site has ever been occupied (Buthmann 1998, 31–96).

The fortification of *Leonberg* is situated on a ridge at the confluence of the rivers Inn and Salzach. At least one scholar (Irlinger 2007, 269–70) does not consider the settlement of *Leonberg* as an *oppidum* but as a 'large settlement'. Three sides of the ridge are naturally protected by steep slopes, the fourth by a rampart which is still up to 7 m high, dating in its first phase to the Iron Age and enclosing up to 24 ha. The site has not so far been excavated, so geophysical survey alone shows that pits and post buildings existed on the plateau. More than 40 silver coins were discovered during field walking, many of which come from Eastern Gaul. Fragments of bronze vessels indicate the presence of Roman imports, and it is clear that bronze, silver and gold were worked in the settlement. The *Leonberg* was occupied during La Tène D and probably abandoned in La Tène D2a,

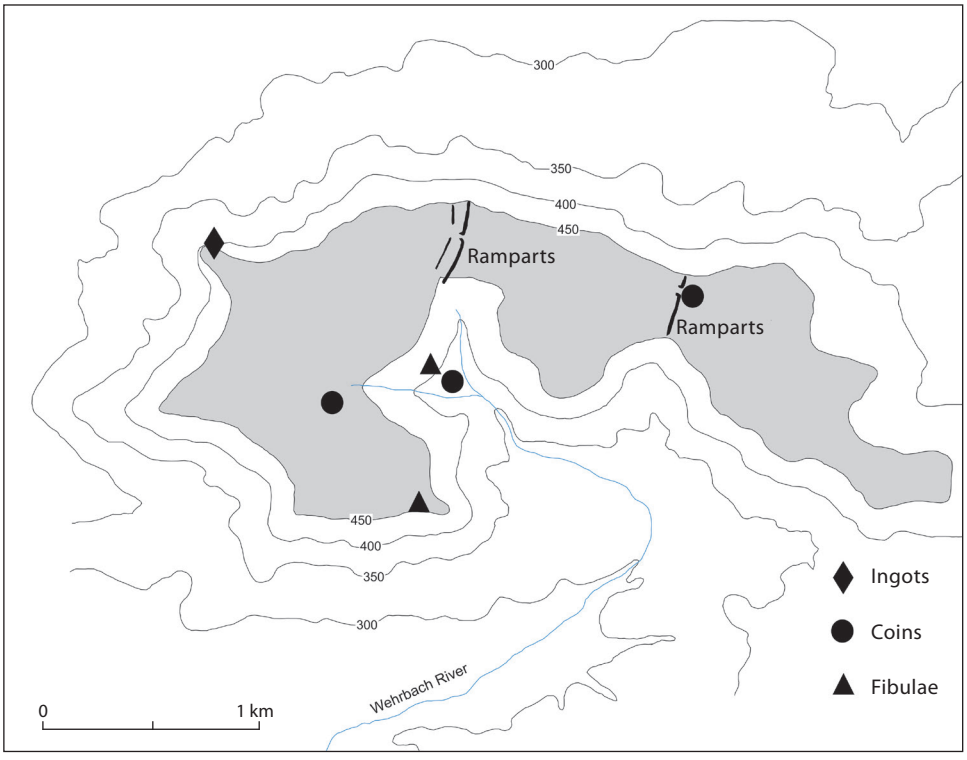

Figure 3.5. Schwanberg*: fortifications and single finds (Peschel 1989, fig. 137).*

Table 3.1. *Comparison of urban attributes of the sites taken into account. Bold letters: oppida. The arrow indicates the decreasing number of urban attributes (last column), and thus the decreasing degree of urbanism of the different sites (Author).*

Site	Location close to roads	Continuity	Older occupation	Public space	Density	Surface	Diversity of buildings	Specialized crafts	Exploitation of raw materials	Trade activities	Temples	Fortifications	Roads	Residences	Planning	Burials	Social diversity	Agriculture	Writing	Minting	Number of urban traits
Manching	X	Lt B2-D1b	HA D3-LT A	X	X	380	X	X	X	X	X	X	X	X	X	X	X	X	X	X	19
Kelheim	X	Lt C2-D1	HA D3-LT B		X	600	X	X	X	X		X		X		X				X	12
Berching	X	LT D			X	25	X	X	X					X	X					X	8
Straubing	X	LT B1-D2	HA D3-LT A		X	42	x		X	X											7
Passau	X	Lt C2-D1	Lt A-B1		X	40		X	X	X											6
Leonberg	X	Lt D1-Lt D2a			X	24		X		X		X									5
Steinebach	X	Lt C1-D1				25		X		X										X	5
Fentbach-schanze	X	Lt C-D2			X	42	?					X									4
Staffelberg		Lt D?	HA D-Lt A			49				X		X								X	4
Schwanberg		Lt D?	LT A-B			170				X		X									3

since dress items such as bar-shaped and zoomorphic belt hooks, characteristic of the Germanic tribes of Central Germany, were also found on the *Leonberg* (Pietsch 2001, 72–5; Irlinger 2007, 269–70).

It is obvious that the sites described above have little in common, except as examples of fortification from the late Iron Age – and the label *oppidum* which has its origins in Caesar's 'Commentaries on the Gallic War'. As Caesar focused on military actions, fortifications played an important role in his accounts. Accordingly, modern archaeologists regarded the existence of ramparts, as well as an enclosed area of more than 15 ha as the fundamental characteristics for the definition of a '*Celtic* town', even if Caesar himself never claimed urban status for the *oppida* (Rieckhoff & Biel 2001, 257–8; Fichtl 2005, 9–16; Salač 2012, 333; Salač 2014, 70–1).

The differences between the Bavarian *oppida* correspond to the differences that also exist in other regions of the late La Tène culture. Indeed, Vladimir Salač distinguished in 2005 two different types of *oppida*: on the one hand he defined the so called 'lowland *oppida*' which were located in densely populated fertile lowlands, with access to an agricultural hinterland. They were situated close to natural communication routes and often had a multi-period occupation outside the Iron Age. They encompassed large surface areas, were densely inhabited and showed a planned and structured internal organization. Many of them gradually developed from small villages, as early as the third century BC. *Manching* is the prime example of these lowland *oppida* (Salač 2005, 293–4). On the other hand, he defined as 'hilltop *oppida*' those which were situated in perched positions on the margins of populated areas or far away from these, on sites that were often only occupied during the late Iron Age. These sites were not related to communication routes and did not possess an agricultural hinterland. The occupation density was generally low so that large areas remained without built structures. Economic activities were of no importance. Nonetheless, these sites were monumentally fortified and their creation was an organized project that took place after 150 BC (Salač 2014, 67–8).

Salač also identified, in addition to the hilltop and lowland *oppida*, unfortified settlements which were situated in lowland areas with a suitable agricultural hinterland and close to communication routes or sources of raw materials. They covered surfaces of tens of hectares and were densely inhabited. They had a planned and structured internal organization and showed a concentration of production and trade activities. Salač considers these settlements 'centres of production and distribution' (PDC). The most important of these unfortified lowland central places, where coin minting played a major role, are called 'Němčice-Roseldorf type centres' (NRC) (Salač 2005, 290–2; Salač 2014, 66–7).

In Bavaria, there are several sites (Fig. 3.1) that correspond to this description (Irlinger 2007, 266–78), although most of them are only known from surface finds (Irlinger 2002, 253). One of these is the unfortified settlement of *Berching-Pollanten* (district of Neumarkt in der Oberpfalz, Oberpfalz). It was situated in the Sulz valley which links the Danube to the rivers Main, Rhine and Pegnitz in an area with many iron ore deposits (Fig. 3.6). The settlement covered an area of approximately

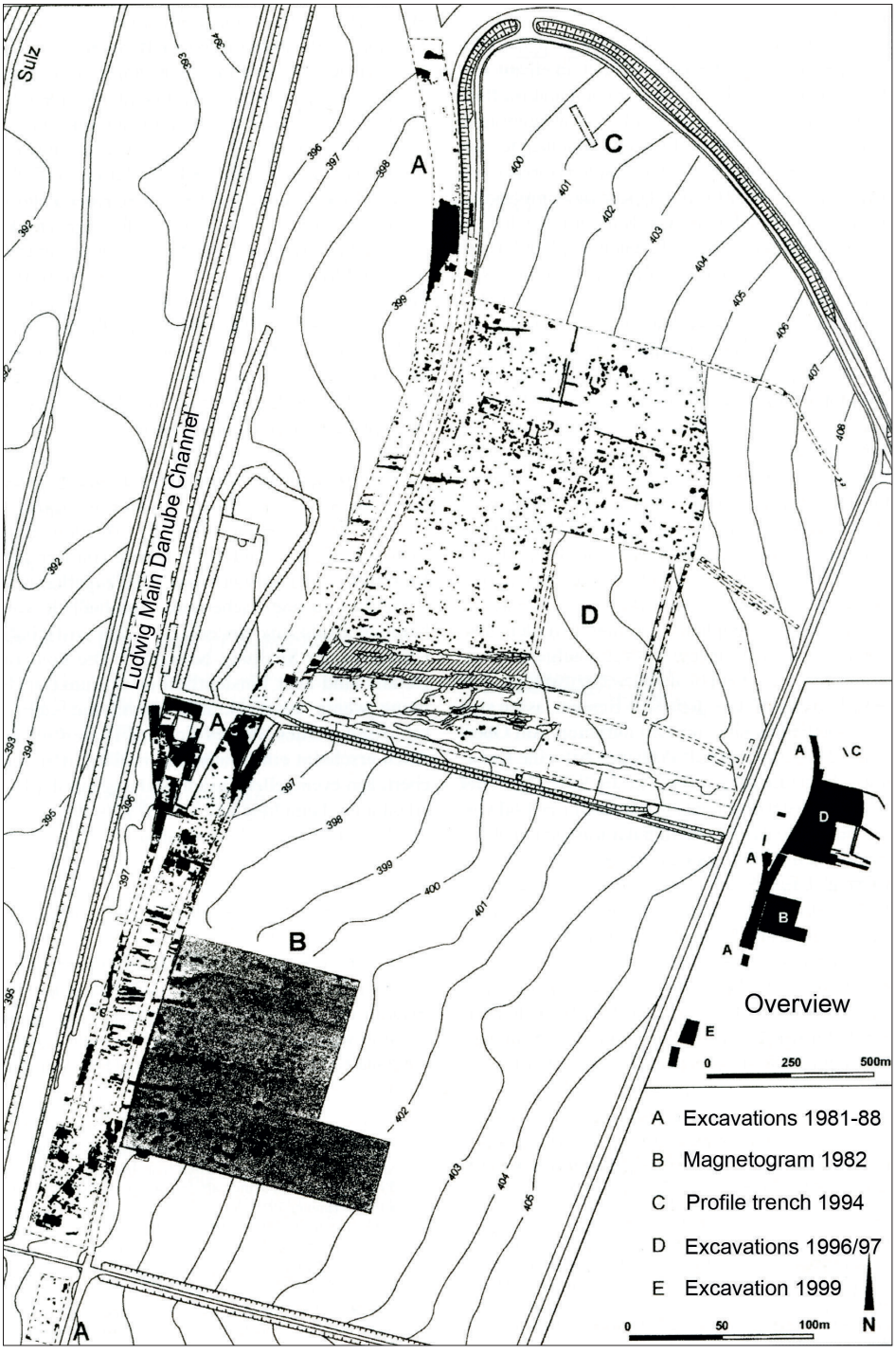

Figure 3.6. Berching-Pollanten*: areas and archaeological structures excavated between 1981 and 1999 (Schäfer 2002, fig. 17).*

25 ha, consisting of a residential area with enclosed farmsteads and an area with workshops. Several sunken huts were excavated here which contained plenty of iron working residues, such as slag, raw iron, iron ingots, semi-finished products and production waste. The inhabitants of *Berching* also produced iron and bronze fibulae, weapons, glass bracelets, worked amber beads and probably minted coins. Foreign coins from Gaul, Bohemia and *Noricum* and a weighing scales show that trade activities were important in *Berching*. However, Roman imports (including amphorae and metal vessels), such as might indicate long distance trade, were missing (Schäfer 2002, 227–35; Schäfer 2010, 227–35).

Paul Reinecke also classified the sites of *Straubing* and *Passau* as *oppida* in 1930 (Reinecke 1930, 47–8),

but no late Iron Age defence system has been found on these sites. The agglomeration of *Passau* (district of Passau, Lower Bavaria) is located at the confluence of the rivers Danube and Inn on a peninsula called *Domberg* (cathedral hill) which is formed by the two rivers (Fig. 3.7). From here, one can easily reach the Austrian Salzkammergut with its rich salt deposits via the Inn river. Some 10 km to the south, there is a deposit of graphite that was used for the production of Iron Age ceramics. A rampart was erected on the *Domberg* during La Tène A/B1 (around 400–370 BC) (Fig. 3.7, above) while the settlement was probably unfortified during La Tène C2 and D1b. This rampart was destroyed during the Medieval period when the *Domberg* was densely covered with buildings. The La Tène settlement on the peninsula probably covered

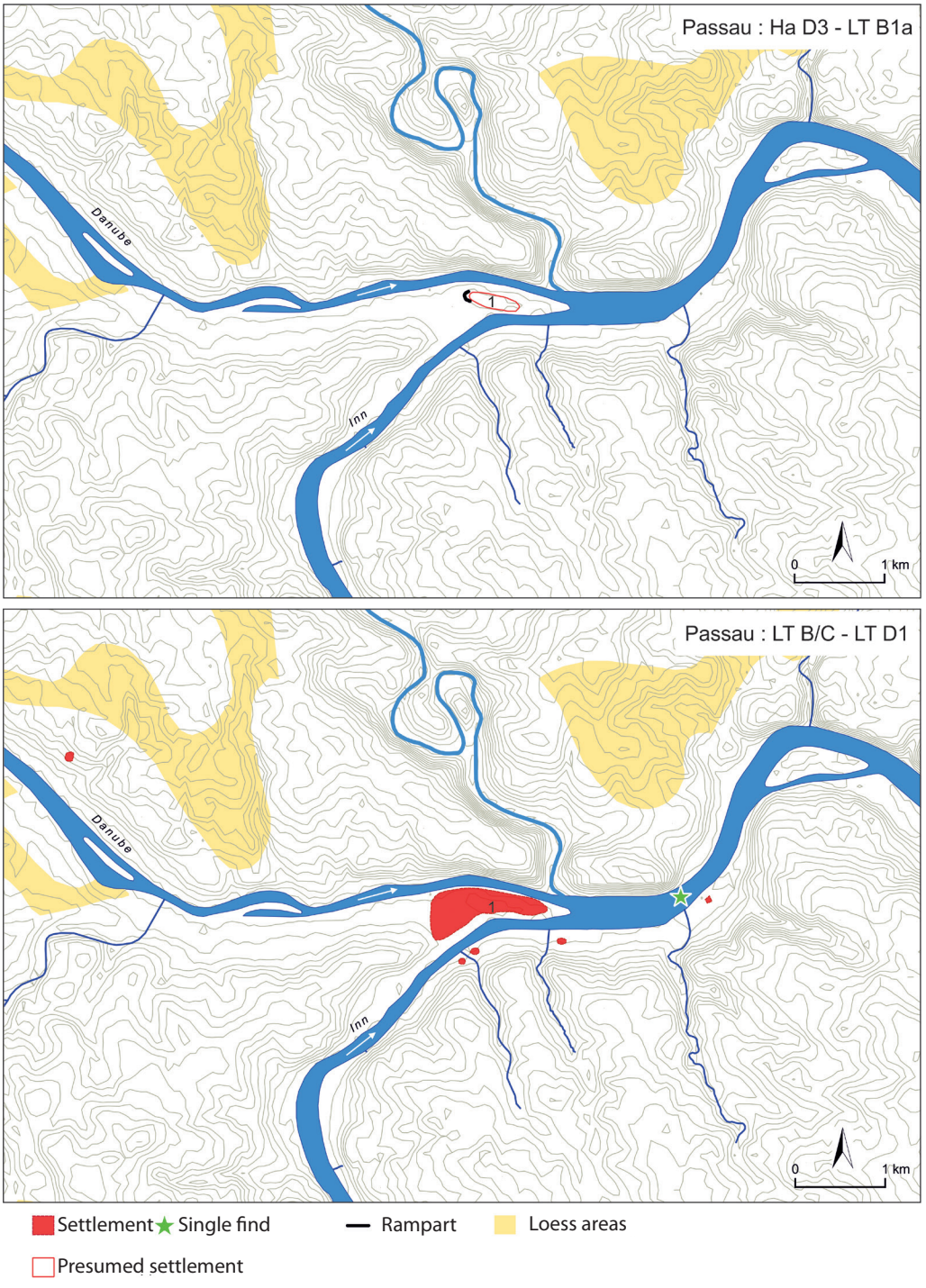

Figure 3.7. *Passau: settlement remains during the Late Hallstatt/Early La Tène period (above), and during the Middle and Late La Téne period (below). 1)* Domberg *(cathedral hill) (Tappert 2016, fig. 4, modified by the author).*

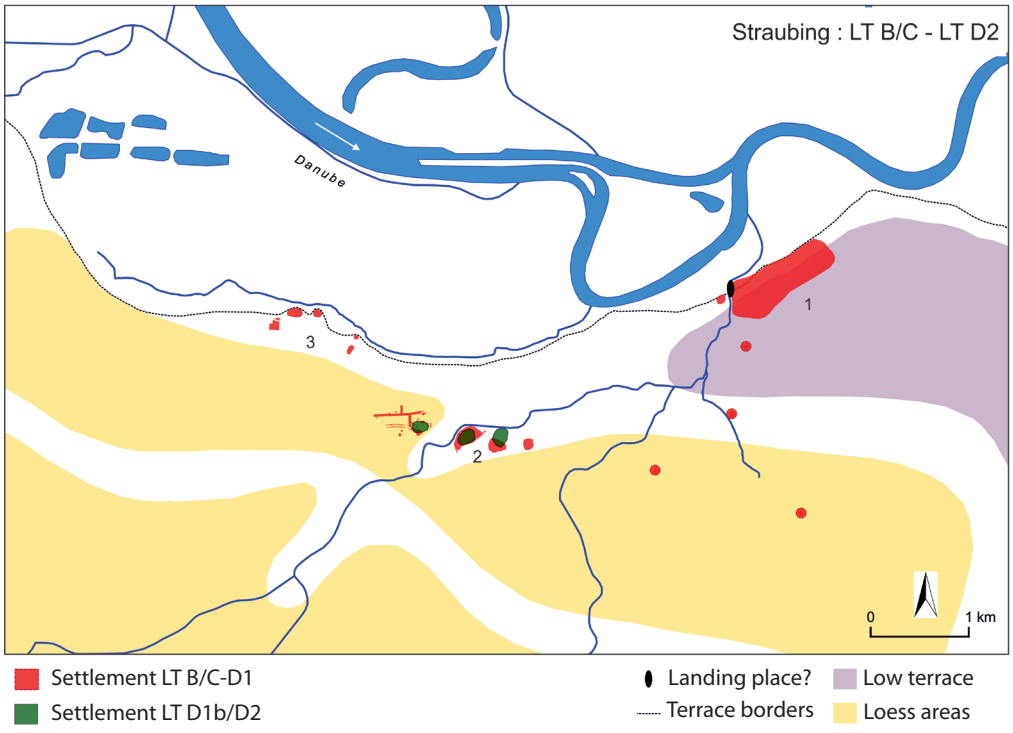

Figure 3.8. *Straubing during the Middle and Late La Tène period. 1)* Ostenfeld*; 2)* Bajuwarenstraße*; 3)* Aster Weg *(Tappert 2016, fig. 6, modified by the author).*

an area of 40 ha (Fig. 3.7, below), and, although it was heavily disturbed by the medieval and modern building activities, several pits survived which contained remains of iron working, wheel-turned pottery and a bronze coin from the *Allobrogi* in southeastern Gaul (Niemeier 2002, 76–9; Irlinger 2007, 272–3; Niemeier 2009, 229–36; Tappert 2016, 153–6).

The agglomeration of *Straubing* (district of Straubing, Lower Bavaria) is situated in a fertile plain, south of a meander of the Danube (Fig. 3.8). The first settlement remains are known from Hallstatt D3 to La Tène A. During the middle La Tène period (La Tène B), there is only evidence of burials and a sunken hut to indicate that the area continued in occupation. In the late La Tène period, the site consisted of several settlement areas: the biggest called *Ostenfeld* is located on the low terrace of the Danube (Fig. 3.8, 1). During La Tène C and D, the *Ostenfeld* settlement extended to a surface area of about 42 ha, along the northern fringe of the Danube. In the area called *Lerchenhaid*, three very large post-constructed and galleried buildings were discovered (Fig. 3.8, 3). The settlement of *Bajuwarenstraße* had a rather rural character (Fig. 3.8, 2). A Roman port situated on the right bank of the Allachbach stream has also yielded Iron Age finds, so it is possible that this landing place already existed during the late La Tène period. Finds (gold and silver coins, fragments of a pair of scales, imitation Campanian ware, etc.) were discovered, especially in the settlement of *Ostenfeld* which show that trading was an important activity in *Straubing*. During La Tène D1, new settlers of Germanic origin from Thuringia arrived who settled down in the areas of *Bajuwarenstraße* and *Lehmgrube Mayr*. The settlement persisted until the end of the Iron Age (La Tène D 2), maybe even until the early Augustan period in the early first century AD, so the *Celtic* name *Sorviodurum* survived (Tappert 2007, 173–201; Tappert 2016, 156–60).

The settlement of *Steinebach* (district of Starnberg, Upper Bavaria) is situated on an upper moraine on the bank of Lake Wörthsee, and probably covered an area of 25 ha. Small-scale survey and excavation campaigns have yielded a large number of glass bracelets and beads, several bracelets made of jet, the material culture of dress such as fibulae, belt hooks, bracelets, finger rings made of bronze and iron, the fragment of a sword, several iron tools, keys, elements of horse harness, spindle whorls, grinding stones, ceramics, etc. The presence of iron raw materials and production waste show iron processing, and probably metalworking (iron, bronze and coins), as well as glass production. The site was probably occupied from La Tène C1 to D1, reaching its climax in La Tène C1b and C2 (Irlinger 2007, 273–5; Kaindl 2010, 127–56).

Germering (district of Fürstenfeldbruck, Upper Bavaria) (Irlinger 2007, 275; Uenze 2009, 5–24), *Stöffling* (district of Traunstein, Upper Bavaria) (Irlinger 1991, 76–9; Irlinger 2007, 266–9), *Egglfing* (district of Passau,

Lower Bavaria) (Uenze 2000, 1–21; Uenze 2007, 113–22; Irlinger 2007, 275), *Altendorf* (district of Bamberg, Upper Franconia) (Stöckli 1979, 27–43; Irlinger 2007, 273–5) and *Weißenburg* (district of Weißenburg-Gunzenhausen, Central Franconia) (Nadler 2001, XVI–XVII; Irlinger 2007, 276) are further large centres of production and distribution in Bavaria, where for instance the production of glass or trade activities (via the presence of foreign objects such as jet bracelets or coins from Gaul, Bohemia and *Noricum*) have been detected.

Pre-roman urbanism in Bavaria?

Considerable differences become visible, when examining the 'urban attributes' of these Bavarian sites (Table 3.1). *Manching* stands out amongst all of them, because it had more urban traits than all the others. This is no surprise because *Manching* is one of continental Europe's most intensively explored *oppida*, while other sites have been only studied via geophysical or field survey. *Manching* possessed all the characteristics that made a settlement urban in the terms defined above. It was continuously settled since La Tène B2 and had an even older occupation from the Hallstatt period. It housed a population of several thousand inhabitants and possessed a differentiated architecture, including public works such as fortifications, roads, open spaces and temples. The internal structure reveals initial planning. Enclosed farmsteads, as well as rich burials indicate a certain degree of social inequality. *Manching* was a centre of craft production and trading activities. Furthermore, iron ore was exploited nearby. Evidence for minting coins and writing indicate that the *oppidum* also fulfilled administrative and political functions for its hinterland. These urban traits were already present in La Tène C2, long before the fortification was built and before the settlement became a 'real' *oppidum* in these terms (Eller et al. 2012, 313–14; Wendling 2013, 482).

Other sites display only some of the key traits. The *oppidum* of *Kelheim* showed considerably less urban traits than *Manching*. Apart from the ramparts, public buildings such as temples and roads or enclosed farmsteads serving as residences for a local élite are unknown, although the exploitation of iron ore played an important role. Even if archaeologists often classify the sites of *Fentbachschanze*, *Leonberg*, *Schwanberg* and *Staffelberg* as *oppida*, they only had a few urban traits. With the exception of the ramparts, no communal structures have been located. The internal settlement structure is hardly known in most cases, so no planned urban layout can be observed. Craft and trade activities only took place on a small scale. According to the current state of research, these sites did not host a significant number of people, so these sites apparently belong to the category of hilltop *oppida* defined by Vladimír Salač (Salač 2014, 67–8). It is unlikely that they were urban in the full sense of the term. The question arises whether new excavations, geophysical and field survey will significantly challenge this conclusion. Geophysical surveys have shown that buildings and settlement features existed on *Fentbachschanze* and *Leonberg*, but it is still uncertain whether these belong to the late Iron Age. On *Schwanberg* and *Staffelberg*, no studies have been carried out yet but it is conceivable that these will not yield any substantial archaeological features. For instance, in the *oppidum* of *Mont Vully* in Switzerland excavations have been undertaken for years, but while the monumental fortification clearly encloses an empty space of 50 ha, finds are scarce. This is why its excavators interpret the site as a refuge and a meeting place for a large hinterland (Kaenel et al. 2004, 231–4). The same hypothesis could in fact be the case for *Schwanberg* and *Staffelberg*. In this case, objects such as foreign coins, iron tools or ceramics might indicate that fairs, as well as public assemblies or political meetings, regularly took place on both sites which remained unoccupied during the rest of the year (see Fernández-Götz 2013, 72–6, on the importance of public assemblies in Late Iron Age Gaul).

Open agglomerations like *Passau* or *Berching-Pollanten* have yielded considerably more archaeological features and finds and possess more urban traits than sites such as *Schwanberg* or *Staffelberg*. This might be because of the topographical position that made the lowland production and distribution centres more suitable for the concentration of inhabitants and production, the planning of an urban organization, the control of transport, extensive trade activities and the exploitation of economic resources (Salač 2014, 66–7). Their territorial influence could thus be far beyond the impact of fortified sites which were termed *oppida* at an early stage of the research, although they showed little signs of a dense and permanent occupation. In this regard, Bavaria is not unique. The same differences between open and fortified, lowland and hilltop, settlements are to be noted in other regions of the late La Tène culture, such as Bohemia and Gaul (Fichtl 2013, 3–18; Poux 2014, 157–9; Salač 2014, 71). Good parallels for the unenclosed agglomerated settlements can be a found in France, at *Aulnat-Gandaillat* in the Auvergne (Deberge et al. 2007) or *Source de l'Yonne* near the *oppidum* of *Bibracte* in Burgundy (Moore et al. 2013). The massive ramparts of the *oppida* that have often been used in the past to define the 'earliest towns north of the Alps' seem, in fact, to be a minor trait within the definition of an urban settlement in the Late Iron Age (Salač 2005, 292–5; Salač 2012, 333).

Several particularities make pre-Roman urbanism in Bavaria distinctive. First of all, in comparison with other regions, there is only a limited number of central places in Bavaria, regardless of whether we referring to an *oppidum* or an unfortified settlement. For instance in the Treveran territory in the Middle Rhine – Moselle Region, the average distance between *oppida* was 53 km (Fernández-Götz 2014b, 154). In the territory of the *Mediomatrici* in Eastern Gaul, the average distance was 42 km (Féliu 2008, 230). In Bavaria, settlements with urban traits are not as regularly distributed in space. A concentration is visible along the Danube, while large areas – for instance in Western Bavaria (administrative district of Swabia) – seem to be devoid of similar sites. Even if *oppida* and open settlements of the neighbouring federal states or countries (Baden-Württemberg, Hesse, Thuringia, Czech Republic or Austria) are taken into account, this situation does not change very much. This might indicate that we are either missing several fortified or unfortified central places with urban characteristics, or that the territory of modern Bavaria was less densely structured or urban than other regions during the Late Iron Age. The *civitas* of the *Treveri* of the Late La Tène period, for instance, 'constituted a polycentric state formed by the aggregation of various communities that would each have had its own territory, identity and a certain degree of independence, while also recognizing another identity common to all of them and ceding part of their sovereignity to the supracommunity' (Fernández-Götz 2014b, 155). The Treverian territory was thus subdivided into the territories of six or seven *pagi,* each dominated by an *oppidum* (Fernández-Götz 2014b, 155–6). Similar settlement patterns are known from other *civitates* in Gaul, such as the Mediomatrici (Féliu 2008, 263–4). In contrast, large parts of Bavaria were probably dominated by rural settlements during the Late Iron Age and were, according to that characteristic, less centralized and hierarchized. Comparing the Bavarian central places with those known from other regions, it is noticeable that two of the former (*Manching* and *Kelheim*) were extremely extensive in terms of area, covering 380 and 600 ha respectively. They were much larger than for instance the majority of the *oppida* of Gaul, whose ramparts generally enclosed areas between 15 and 100 ha (Fichtl 2005, 169–85). However, the larger dimensions do not imply, from my point of view, that the Eastern examples were densely populated and ruling over larger territories, because vast zones within the walls were not covered with buildings but used for agricultural and metallurgical purposes (von Nicolai 2017, 11–13).

Secondly, urbanism was very unstable in this period. Although six out of ten sites (*Manching*, *Kelheim*, *Passau*, *Straubing*, *Staffelberg*, *Schwanberg*) show evidence of an earlier occupation during the late Hallstatt and Early La Tène period, none of them was occupied continuously until the Late Iron Age. In general, only a handful of burials indicate that the area was not completely abandoned during the Middle La Tène period. The *oppidum* of *Manching* had a relatively long and complex history, from unfortified to fortified settlement between La Tène B2 and La Tène D1, but its occupation nevertheless ended after a maximum length of 250 years. Some sites were only occupied for two or three generations during La Tène D, for instance *Schwanberg*, *Staffelberg* or *Berching-Fentbachschanze* and *Leonberg* still existed in La Tène D2, when *Manching* was already abandoned, but neither of them was transformed into a Roman settlement in the first century AD, like some of the (lowland) *oppida* in Gaul (Rieckhoff 2002, 362–3; Fichtl 2005, 151–60). Only *Straubing-Bajuwarenstraße* might have been partially occupied until Early Roman times (Tappert 2007, 200). The ephemerality of the *oppida* is also known from other parts of temperate Europe (Collis 2017, 273), but it is particularly pronounced in southeastern Germany. The reasons for these ruptures and for the abandonment for the Eastern *oppida* are unknown: internal social riots, external threats, political and economic pressure, insufficient agricultural supply from the hinterland, plagues and famines have been suggested as causes of the decline of the *oppida* in the East (Rieckhoff 2002, 374–9; Salač 2005, 296; Salač 2012, 337–9).

Thirdly, ritual did underwrite the formation of the *oppida* in Bavaria, but in a less obvious way than in other parts of Europe. For the *Treveri* in the Middle Rhine – Moselle region, the political-religious integration and structuring of the territory triggered the emergence of the *oppida,* whereas other functions such as defence, production or commerce were less important. The Treveran *oppida* developed on particular sites because these sites had already been frequented as sacred places, more or less regularly before the second and first centuries BC (Fernández-Götz 2014b, 167–9). In Bavaria, *Manching* is the only settlement where a sanctuary, located at the exact centre of the *oppidum*, existed from its very beginning (Sievers 2007, 22–30). No sanctuaries are known from the other sites studied in this paper (but this might be a product of the lack of excavations). However, the *oppida* of *Kelheim* (Leicht 2000, 89–90), *Schwanberg* (Peschel 1989/1990) and *Staffelberg* (Abels 1980, 72–3) have yielded special deposits associated with their fortifications. Rituals were thus performed at the boundaries of the fortified sites, either during the construction of the defensive works or during the occupation of the sites. This phenomenon can be observed in many parts of Iron Age Europe (von Nicolai 2014, 164–71; von Nicolai 2016, 318–26).

Conclusion

When we consider the criteria deployed to define urban settlements in the Late Iron Age, our answer to the initial question addressed to the urbanism of the *oppida* in Bavaria turns out to be rather negative. *Manching* seems to be the only site that fulfils all the defined criteria, by dint of being an economic, administrative and religious centre for a larger hinterland where a large population continuously lived together and enjoyed an urban lifestyle. Moreover, long before the site was fortified, it had already reached this status as a 'Němčice-Roseldorf type centre' according to Vladimír Salač (Salač 2014, 65). All the other Bavarian *oppida* can only be regarded as hilltop *oppida*, following Salač's typology whose urban character is doubtful. This observation does not exclude the possibility that these sites – for instance *Kelheim* (Leicht 2002, 125–8) – served as central places for assemblies and fairs or temporarily as refuges, given their location, their size and the monumentality of their fortifications. The open agglomerations in Bavaria, especially *Berching-Pollanten*, *Passau* and *Straubing*, can deservedly be regarded as 'centres of production and distribution' because the quantity and diversity of finds demonstrating craft and trade activities are impressive. However, they are, in my opinion, not urban settlements, because important characteristics – such as a planned layout, communal structures and building activities, a functional and structural variety of building structures and indicators for a social diversification – are missing. It is to be hoped that new fieldwork will allow the revision of these negative conclusions about the relative absence of Late Iron Age urbanism in Bavaria. Since many, if not most, sites are primarily known on the basis of surface finds, chances for a future revision are good.