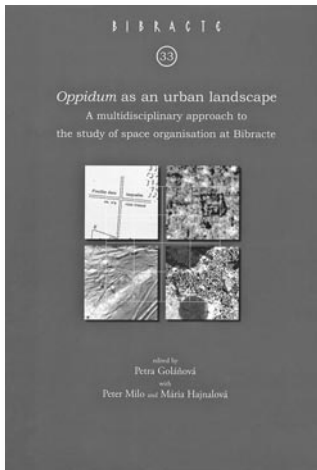


## Recenze — Reviews — Rezensionen

### **Petra Goláňová – Peter Milo – Mária Hajnalová /eds./ Oppidum as an urban landscape**

A multidisciplinary approach to the study  
of space organisation at Bibracte

Collection *Bibracte*, 33



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The research described in this volume was an outcome of the Czech Science Foundation project of the same name (minus the words '*intra muros*') conducted in a collaboration between Masaryk University in Brno and the Institute of Geology of the Czech Academy of Sciences in Prague from 2019 to 2022. The results of the long-term geophysical survey of 2011–2021 were included in the project. Besides the 3 principal authors named above, a further 20 authors from Czechia, Slovakia, Hungary, Poland, and the United Kingdom took part in the investigations.

Mont Beuvray (Morvan, Burgundy, France) identified as an ancient Bibracte, a hillfort-oppidum of the Celtic tribe of Aedui, has been the subject of archaeological concern since the second half of the nineteenth century. Modern archaeological investigations have been conducted at the site since the 1980s with the participation of teams from across Europe.

Partial results of excavations have been published in a number of contributions to the *Bibracte Series* and in periodicals. The reviewed volume summarises the results of all previous archaeological, geophysical, and environmental investigations into one (more or less) clear output with the main emphasis on the research of the international team headed by Petra Goláňová. The multidisciplinary research was not focused on the inhabited areas, as it had been in previous archaeological excavations, but on understanding the spatial organisation of the oppidum through 'empty spaces', i.e. areas seemingly without human activity. The main tools for the investigation were large-scale magnetometric and multi-proxy approaches applied to sediments from test-pits in five sectors within the fortified area. The subject of the research was undeveloped areas, including numerous terraces; it should be noted that the terraces themselves are the result of specific construction activities.

The book begins with a review of empty spaces at European Iron Age (or even earlier) sites and their interpretation (Part I: Empty spaces in context), and a history of excavation at the studied site and the state of the research (Part II: Bibracte: a case study). A large part of the book is dedicated to the results of the large-scale geophysical survey (Part III: Examining 'urban landscape' and empty spaces at Bibracte). The multi-proxy studies, their strategy, methodology and achievements are given in all necessary detail (Part IV: Excavating and analysing the empty spaces in Bibracte: test-pits and trenches

2019–2020). Finally, Part V (Oppidum as an urban landscape?) presents an interpretation of the project results in the European context from an archaeological and sociological standpoint.

The overview of empty spaces in Part I provides a very useful introduction to the subject under study. It deals with their recognition in the Neolithic and especially in the Bronze Age. It is not limited to enclosed sites, but also gives examples from unenclosed settlements and summarises their presumed functions according to existing interpretations. Part II is devoted entirely to Bibracte. It gives a description of the site and its place in the landscape, and an overview of all archaeological and geophysical investigations and the methods used, especially environmental. Attention is paid to existing ideas concerning urban development in the different parts of the oppidum and chronological contexts.

Part III is devoted to evaluating the results of geophysical surveys and airborne laser scanning (Lidar). Along with the numerous appendices, this accounts for around one-third of the book's total extent. Geophysical measurements were carried out across 11 seasons (2011–2021). Two geophysical methods were used for the surveys: magnetometry (29.5 ha) and GPR measurements (7.6 ha), using several different pieces of equipment and taking into account the very diverse nature of the terrain.

A uniform and clear way of recording and presenting surveyed areas and interpretations in the GIS system (ArcMap) must be considered a definite benefit. In addition to the partial results, the authors also present schematic maps that offer an interpretation of anomalies that are presumed to reflect situations of archaeological origin. These maps do not include anomalies attributed to other origins. This approach is certainly viable, but the question remains as to the key used to categorise anomalies of archaeological, other anthropogenic, or natural origin. The relevant sub-results for each location make little mention of this. Looking at certain magnetograms of the individual areas, some of the magnetic anomalies interpreted as being of archaeological origin could be questioned. Interpretations of magnetometry results have three basic categories: ditch, wall, and deposit. The third category is particularly debatable as it can include both buried situations and the relics of cultural layers, as well as accumulations of anomalies from several possible sources. The interpretive schematic maps, then, in some cases, include a large number of anomalies, which appear to archaeologists (also according to the mentions in the book) to be maps of settlement or activity at a (La Tène) site, but they are not. The interpreted magnetic anomalies cannot be related to a single period, nor can their origins be distinguished from those of the earlier or, conversely, the medieval, post-medieval or recent periods. It would be beneficial if the magnetograms were always accompanied with a colour or black and white scale display of the data or relevant details in the caption.

Schematic interpretation maps better reflecting the situations at different depth levels below the surface were also generated from the results of the radar measurements. For logical reasons, only a selection of depth sections are presented in the book. Nevertheless, it would be useful to show the reader-archaeologist at least one example of the whole depth-cut sequence from the surface, through the archaeological situations, to the bedrock. Although the three basic categories of interpreted results are the same as for magnetometry (ditch, wall, deposit), the interpretation of both linear and various planar reflections (deposits) is more straightforward and appears more convincing. Of course, radar measurements are limited in their ability to identify smaller and differently filled sunken situations.

In certain cases, there is only partial agreement in the interpretations of magnetometry and radar observations (for example, at Pâturage du Couvent or Parc au Chevaux), which could be attributed to the distinct concepts and sensitivities of

the methodologies. In terms of the usefulness of the data for defining empty spaces, the results are not always clear-cut and will also depend on the terrain conditions, the state of preservation of the original terrain, and the number or extent of recent alterations.

If we understand empty spaces as areas without magnetic anomalies (manifestations of subsurface situations) or significant reflections (relics of built-up areas), this does not imply that these areas were unused, but rather that they were used in other ways, without preservation of deeper subsurface situations, or that these areas have undergone major changes in relief or land-use over time. These changes may have a major impact on the character of the measured anomalies and may not always be distinguishable from the manifestations of the archaeological situations themselves. The proposed categorisations of empty spaces transform the way we think about the use of oppida, but they are still subjective, even when supported by geophysical evidence.

Part IV is dedicated to the excavation of test-pits and trenches from the period 2019–2020 which have already been analysed archaeologically, but mainly by other methods such as radiocarbon and OSL dating, geoarchaeology, plant macroremains, palynology, phytoliths, diatoms, and palaeoparasites. The 12 excavated test-pits (out of 17) yielded a small assemblage of artefacts – in the order of hundreds of ceramic sherds and tens of non-ceramic artefacts – mostly small in size, and most of which were recovered through sieving and flotation. The finds date from the prehistoric period as well as the Early and Late Iron Age and Early Imperial period and confirm existing knowledge of the occupation of the site. Depositional histories were studied using size and fragmentation classes of pottery as well as abrasion. Most of the finds belong to the category of waste. No *in situ* Late Iron Age cultural layer was identified. According to the authors, the obtained artefacts serve as indicators of discard management, layer formation, and refuse transformation, rather than as reliable dating material.

The results of the environmental analysis have already been published in the case of the Terrasse area, while all the others are presented here for the first time. The massive and comprehensive application of these methods to oppida was taking place for the first time, and demonstrates – especially from a methodological point of view – both the limits and potential of their use in complex environments. The main problem in the case of Bibracte appears to be the complicated preservation of the original *intra-muros* surfaces, which have been affected by the erosion and deposition of material across almost nine thousand years. Sediment alteration by subsequent bioturbation and the formation of new soils also contribute to the problem. Sedimentology, soil chemistry, and micromorphology therefore play a key role in assessing the interpretative value of other environmental indicators from different horizons of sedimentary profiles. Generally, three main spaces of sedimentary deposition were recorded at Bibracte. The oldest deposit comes from the period 7850–4000 BP, the second from the period 4000–2000 BP, and the third from 1450–1400 BP; these last two are classified as anthropogenic deposits. There is a lack of sedimentary features representing buried surfaces which belong to the Late Iron Age occupation. Based mainly on micromorphology, the most probable interpretation of the use of these areas is a possible pasture/trampled grassland. Results of analyses of pollen, phytoliths, diatoms, charcoal, seeds, and parasites support the ideas given by sedimentology, although with differences between the five discussed investigated areas; some of them might also have been used as meadows or even arable fields. Generally, it is possible to state that the discussed open spaces were repeatedly used in the last millennia, but never built up.

Finally, Part V provides a synthesis of the project findings as obtained through a combination of methods and presents the oppidum as an urban landscape. The deposits from the excavated test-pits were dated using a combination of absolute chronology, environmental proxies, and stratigraphy. Thanks to the radiocarbon dates, the authors come to the (surprising?) conclusion that Mont Beuvray was occupied for a long period from the Middle Mesolithic to the Early Middle Ages, respectively before and after the time of the oppidum. The stone in-

dustry belongs to both the Mesolithic period and the Middle and Final Neolithic, when, however, its large quantity is not accompanied by pottery. Environmental data do not specify the nature of human activities in this period. A similarly unclear picture is provided by the Middle and Final Bronze Age and the Early Iron Age, i.e. the Hallstatt and Early La Tène period. Human impact seems to have been moderate during these times. Few LT B–C2 artefacts, i.e. from around the fourth to the mid-second century BC, are mostly found in younger contexts.

At some sites (Vergers), multi-proxy analyses suggest cereal cultivation and/or the handling of large quantities of crops at the time of the oppidum. A cultural layer at Champlain, presumed to be from the same period, also produced a very strong signal for cereals, which suggests a local field and/or the handling of cereals. By contrast, the Terrasse site has not been farmed or developed over the last eight thousand years despite repeated use. During the phases of most intensive exploitation in the Late Iron Age (La Tène) and the Early Middle Ages (Merovingian) it was maintained as pasture.

Dendrological data for the third and second centuries BC indicate the existence of wooden buildings, the wood of which was later re-used. Specific structures from this period have not been recorded, however, and the reasons for this might have varied. Nonetheless, before 120 BC, the site does not appear to have been intensively settled.

After the decline of the permanent settlement at the oppidum there are only sporadic traces of activity from the first to the fourth century AD, and this perhaps mainly in connection with the local Gallo-Roman temples. This is also true for the Early Middle Ages, when one of the temples was converted into a church, but other traces of settlement from this period are scant. The pollen data document agro-pastoral activity and open landscape from the eighth to the tenth century AD at the site and across the region. Their peak spans the eleventh to the fifteenth centuries. The authors support the view that most of the structures identified in the field and by geophysical surveys belong to the period of the oppidum, but this has yet to be confirmed.

The results of the project show the importance of the study of empty spaces for understanding the spatial organisation of the oppida. The investigated empty spaces could have served different purposes. The waste management varied from one space to another, showing the differences in their use. While, e.g. Vergers and Champlain have a higher amount of waste, at Terrasse and Porrey in particular there were either no waste-producing activities or these spaces were kept clean.

The authors summarise the existing data, the results of their own research, and data obtained in previous projects, and try to sort and interpret them. They point out that although tons of solid waste (ceramics, metals, building materials) were gathered from Bibracte, they have not been studied from a taphonomic point of view (fragmentation, wear). Another category is organic waste, to the study of which the authors have contributed by using environmental methods. Aspects such as the deliberate or spontaneous disposal of waste, or whether waste was left in the vicinity of buildings, which at least for the second half of the first century BC the authors reject, should be monitored. There is an inspiring list of issues that have so far received insufficient attention and that urgently require further research, such as the management of human waste, animal dung management, but also secondary use of industrial (production) waste.

Urban open spaces that have been detected at Bibracte include linear empty spaces. Geophysics has identified these as numerous linear anomalies, which may in some cases represent roads but also the demarcation of plots for individual homesteads. Some roads might have existed before the existence of the oppidum. Small empty spaces tend to be interpreted as courtyards and squares. Their identification is a problem in the case of long-used sites that had different functions over time. Multi-proxy analyses have not been carried out at Bibracte in undeveloped spaces within compounds, so it is not clear what activities took place there. Larger empty spaces could have functioned as public gathering spaces, but this is difficult to prove. Another type of empty space is inci-

dental spaces, i.e. undeveloped, unmanaged or abandoned areas, which are difficult to identify, and there are only hints of their existence.

The section on subsistence areas reveals how little is known about them. The project has identified the presence of small arable fields in the Late Iron Age at two sites at Bibracte. There was probably not enough space for them, and their subsistence impact must have been small. Cereals were apparently produced elsewhere beyond the ramparts. The hinterland of Bibracte, even the near vicinity, is unfortunately unknown and the authors suggest that this should be explored in the future. Storage facilities are also related to subsistence issues. At Bibracte, storage pits and granaries are rare and storage in the above-ground parts of houses, and of course storage jars, can be considered. It is notable that communal storage facilities are absent even though these are considered an attribute of urban centres. Because of the poor preservation of bones, very little is known about the breeding of domestic animals, and neither stables nor barns were identified. The empty areas that could have been pastures would not have supported enough cattle for the whole community, and animal fodder must have come from the environs. The authors offer many specific suggestions for further research.

The final section summarises the findings and provides further comments on urban life at the site. It highlights what the archaeobotanical evidence brings to the understanding of spatial structuring and internal organisation; the contribution of the project is evident here, as this is a new approach, which includes, among other things, a reconstruction of the vegetation of the oppida – including the impact of trees *intra muros* on the quality of urban life – whether this be hedges, or fruit trees, or gardens.

The prospect for further research seems clear to the authors: the activities carried out at the oppidum (oppida) need to be investigated using multi-proxy methods. In the case of Bibracte, they recommend examining the space outside the wall, as this will give a better understanding of the functioning of the area enclosed by the ramparts.

In the final part of the publication, the empty spaces are evaluated in the context of all existing knowledge, not only concerning the Bibracte oppidum, but in a broader European context. However, because of the lack of an in-depth general conclusion, this section is not fully comprehensible in the sense of understanding the specific results of the work carried out within the project.

Bibracte appears to be a site of great interest for the study of settlement development, spatial organisation, and landscape use throughout prehistory and the medieval period. For the same reason, however, it is less suitable for the study of individual periods; it is difficult and often impossible to assign the activities surveyed to individual temporal phases, whose manifestations overlap and disturb each other. The picture of the Late Iron Age (La Tène period) oppidum, which is usually the focus of interest and has also led to a resurgence of research on the site in modern times, is thus heavily blurred as a result of development and activity in the Augustan and Gallo-Roman period and later. All the more significant is the approach of the authors, because they use methods other than conventional ones to provide a detailed and chronologically based interpretation of anthropogenic activities in particular areas. Researchers will welcome the informed overview of the areas investigated at Bibracte, accompanied by numerous cartographic appendices, and the overview of the history of the research and its main results. Archaeological research in the whole area of Bibracte has never before been presented and documented as clearly and comprehensively in one place, and for this reason alone the publication will be widely used. This is not, however, the main benefit of the research: the pioneering approach of the authors, who have not only addressed the hitherto overlooked and difficult to understand phenomenon of empty spaces but have used and emphasised the importance of the complex methods of archaeology, geophysics, and especially multi-proxy analyses in its study, deserves considerable appreciation. It is clearly shown that everything that could be easily discovered has already been discovered in the past and new knowledge can only be gained through new methods and

great effort. The authors have succeeded in 'legitimising' open spaces as a fully-fledged part of urban areas. Last but not least, let us mention the inspiration that the publication brings with its perspectives for future research on the oppida and other sites of this type in general, and numerous questions that further research should address. The fact that this is the first volume in the Bibracte series to be published in English will undoubtedly contribute to its broad use.

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**Ines Spazier****Dornburg/Saale**

Von der ottonischen Pfalz zur spätmittelalterlichen Stadt  
*Beiträge zur Frühgeschichte und zum Mittelalter Ostthüringens*, Band 12



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Městečko Dornburg se nachází pouhých 10 km severovýchodně od Jeny ve spolkové zemi Durynsko a je dnes známé především kvůli svým třem zámkům – Starému zámku (*das Alte Schloss*), rokokovému zámku (*das Rokokoschloss*) a renesančnímu zámku (*das Renaissanceschloss*), které vedle sebe ční na skalnaté ostrožně nad údolím řeky Sály. Významné období Dornburgu se odehrávalo v 10. až 13. století, kdy se zde nacházela královská a císařská falc, jejíž nejvýznamnější etapa spadá do období vlády ottonské dynastie v 10. a na počátku 11. století. V tomto období tu bylo zaznamenáno několik pobytů panovníků zmíněného rodu v pořadí od Oty I. až po Jindřicha II. Postupně s nástupem sálské dynastie Dornburg ztrácel na významu a někdy v druhé polovině 13. století byla falc opuštěna. Kolem roku 1200 vznikl několik set metrů východním směrem od dožívající falce ve strategické poloze v cípu skalnaté ostrožny mladší hrad, který je dnes nazýván Starý zámek, a v průběhu 13. století bylo k němu ze západu připojeno nově založené město.

Lokalizace zmíněné falce však nebyla dlouhou dobu jednoznačná. Od 19. století byla hledána na různých podobně znějících místech ve středním Německu (Dornburg na Labi, Dornburg na Sále a Derenburg u Halberstadtu), z čehož nakonec vyšel jako pravý Dornburg na Sále. Ani v samotném Dornburgu nebyla lokalizace zcela jasná. Uvažovalo se buď o prostoru Starého zámku (akropole „*Hauptburg*“) a o náměstí (předhradí „*Vorburg*“), nebo o tehdy nezastavěné ploše západně a severozápadně za městem s pomístním názvem „*In der alten Stadt*“. Stavebně historické průzkumy a archeologické výzkumy z let 2001 až 2004 vyloučily polohu falce ve Starém zámku, kde nejstarší osídlení sahá teprve do pozdního 12. století. Správnou polohu v místě „*In der alten Stadt*“ se podařilo ověřit až díky záchranným archeologickým výzkumům předcházejícím výstavbě rodinných domů v letech 2010 až 2016, kdy zde bylo zjištěno předhradí. V předložené publikaci jsou vyhodnoceny výsledky jak zmíněného archeologického výzkumu na druhém předhradí falce, tak plošného výzkumu z let 2011 a 2012 na náměstí mladšího středověkého městečka.

Dornburské falci se věnují kapitoly 3 až 7. Výzkumem prováděným na skrytých plochách pro budoucí rodinné domy se podařilo zachytit 346 zahloubených objektů, které byly datovány do období od přelomu 9. a 10. století až do první poloviny 13. století. Z tohoto množství bylo identifikováno šest půdorysů obdélných sloupových staveb a sedm sklepních jam, které náležely k původně o něco větším domům stavěným za pomoci štenýřové konstrukce. Na skryté ploše byl také identifikován řemeslný okrsek se čtyřmi pecemi k práci s barevnými kovy a další okrsek se čtyřmi pecemi k pečení chleba. Z původní fortifikace se podařilo odhalit hrotilý příkop, který od sebe odděloval první a druhé předhradí. Další příkop byl zjištěn pomocí geofyzikální prospekce 260 m severněji. Oba zjištěné příkopy

dělily falc na tři areály – dvě předhradí a akropoli. Datace objektů je opřena nejen o nálezy keramiky, ale také o získaná data <sup>14</sup>C a podařilo se zjistit, že zkoumané stavby štenýřové konstrukce nebyly současné, ale byly využívány od 10. až po 13. století.

Pozornost je v páté kapitole zaměřena na keramické a další drobné nálezy získané exkavací objektů na předhradí falce. Nálezy jsou prezentovány v obrazových tabulkách 1 až 15, kde byla využita kombinace kreseb a barevných fotografií. Keramiku se s využitím radiokarbonového datování podařilo zařadit do tří časových horizontů: 1) přelom 9. a 10. století až polovina 11. století, 2) polovina 11. století až pozdní 12. století, 3) pozdní 12. století až první polovina 13. století. Mezi drobné nálezy se počítala tkalcovská závaží, skleněné prstýnky, různé kovové artefakty nebo dvě pravoké koule nalezené ve výplni sklepní jámy.

V šesté kapitole je nejprve popsána absolutní i relativní chronologie dornburské falce. K absolutní chronologii náleží 12 datovaných vzorků <sup>14</sup>C z dřevěného uhlí a ze zvířecích kostí. Relativní data se opírají o vyhodnocení nálezů a stratigrafická pozorování. Po vyhodnocení všech stratigrafií, nálezů a přírodovědných dat máme tři horizonty osídlení, které jsou shodné s již výše zmíněnými třemi časovými horizonty. Dále je text věnován struktuře a rozdělení dornburské falce s jádrem a dvěma předhradími. Celá falc pravděpodobně zaujímalu plochu o velikosti 14 až 15 ha. V písemném prameni z roku 976 jsou zmíněny tři kostely, jejichž poloha však bohužel není známa. Poslední, sedmá kapitola věnující se falci se zabývá zkoumáním jejího hradského obvodu (*Burgbezirk*) na základě písemných a archeologických pramenů.

Následující kapitoly 8 a 9 jsou věnovány výzkumům na dornburském náměstí z let 2011 a 2012. Kromě objektů z pozdní doby halštatské byly ve východní části náměstí odkryty pozůstatky zaniklé vrcholně středověké domovní zástavby. Jednalo se o tři do skály vysekané sklepy, které původně náležely k nadzemním domům štenýřové konstrukce. Dva domy byly postaveny ve 13. století a jeden na počátku 14. století. Zánik všech těchto domů je spojen s požáry, které vypukly pravděpodobně v souvislosti s obléháním města v dubnu 1345 a s opětovným obléháním a dobytím v roce 1451. Ve výplni sklepu byl nalezen početný archeologický materiál, jímž se zabývá devátá kapitola, a je vyobrazen v kresebných a fotografických tabulkách 16 až 70. Archeologický výzkum na náměstí přispěl k poznání jeho středověké podoby, která byla oproti nynějšímu stavu o něco menší, jelikož odkryté sklepy středověkých domů se nacházejí zhruba uprostřed. Svůj současný trojúhelníkový tvar získalo náměstí až po zániku zmíněných domů v 16. století.

Kniha o archeologických výzkumech v Dornburgu je zpracována přehlednou formou, což zjednodušuje a zpřjemňuje orientaci v popisovaných situacích. Pozoruhodná je skutečnost, že přesná poloha falce nebyla donedávna jistá a odhalit ji se povedlo až díky záchranným výzkumům. Otázka přesunu centra z prostoru starého „města“ („*in der alten Stadt*“) do nově založeného hradu a do přilehlého nového města by si určitě zasloužila větší pozornost. Bylo by zajímavé širší zamyšlení nad důvody přesunu. Proč bylo výhodnější nechat zaniknout stávající centrum s rozvinutým osídlením a namísto toho zvolit novou polohu? Jednalo se o důvody obranné, hospodářské či jiné? K analogickému vývoji mělo dojít také ve Werle, kde bylo rozvinuté osídlení se známou falcí rovněž ve 13. století opuštěno a opodál bylo založeno nové město (strana 85). Podobné případy přesunů v této době známe také z českého či moravského prostředí. Jako příklad lze uvést Kouřim, kde došlo k opuštění přemyslovského správního hradu a k založení nového města na protější terase (*Šolle 2000*), nebo zánik hradu v poloze Staré Brno a založení města v blízké poloze (k tomu např. *Zapletalová 2017*). Jistě i zde je důležité věnovat se fenoménu přesunů center. Knihu lze hodnotit jako poměrně zdařilou a jistě si zaslouží pozornost.

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