The fortified hilltop site of Gars-Thunau and the settlements of the 9th and 10th centuries AD in Lower Austria

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Abstract
This article presents results from the current investigation of the fortified hilltop settlement of Gars-Thunau (Lower Austria). The site was, in the 9th and 10th centuries AD, situated in the border regions of the East-Frankish Empire, Moravia and Bohemia. In addition to the early medieval occupation, evidence of a number of earlier occupation phases is present at the site. These include a late Bronze Age fortification, parts of which were re-used during the construction of the 9th–10th-century fortification ramparts. Current research has identified six early medieval settlement phases in Gars-Thunau. A multi-phase manor farm is situated in the central part of the site. It is preceded and followed by settlement phases that display a different spatial structure. The features and finds excavated at the site indicate the presence of a military and social elite at Gars-Thunau. The second part of the article provides a concise summary of the archaeology of settlements contemporary with Gars-Thunau from the territory of Lower Austria.

Keywords: Early Middle Ages; central Europe; fortification; manor farm; military and social elite; unfortified rural settlement; re-use of Roman sites.

1. Introduction

The fortified settlement of Gars-Thunau[1] is situated in north-eastern Austria (Fig. 1), ca. 25 km north of the River Danube, on the right bank of the River Kamp. It lies on a hilltop, also known as the 'Schanzberg', elongated in the east-west direction (Fig. 2) and is naturally protected on the eastern side by a nearly vertical slope of ca. 100 m height. The site has been known since the late 19th century. Collecting of surface finds and small scale excavations took place from this period onwards. The Department of Prehistoric and Medieval Archaeology of the University of Vienna carried out large scale excavations in the fortified settlement between 1965 and 2003. The size of the excavated area amounts to ca. 15000 m^2 (Fig. 3; see also Herold 2008, including references to earlier publications).
The site of Gars-Thunau had repeatedly been occupied since prehistoric times. Ramparts made of timber and earth provided the first artificial protection in the late Bronze Age. Particularly intensive settlement activity took

Fig. 1. Location map of the site of Gars-Thunau. Drawn by author.

place at the site in the late phase of the Early Middle Ages (9th–10th centuries AD). Among other excavated features, a manor farm (*Herrenhof*), surrounded by palisades, and fortification ramparts in caisson construction belong to this occupation phase. According to the currently known archaeological record, the site was not inhabited after this period. The 9th–10th-century occupation of Gars-Thunau is discussed in the first part of the present article. The second part of the article presents a synopsis of the archaeology of 9th–10th-century settlements in Lower Austria.

2. Structure of the site

The site of Gars-Thunau comprises five main parts (Fig. 3):
– The western part of the site, also called 'Schanze', was first fortified in the 9th–10th centuries AD. The fortification ramparts incorporate two gates, which represented the main points of access to the site in the Early Middle Ages. Remains of prehistoric settlement activity have not been discovered in this area.
– Early medieval tumulus graves are situated 100 m northwest of the 'Schanze'; some of them have been excavated. However, the excavation results are only known from preliminary reports (Friesinger – Friesinger 1991). Future publication of these excavations can aid a more complete

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Fig. 2. Aerial photograph of the fortified settlement of Gars-Thunau from the south-west. © Aerial Photography Archive of the Department of Prehistoric and Medieval Archaeology, University of Vienna.

understanding of the relations between the tumuli and the fortified settlement of Gars-Thunau.

- Intensive settlement activity took place in the central part of the site, called 'Obere Holzwiese', in the Early Middle Ages, superimposing settlement remains and fortification ramparts of the Bronze Age and the Iron Age. The 9th–10th-century manor farm, discussed below, is situated in this area.
- The eastern part of the site, the 'Untere Holzwiese', yielded early medieval settlement features and fortification ramparts as well as remains of an intensive Bronze Age and Iron Age occupation. It is probable that an early medieval gate existed in this area; however, its exact location has not been identified.
- The 'Nordhang' is situated north of the 'Untere Holzwiese'. It was apparently not fortified in the Early Middle

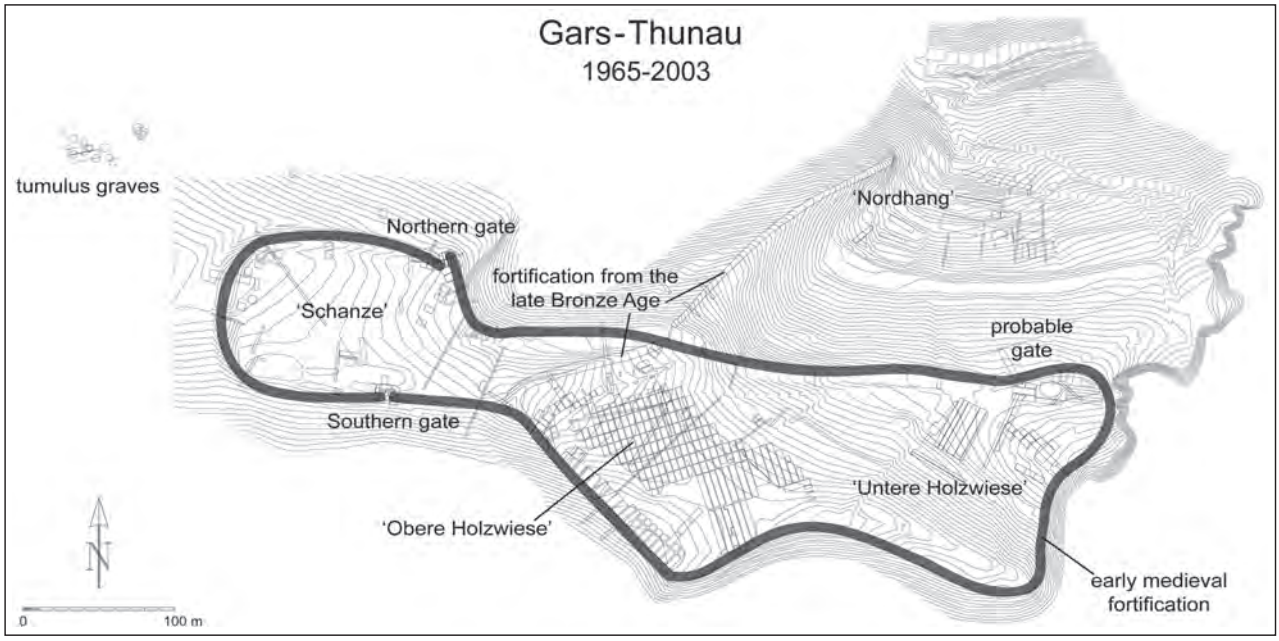

Fig. 3. The fortified settlement of Gars-Thunau. Parts of the site and excavation trenches. Drawn by María Antonia Negrete Martínez (Department of Prehistoric and Medieval Archaeology, University of Vienna) and the author.

Ages. In addition to early medieval settlement features, remains of Bronze Age and Iron Age occupation were uncovered in this area.

3. Buildings, fortification ramparts and settlement phases

The following types of settlement features containing early medieval finds have been identified at the site of Gars-Thunau in the course of the current analysis project: pits, sunken-featured buildings (*Grubenhaus*), concentrations of finds, postholes and foundation trenches of palisades. The concentrations of finds, usually occupying an area of ca. 4–5 × 8–9 m were interpreted as remains of buildings, which might have been placed at ground level, or possibly had a slightly sunken floor (for details see Herold 2008). Six early medieval settlement phases have been identified, based on the stratigraphy of settlement features and on the analysis of finds. These settlement phases are described in the following sections (see also Figs. 4–8).

The early medieval fortified settlement of Gars-Thunau was founded, as mentioned above, on the site of a late Bronze Age fortification. The first early medieval occupation was situated in the vicinity of the late Bronze Age fortification ramparts (Fig. 4), according to the current state of research. This settlement phase can be dated to the early/mid-9th century, based on the relative chronology within the site. The second settlement phase is represented by a sunken-featured building on the outer edge of the area (later) surrounded by palisades (Fig. 4). In addition to a large amount of iron slag, a rich assemblage of ceramic vessels has been excavated in the fill of this building, also containing fragments of the so-called 'polished yellow ceramics' (also known as 'ceramics of antique tradition'). This assemblage is different from other ceramic vessels in Gars-Thunau and is similar to Phase 2 at the site of Břeclav-Pohansko, Lesní školka (Macháček 2001, 210–213, Abb. 177–179).

A manor farm was built in Gars-Thunau around the middle of the 9th century on the 'Obere Holzwiese'. This unit included buildings and palisades as well as a cemetery of about 200 graves (for the cemetery see Friesinger – Friesinger 1991). The manor farm was completely re-

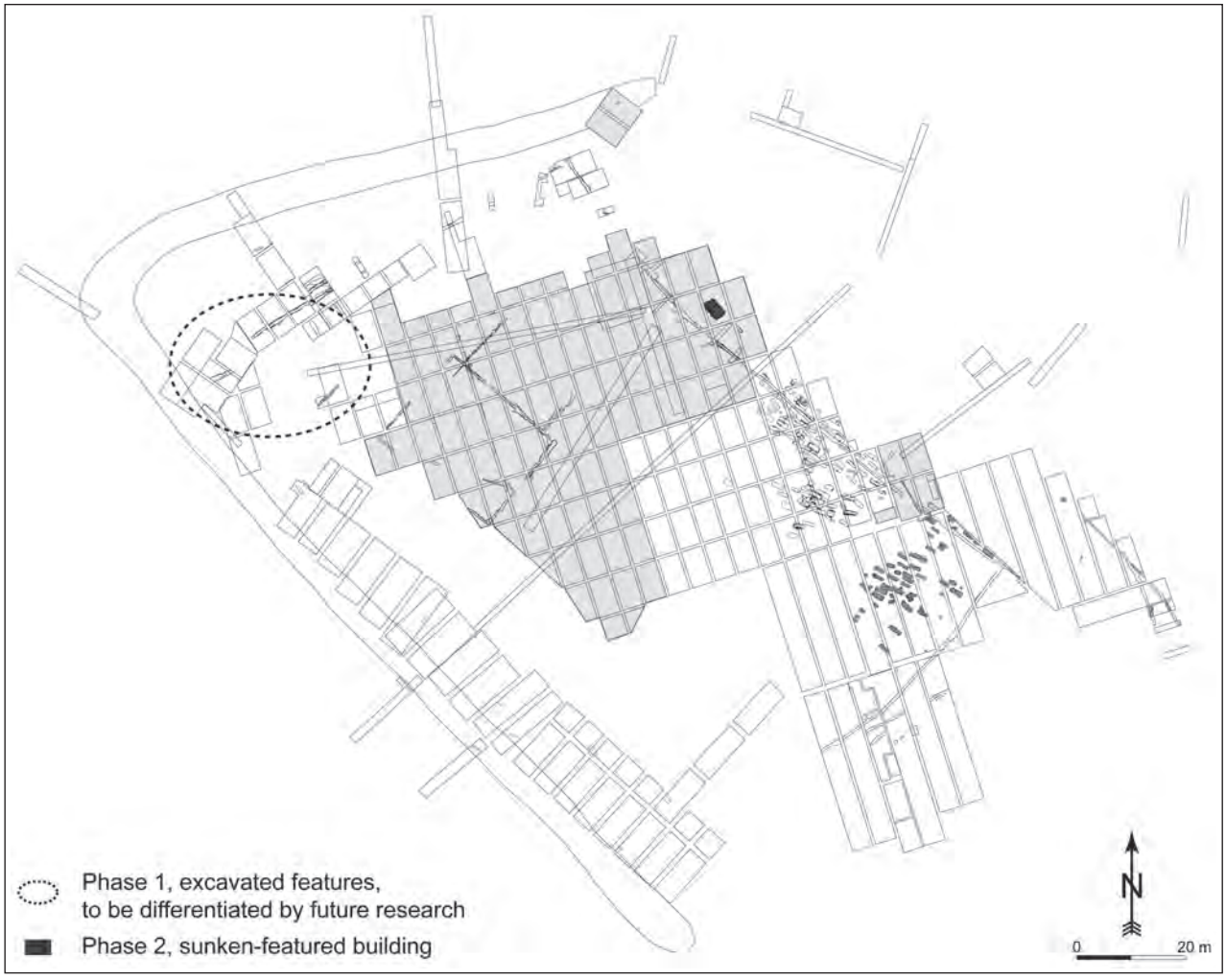

Fig. 4. Excavated features of the 'pre-manor farm' phases (Phases 1 and 2) of Gars-Thunau. Drawn by author.

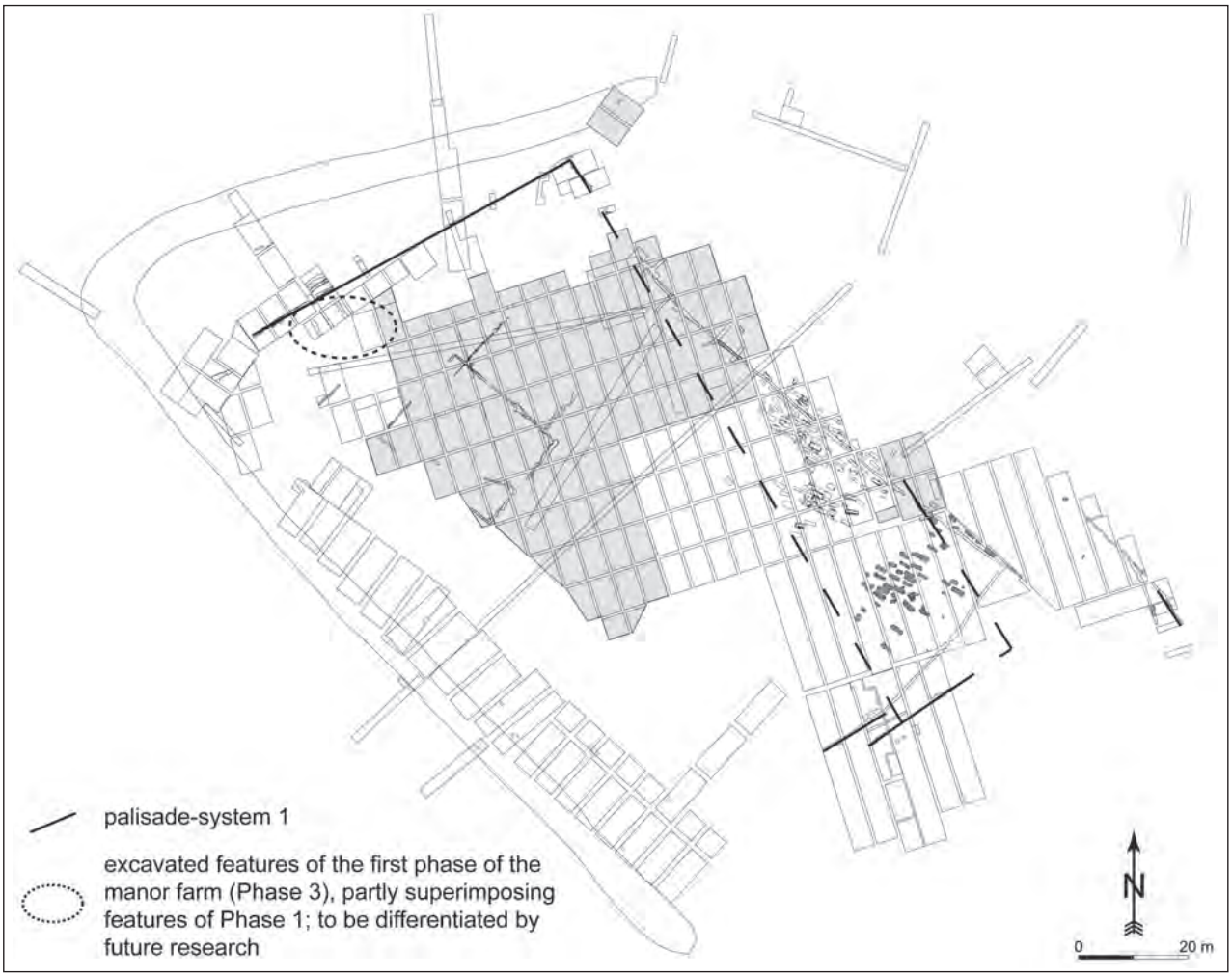

Fig. 5. Excavated features of the first phase of the manor farm (Phase 3) of Gars-Thunau. Drawn by author.

built at least twice in the course of the following 80–100 years. Rebuilding was apparently always preceded by the destruction of former structures. The first phase of the manor farm has been best preserved in its northern part (Fig. 5), since later large scale building activity did not take place in this area. A small concentration of finds, probably representing remains of a building, possibly also belongs to this settlement phase. It might have been disturbed by early excavations at the site.

The best preserved phase of the manor farm is phase 2 (Fig. 6). Its spatial structure is very similar to that of the manor farms at Břeclav-Pohansko (Macháček 2007) and at Zalaszabar-Borjúállás-Island (Müller 1995). The second phase of the manor farm at Gars-Thunau occupied an area of ca. 75 × 100 m and was surrounded by a palisade (wooden fence). A building of ca. 5 × 8 m, placed at ground level, or having a slightly sunken floor, is likely to have stood in the northern part of the fenced-in area. In addition to a rich ceramic assemblage, a number of high quality small finds can be connected to this building. The cemetery mentioned above is situated on both sides of the path leading into the manor farm. A grave free area in the cemetery was possibly the place of a small wooden church.

The area of the third phase of the manor farm is much smaller than that of the previous two phases; it only occupies ca. 21 × 26 m, surrounded by a palisade (Fig. 7). A larger pit in this zone can possibly be interpreted as remains of a building with sunken floor. The entrance to the fenced-in area was situated on its southern side; it is probable that the path leading into the manor farm in phase 2 continued to be used in phase 3.

The early medieval fortification ramparts of Gars-Thunau were most probably built at the same time as the manor farm. The area surrounded by these ramparts is larger than the fortified zone of the late Bronze Age (Fig. 3). The early medieval fortification ramparts were built of timber, earth and stones. The basic units of the timbered caisson construction, having a size of ca. 3 × 3.5 m, were filled with earth or with a mixture of stones and earth. In certain areas of the site, only the outside of the ramparts was covered with a screen wall; in other parts, both sides of the ramparts were covered with such a wall, in both cases, the screen wall being made primarily of granulite, a high

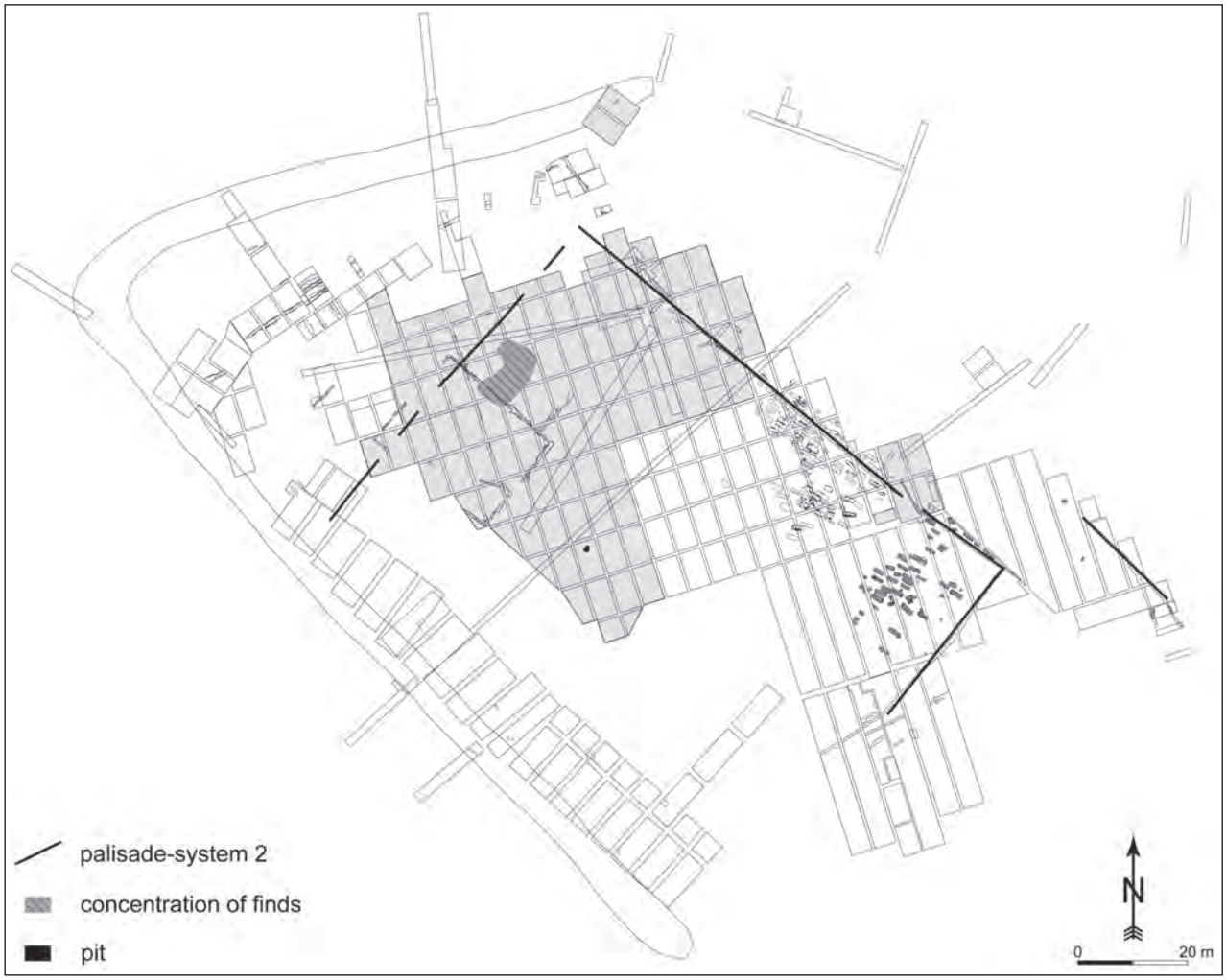

Fig. 6. Excavated features of the second phase of the manor farm (Phase 4) of Gars-Thunau. Drawn by author.

metamorphic rock, imported to the site from a distance of ca. 20 km. The occurrence of granulite fragments in the excavated features of all three phases of the manor farm suggests that at least parts of the ramparts were erected during the first phase of the manor farm and that repair or reconstruction of the ramparts took place in phases 2 and 3 of the manor farm.

Dendrochronological analysis of timbers from the ramparts yielded results of AD 834–894 (Cichocki 1998–1999, 48 samples). Since the dated samples did not contain a waney edge, these dates only provide *termini post quem* for dating the early medieval fortification ramparts of Gars-Thunau. Timbers from the ramparts were also dated by ^{14}C analysis. The results of AD 820–880 (1 Sigma; Stadler et al. 1998–1999) confirm the results obtained by dendrochronology and also correspond with the archaeological dating of the finds from Gars-Thunau.

The early medieval fortification ramparts of Gars-Thunau surrounded, in addition to the 'Obere Holzwiese' in the centre, also the western and the eastern part of the site (Fig. 3). At present it cannot be reconstructed if early medieval settlement activity had already taken place in these latter areas before the construction of the ramparts. The two known gates of the fortification, the 'Northern' and the 'Southern Gate', are situated at the 'Schanze'. The existence of a gate can also be assumed at the 'Untere Holzwiese', but its exact position has not been identified.

Around the mid-10th century the manor farm on the 'Obere Holzwiese' seems to have lost its importance. Elements of a new settlement phase were built here, which display a different spatial structure than that of the former manor farm (Fig. 8). Among them is a concentration of finds that can be reconstructed as remains of a wooden building of ca. 7 × 4 m in size, placed at ground level or having a slightly sunken floor. Two pits also belong to this settlement phase. Since one of them is situated in the middle of the path that previously served as the entrance to the manor farm, it can be assumed that this path was not in use any more. As in the settlement features of this last phase no granulite fragments were found, it is probable that reconstruction or repair of the fortification ramparts did not take place in this period. Future research can shed more light on the question of whether settlement

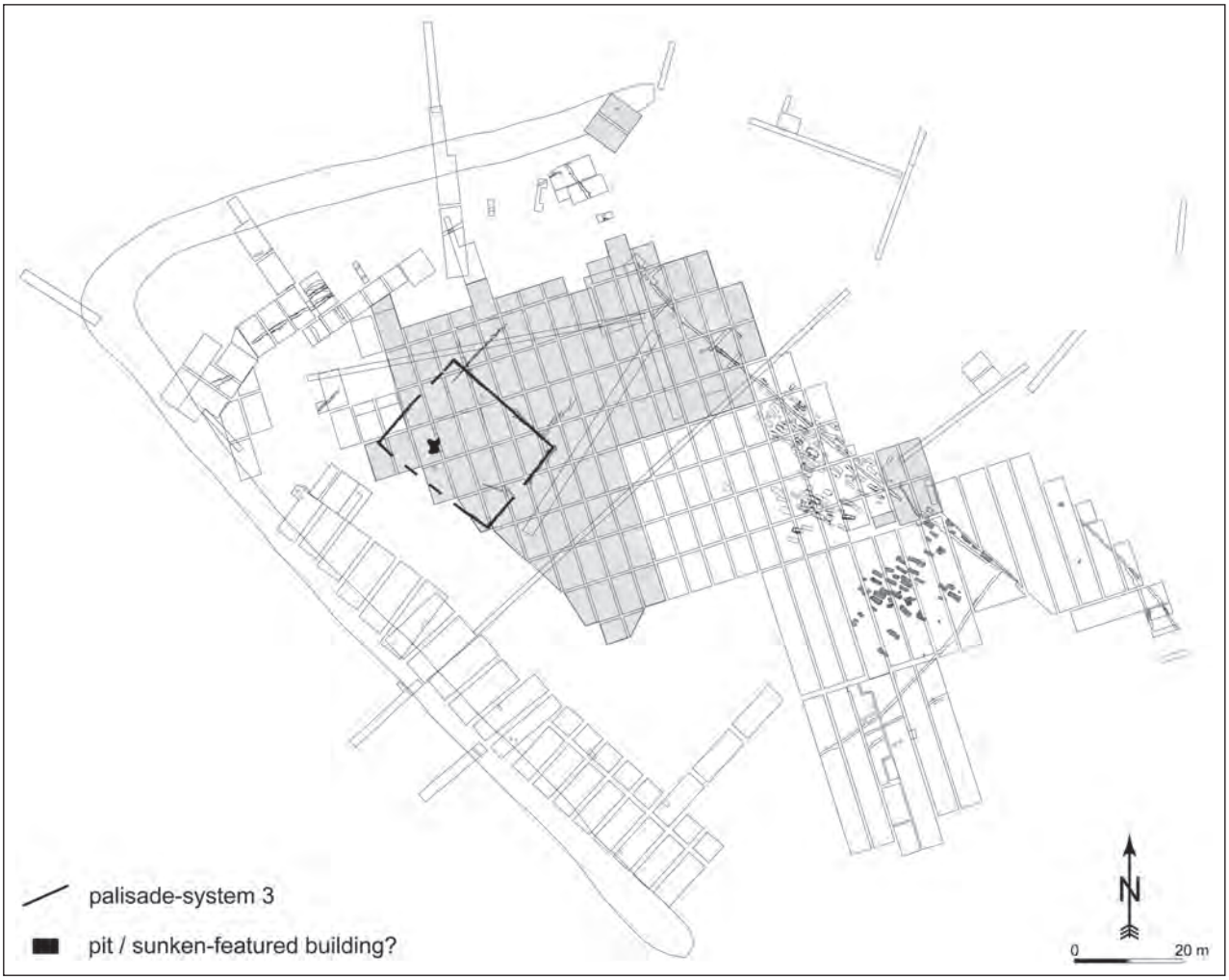

Fig. 7. Excavated features of the third phase of the manor farm (Phase 5) of Gars-Thunau. Drawn by author.

activity also continued in this phase in other parts of the site, such as the 'Schanze', the 'Untere Holzwiese' or the 'Nordhang'.

4. Crop and animal husbandry

Various types of cultivated crops and other plants have been identified at Gars-Thunau, including grapes, plums and a type of cucumber (Popovtschak – Zwiauer 2003). These imply the existence of some form of 'gardens' in early medieval Gars-Thunau, in addition to cultivated fields. Seeds for the next year were possibly stored in the cylindrical pits found in different parts of the site. However, no sealed remains of such seed storage pits have been found. Imprints of plant remains in the daub fragments suggest that processing of harvested crops took place at the settlement. An iron hoard from Gars-Thunau included tools for plant cultivation (Popovtschak – Zwiauer 2003, 231, Abb. 204). This might mean that at least some of the inhabitants of the site were directly engaged in plant cultivation.

88% of the animal bones analysed from Gars-Thunau were from domesticated animals (mainly cattle, pigs and sheep). Based on their age-distribution and the types and amounts of anatomical parts present, these animals were kept in or around the fortified settlement and served the needs of its population; large-scale imports or exports cannot be detected (Kanelutti 1990). Game animals accounted for 12% of the analysed animal bones. Of these, mainly 'prestigious' species (e.g. red deer, elk, wisent) are present; less 'prestigious' species (e.g. roe deer, hare) were only occasionally identified. This might be a sign of an early form of hunting privileges in 9th–10th-century Gars-Thunau. In addition, brown bears were apparently kept at the site.

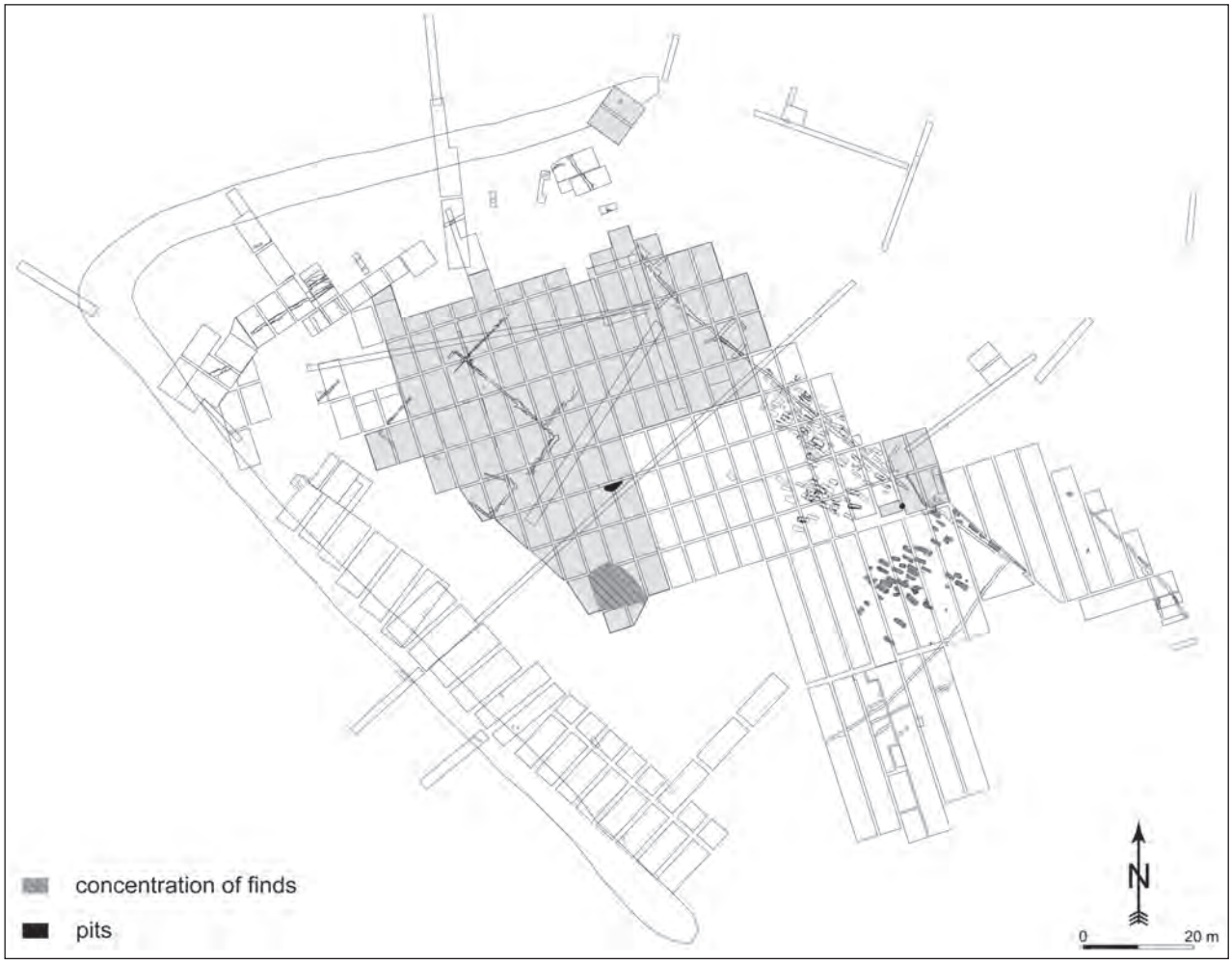

Fig. 8. Excavated features of the 'post-manor farm' phase (Phase 6) of Gars-Thunau. Drawn by author.

5. Crafts and trade

A large number of different craft activities are present at Gars-Thunau, including iron and non-ferrous metallurgy, bone and antler working, pottery production (within the fortification or in its close vicinity), spinning and (on a smaller scale) weaving, carpentry, stone working (quernstones) and possibly glass and leather working. Remains of the processing of precious metals cannot at present be identified at the site. The craft production at Gars-Thunau seems to mainly have served the needs of the population of the fortified settlement; remains of large scale production cannot be detected.

More complex items (e.g. certain types of weapons or jewellery) are likely to have been imported to Gars-Thunau. Some items of daily use might have been imported as well as produced at Gars-Thunau, as has been shown for the ceramic vessels by archaeometric investigations (Dell'mour 2001). The raw material of locally produced ceramics is likely to originate from a deposit some hundred meters south-west of the fortified settlement. Some of the imported ceramic vessels contain graphite in their raw material, but also ceramic vessels without graphite were imported to Gars-Thunau. It cannot be decided if these vessels were traded for their own value or if they only contained the traded goods. The relative amounts of imported ceramic vessels from the different regions of origin were not constant, but changed in the course of the 9th and 10th centuries. This can probably be connected to the varying intensity and changing directions of the economic relations of the ruling family of Gars-Thunau.

6. Settlements of the 9th and 10th centuries in Lower Austria

Gars-Thunau is undoubtedly one of the archaeologically best known settlements of the 9th and 10th centuries in Lower Austria. In order to better understand its role in the contemporary settlement network, it is necessary to examine the available archaeological evidence of other settlements in the region (see also Herold 2007). Research results on other fortifications, on unfortified rural settle-

ments and on former Roman sites reoccupied in the Early Middle Ages are discussed below. Only sites have been included that yielded a substantial amount of archaeological evidence that allows the drawing of conclusions on the structure and chronology of the investigated settlements.

6.1. Fortified settlements

Early medieval fortified centres in the territory of today's Lower Austria came into existence from the early/mid-9th century onwards, according to the currently available archaeological evidence. Only very few of these sites have been explored by large scale excavations. In addition to Gars-Thunau, extensive excavations took place at the fortified settlement at Sand near Oberpfaffendorf during the period from 1993 to 2006 (Felgenhauer-Schmiedt 2008). Although Gars-Thunau and Sand are not fully contemporary, the structures of the two sites share a number of characteristics. Based on dendrochronological data the construction of the fortification in Sand is dated to AD 926–930 (Grabner 2002, cited in Felgenhauer-Schmiedt 2008). The existence of a settlement phase preceding the construction of the fortification has not been detected at this site.

The hilltop settlement at Sand consists of a fortification on the 'Burgberg' and two separate settlement areas on its southern side, which are also fortified. Remains of buildings have been excavated along the fortification ramparts in the western and northern parts of the site. The foundations of a representative building have been uncovered on the top of the 'Burgberg'. Among other objects an earring and a decorated button made of non-ferrous metal have been found in this area, which further emphasize the importance of this structure. It cannot be decided at present if this building might have been the central unit of a manor farm, similarly to the situation at Gars-Thunau. In any case, palisades and graves, which are present in Gars-Thunau, have not been uncovered in Sand.

Buildings consisting of a combination of low stone walls and an upper part built in wood as well as wooden buildings in post construction and sill-beam construction have been identified in the two separate settlement areas of Sand, situated on the southern side of the 'Burgberg'. These two settlement areas also yielded evidence of craft production and agricultural activities. In addition to equipment used for plant cultivation, remains of pottery production, iron metallurgy and smithing as well as spindle whorls for the production of threads have been uncovered here. The fortified settlement of Sand was apparently abandoned only some decades after its foundation, following a conflagration.

The overall structure of the fortified settlements of Sand and Gars-Thunau is similar. The differing direction of their main axes of orientation (north-south in Sand and east-west in Gars-Thunau) is obviously a result of the different geographical situation. A representative building can be found on the highest point of both fortifications. Craft production appears to have taken place in the peripheral parts of both sites. The separate southern settlement areas in Sand find their parallels in the 'Untere Holzwiese' at Gars-Thunau and the northern part of the fortification at Sand is in many aspects similar to the 'Schanze' of Gars-Thunau. These similarities probably came into existence by following similar prototypes when constructing the two fortifications. Signs of direct contacts between the two sites cannot currently be detected.

Other potentially comparable sites of the 9th and/or 10th centuries in Lower Austria are only known from small scale excavations and surface finds. Early medieval finds and features, including remains of fortification ramparts, have been uncovered on the 'Schloßberg' at Pitten (Kühtreiber – Kühtreiber 1999, 205–207). However, only preliminary reports of these excavations have been published. Thus a more detailed comparison with the sites discussed above is at present not possible. The hilltop settlements of Schiltern (Trnka 1981) and Heidenstatt near Limberg (Tuzar 1998) yielded primarily Bronze Age finds and features as well as some early medieval objects. Early medieval fortification ramparts have, however, not been identified at these sites. Thus it is unclear at present if these hilltop settlements were centres in the early medieval period. Large scale excavations can potentially shed more light on their position in the settlement network of the Early Middle Ages.

6.2. Unfortified rural settlements

Larger excavated sections of 9th–10th-century unfortified rural settlements that are (at least partly) published are known in Lower Austria from the following sites: Michelstetten (Lauermann 2000), Pellendorf (Kühtreiber – Artner – Steinegger 2008), Michelhausen (Blesl 2005) and Sommerein (Friesinger 1971–1974, 5–42). The first three sites had already been founded in the 7th/8th centuries, while the last one seems to have emerged during the 9th century. The characteristics of these settlements will be discussed below. Archaeological finds and features, some of which can be dated to the Early Middle Ages, have also been uncovered on the right bank of the River Kamp, north-east of the fortified settlement of Gars-Thunau (Obenaus – Breibert – Szameit 2005). It can be assumed that the population of this settlement had direct contacts to the inhabitants of the fortified settlement. Thus this settlement might have been different in some aspects from other unfortified rural settlements that are discussed here.

The most common buildings known from unfortified rural settlements of the 9th and 10th centuries in Lower Austria are sunken-featured buildings. However, also the existence of ground-level buildings in post construction can be shown in some cases (Blesl 2005, 146–147). The application of more advanced excavation methods in the future promises better chances of recognising ground-level buildings; thus it is probable that their proportion within the group of early medieval buildings is going to rise. The excavated buildings at unfortified rural settlements usually also contain an oven, constructed of stones or in

wattle-and-daub technique. So-called 'free-standing' ovens, without connection to a building, have also been excavated at some sites. The most common settlement features at unfortified rural settlements are pits of different size and shape. Divisions of space, such as, for example, palisades, have not yet been archaeologically detected at these settlements.
It is probable that most unfortified rural settlements of the 9th and 10th centuries in the territory of today's Lower Austria relied to a large extent on self sufficiency. Archaeological evidence of craft production is present at these sites in the form of spindle whorls and loom weights (textile production) and iron slag (smithing and possibly iron smelting). Archaeometric analysis of ceramic finds indicates that pottery production most probably took place locally in the settlements (Herold 2003).
The publication of further excavated unfortified rural settlements from the 9th and 10th centuries can add more details to the situation described above. It would be interesting to compare unfortified rural settlements within and outside of the Carolingian Empire. Furthermore, it would be interesting to see if the historical events of the 10th century affected the development of unfortified rural settlements. These questions have mostly been investigated in regard to fortified settlements.

6.3. Former Roman sites (re)occupied in the Early Middle Ages

Archaeological evidence for the early medieval (re)occupation of former Roman sites is available in Lower Austria primarily from Tulln (Wewerka 1997; Farka – Krenn – Wagner 2007, 117) and Mautern (Friesinger 1971–1974, Taf. 5–7; Cech 1993; Sedlmayer – Wawruschka 2002). It can be assumed that these sites, situated on the former Limes, were centres in the Early Middle Ages. However, it cannot clearly be decided if the 9th–10th-century occupation is a result of continuity from late Antiquity or if a reoccupation of the abandoned sites took place at some point in the Early Middle Ages. A reconstruction of the 9th–10th-century settlement structure is only available for Tulln (Farka – Krenn – Wagner 2007, 117). Future research can reveal if other types of former Roman sites were also (re)occupied in Lower Austria in the 9th and 10th centuries, similarly to the sites of *villae* used for establishing unfortified rural settlements in the territory of the Avar Khaganate in the 7th and 8th centuries (Herold 2010).
It should be noted that the (re)occupied settlements on the former Roman Limes possibly had different inhabitants and a different role in the settlement network of the 9th and 10th centuries than the contemporary fortified settlements, such as Gars-Thunau. A detailed publication of the early medieval finds and features from former Roman sites can shed more light on this issue.

7. Current perspectives

According to the current available archaeological evidence, Gars-Thunau and similar fortified settlements existed in today's Lower Austria and in the neighbouring regions during the 9th and 10th centuries AD. The abandonment of these fortified settlements in the mid/late-10th century signifies a turning point that is further emphasised by the emergence of castles built in stone from the late 10th – early 11th centuries onwards in the territory of Lower Austria. However, despite this transformation other elements of the settlement network remain unchanged. Former Roman settlements are still occupied and some unfortified rural settlements continue to exist. This suggests that the transformation primarily affected the social and military elites of the area.
Further research in the upcoming years on the fortified settlement of Gars-Thunau in its central European context is going to concentrate on investigating the way of life, the ideals and networks, as well as the economic and cultural contacts of these elites that formed the basis of 9th–10th-century development in this region.

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