The Merovingian cemetery of Posterholt-Achterste Voorst

M.V. de Haas
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Habelt-Verlag | Bonn

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Preface

The Anastasis project

This book is the second in a series of publications on Merovingian cemeteries in the southern and central Netherlands, in the context of the ANASTASIS-project. The project is part of a larger program called the ODYSSEE program whose main goals have been explained in the series' first volume, that of the Bergeijk cemetery.[1]

The ANASTASIS-project is financed by the National Science Foundation (Nederlandse Organisatie voor Wetenschappelijk Onderzoek, NWO), Leiden University, the University of Amsterdam, and the Town of Maastricht. Its main goal is to publish a series of excavated but never extensively published Merovingian cemeteries and to revive the study of Merovingian cemeteries and mortuary rituals in the Netherlands. The present publication on the Posterholt cemetery must be evaluated as a product of this effort.

Most of this publication consists of a presentation of excavation data. The cemetery is analysed so that this data is available for further research. A catalogue of all contexts is provided and includes context descriptions, information on physical anthropological analysis, find descriptions, digitized grave drawings, find photographs, and find drawings. Due to limited time and funding, it was not possible to provide microscopic or chemical analyses of objects or human remains. However, the way the data is presented enables scholars to carry out more detailed analyses in the future. At the same time, we suggest that a first step would be to perform a comparative scientific analysis of selected groups of objects on a regional level in order to trace exchange patterns and possible networks in which the members of the burial community participated.

Project members are taking the first steps in further analysing different aspects of the Merovingian mortuary ritual. PhD research on grave reopening is currently being carried out by Martine van Haperen. Mirjam Kars has begun research on pre-deposition object circulation, especially within the context of family and kin relations. Several other subjects were addressed by former (research) master students from the University of Amsterdam. Dieuwertje Smal investigated grave structures, Maaike de Haas studied the location choice of Merovingian cemeteries, and Nina van der Voet analysed the distribution of amethyst beads in the Netherlands. Currently, new investigations are being undertaken by master students from Leiden University. Mette Langbroek studies the distribution of amber beads in the Netherlands, and Svenja Hagendoorn investigates glass vessels from Merovingian grave contexts. Meanwhile, one of project leader Frans Theuws' central themes is the re-evaluation of the peasants' position in the economic system and their economic agency. Together, all these efforts are aimed at unravelling the various aspects – economic, social, and cultural – of early medieval rural society in northernmost Gaul.

Merovingian cemetery archaeology in the Netherlands

Several problems arise when dealing with old excavation data. The most evident is that we use old excavations to answer modern research questions. These questions often require modern excavation techniques to be answered, but these techniques were (obviously) infrequently employed. It should be noted that the Posterholt cemetery excavation is outstanding compared to many cemeteries excavated in the 1980s and even 1990s. Many old excavations lack modern standard documentation, such as detailed descriptions of excavated features, detailed grave plans with specific find information, section drawings, good quality photographs, and colour drawings. Still, following our modern standards, cemetery excavations should also incorporate on-site physical anthropological examinations and collection of samples for radiocarbon dating, DNA- and isotopic analysis, archeo-botanical research, phosphate analyses, etc.

Although the quality of documentation has improved over the past decades, necessary improvements to meet modern standards have not always been realized since the new Monuments Act of 2007 made archaeological excavations the almost exclusive business of private companies. Modern scientific analysis is often considered too expensive in the commercialized archaeology. Moreover, physical-anthropological analyses are becoming more and more limited to a sample of the total available population excavated. In fact, finding a substantial Merovingian cemetery these days would be an archaeological disaster. In the modern Dutch system, the excavation cannot be financed. For instance, we must consider ourselves lucky as a research community that the accidental discovery of an early, rich, and almost complete – but fortunately small – Merovingian cemetery in Lent was within the territory of a town with a town archaeological service (Nijmegen). They saw it as their responsibility to oversee excavation professionally, for which we can be very grateful in view of the unusual 'legal' circumstances (created by the new law) in which it was discovered. In the present Dutch system, not much national (financial) support can be expected in dealing with such an important and complicated find during and after excavation.

As already mentioned in the Bergeijk cemetery publication, the ODYSSEE program thus generates a paradox. Old excavations that are not of the quality that is needed for modern analyses will be better published and dealt with than recent excavations, for these recent excavations fall outside the scope of the ODYSSEE program. This is because excavations executed and reports written after the 2007 Monuments Act are considered to have been sufficiently dealt with. This idea is ready for revision, as is the idea that preservation *in situ* is an adequate heritage strategy for Merovingian cemeteries.[2]

Most recent and sub-recent publications still do not provide sufficient information to address subjects such as grave reopening or grave structure analysis. Instead, they create the need to re-evaluate these excavations too, to obtain necessary information. In some cases, a re-evaluation of original field documentation may provide the necessary answers. This will be put to the test with the re-examination of the grave structures of the Meerveldhoven cemetery.

Acknowledgements

This publication owes its gratitude to many persons and institutions. First, we want to thank those who provided the financial means for the project: the National Science Foundation (NWO), Leiden University (since the January 1st, 2012), the University of Amsterdam (until December 31st, 2011) and the Town of Maastricht. Second, those that provided access to documentation and finds necessary for studying the Posterholt cemetery: the Rijksdienst voor het Cultureel Erfgoed (State Service for Cultural Heritage, now RCE; formerly known as ROB, Amersfoort) in the person of Jos Bazelmans, head of research department, and Theo Geurtsen, archivist, and the Provinciaal Depot voor Bodemvondsten in Limburg (Maastricht) in the persons of Sjeng Kusters and José Peeters. The director of the 1984 excavation Willem Willems gave his permission to publish the cemetery. Special thanks go out to Huub Schmitz, member of the Heemkunde Vereniging Roerstreek (HVR) who provided access to his private collection of finds and who took the time to share with us valuable information from his private investigations on the Voorsterveld. We, the authors, made several visits to Huub Schmitz' home in Montfort, and each time we received a warm welcome accompanied by cups of coffee and helpful information and stories about the surrounding area.

In addition to Willem Willems, the excavation team brought together by the ROB consisted of: Fedor van Kregten (field technician), Frans Theuws (finds administration and documentation), Fokko Kortlang, Jos Deeben, and Jose Schreurs. We also want to mention the members of the HVR who voluntarily participated in the excavation. Their experienced team consisted of Harrie Beckers, Marissa Cobben, Tim Dziurawski, Peter Goldsmits, Jo Kempkens, John Lemmens, Ton Lupak, Fred Reihs, Huub Schmitz, and Jo Smeets. Moreover, Jo Kempkens and Ton Lupak (now restoration laboratory Restaura) took care of the conservation and restoration of the objects recovered.

Contributions to this volume were made by many. Chrystel Brandenburg (town archaeologist, Leiden) analysed the textile remains. Liesbeth Smits (AAC-UvA) and Raphael Panhuysen (AAC-UvA) provided physical anthropological research. Joep Hendriks (AAC-UvA/Bureau for Archaeology and Built Heritage, Town of Nijmegen) analysed Roman pottery, and Jeroen Oosterbaan (ARC B.V.) examined the Roman lock and key from grave 1. Arent Pol (Leiden University) provided determinations of Merovingian coins, Rob Reijnen (Nijmegen) those of Roman coins and Sophia van Lith (AAC-UvA) those of Merovingian glass fragments. Further support for the process of find analysis was provided by Bob Donker (AAC-UA) who made the find drawings and Anneke Dekker (AAC-UvA) who made photographs. André Simons (Bureau for Archaeology and Built Heritage, Town of

(1) Theuws/Van Haperen, 2012, see preface.

(2) What will be the fate of the remaining in situ graves of Bergeijk, Posterholt, and Borgharen to name but a few examples? They all suffer from various changing environmental conditions (such as drying out) or must be heavily protected against modern grave robbers.

Nijmegen) made drawings of the Roman pottery and Marcel Degen (Bureau for Archaeology and Built Heritage, Town of Nijmegen) was responsible for the reconstruction of some Roman pottery vessels. Mindy Friedlander-Schaper provided English revisions, which were often accompanied by valuable and refreshing comments. Bregt Balk and Haiko Oosterbaan were responsible for the design and layout of the publication. Finally, indirect support through continuous advice and suggestions on how to deal with Merovingian cemetery evidence was provided by our colleagues Mirjam Kars, Martine van Haperen, and Dieuwertje Smal.

Site heritage management

We conclude with a final remark on the cemetery site's current condition. The Posterholt cemetery is not completely excavated, and it has come to our attention that many questions could thus not be answered. Moreover, the cemetery's unexcavated area is still in danger of being disturbed by agricultural activities and on-going degradation processes. During our investigations, it became clear that a considerable part of the top soil was disturbed by recent agricultural activities. Although most of the inhumation graves were not much affected by that activity, the cremation graves were heavily disturbed. Since more are expected to be present, they still run the risk of being disturbed.

The changing soil conditions are another risk to site preservation. Much of the human remains and organic material was not preserved by the time of excavation, and this will obviously not improve in the future. It would thus be preferable to excavate the entire cemetery. This will not only prevent the cemetery from further decay and possible agricultural damage, but will also help us answer some of the questions that emerged during our re-evaluation of the cemetery data. One of the most apparent questions concerns the cemetery's use period, and thus the region's habitation history. As will become clear throughout this publication, we have no notion of Posterholt's earliest cemetery phase.

Although the cemetery's complete excavation is not possible within the present day commercialized archaeological system, it is still advisable to carry out some small-scale test excavations of a number of graves to check the site's present conditions. Moreover, we advise that the top layers of the cemetery site just below the plough soil be excavated to rescue the cremation graves from further destruction. It is also necessary to excavate a trial trench just northwest of the Tweede Heiweg because there is no knowledge about the cemetery's extent in that direction. The field's present use does not seem to guarantee best treatment of that possible cemetery portion. Another trial trench should be located just north of the Kluisweg to establish the northern boundary of the cemetery.

As previously stated, present policy dictates that archaeological sites should first and foremost be preserved *in situ*. Preservation *in situ* requires better information than we have now and better actions. It is questionable whether preservation *in situ* is a suitable policy for Merovingian cemeteries that are – due to the presence of precious grave goods – vulnerable, especially to processes affected by the fluctuation of ground water levels, soil improvements, drying out, and modern grave robbery. Although excavation is considered 'destructive', it would still be more favourable to retrieve these precious finds, analyse them, and keep them in a place more suitable for preservation than the subsoil which can never meet the conditions requested by law of archaeological depots!

PART 1
DATA

1 The environmental and societal context of the Posterholt-Achterste Voorst cemetery

Posterholt is one of those small attractive villages in the Dutch province of Limburg situated along the Dutch-German border (fig. 1.1). At present it is part of the Roerdalen municipality, created with the merge of the Herkenbosch, Melick, Montfort, Sint-Odiliënberg, Vlodrop and Posterholt villages. The name 'Posterholt' contains the element 'holt' (wood), a reference to the importance of the forest that once must have dominated the landscape in which the first medieval colonists settled.[1] The element 'poster' may refer to 'postel', a kind of berry, but this is not certain.

Posterholt in the regional context

Posterholt is part of an ancient territory situated east and west of the Meuse River and along the banks of its tributary, the Roer (fig. 1.2 and 1.3). This region must have been the original core of an early medieval pagus, alternately named Masao, Mosariorum, Masuarinse, Mashau, Mosavo, Masagao, Masagouwi, Maso, Maselant, and Maisou in texts dating before 1000 AD.[2] The names refer both to groups of people (Masuarinse) as well as geographic units (Masagouwi). The oldest texts refer to places in Posterholt's environs; the younger texts also include places further north and south, such as Maastricht and Blerick. Over time, the Masau pagus may have expanded over a larger area along the Meuse River.

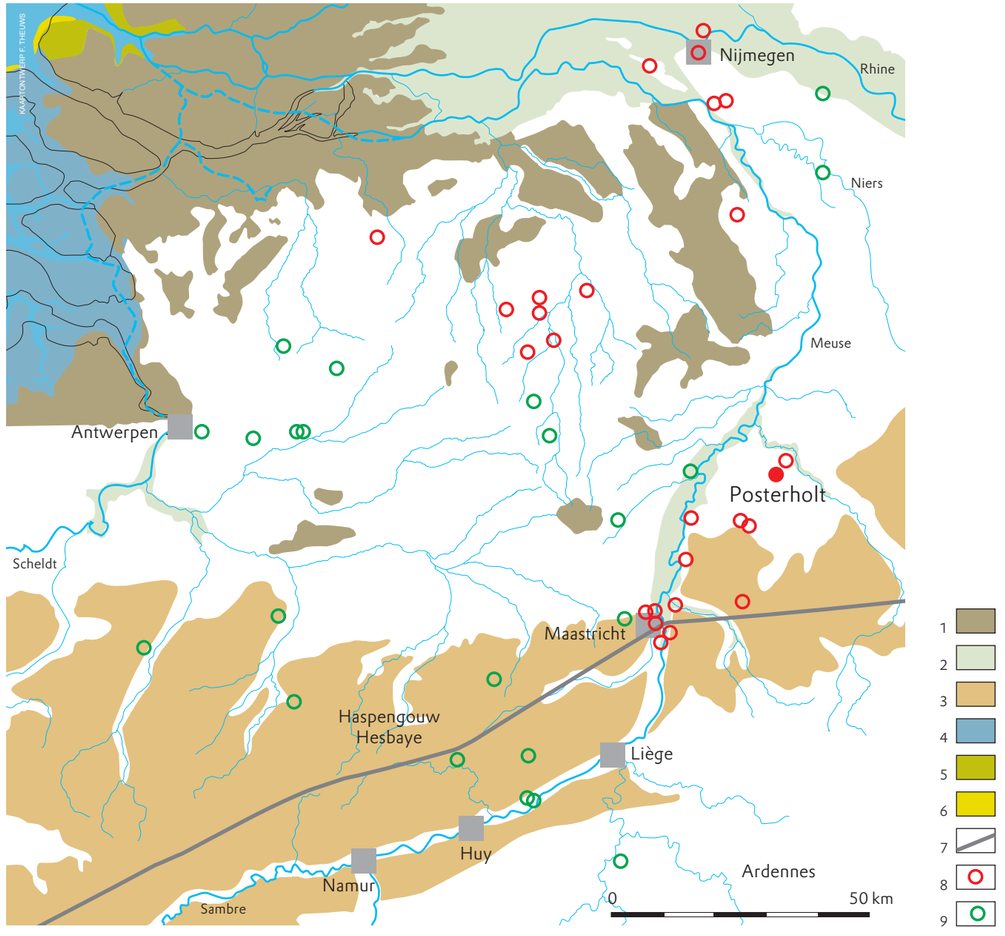
Important early medieval sites are found close to Posterholt. One is the *mansionile* Susteren with its oratory donated in 714 by mayor of the palace Pippin (II) and his wife Plectrud to Willibrord, bishop of the Frisians and abbot of the Echternach monastery (in present day Luxemburg) (fig. 1.4).[3] The Aldeneik monastery is also nearby, on the opposite bank of the Meuse River. According to Dierkens, the Aldeneik monastery was created in the second quarter of the eighth century.[4] A third important early medieval site is the Sint-Odiliënberg monastery. We are unsure as to its origins and date of creation;[5] it may have existed since the eighth century. It is first referenced in a charter of King Lotharius II dating from 858,[6] and is indicated to be a *monasterium* located in a place called 'Berg' (mountain) and dedicated to Saint Peter. Two other important nearby sites, although of younger date, are the monastery of Thorn, created in the late tenth century,[7] and the tenth century *portus* of Wessem, possibly a predecessor of the later town Roermond.[8]

Archaeological finds support the supposition that this area was important in the Early Middle Ages. Exceptional finds from the Carolingian period have been dredged up from the river Meuse, such as the huge silver hoard near Roermond dating from about 853/854, and the exquisite Anglo-Saxon sword at Wessem (fig. 1.5).[9] Several important Merovingian cemeteries have been discovered in the pagus, and were completely or partially excavated. The two cemeteries closest to Posterholt are those of the Belgian village of Ophoven and the Dutch village of Vlodrop.[10] Further north, finds confirm the presence of a cemetery at the village of Swalmen;[11] as does a complete biconical pot in the Herten village.[12] The cemeteries of Ophoven, Swalmen, and Herten belong to a group of burial grounds closely related to habitation along the Meuse river. In contrast, the Posterholt and Vlodrop cemeteries should be associated with a group of cemeteries in Germany, further east along the Roer river and its tributaries. Finds indicate the presence of a Merovingian cemetery at Karken, to Posterholt's immediate east, and further east, a cemetery has been discovered at Orsbeck.[13]

The Posterholt cemetery is 14.2 kilometres as the crow flies from the Meuse river, and 1.2 kilometres from the Roer river. The Vlodrop cemetery is only 760 metres from the Roer river. They are 4.4 kilometres apart and located in different settlement areas. North of Vlodrop/Posterholt is the region between the Meuse and Rhine rivers. The landscape in that area is dominated by a north-south oriented forested ridge that runs parallel to the Meuse valley. This feature is still apparent on modern maps. East of this elevated area are the lowlands of the Rhine valley where the Niers river flows north, parallel to the Meuse and Rhine rivers (fig. 1.2).

Fig. 1.1
The location of Posterholt in the Netherlands.

Fig. 1.2
The location of Posterholt in the sandy regions of the southern Netherlands and northern Belgium. 1. peat, 2. river clay, 3. löss, 4. tidal flat, 5. marsh, 6. beach barriers, 7. Roman road, 8. the most important excavated Merovingian cemeteries in the southern Netherlands, 9. a selection of excavated Merovingian cemeteries in Belgium and Germany.



(1) Gysseling 1960, 806. (2) See Theuws in press b. (3) Wampach 1929-1930, nr 24. (4) Dierkens 1979. (5) Theuws 2007; Linssen 2008. (6) Linssen 2008, 8. (7) There is a debate on the exact dating of the abbey's foundation. Monna dates it between 972 and 995 (Monna 1988, 177-191). (8) Linssen 1962-1963. (9) Zuyderwyk/Besteman 2010; Coupland 2011; Willems 1983, 276-279; Willems/Ypey 1985. More early medieval finds have been dredged from the Meuse River; a comprehensive inventory of these finds has not yet been made. (10) Ophoven: Claassen 1973; Claassen/Heymans 1974; Mertens 1975; Roosens 1975, 1976a, 1976b, 1977a, 1977b, 1978. The Vlodrop cemetery will be also published in the context of this project. (11) Milikowski 1994. (12) Bloemers/Willems 1980/1981, 56-57. (13) Piepers 1989, 124, 374-376.; Siegmund 1998, 322-323 (Karken) and 347-348 (Orsbeck).

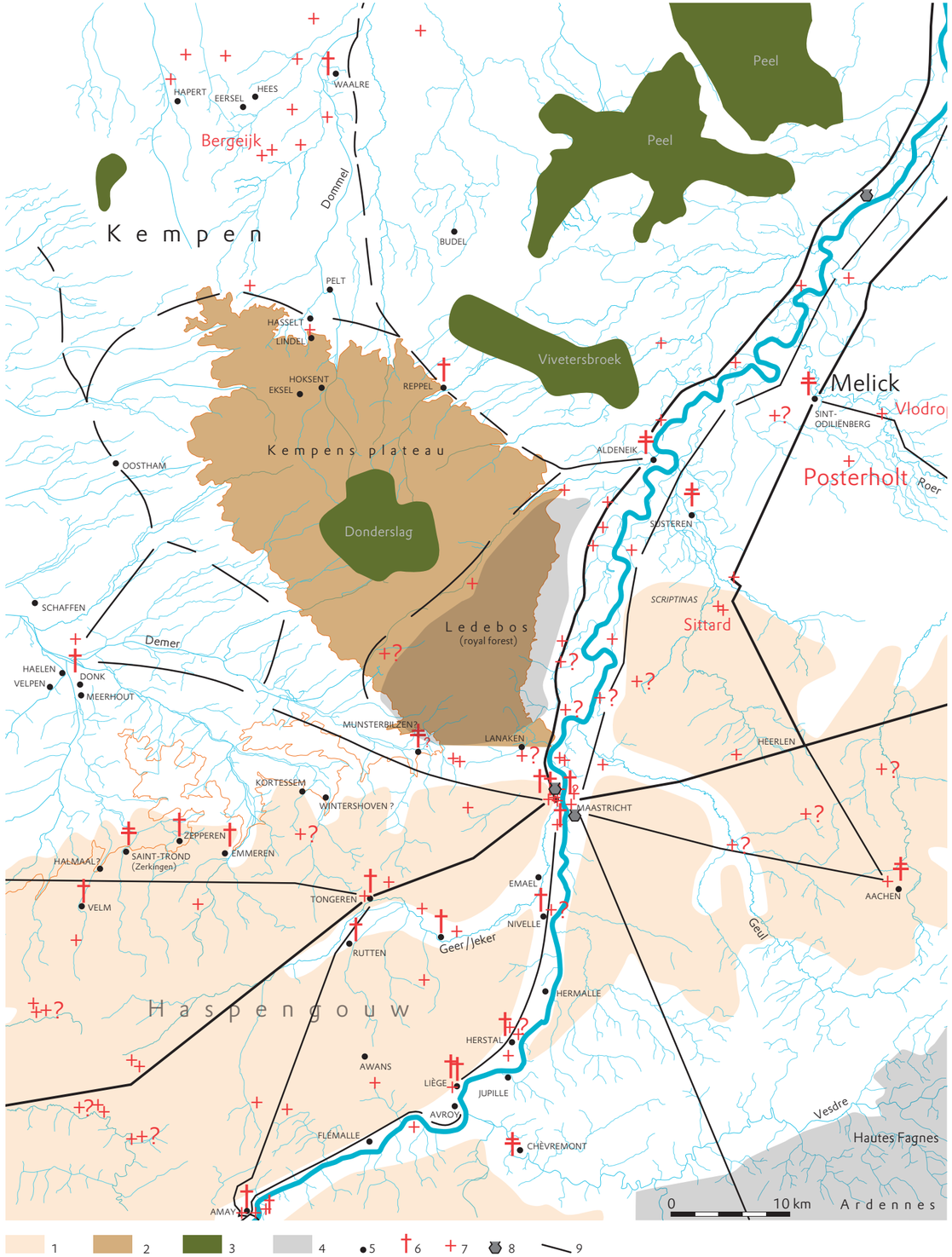
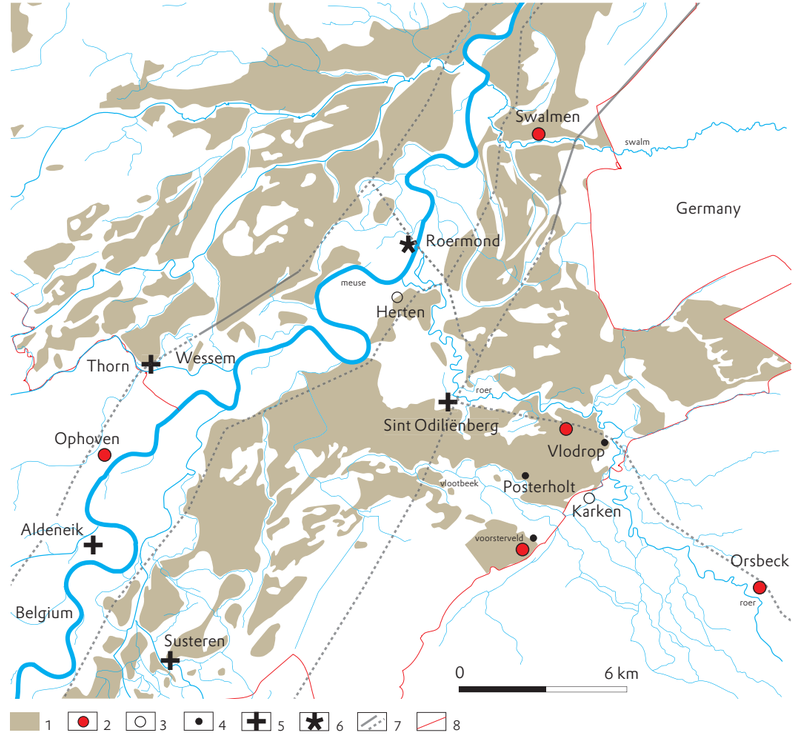


Fig. 1.4 (right)
The Roer-Meuse region in the Early Middle Ages.
1. fertile areas (potential arable land, habitation cultivation areas),
2. Merovingian cemeteries,
3. probable Merovingian cemeteries,
4. modern village centres,
5. early medieval monastery,
6. Carolingian silver hoard,
7. Roman roads, observed and hypothetical,
8. modern Dutch border.

Fig. 1.3 (left)
The hinterland of Maastricht consisting of the sandy regions to the northwest, the fertile löss regions to the east and west, the Ardennes forest to the southeast and the Meuse valley . Part of the infrastructure was inherited from the Roman period and centred on Maastricht because of the presence of a bridge there.
1. löss,
2. the Kempens Plateau (contour line is 50 m. above sea level),
3. moors,
4. large forests,
5. places mentioned in the eighth century,
6. early medieval churches (provisional),
7. Merovingian cemeteries (provisional),
8. Merovingian pottery production,
9. roads and routes.



Up north, the Niers flows into the Meuse. The landscape between the Meuse and Rhine rivers seems to have been sparsely inhabited; only a few cemetery locations have been discovered along the Niers.[14] The situation seems the same southwest of Posterholt. The area between Posterholt and the cemeteries discovered in Sittard is probably devoid of early medieval habitation (fig. 1.3). The Posterholt and Vlodrop cemeteries are thus located in a corridor through high-lying land through which the Roer and Vlootbeek rivers flow in a north-westerly direction.

The location of sites dating to the Early Middle Ages is not determined only by the conditions of the physical landscape. The presence of Roman infrastructure remnants seems to be important as well. Nieveler, studying Merovingian habitation in the Rhineland, observed that the earliest Merovingian habitation in this area clings to Late Roman infrastructure[15], whose main elements are roads, *castella* and bridges. Bridges and *castella* do not seem relevant to Posterholt's location, but several roads seem to have been important, including major roads and secondary roads (fig. 1.3).

Most significant was the road following the Meuse's right bank to the north. The *vicus* of Melick (*Mederiacum*), on the north bank of the Roer river, seems to have been located along this road.[16] The road can be expected to cross the Roer river nearby. It is very likely that the Sint-Odiliënberg monastery was located near this river crossing (fig. 1.6).[17] At Melick, the road probably splits, with one road continuing north along the Meuse's right bank, and another continuing to Xanten on the Rhine.

A second road will have run northwest along the left bank of the Roer river from the Late Roman *castellum* of Jülich (*Juliacum*), located on the road from Maastricht to Cologne.[18] This road may have run to the probable river-crossing near the Sint-Odiliënberg monastery and continued further northwest in the direction of the Meuse river. A third road is present in the area. Huub Schmitz, an amateur archaeologist from Posterholt, observed a band of north-south running gravel in arable fields about 2500 metres west of the Posterholt cemetery.[19] Extending the band in both directions produces a straight line from the Sint-Odiliënberg

(**14**) Siegmund 1998, Beilage 1; Nieveler 2006, 28, Karte 10. (**15**) Nieveler 2006, 30. (**16**) On Melick, see: Chevallier 1975, 122-123. (**17**) An important river crossing is indicated on the oldest topographical maps. This crossing, where high lying grounds are close to the stream, is probably very old and may date from prehistoric times. On the monastery of Sint-Odilienberg, see: Theuws 2007 and Linssen 2008. (**18**) On Jülich, see: Tholen 1975 and Pöppelmann 2010. The local archaeologist Huub Schmitz is trying to reconstruct the road's exact trace with the help of Roman cemeteries, which he believes are located along this road. He may be correct in this. See the website mentioned in the following footnote. (**19**) http://www.archeologie-posterholt.nl/index.php?option=com_content&view=article&id=28&Itemid=41. 14 April 2012.

Fig. 1.5
The hilt of a sword of Carolingian date dredged up at Wessem (after Willems/ Ypey 1985).

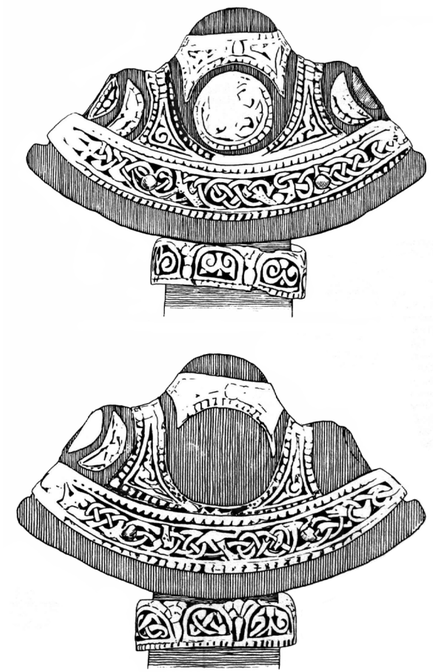
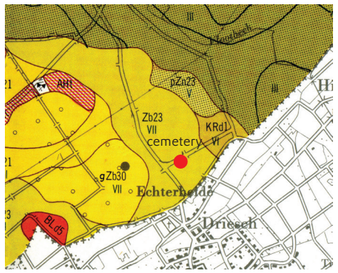


Fig. 1.6
Sint-Odiliënberg and environs c. 1840. The monastery is located on the hill immediately to the right of the letter g. The bridge over the Roer river to the right of it is clearly indicated. To the north is the Roman *vicus* of Melick.

Fig. 1.7
Part of the soil map of the Netherlands scale 1:50.000. The location of the cemetery is indicated with a red dot. The Zb23 soils are relatively fertile soils.



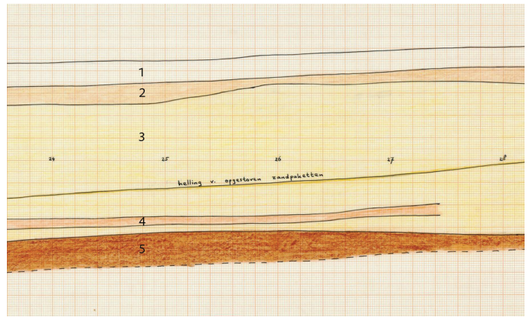
bridge to Heerlen (*Coriovallum*). If this reconstruction of Roman roads is correct, the Posterholt cemetery is located in an area well connected to other regions.

The Posterholt cemetery in the local context

The Posterholt cemetery is located southwest of the Achterste Voorst[20] hamlet in an arable field complex called Voorsterveld (fig. 1.4). The Voorsterveld is the northern part of a high-lying terrace sloping down in a north and north-east direction. The Achterse Voorst hamlet is located along a small tributary of the Vlootbeek, on the transition of the terrace and the Vlootbeek valley. The tributary runs southeast to northwest through the area. The relatively wide Vlootbeek valley was probably a former stream valley of the Roer river.[21] The current Vlootbeek stream would not have been able to create such a wide valley. Present day Posterholt is located north of the Vlootbeek on a plateau between the Vlootbeek and Roer rivers. Large arable field complexes dominate the present landscape. Vlodrop and its cemetery are located on this plateau between the rivers. It is thus not very likely that the Posterholt cemetery, being located on another plateau, is related to a possible early medieval Posterholt. Rather, it must have been related to habitation on the Voorsterveld and the plateau to its southwest.

(20) There is discussion as to how the hamlet should be indicated, some favor Achterste Voorst, others De Achterste Voorst (with the dutch article 'de'). Adding this suggests that Achterste is rather an adjective than part of a name. Throughhout this book we used Achterste Voorst without the article. (21) Locht 2006, 35-36. (22) Bodemkaart van Nederland, kaartbladen 58 oost, 59, 60 oost en 60 west. Damoiseaux/Rosing 1993. (23) They are the Moderpodzolgronden (Y21, Y23, Y23b), the Vorstvaaggronden (Zb21, Zb23), Brikgronden (Bkd25, Bkd26), and the Hoge Enkeerdgronden (bEZ21, bEZ23, zEZ21, zEZ23). One should probably add the Ooivaaggronden (Krd1), which have not been mapped in fig. 1.4. There are, however, not many present in the mapped area. The soils are mapped on the basis of the Bodemkaart van Nederland, sheets 58 West (1972); 58 Oost (1968), and 60 (1970). These soils are not indicated for the Belgium territory. (24) See chapter 2 for the problems with localizing the section exactly. See chapters 5 and 10 for more parts of the section. (25) See: http://www.archeologie-posterholt.nl/. We visited Huub Schmitz (now Montfort) on several occasions and discussed the finds he discovered on the Voorsterveld. (26) Böhme 1974, 104-105. Schaftlochlappen are small protruding parts at the location of the hole for the wooden handle. (27) Böhme 1974; Böhme 1996. (28) Theuws 2009. (29) Böhme 1974, 8, 155. (30) Schulze 1977, 33-35.

Fig. 1.8
Central part of the section along the southern limit of the excavation with the different layers of sand on the site, scale 1:50.



Due to its complex geological formation, the region's landscape shows great variability at short distances. River and eolian sand and gravel deposits, as well as tectonics, determine the relief and quality of the soils.[22] Eolian cover sands cover most of the area's surface. Various soil formation processes took place in these sands, largely determining agricultural possibilities for early medieval colonists. In figure 1.4, the surface areas of a several combined soil types are indicated.[23] Together they mark the extent of soils best suited for creating arable fields. These would originally have been covered by an oak beech or oak birch forest. Most of these areas were cultivated throughout the Middle Ages. The large area southwest of the Posterholt cemetery, however, was not reclaimed; only the terrace's northern flank, the Voorsterveld, was made arable. On the modern soil map the area is indicated as having Vorstvaaggronden (Zb23) (fig. 1.7). The long section made along the southern border of the excavation trenches shows the composition of the soil matrix (fig. 1.8 shows the central part of the section).[24] From top to bottom the following layers were identified. Layer 1 is the recent plough zone. Layer 2 is a homogeneous layer with some humus in it. Sometimes indicated as 'cultural layer'. It might be a combination of ancient ploughed soil and remnants of the original soil 'Vorstvaaggronden'. The section shows why this soil qualification was chosen: there is hardly any soil formation in the top meter of the section. Layer 3 is a thick layer of layered yellow-whitish sand with some iron concretions. It is probably a layer of cover sand that was bleached out to some extent. Layer 4 is a layer of washed in iron (and humus?) originating from the sand above. Further to the west this layer disappears. Layer 5 is a thick red-brown layer of sand with a high iron content. The iron is probably washed in from the sand above (a B-horizon). Originally this type of soil with a top layer of humus will have been good arable soil to reclaim in the Early Middle Ages. As stated, habitation related to the cemetery should be sought in the fields of the Voorsterveld.

Archaeological finds from the Voorsterveld

The Voorsterveld and its immediate surroundings are rich in archaeological finds. Huub Schmitz intensively surveyed the Posterholt village's territory and gathered intimate knowledge of the region's archaeology.[25] A number of his finds relate to the study of the Merovingian cemetery some will be discussed here (for prehistoric finds his website can be consulted.) Several fields surfaced finds from the Roman, Merovingian and Carolingian periods (fig. 1.9). The finds were all located on the plateau's slope, towards the Vlootbeek, and east of the Akerstraat. On three sites, Schmitz found graves and grave finds dating to the Middle Roman period. They are indicated on the maps in figures 1.9 and 1.15 with the numbers 1 to 3. One of the Roman cemeteries (nr. 3) was situated at the site of the Merovingian cemetery. The cemetery's graves and finds are described in chapter 3 of this book.

Of great interest are a number of finds dating to the Late Roman period. On location nr 4, a small axe was recovered (fig. 1.10). This axe is of a Late Roman type, which Böhme defined as *Axt mit Schaftlochlappen*.[26] Subtypes are defined based on the form of the axe's upper edge or back. This specimen's back is slightly curved and thus belongs to type B. Böhme dates these axes to the Late Roman Period and early *Völkerwanderungszeit*, a vague indication that can be 'translated' as "late fourth and first half of the fifth century". Such axes are usually found in graves traditionally considered warriors' graves or 'weapon' graves. As such, they are considered to indicate Germanic warrior settlements.[27] Other interpretations are also possible. Burials with axes comprise most of the fourth and fifth centuries' 'weapon' graves. Axes need not be considered weapons as they may have been used to clear land, and thus may refer to new land claims by incoming settlers.[28] In the case of Posterholt, this might relate to a Late Roman reoccupation of lands deserted in the third century (*agri deserti*). The Voorsterveld could thus be one of those *agri deserti*.

On location nr 5, a simple *Armbrust* fibula was found. Böhme dates this type of brooch to his *Stufe* 1, which he dates to c. 330 to 400 AD.[29] Schulze studied the *Armbrust* brooches in detail, and the Posterholt specimen fits her type Iz Aa 2c best.[30] She dates these

Fig. 1.9
Relief map of the environs of the cemetery based on the Actueel Hoogtebestand Nederland (AHN). Blue: Roman graves, red: late Roman finds, green: Merovingian site/find, orange: Carolingian find. Scale 1:25,000.

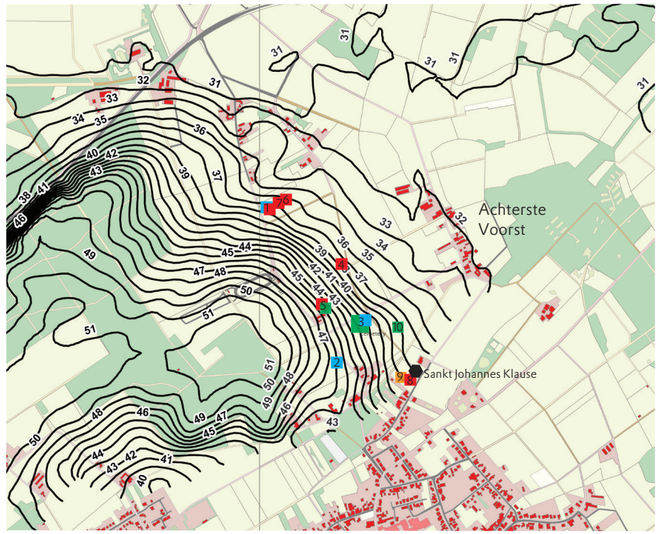


Fig. 1.10
Late Roman axe, scale 1:2
(collection H. Schmitz).

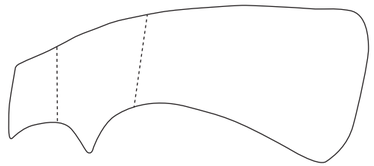


Fig. 1.11
Late Roman strap ends, scale 1:1
(collection H. Schmitz).

1 2

brooches to the second half of the fourth and first half of the fifth century. They are found west and east of the Rhine River.[31] In accordance with the area's other Late Roman finds, the Posterholt specimen probably dates to the later fourth century and first half of the fifth century.

On location no. 6, two lancet-shaped strap ends with chip-carved decoration were found (fig. 1.11). Such strap ends are part of elaborate Late Roman belt sets. Strap end nr 1 is decorated with a so-called 'Flammenmuster' bordered by a ridge imitating a pearl rim. Along the edges of its point are highly stylized animals. The strap end was fixed to the belt with one rivet. A nearly identical specimen was found in the Liebenau cemetery on the Elbe River.[32] The Posterholt specimen belongs to type 1 of the lancet-shaped strap ends, as defined by Böhme.[33] He assigns these to his *Stufe* III, which he dates from c. 400 to 450, or possibly to the end of the fifth century.[34] The second chip-carved strap end (fig. 1.11, nr 2) belongs to the same type. The point of the strap end is broken off. The chipcarving shows a geometric pattern. This strap end was fixed to the belt with two rivets. Such chip-carved belt fittings are considered parts of Roman military belts.[35] However, we should not be very rigid in attributing such belts to military personnel. Swift already suggested that in the Roman West, chip-carved belt sets were worn by both military and non-military personnel. This is because specimens of such belts occur not only along the Rhine frontier but also deep in Gaul.[36]

We must consider that such belts, both the general type as well as individual specimens, may possess a life cycle. The type may change function over time that is from signalling something strictly military to a wider range of power positions. Moreover, individual belts worn by military personnel may have acquired alternative meaning after their wearers retired from service. The finds of such belts (or belt fittings) across the Rhine does suggest that belts were transported or imported there.[37]

We should also analyse the meaning behind belt distribution. Distribution patterns are generally seen as reflecting the movement of men wearing those belts, more specifically, the movement of Germanic men into the empire to serve in the army, and out again, with their military equipment. However, it is possible that a number of belts were gifts and do not relate to men in the Roman army. Moreover, we should contemplate the fact that most of these belts were found in graves. Why it was thought important for such belts to be placed in graves? The traditional answer relates to the supposition that the belts were deposited in graves because they were a soldier or warrior's personal possession. This should lead us to wonder why, in fact, few such belts were placed in graves.[38] This suggests that placing a belt in a grave relates to variables other than the military or warrior status of the deceased. If we consider that such belts may have a life cycle and change meaning over time, and may also have been exchanged as gifts, alternate causes for their grave-deposition may be suggested. Reasons may vary within the empire and outside of it. As has been suggested for graves with axes and lances, graves with such belts may refer to positions in the local group related to new land claims. These positions may have been formulated differently than those current in the Roman state of the first to third centuries.[39] In that case, the distribution pattern of such belts would signal an entirely different aspect of the Late Roman world than the settlement of Germanic people or Germanic warriors. Veterans may have been among those claiming land in the late fourth and fifth century, but even in those cases, belt deposition could relate not only to his former military position but also to his new position on the land. We do not know to what context the Posterholt chip-carved strap ends originally belonged. They could be grave finds, settlement finds, or stray finds. Whatever the case, these strap ends need not indicate Late Roman military presence.

Near these finds on the Voorsterveld, a number of Late Roman coins was found. Location no. 7 held a small AE 4 coin, which is difficult to attribute.[40] It is either a coin of Theodosius or of emperor Johannes (423-425). Location no. 8 held an AE2 of Gratianus (367-383), struck in Trier, along with a diminutive pile of small Late Roman coins.[41]

All these Late Roman finds indicate that the Voorsterveld was the scene of Late Roman activities of some kind. Most likely the Voorsterveld was reoccupied in Late Roman times, probably at the end of the fourth century until at least the middle of the fifth century or possibly somewhat later. Finds unmistakably dating to the second half of the fifth century, however, have not been found. The finds are scattered over an area of more than 900 metres both north and south of the Merovingian cemetery. The cemetery's oldest finds date to the first half of the sixth century. The oldest core of the cemetery has not been excavated. It may reach back into the second half of the fifth century, but this is unverified. It is possible that the cemetery was established towards the end of Late Roman habitation, with some form of habitation continuity present. This, however, is conjecture, awaiting new finds or excavations for confirmation. The Late Roman habitation may have ended somewhere in the second half of the fifth century, as is the case with a number of other Late Roman sites in the southern Netherlands. In that case, the area would have been re-colonised in the first half of the sixth century by those who created the cemetery.

Three or four sites unearthed finds from the Merovingian period.[42] The Posterholt cemetery is located at site no. 3, where one of the Roman cemeteries was situated as well. Another highly interesting find comes from site 5. It is an equal-armed brooch of a rare and exquisite type (fig. 1.12).[43] The brooch's ends each bear an animal head whose mouths and the eyes are clearly indicated. The eyes are inlaid with either red garnets or red glass. One of the eyes is of opaque red paste, probably glass. The areas around the eyes are thick, accentuating the heads. A small groove, probably indicating an anatomical element, rests beneath each head's eyes. Behind the heads proper are horizontal grooves. They may indicate hair, undermining the interpretation of a comparable example that saw the heads as snake's heads.[44] Moreover, the eyes are very much behind the mouths, unlike a snake's anatomy. If the horizontal grooves indicate hair, the maker could have envisioned other more ferocious beasts. The top of the brooch also consists of two opposing animal heads, placed mouth to mouth. These animals' eyes, too, are inlaid with garnets or red glass. There

(31) Schulze 1977, Karte 18. (32) Böhme 1974, Tafel 28, nr 10. (33) Böhme 1974, 74. (34) Böhme 1974, 155-157. (35) Böhme 1974; Swift 2000, 201-202. (36) Swift 2000, 202. (37) Böhme 1999, Abb. 10-11.

(38) The catalogue of military belts may be quite substantial (Swift 2000), but if this number is divided over the period of time in which these belts were deposited and the geographical area over which they are distributed, then the number of belts per generation is quite low in most regions of northern Gaul. (39) Theuws 2009. (40) Found by Huub Schmitz in 2007, in his collection. (41) Found by Huub Schmitz in 2008, in his collection. (42) The number depends on the date of one of the brooches. (43) The brooch is 5.9 cm long. (44) Evrard 1997, 26.

Fig. 1.12
Sixth-century equal-armed brooch, scale 1:1 (collection H. Schmitz).

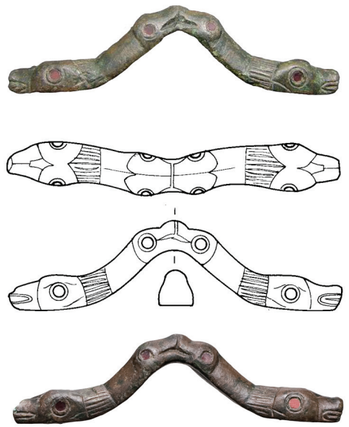


Fig. 1.13
Equal armed brooch from grave 19 at Wellin, scale 1:1 (Belgium, province of Luxemburg).

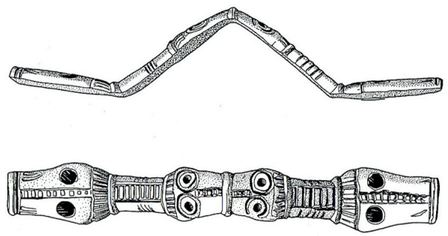


Fig. 1.14
Carolingian brooches, scale 1:1 (collection H. Schmitz).

is no indication of hair, though, and the mouths are shaped differently than those of the ending heads, suggesting different animals. A short, plain, D-shaped copper alloy stave is present between the two sets of animal heads.

Two comparable brooches were found further south in the Meuse valley region. One specimen was found in the fill of a partly disturbed grave at Wellin (Belgium, province of Luxembourg).[45] It is 7.7 cm long (fig. 1.13). In contrast to the brooch from site 5, its body is flatter and the animals' eyes lie on top of the brooch. The brooch belongs to a rich grave ensemble dated to the second quarter of the sixth century.[46] Near this brooch were three pairs of beads, a silver chain with crystal bead, an iron knife, a chopping knife, a bone comb, and a Roman glass bottle. The grave was disturbed by a later grave, whose fill contained: a pair of gold ear rings with polyhedron ends inlaid with garnets; the head of an exquisite gold needle; a gold S-shaped brooch; a fragment of a silver-gilded bow brooch of the 'Cividale' type; a beaded necklace; and gold wire, probably of brocade. These finds and those 'in situ' are considered to belong to a single grave goods ensemble. Roosens dated the grave to the second quarter of the sixth century.[47] Koch, however, raised serious objections against this early date.[48] He dates the grave to the second half of the sixth century, although he suggests that the grave may date to the third quarter of the sixth century.[49] Ultimately, we cannot be certain of the Wellin burial's date. It is safest to say it may date to the second and third quarter of the sixth century.[50]

Evrard mentions another similar but poorer-executed specimen found at the Place Saint-Lambert in Liège in 1907, kept at Liège's Curtius Museum.[51] We do not know of other specimens of this brooch type. It is possible that this brooch type, one of the earliest forms of equal armed brooches, is an element of Merovingian material culture of the Meuse valley.

We can conclude that the brooch from site 5, c. 230 meters northwest of the cemetery's excavated area, dated from the time the cemetery was in use. Whether it is a stray find from a settlement or a grave find is unclear. The object is in good condition, which may indicate it did not linger in plough soil for a long time.

Location no. 10 contained an equal armed copper alloy brooch with round end plates. It can be identified as type II A1a or type II A2a according to Thörle's classification.[52] Type II A1a dates to the *Jüngere Merowingerzeit* II (630/40-670/80).[53] Type II A2a dates to the *Jüngere Merowingerzeit* II or III (670/80-720). Thörle dates this type of brooch to the seventh century; it thus may be contemporary with the Merovingian cemetery.[54] The brooches of type II A1a are found predominantly in the middle Rhine/Moselle area.[55] Other specimens are found in northern France and southern Belgium. Type II A2a is almost exclusively found in the middle Rhine/Moselle region. The Posterholt specimen is one of the northernmost examples of either type.

At location no. 9, another equal armed copper alloy cast brooch with round end plates was found (fig. 1.14, nr 1). It is 4.7 cm long, bearing end plates with profiled edges. The brooch's edge is dotted. The plates's centres are decorated with engraved or cast line ornaments, while the arms are decorated with dots and grooves. Atop the bow is a small disk decorated with grooves, forming an equal armed cross in circle. Thörle does not illustrate a comparable brooch.[56] To some extent, the Posterholt specimen resembles those of *Gruppe* II E2 (*Dreiplattenfibeln*), which are not easy to date. Some *Gruppe* II E2 specimens are found in graves from the Late Merovingian period. The type, however, might also date to the Carolingian period; this is difficult to prove because of the lack of well-dated grave inventories from that period in northwest Europe.[57] Still, in view of the almost complete absence of such brooches in Merovingian graves, this brooch type is more likely to date to the Carolingian period.

At location no. 9, another find from the Carolingian age came to light. It is a square brooch of 2 by 1.8 cm (fig. 1.14, nr 2). The brooch's hollows were originally filled with enamel, probably of a red colour. Frick classified these brooches as *Rechteckfibeln* type 1, variant 1. They are found mainly north and east of the Rhine River.[58] The Posterholt specimen is one of the few found west of the Rhine up till now. Frick cannot date these brooches accurately since none were found in a dated context. He suggests a date in the first half of the ninth century.[59] Almost identical specimens were found in the lost settlement of Diderikeshusen in Germany, Kreis Paderborn in Dötlingen (Germany, Niedersachsen) and in Gamle Hviding in Denmark.[60] Brooches with identical decoration but with broad, lower lying rims, such as the one found in the lost settlement of Aspen in the present village of Erwitte-Bad Westernkotten (Germany, Kreis Soest), are dated to the Ottonian period.[61] It is difficult to imagine that brooches with nearly identical decoration should have widely differing dates unless such brooches were produced over a long period of time. This is not likely in view of the limited number of specimens discovered. The thin broad rims may have been intended to be cut off after the casting process.

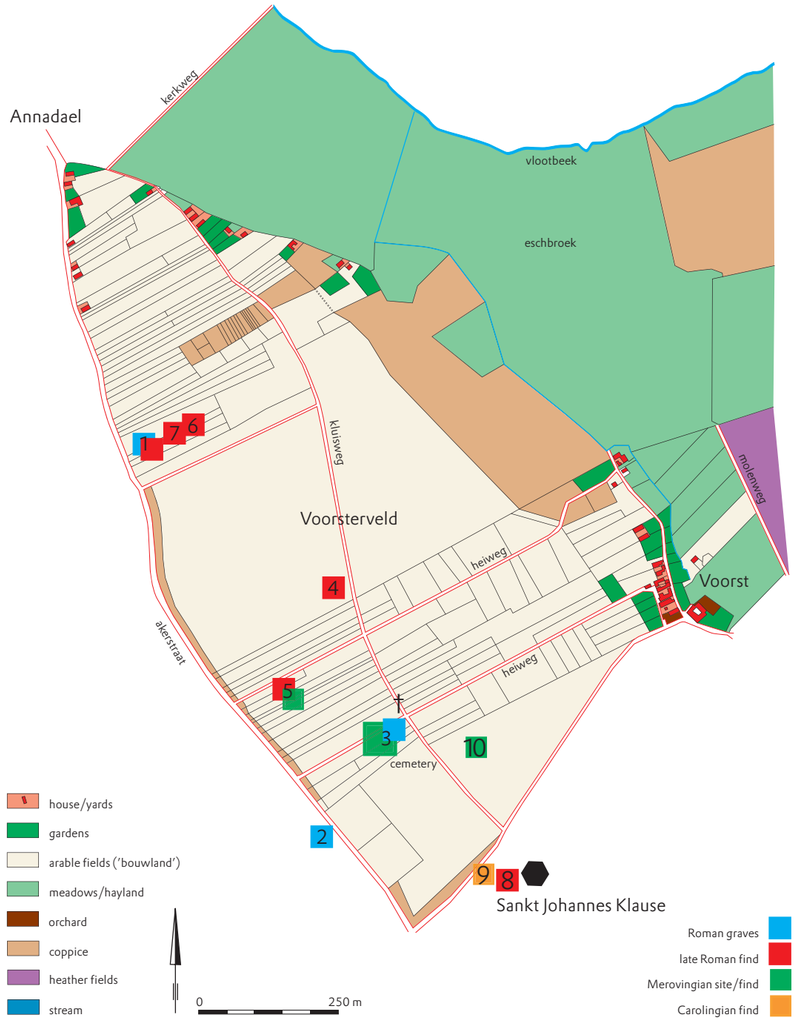
On the basis of the finds discussed above, it is possible to suggest a hypothesis as to the development of habitation and settlement in the Voorsterveld from Roman to modern times.

A hypothetical settlement history of the Voorsterveld

Is it coincidental that the Carolingian/Ottonian finds were made southeast of the Merovingian cemetery? Could this distribution of finds indicate that habitation shifted southeast in the direction of the Sankt Johannes Klause church just across the German border in Haaren in the Waldfeucht municipality (fig. 1.15). The church is mentioned in 1328, but is probably older.[62] Delving into Haaren's history is beyond the context of this study, but we did survey some information from the Waldfeucht municipality's website, albeit in a somewhat unscholarly fashion.[63] The chapel of the Sankt Johannes Klause is related to the *curia seu villa dicta Kirenz*, located 100 meters east of the Klause. The curia, an aristocratic site with moats that have now disappeared, is mentioned in 1276 and 1277

(45) Evrard 1984, 207 and Tafel 22,4a/b; Roosens 1984. (46) Evrard 1984, 208; Roosens 1984, 211. (47) Roosens 1984. (48) Koch 1998, 337-339. (49) Problematic in his argumentation is the use of the date of the Lombard invasion in Italy (568) and the relation he supposes to exist between this invasion and the dating of supposed Lombard material culture, such as the S-brooches of the type found in Wellin. There are two almost exact identical specimens of the Wellin S-shaped brooch in Rácalmás (Hungary) and Cividale (Italy). Such brooches cannot, in his ethnic identity inspired research, have been deposited in Italy before the Lombard invasion. He supposes that they could have been made in the decennia before 568 and been brought to Italy by the Lombards. Thus the S-brooch from Wellin cannot be older than c. 550 AD. Ergo the grave of Wellin must date from the second half of the sixth century. Such reasoning is loaded with pre-suppositions about the production, circulation and deposition of such brooches as an element of ethnic identity and thus the movement of individual people, which need not be relevant. There are no clues as to where these S-brooches were produced and how they got to Belgium, Italy and Hungary. We should not use such historical events to date archeological material, simply because the relation between the objects and their ethnic 'identity' is a modern construct rather than a given from the Early Middle Ages. Dating objects on the basis of historical dates in combination with their supposed ethnic identity is loading construction upon construction, hypothesis upon hypothesis. (50) Both gold earrings with polyhedron, quite similar to those found in the grave of the woman under the Cologne cathedral, can date from the second quarter of the sixth century. Von Freeden explains that such earrings do not occur in Southern Germany after c. 550 until c. 650, but that in the north they may occur in the second half of the sixth and beginning of the seventh century (Von Freeden 1979, 276). Ultimately, the earrings do not help accurately date the Wellin grave. (51) Evrard 1984, 207. (52) Thörle 2001, 53-54, 58-59. (53) Ament 1976. (54) Dating these types of brooches is however problematic because of the lack of well datable contexts after the deposition of grave goods came to a halt in the late seventh century. These types of brooches thus may also date from the eight century. (55) Thörle 2001, Karte 8. (56) Thörle 2001. (57) Thörle 2001, 90-93. (58) Frick 1992/1993, 432, Karte 6. (59) Frick 1992/1993, 279. (60) Bergmann 1999, 443, Abb. 5 nr 9; Frick 1992/1993, 280, 378 (catalogue nrs 1 and 2), Taf. 7.1 (Dötlingen). (61) Bergmann 1999, 443, Abb. 5 nr 15; Stiegemann/Wemhoff 1999, I, 415-416 (Catalogue number VI.164). (62) Schmitz 2009, 21. (63) http://www.waldfeucht.info/index.php?site=berichte_details&objekt_ID=8. Literature on the village's history was not readily available to us. The website refers to sources and secondary literature.

Fig. 1.15
Part of the oldest cadastral map of the hamlet Voorst and environs, c. 1832, scale 1:10.000. Indicated are archaeological finds in the environs of the cemetery (nr 3).



and seems to have then belonged to the Sint-Odiliënberg monastery. In the seventeenth century, it was in private hands and was transferred to the owner of the Annadael castle just north of the Voorsterveld. The *curia*'s owner retained the right to propose the new rector of the chapel. It thus seems fairly certain that the curia and Klause chapel are related and were originally in the hands of a single owner. The chapel, probably a proprietary chapel created within an existing parish, was a daughter chapel of the parish church in Waldfeucht, five kilometres southwest. The village of Haaren was split from the Waldfeucht parish and became an independent parish in 1804. Forthwith, the Sankt Johannes Klause chapel was the new parish's church, and a dependent chapel was thus promoted. However, in 1824 the chapel was sold to Baron Peter Willem de Lidelle de Well after a new church was built in nearby Haaren (otherwise named NeuHaaren) itself.[64] The chapel would have been too small to function as a parish church. Perhaps even more important, the chapel stood outside the Haaren village. The new church stands 750 meters southwest. In local history, the chapel's relation with the Sint-Odiliënberg monastery is used to date it back to the eight century. This is probably overstretching

(64) The baron's name is written according to the cadastral records from c. 1830. (65) A good example is the settlement at Dommelen (Netherlands, province of Noord-Brabant) (Theuws 1988).

Fig. 1.16
Topographical map of the hamlet Voorst c. 1840.

the data. The most likely scenario is that the *curia* and chapel came into being in the eleventh or twelfth centuries, as did so many small strongholds related to local aristocrats. One aspect, of some importance to the area's history, must be considered.

The location of the dependent chapel, serving a group of people in the northern part of the Waldfeucht parish, is curious. Why wasn't the chapel located on the site of the *curia* itself? The village it served was probably located there but was lost over time. Consequently, the chapel became an isolated spot in the landscape. We can hypothesize the surroundings of the Sankt Johannes Klause to be the site of a settlement from the Carolingian period until the High or Late Middle Ages. We can also hypothesize that habitation moved there in the Carolingian period from sites located further north, not far from the Merovingian cemetery. This does not mean that the chapel itself is also of early medieval date. There are other examples of dependent chapels from the High Middle Ages built near a settlement dating from the Early Middle Ages.[65] We also saw that the majority of the Late Roman finds was found north of the Merovingian cemetery. Could there have been a general movement of habitation from the north to the south in Late Roman to Modern times, in the direction of the Sankt Johannes Klause and *curia* Kirenz? We are yet uncertain. To unearth the answer, we must consider the archaeological complex of the Voorsterveld, the Klause and the *curia*. Creative heritage management strategy is needed as the complex is outstanding in its preservation and might well be a type case of the region's habitation development from Roman times to the present.

To substantiate the idea that the archaeological complexes on both sides of the border form an integrated whole, it is worthwhile to briefly detail the Voorsterveld's land use and parcelling structure when the first cadastral maps were produced, in around 1830 (figures 1.15 and 16). The cadastral maps show a field track running from south to north through the Voorsterveld. The field track connects the Klause with the arable fields to its north. To the west of it is the Akerstraat. The fields west of the Akerstraat belong to the Echt municipality. The Voorsterveld's west is bordered by a broad strip of coppice along the Akerstraat. This strip may have been a large bank on which the coppice stood. The coppice is not present in the very south along Akerstraat, probably due to two new parcels being created, presumably from the large field to the coppice's east. The cadastral map (fig. 1.15) shows this strip of coppice ending in the north where the fields of the hamlet Voorste Voorst are present. The topographical map of c. 1840 (fig. 1.16), however, marks it continuing further north. The coppice is also present along part of the Voosterveld's southern border.

The Voorsterveld's parcelling is remarkable. Several zones can be identified. There is a northern zone with long narrow strips of arable fields connected to northern Voosterveld's habitation. South of the northern zone are large undivided blocks of arable land. Further south is a large rectangular block of parcelled out arable fields clearly connected to the Voorst habitation. Two field tracks, both indicated as Heiweg on the oldest cadastral map, connect these fields to the houses in Voorst. The rectangular block's eastern section is characterised by short rectangular parcels, with the block's western section characterised by long narrow parcels. The fourth, southernmost zone is again a zone with large blocks of arable land. At the time the first cadastral records were made, the large blocks of arable land all belonged to Baron Peter Willem de Lidelle de Well, who also owned the Annadael castle just north of the Voorsterveld (fig. 1.16). In 1824, the baron also acquired the Sankt Johannes Klause, which he turned into a farm.[66] We elected not to further investigate the historical-geographical structure of the Voorsterveld, but the following hypothesis seems plausible: the Voosterveld's southern two-thirds probably originally formed a single block surrounded by a large coppiced bank whose west and south were still extant around 1830. The block originally belonged either to the Sank Johannes Klause church or the *curia* Kirenz. At some point in time, perhaps the Late Middle Ages, the Voorst hamlet was created, and farmers, possibly dependant, were allowed to possess a block of arable fields and divide it. It is odd that in c. 1830, the Voorst hamlet had no direct connections to Posterholt while it did have direct connections to the Sankt

(66) Schmitz 2009.

Fig. 1.17
Part of the oldest cadastral map of the hamlet Voorst and environs, c. 1832, scale 1:10.000. Indicated in brown is the property of Baron Peter Willem de Lidelle de Well.

Johannes Klause. Those controlling the Sankt Johannes Klause may have created the hamlet.[67] The remainder of the arable fields, the large blocks, remained the Klause's property until they were transferred to Baron de Lidelle de Well. The map indicating the baron's property (fig. 1.17) strongly suggests that the arable fields of the peasants of Voorst were cut from a larger whole.[68]

Now the Kluisweg tracé makes sense: it connects the Klause and the *curia* Kirenz with its arable fields to the north.[69] As we will see, this track forms the eastern limit of the Merovingian cemetery and may thus be a very old element of the landscape. Some traces of the track were found in the easternmost part of the excavation, but these traces could not be dated. The Heiweg, now Kruisweg, cuts right through the cemetery and must thus be much younger.

At the crossroads of the Kluisweg and the Heiweg, immediately near the Merovingian cemetery, a cross is present (fig. 1.18). It is certainly older than 1830, since it is indicated on the oldest cadastral maps. Is the presence of this cross this coincidental? We don't know, but as can be imagined, the cross and the old monumental trees around it still stir the imagination of those interested in the historicity of its surroundings. Moreover, it is a fine place to sit and think.

(67) Could it be that these were the inhabitants of a settlement near the Klause who were moved to this place? (68) This map also suggests that the two fields to the east of site 2 are new and that the bank with coppice disappeared there when they were created. (69) Another idea could be that this track is younger and that it connects the Klause and curia with the castle Annadael which came in the same hands. The curia Kirenz was already attached to Annadael in the seventeenth century. However, the northernmost part of the track does not connect to Annadael on the cadastral map of c. 1830. It runs in the direction of Posterholt; this part of the track is named Kerkweg on the cadastral map. (70) De Haas 2010; Theuws/Van Haperen 2012, 20-23. See also Williams 2006. See chapter 12 for further details. (71) Theuws/Van Haperen 2012, 23-27.

Fig. 1.18
The cross at the cross roads of the Kluisweg and the Tweede Heistraat.

Conclusions

Our analysis allows us to draw some conclusions as to the choice of location for the cemetery.

Firstly, we can observe that the cemetery is located on a 'historical' spot in the landscape, a location with a past. This may be due to continuous use of the site as a burial ground since Roman, and possibly even late prehistoric times, but this seems unlikely. As yet, nothing indicates continuity of habitation and burial in the periods c. 200 – 350 and 450 – 525. As in other cases in the southern Netherlands and northern Belgium, early colonists from the Merovingian period buried their dead on sites with a past.[70] One explanation for this practice is that the new colonists related their dead to ancient dwellers in order to ritually substantiate their new claims on the land.

Secondly, we can observe that the cemetery is located well inside an inhabited and cultivated section of the Voorsterveld. This contrasts with the location choices for cemeteries in the Kempen region, which are located on the limits of the habitation-cultivation area. This has been well illustrated in the case of the Bergeijk cemetery.[71]

Thirdly and finally, the cemetery is related neither to the Posterholt village itself, nor to the Voorst hamlet, but rather to a lost settlement related to the Sankt Johannes Klause and the *curia* Kirenz.

2 The excavation and post-excavation activities

The discovery and excavation of the cemetery

The first indication of the presence of a Merovingian cemetery at Posterholt was the discovery of a spouted pot during renovations on the Tweede Heiweg in 1953. The jug was probably confiscated by a local police officer and its current location is unknown. Our only information on the pot derives from a publication by De Boone and Ypey (fig. 2.1).[1] Further examination of the site was not initiated for a long time. This changed in October 1981 when a Roman cremation grave was found during agricultural activities.[2] Huub Schmitz, a member of the Heemkundevereniging Roerstreek (HVR),[3] secured the contents of the grave.

Because deep ploughing risked further damage to the site, a small trial excavation was carried out by the HVR in 1983. The HVR's team consisted of H. Beckers, M. Cobben, T. Dziurawski, P. Goldsmits, J. Kempkens, J. Lemmens, T. Lupak, F. Reihs, H. Schmitz and J. Smeets. Their investigations revealed not only a Roman cremation cemetery, but a Merovingian cemetery as well. A total of 11 graves was found, of which six were Roman cremation graves and five were Merovingian inhumation graves. The excavation work continued in 1984. This time, a full-scale excavation was carried out by the State Archaeological Service (then Rijksdienst voor het Oudheidkundig Bodemonderzoek (ROB), now Rijksdienst voor het Cultureel Erfgoed (RCE)). The excavation was directed by W. J. H. Willems, then provincial archaeologist of Limburg, and assisted by F. Theuws (finds registration), F. van Kregten (field technician) and F. Kortlang (field assistant). The actual work was performed by HVR members and students. The excavation lasted six weeks, from the end of June until the beginning of August of 1984. A small follow-up examination took place mid- October 1984 (see table 2.1).

In total, 13 trenches were dug, though not all graves found in these trenches were excavated. The excavation focused mainly on the northeast section of the field enclosed by the Tweede Heiweg, the Kluisweg and the Akerstraat (fig. 2.2). Seven trenches were dug there, partly overlapping the HVR trench (trenches 1, 2, 3, 6, 9, 10, 11). In addition, six trial trenches were dug further south, west and northwest of the main area, intending to establish the cemetery's size (fig. 2.3). The graves in these trenches were not examined, except for three Merovingian cremation graves found at a higher level than the inhumation graves. One inhumation grave in these trenches was given a context number (grave 93) because finds were collected that could be assigned to the grave's content. (fig. 2.4)

During the investigations of the ROB, 94 contexts were investigated. The eastern boundary of the site was discovered, together with parts of the south and north boundary. The cemetery's western and northwestern limits remain uncertain. In that direction, the cemetery is cut off by the west-east orientated Tweede Heiweg which crosses the Kluisweg north of the excavated area.[4] An overview of the complete excavation plan, including trial trenches is provided in figures 2.3 and 2.10.

The creation of the Tweede Heiweg and work on the road in 1953 will have caused damage to a number of graves. However, some graves are still likely to be found below the road's tarmac. Figure 2.5 shows part of the section drawing at the location of the road and the arable field to its south. On the right, the first excavation levels of nearby trenches are indicated. To the left of those, the maximum depths of four graves near the road are also indicated.

(1) De Boone/Ypey 1959, 207. (2) These activities involved the digging of large pits for the purpose of ensiling beetroot leaves that were used as cattle-fodder.
(3) The HVR was founded in 1967 and is active in the central part of the province of Zuid-Limburg. (4) See chapter 1.

Fig 2.1
The pottery vessel discovered in 1953 and published by De Boone and Ypey in 1959.

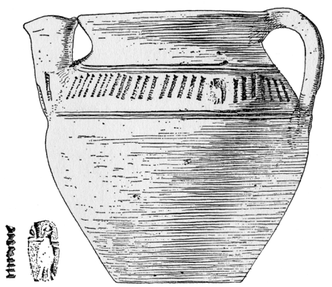
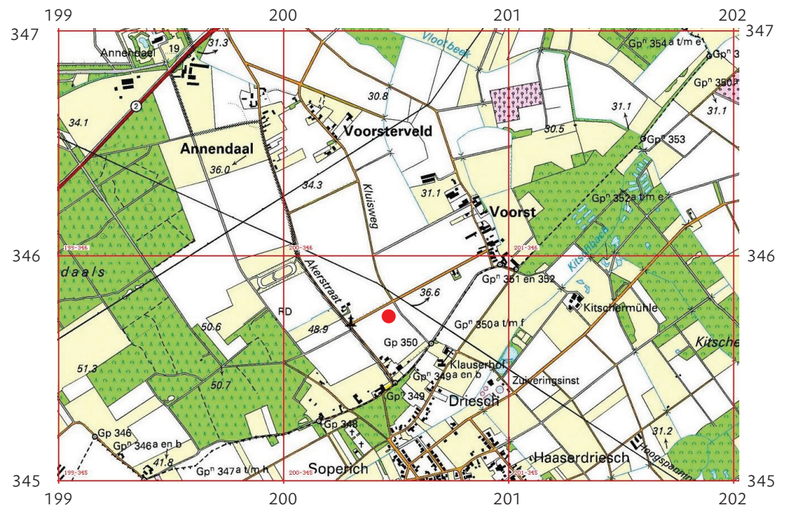


Fig 2.2
The location of the cemetery (red dot) indicated on the modern topographical map. Scale 1:25.000.



The figure shows that many graves were probably deeper than the road's tarmac.

Because the cemetery is situated on sandy soil, the preservation of organic material was poor. Much of the skeletal material was completely decomposed, and wood and textile remains were preserved only in mineralised condition or on rare occasions where they were located in the vicinity of copper alloy objects (fig 2.6). The Posterholt cemetery is intriguing in that many of its graves were disturbed. In several cases the burial pits were almost completely empty. Though this may have frustrated the hard-working excavators, the present publication will demonstrate how this specific characteristic makes the Posterholt cemetery so remarkable when studying the early medieval burial ritual.

Publication record

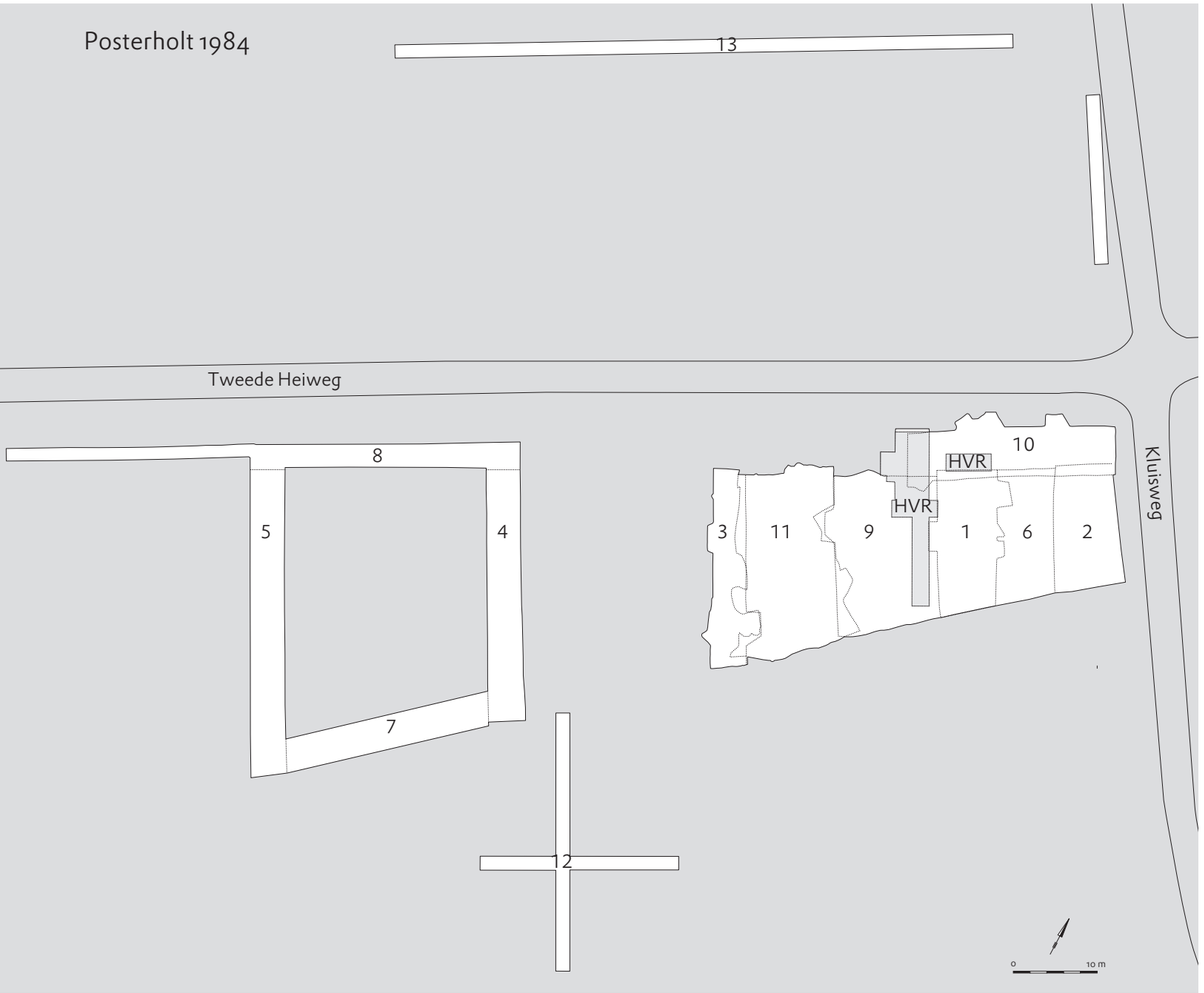
Although the excavation unearthed promising results, the cemetery was never completely published. The aforementioned report on the jug with spout was published by De Boone and Ypey in 1959. Besides that, a small four-page article appeared in the '*Jaarverslag ROB 1984*' and as an offprint in 'Archeologische kroniek van Limburg'.[5]

(5) Willems/Van Kregten, 1984; Willems 1985.

Table 2.1
The administrative data of the excavations at Posterholt-Achterste Voorst.

Administrative data	
Placename	Posterholt
Province	Zuid Limburg
Municipality	Roerdalen
Toponym	Achterste Voorst
Map number	60E
Coordinates	200.47 / 345.72
Project leader (1984)	Dr. W.J.H. Willems
Authorization	ROB (RCE)
Project code HVR	Vindplaats 244
Periods	Iron Age, Roman, Medieval
Geomorphological context	sand plateau
Land use (at time of discovery)	arable land
Height topsoil	39.20 + NAP - 40.50 + NAP
Maximum depth	ca. 37.44 + NAP
Excavation data	HVR: 8-1-83 until c. 26-1-83. ROB: 25-6-84 until 2-8-84; 17-10-84 until 18-10-84
Location documentation and finds	Provinciaal Depot Bodemvondsten Limburg

Fig 2.3
A plan of the trenches excavated at Posterholt-Achterste Voorst, including all trial trenches and the HVR's trenches.



These reports revealed only preliminary excavation results. An extensive description of each grave and its contents was not made, and a thorough analysis of the burial site and its regional context is also not provided. A first attempt to process some of the data was made many years later at the University of Amsterdam by students under supervision of Frans Theuws. They created composite drawings of each grave and a new plan of the complete excavation of which the digitized version is used in this volume. Mirjam Kars provided a first inventory of the finds in the course of her study at the University of Amsterdam.[6] Finally, the material was re-examined by Maaike de Haas and Frans Theuws as part of the research master's program of Archaeology at the University of Amsterdam. Though the work could not be completed within the education program's time frame, further examinations were made possible through the ANASTASIS project. The results of this final analysis are presented in this publication.[7]

(6) Kars 1998. (7) As of January 1 2012 the team moved to the University of Leiden.

Fig 2.4
A photograph of trench 4 at level II, showing unexcavated inhumation graves. Photo: H. Schmitz.

Fig 2.5
A schematic section drawing of the Kruisweg and its adjacent arable field displaying the depths of several graves and the height of trench 1 and 6 at level I.

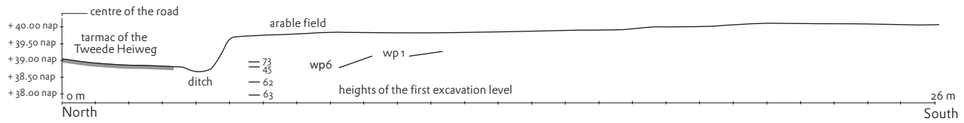
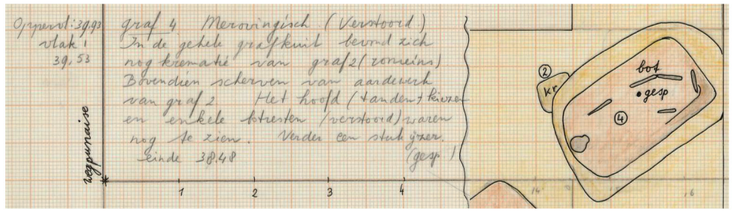


Fig 2.6
A photograph of grave 64 showing the bad visibility of archaeological features in the sandy soil.

Fig 2.7
Example of a HVR drawing showing grave 4 at the original scale 1:50 and the written down grave inventory.



Post excavation activities and current status of finds

Before the boxes were reopened at the University of Amsterdam, the finds excavated by the HVR and ROB had already travelled quite a long way. Most of the documentation and material from HVR's trial excavation was handed over to the ROB. The only exception is the content of grave 11, the Roman grave that was first to be discovered in 1981. The finds from this grave are still in possession of Huub Schmitz.

During the ROB's excavations, Frans Theuws carried out the find administration on site. After administration, a selection of the material was brought to Jo Kempkes for conservation and restoration work. Among this selection were finds of different precious materials and the complete belt set with seax and knife from grave 58 that was lifted *en bloc*.

After restoration, the finds were stored at the ROB offices in Amersfoort. Some precious finds were stored in Willems's desk, which turned out not to be a safe location as such. A small box with coins was stolen from the desk during a robbery. Miraculously, the box with all its content was found a year later by workers painting the outer walls of the ROB facilities. Apparently the thieves did not consider the coins of great value and left them behind in the bushes.

Some years later, the finds together with the original find documentation were moved to the Provincial archaeological depot of Limburg, where they currently reside. Scans of field drawings and documentation however, are still present in the ROB archives.

At the Provincial archaeological depot of Limburg, the finds are stored in an environment that prevents further decay. As mentioned earlier, most important objects were restored immediately post-excavation by Jo Kempkes. Still, the excavations also yielded many indeterminate iron fragments whose state of preservation is considerably poor. Although the finds are in danger of further decay, restoration may not be worthwhile since they are not crucial to further investigations.

Field documentation and find administration

Both excavations revealed good-quality field documentation and find administration, though the ROB's documentation system was more extensive than that of the HVR. In the case of HVR's trial excavation, all documentation was collected on two field drawings and in a small report by Huub Schmitz upon the excavation's completion. The trial excavation consisted of one trench excavated in two excavation levels. Each level was drawn at a scale of 1:50. The drawings are coloured and provide representations of coffin outlines, and human remains or bone silhouettes. The drawings are somewhat schematic since they were made on a 1:50 scale, where it is difficult to indicate details. Individual grave drawings are not provided and grave inventories are listed on the field drawing. The finds' locations are documented, but without find numbers. Instead, the objects are indicated on the drawings with different letters or symbols. This sometimes makes it difficult to determine exactly where the finds are located. The finds' heights were not documented either (fig 2.7).

The ROB made drawings of each trench at a scale of 1:50, and of each individual grave at different levels at a scale of 1:20. All drawings are coloured and provide detailed representations of all features discovered during excavation. One large section was documented during excavations. Unfortunately, its exact location is not provided. The starting point is 17,5 m south of the measuring system's 'zero point' and we know the section runs north to south. It is located along the east side of the complete excavated area, but the section's location is not clearly referenced on the site plan. The section cuts through two graves, which could provide us with necessary information, but unfortunately both graves are not numbered. They probably represent the unexamined graves found in the trench's wall.

The individual grave drawings (scaled of 1:20) provide detailed representations of coffin outlines, human remains, and body silhouettes on different levels. All finds were listed and drawn on individual grave drawings (fig. 2.8). And the list also included the find's height. Each grave was photographed and all photographs are listed. Huub Schmitz also owns a video recording of the excavation made by Wiel Kusters. This video is digitized and now part of the excavation documentation. In addition, Schmitz owns 142 colour slides which are digitized as well.[8]

Frans Theuws wrote a short post-excavation report in 1984 describing each Merovingian and Roman grave and its contents. Though the report reveals valuable information, it misses detailed descriptions of non-grave contexts. The field drawings show several features that date to both earlier and later periods and are not immediately related to the Merovingian or Roman cemetery. Among those we find prehistoric pits and later medieval features like pits, ditches and cart tracks. These features were not listed as contexts but were described on field drawings together with section drawings. Finds recovered from these features are listed as stray finds.

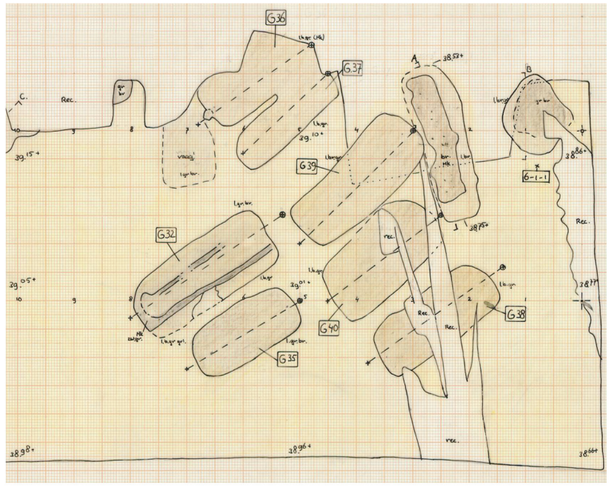
Finally, one lacquer peel was made during excavations. It is now in the museum at Sint-Odiliënberg. A photograph is showing the process of making it (fig 2.9).

Making data available within the ANASTASIS project

This publication is a product of the ANASTASIS project, part of the ODYSSEE program.[9] The program's major goal is to highlight data from old excavations that were never published in detail. The first and foremost purpose of this publication is therefore to make the Posterholt's excavation data available for further research. This task might seem simple, but experience shows us that dealing with old excavation data is time consuming. Gathering all documentation, material and information on the excavation, merely a first step, already requires considerable effort. This was not a problem with the Posterholt cemetery since most of the documentation and finds were in the ROB archive and at the Provincial depot of Limburg in Maastricht. Furthermore, Huub Schmitz helped us gather information on HVR's excavation the cemetery's immediate surroundings. He also enabled us to incorporate grave 11's contents in our research.

All finds were transported to the University of Amsterdam, where the data was processed and entered in a special designed database. Most of the material was photographed by Anneke Dekker and drawn by Bob Donker. Most of the Merovingian material was studied by Maaike de Haas and Frans Theuws, but some find categories were handled by other specialists. The human remains (including the cremated remains) were analysed by Liesbeth Smits (Smits Antropologisch Bureau) and body silhouettes were examined by Raphael Panhuysen (Skeletloket.nl). Arent Pol (Geldmuseum Utrecht) examined the early medieval coins and Rob Reijnen (Town of Nijmegen) studied the Roman coins. The Roman pottery was analysed by Joep Hendriks (Town of Nijmegen).

Fig 2.8
Two examples of ROB field drawings showing part of trench 6 at the original scale 1:50 (scale 1:100 in this figure) and the individual field drawing of grave 32 at the original scale 1:20 (scale 1:40 in this figure).



(8) We thank him for kindly handing them over to be digitized, which was a bit of a risk in view of the age of the film and slides. All went well. (9) http://archaeology.leiden.edu/research/roman-provinces/anastasis/; http://www.erfgoednederland.nl/odyssee/22.-grafvelden-uit-de-merovingische-periode/item10659.

Fig 2.9
Photograph of the process of making a lacquer peel by Jo Kempkens (with hat) and Ton Lupak. Among the onlookers: Willem Willems (with glasses, project leader in 1984). Photo H. Schmitz.

Besides the finds, all information on the grave contexts was placed in a database as well. In the case of Posterholt, two separate databases originally created for the Sint-Servatius project were used. The first database was developed for processing all grave contexts, the second for all find data. A problem occurred in using this latter database. All find numbers from the ROB excavations were composed of the context number preceded by the letter G (since most of them were graves), and followed by the excavation level and a sequence number. Hence, the first find found at excavation level II of grave 12 was labelled find number G12-II-1. Unfortunately, the find database only operates with numeric characters. The most convenient solution would be to drop the letter G and convert the Roman numerals to a numeric character. Certain problems arise if this is undertaken. The ROB excavations also yielded finds that were found outside contexts. These stray finds have find numbers composed of the trench number, excavation level and a sequence number. The first stray find found at level II of trench 12 as such becomes find number 12-II-1. Dropping the G and converting Roman numerals would thus create identical find numbers. We therefore decided to put finds with numbered contexts into the database without the letter G and excavation level number. The stray finds still contain the excavation level (converted to numbers), and can thus be distinguished from other finds. They are assigned to context 0 in the database. The stray finds discovered by Huub Schmitz are assigned to context 244. This number refers to the site number the HVR assigned to the site.[10]

Frans Theuws made a digitized version of the complete site plan and all its features before the project was financed. It is an Adobe Illustrator EPS file and for reasons of time management we did not transfer this into Autocad or GIS programme files. The drawing consists of several layers containing different elements of the excavations. Separate layers are made for prehistoric and Roman features and later medieval features, but also for separate excavation elements such as trenches, outlines of burial pits, skeletons, etcetera. As mentioned above, composite drawings of individual graves were made by Frans Theuws and students from the University of Amsterdam. These contain the most valuable information found on individual drawings made at different excavation levels. The results of this effort can be found in the catalogue included in this publication.

(10) The number is visible on the field drawings made by the HVR. The site is referred to as: 'Vindplaats 244'.

3 The Roman cremation cemetery

The first grave found at the Posterholt-Achterste Voorst cemetery was a Roman cremation grave (grave 11). Its discovery by Huub Schmitz in 1981 eventually led to the discovery and excavation of Posterholt's Merovingian cemetery. Since this publication is first and foremost concerned with the Merovingian cemetery, the Roman cemetery will be discussed only in this chapter, while a description of each grave and a list of finds can be found in the publication's final chapter.

This current chapter provides information on the archaeological context of the Roman cemetery, called the Achterste Voorst cemetery. After that, the chapter presents a description of the grave structures, a find analysis, and information on the cemetery's date and layout. Finally, the chapter ends with two interpretive paragraphs on the Roman burial ritual at Achterste Voorst and a regional comparative analysis.

The determination of the pottery assemblages was carried out by Joep Hendriks. Rob Reijnen examined the Roman coins and Liesbeth Smits analysed the cremated human remains. Huub Schmitz provided useful information on Roman finds from the Voorsterveld and Jeroen Oosterbaan provided an analysis of the lock and key from grave 1.

The archaeological context of the Roman cremation cemetery at Achterste Voorst

An overview of the environmental and societal context of the Posterholt-Achterste Voorst cemetery is already presented in chapter 1. Still, the archaeological context of the Roman remains deserves more attention here. Theuws has discussed some of the metal finds from the Late Roman period in chapter 1 because they were of interest in relation to the Merovingian cemetery. The present section, however, is concerned with the Middle Roman cremation cemetery and grave finds.

The Voorsterveld and its immediate surroundings yielded many finds from the Roman period. Most were discovered and documented by members of the HVR. Several small excavations were carried out and published in various volumes of the *Jaarboek Roerstreek*, the annual journal of all the HVR's activities. Roman cremation graves were found at three other locations besides the Achterste Voorst cemetery (fig 3.1). The Van Helden family accidentally discovered the first Roman cremation grave in 1971. It was located immediately west of the Akerstraat, and only 100 m southwest of the Achterste Voorst cemetery (fig. 3.1, 4).[1] A second small cemetery was discovered in a field east of the Akerstraat and north of the Luttenweg, approximately 700 m northwest of the Achterste Voorst cemetery (fig. 3.1, 3). It was published by Smeets in the *Jaarboek Roerstreek* 1984 and is known as the Voorst cemetery.[2] A third small cemetery was located a couple of hundred meters west of the cemetery published by Smeets, in a field west of the Haarenderweg (fig. 3.1, 2). This cemetery – called the Annendaal cemetery – was published by Schmitz in the *Jaarboek Roerstreek* 2011.[3]

Besides these three cemeteries and many stray finds, clear signs of Roman habitation were not found at Annendaal or on the Voorsterveld. This does not mean that habitation was not present. Schmitz argues that the presence of several small cemeteries probably indicates a settlement pattern consisting of small dispersed

(1) Bekkers/Gootzen 1977, 38–39. The grave find by the Van Helden family at 'Achterste Varst' contained a large coarse ware jar, Stuart 201, and a small colour coated beaker, Stuart 2, both dating to the second century. In 1975, two other complete Roman vessels were found: a samian cup, Dragendorff 33, and a typical black varnished beaker. We assume that these were grave finds, although the exact find circumstances were not mentioned. (2) Smeets 1984; Schmitz 2012, 111, note 3. (3) Schmitz 2011; Schmitz 2012.

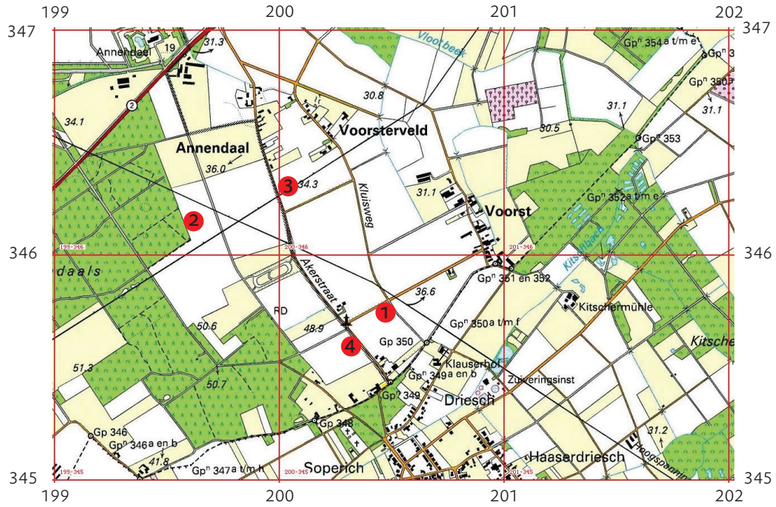


Fig. 3.1
The location of Roman cemeteries on the Voorsterveld. Scale 1:25.000.
1. Achterste Voorst (Schmitz site 244),
2. Annendaal (Schmitz site 182),
3. Voorst (Smeets 1984, Schmitz site 250),
4. Akerstraat (single grave found by Van Helden family in 1971).

settlements.[4] However, deep ploughing and the cultivation of asparagus probably disturbed much of the Roman occupation layers. Nevertheless, the presence of pottery and tile fragments associated with Roman habitation sites suggests that Roman occupation was present at the Voorsterveld.

In the region around Posterholt, we encounter several important Roman routes that pass our cemetery at some distance (fig. 3.2). The main road from Heerlen (Coriovallum) to Xanten (Colonia Ulpia Trajana), which runs along Tüddern (Theudurum) and Melick (Mederiacum), passes the cemetery to the west. Another important route ran between Jülich (Juliacum) and Melick. It possibly crossed the river Roer near Vlodrop and continued west along the south bank of the river.[5] From Melick onwards, there could have been a route to Roermond, where a cult place can be expected at the confluence of the Roer and Meuse.[6] In this vicinity, there must also have been a crossing with the Meuse.

According to Schmitz, the high density of Roman cemeteries at the Voorsterveld indicates that the cemeteries may have been in the vicinity of a secondary Roman road. Following Schmitz, this supposed road connected the route Jülich-Melick with the main road between Heerlen and Xanten. It should have crossed the Posterholt area just north of the Voorsterveld; from there it could have continued west to the Roman villa of Maasbracht, and Heel (Catualium) at the other side of the Meuse.[7] The presence of this road is hypothetical and has yet to be established by further investigations. Nevertheless, the presence of the many finds, especially from the Voorsterveld, makes the presence of infrastructure in the area plausible.

Grave analysis

Eight numbered cremation graves and three possible cremation graves were found at the Achterste Voorst cemetery (fig 3.3). Five were excavated by the HVR (graves 1, 2, 3, 6, and 11), and three were discovered during ROB investigations (graves 12, 41, and 56). Three possible cremation graves were found in the fill of later Merovingian inhumation graves (graves 22, 62, and 73). Their presence is indicated by a high concentration of cremated remains and Roman finds in the fill of the Merovingian burial pits, but they were not granted a separate context number because no specific grave structures were found. Grave 62 presents us with a slightly more problematic case. The excavators documented the presence of a disturbed Roman cremation grave in the fill of the inhumation grave. However, no cremated remains were found. The existence of this possible cremation grave is thus indicated only by Roman pottery fragments and the knob of a bone needle, concentrated in the southwest corner of the burial pit.

(4) Schmitz 2011, 202. (5) The exact position of this route is yet unknown. Although this road probably started in Jülich on the east bank of the river Roer (Tholen 1975; Huppertz 1991, 69–71), it is plausible that the road crossed the Roer river further downstream (near Vlodrop?) and continued its route on the west/south bank towards St. Odiliënberg and Melick. (6) Bogaers 1962/63; Huppertz 1991, 40–41. (7) Schmitz 2011, 184–185.

Fig. 3.2
The Meuse-Roer area in Roman times, with the (assumed) road network and a selection of cemeteries mentioned in this chapter.
1. fertile areas (potential arable land, habitation cultivation area,
2. Roman roads, observed and hypothetical,
3. Roman cemetery,
4. Roman vicus,
5. Roman villa.

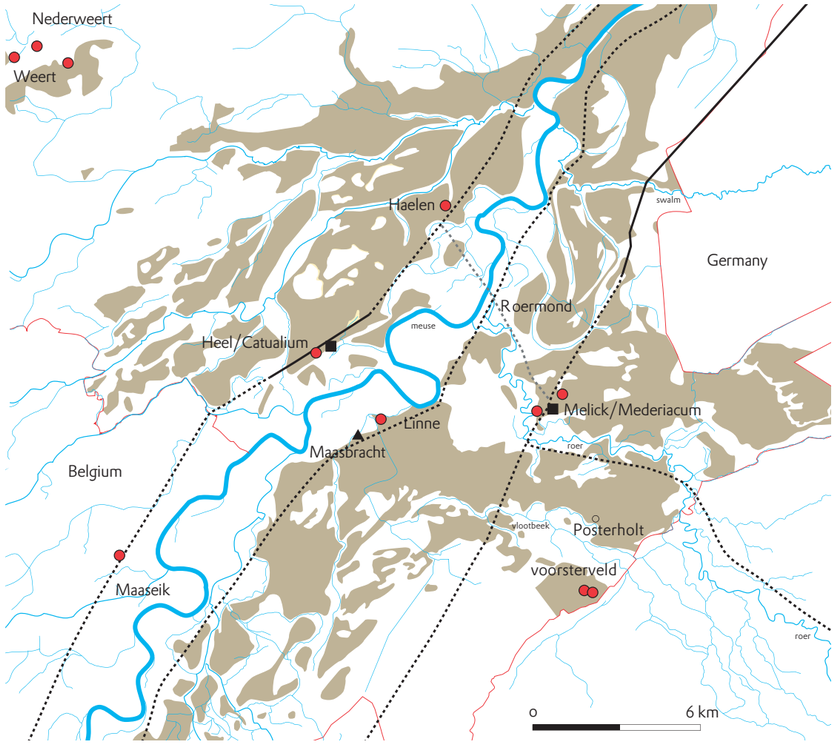
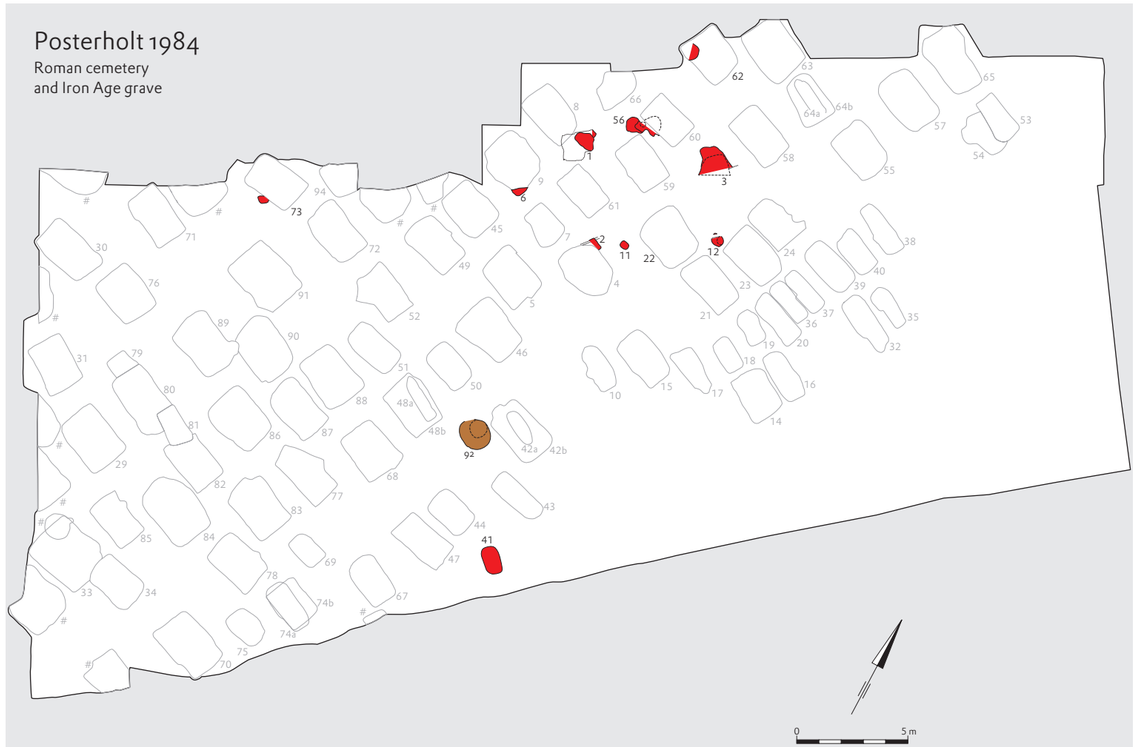


Fig. 3.3
The Iron Age (brown) and Roman graves (red) found at Posterholt-Achterste Voorst.



Grave types

To analyse the Roman burial ritual carried out at the Voorsterveld, the cremation graves must be classified. Distinguishing different grave types is useful in understanding the choices made during completion of the burial ritual and deposition of the funeral pyre remains.[8] Since traces of the cremation ceremony itself are still largely lacking in our region, the focus of this analysis is mostly directed to grave composition, and the entombment. It is currently generally accepted that treatment of the cremated human remains and pyre debris are considered to be more significant for classification than the amount, position, and state (burned or unburned) of the grave finds.

The Roman cremation graves from Achterste Voorst can best be classified according to the typology developed by Hiddink. In his elaborate analysis of Roman cemeteries in the cover-sand area between the rivers Meuse, Demer, and Scheldt (the MDS-area), three types of cremation graves are distinguished:[9]

- Grave type A consists of a pit in which cremated human remains are deposited after being sorted out from the pyre debris and probably wrapped in cloth or another organic material (*Knochenlager*). After deposition of the cremated remains, the pit is filled with 'clean' soil.
- Grave type B consists of a pit in which cremated remains are deposited in the same way as type A, but this time the pit is filled with pyre debris instead of 'clean' soil (*Brandschüttungsgrab mit Knochennest*). Most of the cremated remains are still concentrated in one area, but shattered human remains can also be found amongst the pyre debris in the burial pit's fill.
- Grave type C consists of a pit that is filled completely with pyre debris (*Brandgrubengrab*). No effort was made to pick out human remains after cremation, and human remains are thus found dispersed over the entire pit together with remains of burned grave goods and charcoal. The problem with this grave type is that it is difficult to distinguish actual graves from rubbish pits. After all, pits with discarded pyre debris can still contain fragments of burned bone. A distinction is thus made between graves with a high density of cremated remains (grave type C1) and graves with a less high density of cremated remains (grave type C2). This latter type may not be a grave at all.
- Grave type 'unknown' is only developed to assign indeterminable graves. Most of the graves belonging to this category could not be classified because they were subject to various types of disturbances. As we will see further on, the choice for this typology is made mainly due to the cremation graves' poor preservation. Although the eastern Meuse valley of Central Limburg – to which the Voorsterveld belongs – is regarded as part of the MDS-area because of their highly similar natural environment (such as large areas of Pleistocene cover-sands), the Roman burial ritual in this region seems somewhat different than the sandy area west of the Meuse. In fact, to describe the grave types in this area properly, we should add two other grave types to our classification list:[10]
- Grave type D concerns the urn grave, in which the sorted cremated human remains are deposited in a ceramic or glass vessel (*Urnengrab*). The burial pit is filled with 'clean' soil.
- Grave type E is just like type D, but its burial pit is filled with pyre debris (*Brandschüttungsgrab mit Urne*).

(8) Hiddink 2003a, 21–25; Aarts/Heeren 2011, 19 ff. (9) Hiddink 2003b, 114–121. The German definitions are after Bechter 1980.

(10) Cf. Hendriks/Magnée-Nentjes 2008, 40–441.

Though these types are not present at the Achterste Voorst cemetery, they are, for instance, found in both the Voorst and Annendaal cemeteries.[11]

The problem with the Achterste Voorst cemetery is that the graves were heavily disturbed and therefore difficult to classify. The cremation graves were located at a higher level than most of the Merovingian inhumation graves, and besides being cut by these later inhumation graves, they were also damaged by deep ploughing.

Ultimately, graves 1, 2, 3, 6, 11, and 56 were all classified as 'unknown'. Graves 1, 2, 3, and 6 were cut by Merovingian graves or recent pits. The graves are described, but the excavators did not document any information on the location of the cremated remains. Most descriptions give the impression that the remains were found dispersed throughout the burial pits, but this could be the result of later disturbances. Grave 11 was found by Schmitz because cremation remains were visible in the recently ploughed field. Some finds were saved, but most of the grave was disturbed, and a grave structure was no longer visible. Finally, the cremated remains of grave 56 were found in a mole pipe. Around the mole pipe, vague outlines of a possible burial pit were visible, but these are not clear enough to classify the grave.

This leaves us with only two graves that could be classified. And one of those, grave 12, cannot even be clearly classified. It was located immediately below the top soil and most of the grave had to be collected from the digger's scoop. Fortunately, the bottom of the cremation pit was preserved and some information on the grave structure was still documented (fig 3.4). The grave consisted of a vague oval pit with a concentration of cremated remains and a fill of 'clean' soil. Grave 12 could therefore be classified as grave type A. Several pottery vessels were deposited in the grave near the cremated remains, together with a Roman coin.

Grave 41 is the only grave that was not disturbed. It consists of a rectangular burial pit, with a concentration of cremated remains deposited in its northeast corner. Burned pottery fragments, together with a burned bronze fragment and indeterminate iron fragments, were found throughout the burial pit. This indicates that the pit was filled with pyre debris, and the grave could thus be classified as grave type B (fig 3.5).

Fig. 3.4
The field drawing of grave 12. Scale 1:40 (original scale 1:20).

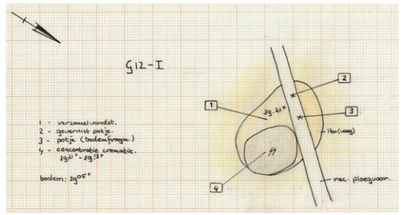
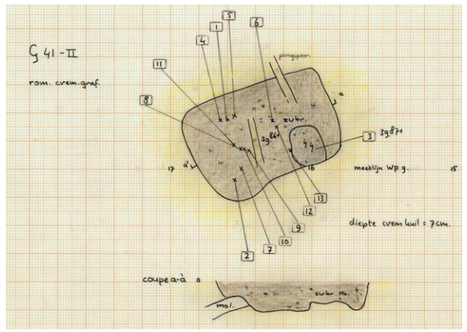


Fig. 3.5
The field drawing of grave 41. Scale 1:40 (original scale 1:20).



Grave markers

During the excavation at Posterholt-Achterste Voorst, no traces of the kind of grave markers usually found in the MDS-area or the Lower Rhine region were found.[12] In that area, the cremation burial pits are often surrounded by circular or rectangular ditches, which probably demarcate low burial mounds. Other possible grave markers from this area are the mysterious rectangular post-hole structures accompanied by long pits, whose function is hitherto unknown.[13] Due to grave disturbance at Achterste Voorst, it is possible that side-structures were not discovered. Soil levelling would have erased mounds, and other disturbances (such as deep ploughing and the digging of later Merovingian graves) would eliminate traces of possible ditches or postholes. Still, it seems that grave ditches as well as posthole structures are entirely absent in the wider region of Posterholt.[14] We will return to this subject later on in this chapter.

Other ways to mark graves exist as well. Though Hiddink does not document traces of stone grave markers or monuments for the MDS-area,[15] they are known from many Roman cemeteries – especially in more urbanized areas – and in the loess regions on both sides of the Bavay-Cologne road. At Achterste Voorst, fragments of a sandstone monument were found. A large fragment

(11) Smeets 1980, 136, find 10; Schmitz 2012, 113. (12) Hiddink 2003a, 29–34. (13) See Hiddink and de Boer (2011, 150–151) for an overview of these structures from Mierlo-Hout-Ashorst and Someren-Waterdael. (14) Hiddink 2003a, 29, fig. 8. (15) Hiddink 2003a, 27–34.

Table 3.1
Context distribution of the handmade and Roman wheel-turned pottery.

Context type	Handmade (n)	Wheel-turned (n)	Handmade (%)	Wheel-turned (%)
Iron Age grave	26	0	4.2	0.0
Roman grave	29	324	4.7	37.4
possible Roman grave	11	74	1.8	8.5
Merovingian grave	455	321	74.1	37.1
outside grave	93	147	15.1	17.0
total	614	866	100.0	100.0

was removed from the field in 1958, but the monument's original location is a matter of debate.[16] It was probably associated with grave 1, but certainty cannot be provided. Information on the shape and structure of the sandstone monument is also limited. The fragment removed from the cemetery in 1958 is known to be standing in the private garden of a farm in the Achterste Voorst hamlet. Unfortunately, it was not possible to access the stone and examine it. An old photograph, however, is presented in chapter 6.

Finds

The current section is concerned with finds from Roman cremation graves. Some finds with a possible Roman date have ended up in the fill of Merovingian inhumation graves, either when these graves were dug, or later during their reopening. Some are antique objects belonging to the original Merovingian grave content, others are accidental finds that ended up in the fill of the Merovingian burial pits but were not intended to be grave goods. Because they were part of the content of Merovingian graves, most will be discussed in chapter 6. However, this does not account for pottery.[17]

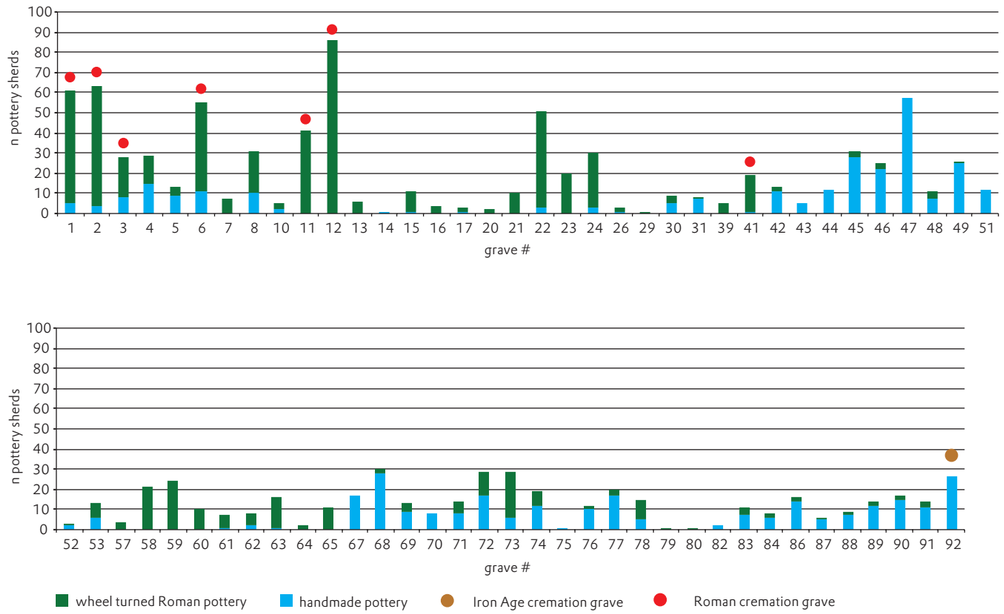
Pottery (by Joep Hendriks)

A considerable amount of pottery fragments dating before the Merovingian period was found during the excavation of both cremation and inhumation graves. Almost 60 percent of these nearly 1.500 fragments consist of Roman wheel-turned pottery, which can be associated with the cremation cemetery preceding the later inhumation cemetery. The other slightly more than 40 percent of the fragments concerns handmade pottery probably dating from the second half of the Iron Age. At least three fragments possibly date to the late Roman or Merovingian period. We assume that the handmade pottery is not of an (early) Roman date due to the presence of at least one certain Middle La Tène cremation grave (grave 92), the homogeneity of the handmade pottery assemblage with its clear Iron Age characteristics, and the date of the Roman wheel-turned pottery (predominantly after the middle of the second century). The presence of more Merovingian handmade pottery within the Iron Age assemblage can also be almost entirely excluded, because its presence is very rare in cemeteries and settlements of the southern Netherlands. We can thus consider the non-Merovingian handmade and wheel-turned pottery assemblages as two almost separate complexes.

After having stated these presuppositions, it is interesting to examine the distribution of the two pre-Merovingian pottery assemblages over the site (table 3.1), based on fragment count (n). A clear difference in pottery distribution can be observed between the two assemblages: the majority of the Iron Age handmade pottery (almost 75 percent) is found in Merovingian inhumation graves, whereas Roman pottery is found almost equally in Roman and Merovingian graves. Another interesting aspect of the distribution pattern is that approximately 5–7 percent of the Iron Age handmade pottery ended up in the Roman graves. In fact, table 3.1 gives us insight in the possible transformation processes that could have taken place at the site since the Roman period. It seems unlikely that the construction of the Roman burial ground had significantly disturbed the pre-existing Iron Age features. Although is it uncertain whether there have been more cremation graves – or settlement traces – from that period in the excavated area or just outside, the Roman graves seem largely to be constructed north of this zone. The construction of the Merovingian cemetery – covering a larger area – obviously had a much greater impact on the distribution of both Iron Age and Roman pottery, outside their original contexts. Exactly how the pre-Merovingian pottery assemblages were spatially distributed becomes clear when looking at figures 3.6 and 3.7. The highest concentration of Roman pottery is found in the cremation graves themselves and in the adjacent Merovingian inhumation graves. Construction of Merovingian graves destroyed some already

(16) See chapter 6. (17) Roman pottery fragments from the fill of Merovingian graves are incorporated in the pottery analysis of J. Hendriks.

Fig. 3.6
The distribution of the Iron Age handmade pottery and Roman wheel-thrown pottery per grave, based on sherd count (n).



existing Roman graves – we can assume this for the graves 22, 23, and 24 – but the large burial pits also functioned as artefact traps for both Iron Age and Roman pottery fragments. The distribution of the handmade pottery, on the other hand, clearly points to a concentration of this material in the wider surroundings of grave 92.

It is more difficult to explain the presence of approximately 15–17 percent of both assemblages outside of the grave contexts – so-called stray finds. They could have been spread over the excavated area throughout centuries of tilling and ploughing. They might also have been embedded in the soil due to animal activities or grave reopening (which possibly disturbed Roman cremation graves as well). We should not forget that these fragments could derive from depositions contemporary with the use of the area as a burial ground. Burned fragments can be considered remains of the pyre debris, whereas other fragments could be leftovers from vessels used during a range of feasting and commemorative practices that might have taken place during and after burial ceremonies.[18] Eventually, a part of this material may have ended up in the burial pits just as well.

Pottery characteristics

Although only 45 percent of the Roman wheel-turned pottery is found in certain or possible Roman cremation graves, the analysis of the Roman assemblage will comprise all the pottery dating to this period. As mentioned above, the find circumstances for the cremation cemetery were far from ideal and therefore it is almost impossible to define clean (grave) contexts. However, it seems plausible to assume that all Roman pottery fragments stem from grave contexts or burial ritual related practices, and they will for that reason be treated as one assemblage.

Because of these circumstances, extensive analysis of the Roman pottery found at Achterste Voorst will not be very useful. Therefore, the pottery description is largely limited to the highest level, the pottery category (Samian ware, colour-coated ware, etc.). Only if necessary – for instance, because the specific form and type could be identified – the fabric was determined by microscopic analysis. Fragment quantification was carried out in three ways: by fragment count (n),[19] by a maximum estimate of vessels represented (evrep),[20] and by a minimum estimate of vessels represented, based on rim fragments (evrep_r).[21] Because of the lack of sufficient undisturbed contexts, the quantification of the estimated vessel-equivalents (eves) is omitted.

More than half of the total assemblage consists of vessels made of coarse ware (table 3.2 and fig. 3.8). Tableware, which comprises Samian, colour-coated, and black-slipped wares, only represents a third. Most striking, however, is the virtual absence of fine oxidized ware, without considering the sole flagon rim find. Below we will describe each category briefly with an overview of the represented types and dates.[22]

(18) Hiddink 2003a, 23; Hendriks/Magnée-Nentjes 2008, 122; Aarts/Heeren 2011, 51. (19) Fragments with old breakings are counted separately, whereas fragments with fresh breakings are considered to be one. (20) Cf. Orton/Tyers/Vince 1993, 172. Since it was impossible to observe all the fragments at once and to try to fit fragments between find units or graves, only a maximum evrep could be obtained, largely by counting fragments per find unit: when non-fitting fragments within one find unit seemed to be of one vessel, there are counted as one.

(21) Cf. Orton/Tyers/Vince 1993, 172. It was possible to compare all the rim fragments of the assemblage and by doing so to establish an estimated minimum of vessel represented. (22) The types are after the following publications: Dragendorff 1895; Oelmann 1914; Brunsting 1937; Chenet 1941; Vanvinckenroye 1967; Stuart 1977.

Fig. 3.7
The spatial distribution of the pre-Merovingian pottery assemblages, based on fig. 3.6.

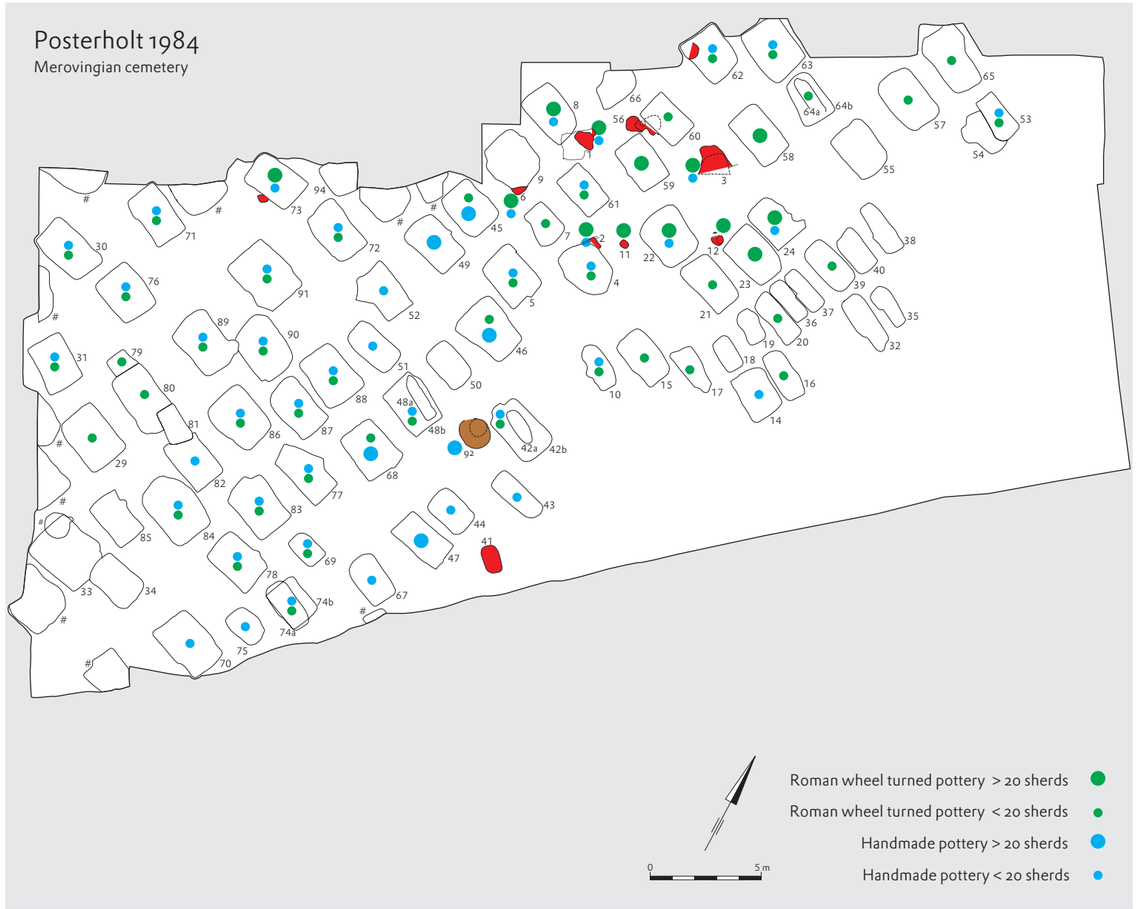


Table 3.2
Overview of the handmade and Roman wheel-turned pottery.

Category	n	evrep	evrep_r
samian ware	90	50	12
terra nigra	1	1	0
colour-coated ware	125	85	11
black-slipped ware	31	6	2
fine oxidised ware	79	66	1
amphorae	3	3	0
dolia	28	19	2
mortaria	11	10	3
coarse ware	438	269	39
coarse ware (ROM-MER)	49	46	2
indeterminable	11	11	0
total	866	566	72
handmade pottery (IA)	611	559	19
handmade pottery (IA-MER)	3	3	0
grand total	1,480	1,128	91

Fig. 3.8
The proportional distribution of the Roman wheel-turned pottery, per category and quantification unit.

Handmade pottery
As mentioned, the presence of handmade Roman pottery in the cemetery practically can be excluded. Although theoretically, the only complete handmade bowl could date both to the later Iron Age as well as the first century AD, based on the form of the open bowl and its grid-tempered fabric (fig. 10.1), the combined finds in grave 92 clearly date this structure to the third or second century BC. The vast majority of handmade pottery fragments don't show any characteristics pointing to an (Early) Roman date. Just a few fragments with a roughened wall, combed and so-called Kalenderberg decoration, date mainly to the second half of the Iron Age.[23] Indicative rim fragments for a more specific date are unfortunately absent in the handmade assemblage. Additionally, large scale excavations in the cover-sand area of the southeast Netherlands have shown that handmade pottery went out of use during the late first century AD.[24] The absence of handmade Roman grave finds is therefore not surprising, since the Roman wheel-thrown assemblage dates almost entirely after the middle of the second century AD.

Samian ware
Luxury tableware is represented by a considerable amount of fragments and vessels. It is surprising that half (26) of the maximum estimated Samian vessels are burned, which is slightly more than half of all the burned vessels in the entire Roman pottery assemblage. For most of the vessels it is not certain whether they were produced in Central or Eastern Gaul. The remaining vessels seem to have been produced in Eastern Gaul (fig. 3.9). A small bowl, Dragendorff 35, was the only Samian vessel dating between the end of the first and middle of the second century. Nearly all

(23) Van den Broeke 1987, 109-112; Van den Broeke 2012, 150–151. (24) Hiddink 2009, 154.

Fig. 3.9
A selection of the Samian ware.
Scale 1:4.

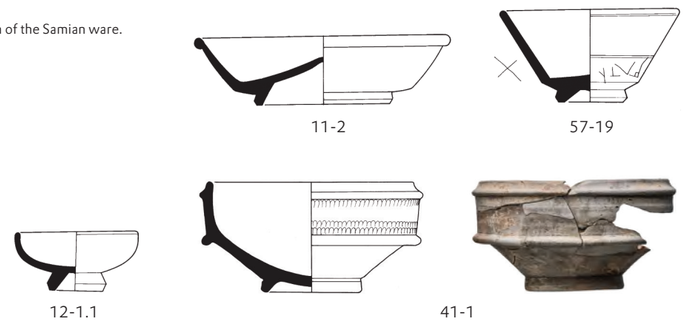


Fig. 3.10
A selection of the colour-coated ware.
Scale 1:4

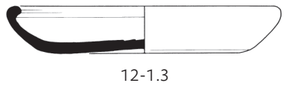


Fig. 3.11
A selection of the black-slipped ware. Scale 1:4.

assignable Samian vessels date from the middle of the second century onwards: the dish Dragendorff 31 (11-2), and the cups Dragendoff 33 (57-19) and Dragendorff 40 (12-1.1).[25] Remarkable is the sgrafitto on the complete cup, Dragendorff 33, from Merovingian grave 57 (57-19), probably an antique. Though quite illegible, this indication of literacy is normally found in more urban contexts, and often associated with the presence of Roman army veterans.

A base fragment from a beaker in grave 31 and a bowl more than 50% complete, Oelmann 19/Chenet 325 in grave 41, date considerably later, roughly after the middle of the third to the middle of the fourth century.[26] Since both vessels are burned, it is not possible to identify their fabric better than Eastern Gaulish (Trier or the Argonnen). The latter bowl from grave 41, Oelmann 19/Chenet 325 (41.1) is interesting, since it indicates there was at least one probable Late Roman cremation grave at the Achterste Voorst cemetery. The bowl does not have barbotine decoration, but two rouletted bands.

Terra nigra
Only one fragment of terra nigra, with traces of a rouletted wall, is found. It is difficult to date this sole fragment, though terra nigra is predominantly present in cremation graves before the middle of the second century.

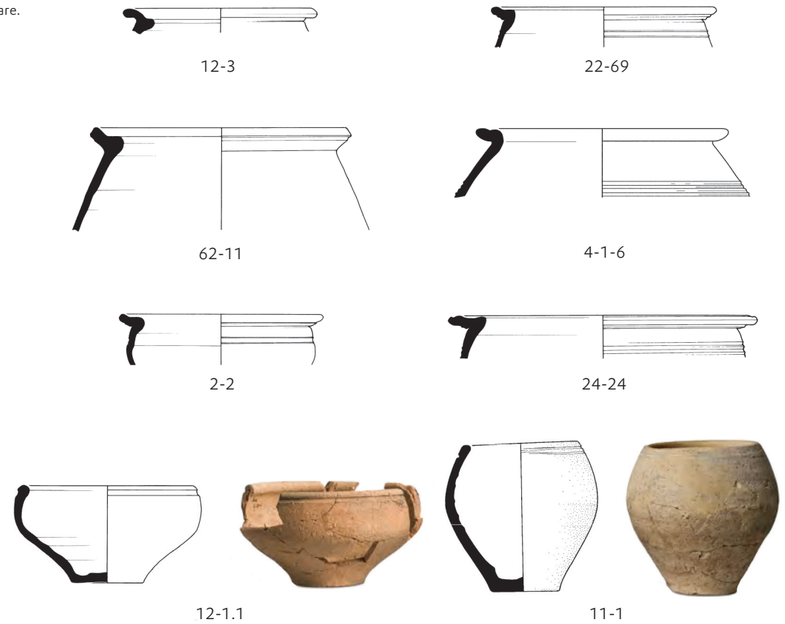
Colour-coated ware
As usual in grave contexts, colour-coated ware is mostly represented by fairly small fragments, largely deriving from fragile beakers. This is the reason colour-coated ware seems well present in our assemblage. All fragments are made in the same fabric: a white paste with a dark blue or greyish black coating. This fabric is known as Brunsting technique B and was probably produced in Cologne.[27] Whereas rim fragments have been found from beaker type Oelmann 30, some of the many rouletted wall fragments could equally derive from specimens of beaker Oelmann 32. Both date from the middle of the second century onwards.[28]

Near these beaker fragments, fragments from at least four plates Stuart 10 were found (fig. 3.10).[29] These can be dated to the entire second century and first half of the third century.

Black-slipped ware
At least two black-slipped beakers Oelmann 31 were found as grave finds in the cemetery (fig. 3.11). This is quite remarkable; in Roman cemeteries with an occupation phase in the early third century and later, usually only beakers of the type Oelmann 33 are available. Finding two beakers Oelmann 31 in one cemetery is hitherto unknown in the Netherlands. When discussing the pottery from the southeastern Netherlands during the late second

(25) Hiddink 2010, 40–47. (26) Oelmann 1914, 29; Chenet 1941, 75; Vilvorder 2010c. Due to the bowl's poor state, it is hard to establish the exact type, though it much resembles the Late Roman bowl Trier 8b, from the Trierer Kaiserthermen. Cf. Hussong/Cüppers 1972, 8 (S-Keramik). See also the specimens in Krefeld-Gellep (types 25, 36 and 813), Pirling/Siepen 2006, 60, 66. (27) Brunsting 1937, 71–72; Vilvorder 2010a, 331. (28) Haalebos 1990, 141–142. (29) Stuart 1977, 26–27; Aarts/Heeren 2011, 115.

Fig. 3.12
A selection of the coarse ware.
Scale 1:4.



and third century, Hiddink only sums up one specimen and calls this type rare.[30]

Dating from the late second century to the middle of the third century[31], the black-slipped beakers at the Achterste Voorst cemetery seem to have been produced in two different fabrics. The 50–75 percent complete specimen from Roman grave 12 (12-2) is in so-called *Qualitätsware* (Brunsting/Oelmann technique D), thin-walled and black-slipped with a red paste and clearly imported from Trier.[32] Although the type's fabrication is not (yet) known from the Argonnen, the fabric of the other specimen (23-11), which has a grey paste with a dark grey slip, is quite similar to products from that area.

Fine oxidised ware

Although present with almost 80 fragments, fine oxidised ware is heavily underrepresented in the Achterste Voorst cemetery. Whereas fine oxidised flagons often form a significant part of a total grave assemblage,[33] our complex only yielded one base fragment. According to its form, it could derive from flagon Oelmann 60 or 61. While most of the fragments probably derive from flagons as well, the total absence of flagons rims is quite striking. Since we lack proper grave contexts, it's difficult to say whether the absence is a specific characteristic of the grave ritual or just an outcome of the post-Roman taphonomic processes.

Amphorae

Only three fragments of amphorae could be identified in the assemblage. One can be assigned to a large olive amphora on the basis of its fabric, produced in southern Spain (Baetica). Another fragment has a fabric typical for medium-sized flat-based amphorae. It is probably from Northern Gaul. It seems hard to believe that these few fragments represent grave finds. More likely they functioned as large containers during the burial ritual, or can be interpreted as pick-ups from a nearby settlement.

Dolia

These handmade storage vessels are normally present as grave finds in low quantities. They were used to transport and store goods like wine, olive oil or cereals. At least two specimens and all the remaining wall fragments found at Achterste Voorst derive from the large dolium Stuart 147. Fragments of the smaller, often wheel-turned dolia are absent in the assemblage.[34]

Mortaria

This category concerns a vessel form that clearly indicates new ways of dealing with food and material culture during the Roman period. Mortaria – unknown until the end of the Iron Age – were used for preparing sauces and meals.[35] In our cemetery, at least three different mortaria types have been found. Besides the mortarium Stuart 147 with a horizontal rim, in use during almost the entire Roman period, two later types are also present. These are the mortarium Brunsting 37 with a vertical rim, dating from the middle of the second century onwards, and the mortarium Vanvinckenroye 1967.94, with an upstanding rim and a date from the last quarter of the second century onwards. The provenance of these latter specimens could be the Meuse region, judging from the fabrics.[36]

Coarse ware

By far the best represented category of Roman pottery is the coarse ware, consisting not only of cooking ware, but also vessels for transport and storage (fig. 3.12). More than 80 percent of the coarse ware is produced in oxidised and sometimes smoked fabrics, which seems normal for contexts dating after the middle of the second century in the Meuse valley. The quartz grit tempered fabric ranges in colour from pale yellow, beige, or (light) orange. Especially the last fabric group – represented by amongst others the bowl Oelmann 104 from grave 12 (12.1-5) – could have been produced in the North or Central Limburg area.[37]

Besides a single fragment of a lid, the only identified forms are plates, bowls, and jars. Of the plates, Stuart 216 and 218 can be said to date to both second and third century.[38] They frequently occur as grave finds in cemetery contexts, but they may have contained food during or after the cremation ceremony. Relatively older than the majority of the jars and bowls are the jar Stuart 201 and bowl Stuart 210, represented by one specimen each and dating to the first century. However, in our assemblage they easily fit in the general date of Achterste Voorst coarse ware: between 150 and 250 AD.[39]

Concerning the best represented coarse ware type, the jar Oelmann 89 with a heart-shaped rim profile, it is noteworthy to mention that the typical *Viertelrundstab* – the angular ridge below the rim – occurs in only one specimen (22-69), leaving a rather smooth transition from rim to neck in the other cases (12-3, 62-11). One jar with a similar profile (4-I-6) has multiple ridges and even two handles on the shoulder. Its fragments, unfortunately, could not be fitted together. Related to the jar Oelmann 89 is the bowl Oelmann 103 (2-2, 24-24), which seems to generally be quite rare in both cemetery and settlement contexts.[40] Its presence with at least two and maybe five specimens in our assemblage is therefore striking, especially when compared with the occurrence of only two specimens of the more common bowl Oelmann 104.

The above-mentioned forms of coarse ware can be typified as a Rhenish spectrum, since they concern pottery forms well-known from research on *limes* sites in the province of Germania inferior.[41] The only form with a clear Meuse region provenance is the so-called 'Tongres beaker', the jar Vanvinckenroye 1967.94 with a pale yellow fabric from grave 11 (11-1).[42] Near the typical 'Haspengouwse' flagons, absent in our cemetery assemblage, this Tungrian pottery form usually occurs more often in settlement contexts than in cemeteries.

A minority of the coarse ware could not be dated to the Roman period with certainty. Because of the fabric's hardness, the sometimes larger and more angular quartz particles, and also the more compact paste, these fragments could equally date to the late Roman or Merovingian period.

An analysis of the Roman pottery

Due to the low number of actual grave contexts and disturbance of the Roman burial ground in the Merovingian period, extensive analysis of the pottery assemblage and its place in the grave ritual would not be very meaningful. For instance, it is difficult to provide a reliable estimation of the ratio between so-called primary grave finds, which accompanied the deceased at the pyre and thus were burned; and secondary or tertiary grave finds, which were deposited unburned in the burial pit or were used during commemorative practices at the cemetery area.[43] It seems remarkable that only 50 fragments were burned or showed traces of being in contact with fire. This is just more than five percent of the whole assemblage, which would mean that an obvious minority of the vessels ended up on the pyre. However, we don't know whether all the other fragments derive from vessels used as grave finds. Still, it is clear that a significant percentage of the assemblage consists of grave finds that were placed directly in the burial pit.

As we will see below in table 3.8, only a few grave finds were recovered from the grave contexts in an unburned state and (largely) complete (11-1, 11-2, 12-1.1, 12-1.3, 12-1.5) or half complete (2-2, 6-2, 12-2), therefore interpreted as proper secondary grave finds. Just another few vessels are unburned and more than 10 percent complete (1-18, 2-3, 6-2, 12-3, 62-11); these are probable secondary grave finds.[44] Considering the total amount of (unburned) pottery fragments, it seems plausible that the

(30) Hiddink 2009, 152, 158. Other grave finds in Limburg are known from Melick-Kennedysingel (Smeets 1980, 147) and Itteren-Emmaus I (De Winter 2011, 125; identified as the type Vanvinckenroye 1991, 209). (31) Oelmann 1914, 39; Pirling/Siepen 2006, 82–83 (type 570). (32) Symonds 1992, 54 (Trier, form 3a); Vilvorder 2011b. (33) Cf. Hiddink 2003a, 25–26, table 5. (34) Van Enckevort 2003, 261–265. (35) Van Enckevort 2003, 257–258. (36) Willems 2005, 30–33.

(37) A regional production comprising similar but not identical orange/orange-red/brown-orange fabrics is assumed for the north of Limburg. See also Van Enckevort 2000, 129; Van Enckevort 2012, 72–74. (38) Hiddink 2010, 158–161. (39) See also Hiddink (2009, 161) for an overview of frequently occurring coarse ware type in the southeast of the Netherlands. (40) Oelmann 1914, 76; Hiddink 2010, 156–157. (41) Cf. Haalebos 1977, appendix 4. (42) Vanvinckenroye 1967, 53–54; Huppertz 1991, 155–157; Hanut 2010, 333–334. (43) Hiddink 2003a, 21–25; Hendriks/Magnéé-Nentjes 2008, 121–122, 129; Aarts/Heeren 2011, 45 (table 4.1) and 147. (44) The minimum percentage of completeness to consider a vessel to be a grave gift is 10–25%. Cf. Hendriks/Magnée-Nentjes 2008, 122.

Table 3.3
Overview of all identified Roman vessel types.

Category	Fabric	Form	Type	n	evrep	evrep_r
Samian ware	East-Gaulish	dish	Dragendorff 31	26	6	4
		cup	Dragendorff 33	2	2	2
		bowl	Dragendorff 35	4	1	1
		cup	Dragendorff 40	2	2	2
		bowl	Oelmann 19/Chenet 325	17	1	1
colour-coated ware	Cologne (techn. B)	plate	Stuart 10	7	4	4
		beaker	Oelmann 30	29	4	4
black-slipped ware	Trier (techn. D)	beaker	Oelmann 31	26	1	1
	Argonnen (grey)	beaker	Oelmann 31	1	1	1
fine oxidised ware		flagon	Oelmann 61/62?	1	1	0
dolia	handmade	dolium	Stuart 147	3	2	2
mortaria	oxidised Meuse/Rhine	mortarium	Stuart 149	1	1	1
		mortarium	Brunsting 37	3	2	1
		mortarium	Vanvinckenroye 1967.94	1	1	1
coarse ware	oxidised	jar	Stuart 201	1	1	1
		bowl	Stuart 210	1	1	1
		plate	Stuart 216	9	1	1
		plate	Stuart 218	10	3	3
		jar	Oelmann 87	2	2	2
		jar	Oelmann 89	83	15	15
		jar / bowl	Oelmann 89/103	8	3	3
	smoked	bowl	Oelmann 103	25	1	1
	oxidised	bowl	Oelmann 103	1	1	1
		bowl	Oelmann 104	25	2	2
		jar	Vanvinckenroye 1967.104	21	1	1
total				309	60	56

cemetery would have originally yielded more than 13 secondary grave finds compared with only one primary grave gift (41-1). Therefore, interpreting burial ritual from pottery analysis seems inappropriate.

It is interesting to look at the pottery assemblage as a whole, in particular at the represented vessel types (table 3.3). Since Hiddink published an overview of the pottery of the late second and third century in the southeast of the MDS-area,[45] it is possible to compare an assemblage like ours with pottery and sites from the adjacent region. The Achterste Voorst cemetery initially appears to fit very well into the pottery consumption picture of the second half of the Middle Roman Period, from 150/175 AD onwards. The date of the Roman pottery as a whole therefore concurs almost entirely within the period discussed by Hiddink: 50/175–225/250. Concerning the amounts of pottery circulating in settlements and cemeteries, this period can be considered the heyday of Roman style pottery consumption, at least in the southern part of the Netherlands.

The provenance of the Achterste Voorst cemetery's vessels also seems to coincide largely with the cemeteries of the MDS-area. Whereas the Samian ware is imported from Eastern Gaul, probably from the Argonnes region, the colour-coated ware seems to derive mostly from the Rhineland (Cologne). The presence of black-slipped beakers in certain contexts can be seen as an important indicator for a date in the third century. According to Hiddink, the products of the Argonnes region are far more frequent in the MDS-area,[46] whereas the *Qualitätsware* from Trier is well represented in the Meuse valley, like at Achterste Voorst. However, the presence of two specimens of the beaker Oelmann 31 is worth mentioning, since this type is generally regarded as rare.

Fine oxidised ware (mostly flagons), dolia, and mortaria will have been imported from both the Rhineland and Meuse region. Almost entirely absent in the Achterste Voorst cemetery are the (medium-sized) amphorae, which is not unusual in rural funerary contexts. The few fragments found could represent specimens which contained food and drinks, possibly used during a feast or ceremony. The coarse ware form spectrum is largely dominated

(45) Hiddink 2009. (46) Hiddink 2009, 156–157. Sometimes these grey beakers were identified as terra nigra: see Van Enckevort 2000, 98; Hiddink 2005, 36–37.

Table 3.4
Distribution in terms of percentage of the function groups, per quantification unit.

Category	n	evrep	evrep_r
table ware	30.6	27.9	35.7
flagons	9.8	13.0	1.4
storage/transport ware	3.9	4.3	2.9
mortaria	1.4	2.0	4.3
cooking ware	54.3	52.8	55.7
	(806)	(509)	(42)
total	100.0	100.0	100.0

Table 3.5
Roman coins (analysed by Rob Reijnen).

Grave	Find number	Type	Authority	Minted in	Date (start)	Date (end)	Catalogue nr.
1	1-11	as	Antoninus Pius (138-161)	Roma	141	161	RIC(III) 1179
1	1-12	as	Vespasianus (69-79)	Lugdunum	71	71	RIC(II) 502(3!)
12	12-1	dupondius	Marcus Aurelius (161-180)	Roma	163	180	RIC(III) 853v./1244

by Rhenish forms, although we suspect that a significant part of these specimens are produced regionally. Some of the vessels are imported from the Meuse region as well (such as the jar Vanvinckenroye 1967.104).

The presence of a late Roman grave, with just one burned vessel (the bowl Oelmann 19/Chenet 325), is of course of great importance, since rural late Roman graves are still generally lacking both in the MDS-area and Meuse valley of Central Limburg. Hiddink refers to only three other sites in this area with a late Roman date: nine graves at Someren-Waterdael, nine at Nederweert, and three at Linne-Ossenberg.[47] The last cemetery and its late Roman use could coincide with the late Roman occupation of the nearby villa of Maasbracht.

As much as possible, we can conclude that the use of Roman pottery for grave gifts in the Achterste Voorst cemetery fits in the concept of a locally based burial ritual, which varies per cemetery but is also quite consistent in the Central Limburg region.[48] This also becomes clear when we aggregate the separate pottery categories in function groups, comprising tableware (terra sigillata, terra nigra, colour-coated, and black-slipped wares), flagons, storage and transport ware (amphorae and dolia), mortaria, and cooking ware (coarse ware) in table 3.4. Cooking ware – which are vessels used for preparing but also presenting food and drinks – is not surprisingly the predominant function group, but the amount of tableware is comparable with other cemeteries.[49] It fits very well in the picture of a locally varying but not greatly differing ritual of composing and deposing grave finds assemblages. However, it remains questionable whether these figures are representative of the original (undisturbed) cemetery assemblage.

Coins

Graves: 1-11, 1-12; 12-1.2

Three coins were found in the Roman cremation graves at Achterste Voorst. The results are presented in table 3.5. Grave 1 contained an As of Antoninus Pius (138-161) and an As of Vespasian (69-79). The first specimen was minted in Rome, the latter one in Lugdunum (Lyon). Because both coins were found in the same grave, the latest specimen should be taken as a *terminus post quem*. It is dated between 141 and 161 and gives the grave a date after the middle of the second century. The excavators did not provide information on the coins' location because the grave was disturbed. Another coin was found in grave 12. It is a Dupondius of Marcus Aurelius minted in Rome, and can be dated between 163 and 180. The coin's original location is unknown because it was one of the finds retrieved from the digger's scoop.

Lock with key (Jeroen Oosterbaan)

Find numbers: 1-6, 1-7, 1-8, 1-9

Grave 1 contained a key and three objects that were part of a lock. Both the key and lock are analysed by Jeroen Oosterbaan of the ARC B.V. All objects seem well preserved.[50] The key (1-6) is 8.5 cm long and contains a flat handle with a circular opening of 0.8 cm. The key's beard is placed on the handle at a right angle and contains a z-shaped key pattern. This pattern matches that of the lock bolt (1-9) also found in grave 1. A schematic representation of the different lock parts from Posterholt is presented in figure 3.13. The bolt has a total length of 8.5 cm and contains a broad

(47) Hiddink/De Boer 2011, 209. (48) Compare, for instance, the nearby cemeteries of Melick: Smeets 1980; Smeets 1984. (49) Hiddink 2003a, 25–26. (50) It is, however, difficult to establish what parts were added during restoration.

Fig. 3.13
A schematic reproduction of the lock from grave 1 (created by Jeroen Oosterbaan).

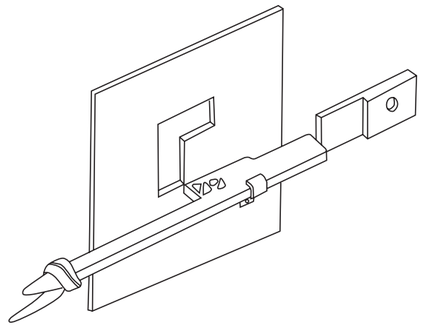
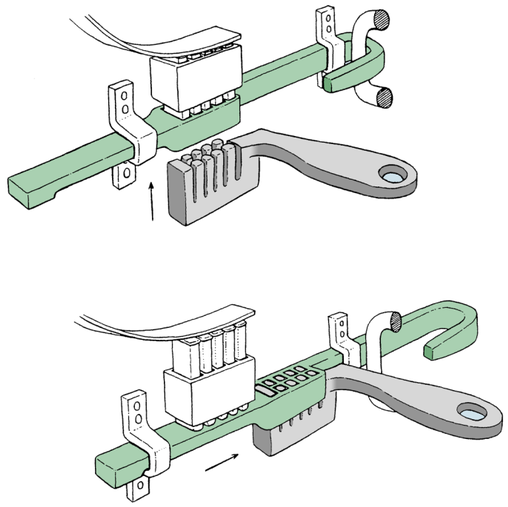


Fig. 3.14
The lock mechanism (after Martin 1981, 80 and edited by R. Mols (BAMN)).



end as well as a narrow end to which a spiral-shaped bolt guide (find number 1-8) was attached. The bolt guide has an inner diameter of 0.8 cm and was used to stabilize the lock bolt. By placing the small end of the lock bolt in the bolt guide, the bolt could be moved horizontally. Similar bolt guides are found in graves 344 and 391 of the Wederath-Belginum cemetery.[51] A rectangular plate of 4 by 1.2 cm (1-7) was located at the other end of the lock bolt. It may have been used to hold the broad end of the key bolt when the lock was closed. One end of the plate is thickened and contains an eye 0.4 cm in diameter. Part of an iron pin is attached to the plate by corrosion.

An example of the lock mechanism is displayed in figure 3.14. It worked as follow: first, a key was placed through a keyhole and moved a quarter turn. If the key fit the key bolt, possible tumblers were pushed out of the bolt. The lock could now be opened by shifting the bolt horizontally. In case of the Posterholt specimen, the bolt was probably shifted in the direction of the bolt guide when the lock was opened. When the lock was closed, it was shifted in the opposite direction until it was stopped by the rectangular iron plate.

Various typologies of keys are available to analyse Posterholt's key. It can be classified as Birley's 'slide keys' type 2,[52] and as Harnecker's type 6.[53] It is a common key type that can be dated to the entire Roman period. Although similar keys appear in various contexts, most parallels are known from military contexts. They are found in Saalburg, Zugmantel, Feldberg, Arnsburg, and Neuss.[54] Specimens from Roman villa complexes are known from Büßlingen and Seeb.[55] An example from a Roman cemetery is found in grave 1893 at Wederath-Belginum.[56]

The lock and key indicate the presence of a wooden box in grave 1. Wooden boxes are often used to hold precious grave goods. Small boxes under 40 cm long are associated with female gendered grave goods and often interpreted as jewellery boxes.[57] Larger specimens between 40 and 80 cm long are thought to have contained linen. These latter specimens are associated with graves of both men and women.[58] Wood traces were not found at Posterholt. The wood may have eroded. Another option is that the wooden box was placed on the pyre near the remains. Examples of this are found in graves 207, 1525, 1713, and 1826 of the Wederath-Belginum cemetery.[59] This may be the case at Posterholt since other burned objects were found in the grave. Unfortunately, it is impossible to establish whether the key or lock parts themselves were burned.

(51) Haffner 1971, Tafel 125. (52) Birley 1997, 12. (53) Harnecker 1997, 21. This type of key is defined as a Schiebeschlüssel mit rechwinklig afgebogenen Bart. (54) Jacobi 1897, 477 (Saalburg); Jacobi 1909, 104 (Zugmantel); Jacobi 1905, 38 (Feldberg); Kofler 1902, 22 (Arnsburg); Simpson 2000, 146 (Neuss). (55) Heiligmann-Batsch 1997, 123 (Büßlingen); Drack 1990, 198 (Seeb). (56) Haffner/Cordie-Hackenberg 1997, 14. (57) Haffner 1989, 311. (58) Vanvinckenroye 1984, 197. (59) Haffner/Cordie-Hackenberg 1997.

Knives
Grave: 1-1

An iron knife with a ring-shaped handle was found in grave 1. A similar specimen was found in grave 5246 at Krefeld-Gellep.[60] Both items have long, narrow blades and a ring shaped handle. The only difference is that the knife from Achterste Voorst is completely straight, while the Krefeld Gellep specimen has a slightly bent blade.

Pins/needles
Grave: 1-2

Two fragments of an iron pin with a profiled shaft were found in grave 1. The item is decorated with copper alloy wire. The pin is incomplete and its purpose remains unknown. It could have been used as a hair pin or to fasten items of clothing. Still, the item does not seem burned, indicating that it was probably not on the pyre during cremation.

Animal bone (worked)
Graves: 1-10, 1-15; 11-3

Six possible game pieces (find number 1-10) and seven indeterminate fragments of decorated animal bone (find number 1-15) were found in grave 1. The possible game pieces from grave 1 were decorated with incised circles. Specimens with similar types of decoration were also found at Krefeld-Gellep in grave 5699.[61] The game pieces and fragments were burned, indicating they were on the pyre during cremation.

Two fragments of probably one object of decorated bone were found in grave 11. The object consisted of a small circular bone disc with a hole and a fragment of hollow decorated small staff. These kinds of objects are commonly interpreted to represent a distaff, normally used for spinning. Similar burned fragments of worked bone were also found – among many others – in grave 8 of the Linne-Ossenberg cemetery, grave 1 of the Haelen-Windmolenbos cemetery, as well grave 15 of the Annendaal cemetery.[62] Although in each grave only a few fragments are found, it seems that objects were made and used as symbolical references to the myth of the *Parcae* or *Moirai*. The fragments were burned, indicating they were on the pyre during cremation.

Beads, amber and glass
Graves: 1-13; 3-5

A fragmented amber bead was found in grave 3. The bead's shape remains indeterminate. A fragment of melted glass bead was found in grave 1. The item is probably a bead that was on the pyre during cremation.

Nails
Graves: 1-3, 1-4, 1-5; 3-2.1; 41-10; 56 (10-I-1)

Iron shoe nails were found in graves 1, 3, 41, and 56. The highest number derives from grave 1. Here, approximately 450 iron nails were found. They were from a pair of Roman shoes whose leather is no longer preserved. The shoes were probably worn by the deceased during cremation. The other graves only contained small number of iron nails. They were probably part of pyre debris used to fill the cremation pit.

Stone
Graves: 2-1; 3-3.1/2

Grave 2 contained a fragment of Nivelsteiner sandstone. The presence of sandstone in a Roman cremation grave seems unexpected because we assume that the sandstone monument was destroyed in a later period.[63] However, the grave was cut by a later Merovingian grave and disturbed by deep ploughing. Both activities could have caused the sandstone fragments to end up in grave 2's fill.

Two flint fragments were found in grave 3. One is a large fragment that could have functioned as a hammerstone (3-3.1). The other is a small flake fragment (3-3.2). Both items are probably prehistoric. We do not know whether they were part of the original grave content or whether they accidentally landed in grave 3's fill.

Indeterminate fragments, various materials
Graves: 1-14; 3-1, 3-2.2, 3 (1-I-9); 41-4, 41-13

Several indeterminate fragments of various materials were found in the fill of at least three Roman cremation pits. Grave 1 contained a fragment of indeterminate yellow material; grave 3 contained an iron fragment decorated with copper alloy wire, seventeen indeterminate fragments, and two fragments of possible iron slag; grave 41 contained an indeterminate iron fragment with a bronze rivet and two small fragments of possible bronze rivets. In all of these cases, the fragments' purpose remains indeterminate.

(60) Pirling/Siepen 2006, Tafel 72, 14. (61) Pirling/Siepen 2006, Tafel 75, 3. (62) Hiddink 2005, 21 and 94, fig. 42; Schutte 2006, 26; Rijkelijkhuizen 2006, 57–58; Schmitz 2011, 196 (find 15-08a); Schmitz 2012, 114–115. See also Hendriks/Magnée-Nentjes 2008, 116, 136. (63) A more elaborate discussion of the destruction of the sandstone monument can be read in chapter 6.

Table 3.6
Cremated remains from
Roman cremation graves.

Grave	Original context	Weight (g)	Fragment size (cm)	Burning degree (°C)	Sex	Age (years)	Pathology	Shoe nails	Animal bone
1		925	1-3	> 800		30-50		+	+
2		1,268	2-6	> 800		> 20			+
4	2	129	2-4			30-50			
3		9	2	> 800		possible adult			
6		280	2-4	> 800	male?	> 20			
9	6	132	3-5			20		+	
12	12-1.7	479	3-4	> 800	female??	20-40	sutura metopica	+	
12	12-4	676	2-4	> 800	female?	20-40			
24	12	106	1-4	> 800	female??	> 20	sutura metopica		+; pig
41		908	3-5	> 800	female?	20-40			
56		1,471	3-5	> 800		20-40	cribra orbitalia (aenemia)		+; pig
Possible graves									
22		2	2	> 800					
73		3		> 800		20?-40			

Table 3.7
Cremated remains found in
the fill of Merovingian graves.

Grave	Total weight (g)	Fragment size (cm)	Burning degree (°C)	Sex	Age (years)
5	2	2	> 800		
7	2	1	> 800		
53	1		> 800		
58	60	1-4	> 800	female??	20? Or juvenile?
trench 1	3		> 800		20?

Organic remains

Graves: 1-16; 3-4; 41-14.1

A leather fragment was found in grave 1, and two charcoal samples were recovered from graves 3 and 41. The samples are not suitable for further analysis.

Skeletal remains

The cremated remains from the Achterste Voorst cemetery are analysed by Liesbeth Smits. The results of this analysis are presented in this publication's catalogue and in tables 3.6–3.7. The current paragraph is only concerned with skeletal remains from Roman cremation graves. The analysed remains are assigned to seven Roman cremation graves and two possible Roman cremation graves (table 3.6). Two contexts could not be examined; the remains from grave 11 are missing, and no remains were recovered from the possible cremation grave grave 62's fill.

Small amounts of cremated remains were also found in the fill of several Merovingian inhumation graves. In three cases (graves 4, 9, and 24), the shattered remains could be assigned to one of the eight cremation graves with certainty. This was done on the basis of stratigraphic relations (inhumation graves cutting older cremation graves) and identification of skeletal remains of a single individual.

Table 3.7 displays the cremated remains whose original context is unknown. In most cases, these are shattered remains found in the fill of Merovingian inhumation graves. In other cases, the cremated remains were stray finds recovered during the creation of excavation levels. We assume that most of the remains from table 3.7 belong to Roman cremation graves. However, since Iron Age and Merovingian cremation graves were found at Achterste Voorst as well, certainty cannot be provided. The remains are thus not discussed here any further.

The methods used for analysing cremated remains are described by Smits in chapter 8, which is concerned with the analysis of skeletal remains from the Merovingian period. Though the majority of skeletal remains from that period derived from inhumation graves, three cremation graves were found as well. The same methodology used for their analysis was used for the cremated remains from the Roman period.

The weight of cremated remains from Roman cremation graves varied between 9 and 1,471 g. Fragment size was between 1 and 5 cm, and burning degree was > 800 °C. Possible sex could be established for four individuals. Three were possibly women, one was possibly male. All graves contained cremated remains of adults. Age was mostly between 20–40 years old. Only the individual from grave 1 may have been older (between 30–50 years old), and in the case of grave 3, the estimated age is uncertain. The age of the remains from possible grave 22 could not be determined. Pathological bone changes were discovered on the remains from grave 56. This individual, between 20–40 years of age, contained traces of *cribra orbitalia*, which results from anaemia. Another interesting feature was a *metopic suture* in the skull fragments from grave 12. This feature is not the result of an illness, but a genetic feature. The presence of bone fragments with a *metopic suture* in grave 24 is one of the reasons to expect these fragments to belong to the same individual.

Date and lay out of the cemetery

The date of the Achterste Voorst cemetery is based on the dates of individual graves, which are based solely on the presence of coins and pottery. Table 3.8 displays the coins and datable pottery fragments from the cremation graves found at Achterste Voorst. It also includes datable pottery fragments found in Merovingian contexts that could be joined together with pottery vessels found in one of the cremation graves.

Of the eight Roman cremation graves, six could be dated (table 3.9). Grave 3 did not contain datable finds and grave 56 did not contain any finds besides cremated remains. Almost all graves with datable finds dated between the middle of the second and beginning of the third century. The only exception was grave 41, which is a younger grave dating between the second half of the third and first half of the fourth century. Furthermore, one pottery vessel with an earlier date in the end of the first and first half of the second century was found in grave 2 (a bowl Dragendorff 35). This grave also contained pottery fragments of a later date, but since no complete pottery vessels were found, we cannot be sure which belong to the grave's original content.

The possible cremation graves found in graves 22 and 62 also contained pottery fragments dating between the middle of the second and end of the third century. These graves thus seem to be part of the same cemetery phase as most of the Roman cremation graves found at Achterste Voorst. The other possible grave (grave 73) did not contain datable pottery fragments.

Because the number of cremation graves is small, and since almost all graves are of a similar date, it is impossible to distinguish different phases marking the development of the Roman cemetery. The only grave with a somewhat different date is grave 41. We don't know whether this younger grave represents a later cemetery phase or a separate burial group not related to the other Middle Roman cremation graves. As visible in fig 3.3, grave 41 is located at the cemetery's easternmost boundary. The distance between grave 41 and the closest cremation grave (grave 11) graves is about fifteen meters. Though this distance may seem small, it is still possible that grave 41 represents a separate burial group (or single burial) located more towards the southeast. After all, the other graves are located much closer to each other. Nevertheless, it is possible that the original cemetery was used continuously from the middle of the second into the first half of fourth century. To establish this possibility, the cemetery's layout needs to be discussed.

It must first be asked whether the Roman cremation cemetery was completely excavated. All graves except grave 41 are located in the northern half of the excavated area. They seem to be grouped together around the sandstone monument, which was probably associated with grave 1. Since no further Roman cremation graves with a similar date were discovered towards the north, south, or east, it seems that most of the cemetery was discovered. This image changes when the possible graves are taken into account. The possible graves found in graves 22 and 62 do not dramatically alter the image, though the location of the possible grave in grave 62 suggests that more graves could have been located further west. However, the presence of a possible grave in the fill of grave 73 indicates that the Roman cremation cemetery could also extend further southwards.

If we consider the possibility that grave 41 represents a different burial phase within the same cemetery, the cemetery might also extend much further southeast. This latter possibility seems unlikely, since no graves are found between grave 41 and the cluster of Roman graves over fifteen meters northwards. The fact that most graves were clustered near the sandstone monument (which was probably located near grave 1) implies that this must have been the core area of the cremation cemetery. The presence of a possible grave in inhumation grave 62 indicates that more graves were probably located to the west. The possible grave in inhumation grave 73 suggests that the cemetery may also extend southwards. Ultimately, excavations need to be carried out west of the Kruisweg and east of grave 41 in order to establish the complete size of the Roman cremation cemetery (or cemeteries).

The Roman burial ritual at the Achterste Voorst

A detailed analysis of the Roman remains from the Achterste Voorst cemetery can provide information on earlier stages of the cremation ritual. The presence of burned and unburned grave goods tells us if items were on the pyre or deposited in the burial pit after cremation. The presence of burned clothing accessories, like fibulae and shoe nails, provide information on treatment of the body before cremation. However, it is important to remain cautious. In some cases, it is difficult to determine whether finds ended up in the cremation pits by accident, especially when graves are disturbed by deep ploughing or other depositional processes. Many of the graves' original contents could thus be contaminated. And if we consider the possibility that pyres were used more than once, it is also possible that material from older cremations landed in later undisturbed cremation pits.

Table 3.8
Coins and datable vessel types
from Roman cremation graves.

Grave	Find number	Type	Percentage	Date	Remarks	Burned
1	1-11	as (Antoninus Pius / Roma)		141-161		-
1	1-12	as (Vespasian / Lugdunum)		71		-
1	1	Stuart 216	0-10%	100-270	fragments of the same pot were found in graves 2 and 8	-
1	1-18	Stuart 218	0-10%	100-270	fragments of the same pot were found in grave 61	-
1	1-18	Oelmann 89	10-25%	150-300		-
61	61-0	Stuart 218		100-300	fragments belong to grave 1	-
2	2-2	Oelmann 103	25-50%	150-275		-
2	2-3	Dragendorff 35	10-25%	70-150		-
2	2-3	Dragendorff 40	0-10%	150-300		-
2	2-3	Stuart 10		100-250		-
2	2-3	Vanvinckenroye 1967.94		175-275		-
2	2-3	Stuart 216		100-270	fragments belong to grave 1	-
2	2-3	Oelmann 89		150-300		-
2	2-3	Oelmann 89/103	0-10%	150-300	fragments of the same pot were found in grave 60	-
60	60-1	Oelmann 89/103		150-300	fragments belong to grave 2	-
6	6-1	Oelmann 30	ca. 25-50%	150-250		-
6	6-2	Stuart 218	10-25%	100-270		-
8	8-9	Stuart 216		100-270	belongs to grave 1	-
11	11-1	Vanvinckenroye 1967.104	ca. 60%	150-300		-
11	11-2	Dragendorff 31	ca. 80%	150-300		-
12	12-1	dupondius (Marcus Aurelius / Roma)		163-180		
12	12-1	Dragendorff 40	100%	150-300		-
12	12-1	Stuart 10	>95 %	100-250		-
12	12-1	Oelmann 89		150-300	belongs to 12-3	-
12	12-1	Oelmann 104	50-75%	150-270	fragments were also found with find number 12-3	-
12	12-2	Oelmann 31	25-50%	175-250		-
12	12-3	Oelmann 89	10-25%	150-300	fragments were also found with find number 12-1	-
12	12-3	Oelmann 104		150-250	belongs to 12-1	-
22	22-11	Dragendorff 31		150-300		+
22	22-66	Oelmann 89		150-300		-
22	22-69	Oelmann 89		150-300		-
22	22-80	Oelmann 87		150-250		-
22	22-108	Dragendorff 31		150-300		+
22	22-116	Stuart 10		100-250		-
22	22-120	Oelmann 89		150-300		-
22	1-1-2	Stuart 10		100-250		-
41	41-1	Oelmann 19 / Chenet 325	ca. 50%	250-350		+
62	62-11	Oelmann 89	10-25%	150-300		-
62	62-15	Oelmann 89/103		150-300		-

Table 3.9
Comprised inventories and dating of
the Roman cremation graves.

Grave	Handmade Iron Age		Wheel-turned Roman		Cremation	Charcoal	Vessel types	Date
certain	n	evrep_r	n	evrep_r	(gr)			
1	5	0	56	4	925	-	St216, St218, Oelm89	150-200
2	4	0	59	9	1,379	-	Drag35, Drag40, St10, VV94, Oelm89, Oelm89/103	150-200/225
3	8	0	20	1	9	+	no types	Roman
6	11	0	44	2	412	-	Oelm30, St218	150-200/225
11	0	0	41	2	-	-	Drag31, VV104	150-200/225
12	0	0	86	5	1,261	-	Drag40, St10, Oelm31, Oelm89, Oelm103	175-225
41	1	0	18	1	908	+	Oelm19/Ch325	250-350
56	-	-	-	-	1,471	-	no pottery	Roman?
possible								
22	3	0	48	9	2	-	Drag31, St10, Oelm87, Oelm89	150-200
62	2	0	6	2	-	-	Oelm89, Oelm89/103	150-200
73	6	0	23	0	3	-	no types	Roman

The high degree of disturbance at Achterste Voorst makes it difficult to analyse the Roman cremation graves. Grave structures could only be determined in two cases (graves 12 and 41). It is thus not possible to remark on the distribution of different grave types and the correlation between grave types and chronology or grave contents.

The amount of grave goods deposited in the graves at Achterste Voorst seems low. Table 3.8 displays the percentage of pottery vessels found in the cremation graves. Graves 11, 12, and 41 were the only ones to contain pottery vessels with over 50% recovered. As stated, a presence of 10–25% is considered the minimum necessary to count a pottery vessel as part of the original grave's content.[64] In that case, pottery vessels can also be assigned to the contents of graves 1, 2, and 6. Grave 1 is the only grave that contained an elaborate set of other types of grave goods. The find assemblage of this grave seems extraordinary compared to the other Roman cremation graves found at Achterste Voorst. It contained two coins, a lock and key that were probably part of a wooden box, an iron knife, an iron pin or needle, decorated worked bone fragments, a melted bead, and approximately 450 small iron nails belonging to Roman shoes. Surprisingly, no complete (or nearly complete) pottery vessels were found in this grave. Pottery fragments of three datable pottery vessels were found. However, in all three cases, the fragments comprised a small percentage of the complete vessel. Only the jar Oelmann 89 comprised 10–25% and can be assigned with more certainty to the grave's content. The question remains whether the other two datable pottery vessels were also part of the original set of grave goods deposited in the cremation pit. The pottery fragments from grave 1 were not burned, indicating they were deposited in the grave during the final stage of the ritual sequence. This was not true for some of the other finds. Several items were burned or melted, indicating they were on the pyre during cremation. This is true as well for the glass bead, bone fragments, and iron nails, which were probably part of a pair of shoes worn by the deceased before cremation. Whether the iron lock was present on the pyre is more difficult to tell. Iron will only melt at extremely high temperatures, and it can be difficult to find traces of burn on restored iron objects. Besides, wooden boxes were commonly placed in graves as grave goods as well.[65]

Several other graves also yielded objects besides pottery fragments, some of which were burned. Grave 3 contained an amber bead, some charcoal fragments, and many indeterminate iron fragments; grave 11 contained fragments of a possible distaff; grave 12 contained a copper alloy coin; grave 41 contained some iron and charcoal fragments; grave 56 contained three fragments of small iron nails. Graves 2 and 6 were the only graves that yielded only pottery fragments. The Roman finds from the three possible graves mostly comprised pottery fragments. Other finds or traces of pyre debris were difficult to detect because they were found dispersed in the fill of three later inhumation graves. In all three cases, the inhumation graves were also reopened or possibly reopened. Still, grave 62 yielded the knob of a bone needle that could be of Roman date, and a considerable amount of Roman shoe nails were recovered from grave 73.

The presence of charcoal, iron fragments, shoe nails, and melted glass suggests that at least in four cases (graves 1, 3, 41 and 56), pyre debris was deposited in the fill of the cremation pits. Remains

(64) Hendriks/Magnée-Nentjes 2008, 129. (65) See, for instance, several grave finds from Krefeld-Gellep (Pirling/Siepen 2006, 433–441).

of pyre locations, however, were not found at Achterste Voorst. It is thus impossible to establish the percentage of remains and pyre debris collected after the cremation process. The amount of cremated remains found in the Achterste Voorst Roman cremation graves varied between 9 and 1,471 grams. The highest amount of almost 1,5 kg derived from grave 56. Given that according to Hiddink the total weight of human remains of a cremated adult is between 1,5–2 kg,[66] this amount is considerably large.

A detailed study of both the grave finds and stray finds could establish the presence of pottery fragments belonging to a single pottery vessel in different grave contexts. This would indicate that a pyre was used more than once.[67] At Achterste Voorst, pottery fragments of a single pottery vessel were found in graves 1 and 2. However, the fragments are not burned, indicating they were not on the pyre. In fact, the presence of another fragment of this same pottery vessel in grave 8 (a Merovingian inhumation grave) suggest that the fragments landed in different contexts due to post depositional processes.

Unfortunately, it is difficult to analyse the Roman cremation graves found at Achterste Voorst in terms of Romanization, demography, and correlations between grave contents and information on sex, gender, and age. The information from the analyses of cremated remains, grave structures, and finds is limited because all graves were disturbed. It is also difficult to single out graves with special significance. The only possible conspicuous grave seems to be grave 1, first, because it contains more grave goods than any of the other cremation graves found at Achterste Voorst, and second, because it may be associated with the sandstone monument. Still, here too, the monument's nature is unknown, because it was destroyed and the information on grave 1 is limited due to its disturbed nature. Its grave structure is unknown and there is uncertainty on the number of pottery vessels deposited in the grave. Furthermore, we cannot establish whether the sandstone monument was really associated with this particular grave. As will become clear from the analysis in chapter 6, the monument was located in the vicinity of grave 1, but the exact connection between grave and monument is also unknown.

Some finds from the cremation graves refer to distinctive Roman burial practices. This applies to the coins found in graves 1 and 12 and to the distaff from grave 11. Coins are considered items of payment for Charon when crossing of the river Styx,[68] and distaffs and spindle whorls are often associated with the *Parcae* or *Moirai*.[69] It is hard to connect these few graves and their finds to the way the burying community incorporated genuine Roman beliefs into the indigenous burial ritual. Comparing our data with other Roman cremation cemeteries found in the region, however, sheds more light on the way the Achterste Voorst cemetery relates to other burial practices in Central Limburg.

Regional comparative analysis

During the last decades, several Roman cemeteries have been discovered and excavated – though in most cases only partially – in Central Limburg. Basic information of the cemeteries from this region is presented in table 3.10. The most interesting examples for comparison are the cemeteries found at Sint-Odiliënberg, Melick, Maaseik, and Linne-Ossenberg. Unfortunately, not all were sufficiently published. The cemetery of Sint-Odilienberg-Kapittelveld is only marginally reported[70], and the publication of the Maaseik cemetery[71] only contains an inventory of the graves and hardly any information on grave structures or cemetery context. The comparative analysis provided here is thus mainly based on data from cemeteries in the eastern part of the Meuse valley: the three Posterholt cemeteries (those of Achterste Voorst, Annendaal, and Voorst), and the cemeteries of Melick (Kennedysingel and Tonnedenhof) and Linne.

It would be interesting to compare the cemeteries in terms of grave composition, grave content, and information on burial rituals in spite of the limited information provided by the graves from Achterste Voorst. When looking at grave composition, for instance, it is surprising that no urn burials were found at the Achterste Voorst. In contrast with the MDS-area, where urn burials are only occasionally found, the presence of urns seems a regular feature east of the river Meuse (table 3.10). They are found among others at Annendaal, Voorst, and Melick, whereas west of the Meuse, only the probable *vicus* cemetery at Heel[72] yielded multiple urn burials.

The more or less identical regional difference between the Meuse valley and the MDS-area – further west in the direction of the Kempen region – may be noticed when we look at the distribution of cemeteries with grave ditches. None of the cemeteries located in the vicinity of Posterholt contained grave ditches (table 3.10). It is possible that the shallow grave ditches were destroyed by post depositional processes and for that reason could not be observed. However, Hiddink argues that at least in the cemeteries of Melick-Kennedysingel, Melick-Tonnendenhof, Maaseik, and Linne-Ossenberg, grave density makes the presence of side-structures unlikely: the cremation pits are located too close to each other. This implies that they were not part of the local burial ritual.[73] This could also be true for the graves found at the Achterste Voorst cemetery.

When we consider the date of both the Achterste Voorst cemetery and the other Voorsterveld cemeteries, it is clear that they were contemporary during at least the greater part of the second century. This is especially true if we include the single grave south of the Achterste Voorst cemetery, which probably dates to the first half of the second century.[74] Although we don't know whether

(66) Hiddink 2003a, 23. (67) Hendriks/Magnée-Nentjes 2008, 122. (68) Hiddink 2003b, 199. (69) Pirling 1976, 107; Bogaers/Haalebos 1985, 8. (70) Bekkers 1973. (71) Janssens 1977. (72) Some preliminary results of the recent excavations at the cemetery site Heel-Panheelderweg/Daelzicht are provided by L. van Diepen (Grontmij). (73) Hiddink 2003a, 30. (74) Bekkers/Gootzen 1977, 39.

Table 3.10
A selection of excavated Roman cremation cemeteries in Central Limburg.

Name	Burials	Date (a)	Date (b)	Urn burials	Grave ditch	References
Posterholt-De Achterste Voorst	ca. 11	150/175-225	250-350	-	-	this publication
Posterholt-Annendaal	40	50/100-225	-	+	-	Schmitz 2011; 2012
Posterholt-Voorst	9	100-150/175	-	+	-	Smeets 1984
Sint-Odilienberg-Kapittelveld	ca. 7	100-200	-	+	-	Bekkers 1973
Melick-Kennedysingel	33	125-225	-	+	-	Smeets 1980
Melick-Tonnedenhof	37	100-225	-	+	-	Smeets 1982
Linne-Ossenberg	ca. 42	50-225/250	300-425	+	-	Hiddink 2005
Maaseik-Aen Moors Bosch	ca. 200	LaTène D-225/250	-	-	-	Janssens 1977
Heel-Panheelderweg	ca. 360	LaTène D-300/350	-	+	-	Huppertz 1991; Heijmans/Keijers 2012
Haelen-Windmolenbosch	15	100/125-200	-	-	-	Schutte 2006
Nederweert-Wessemerdijk	17	0-200/225	-	-	-	Bruekers 1989
Nederweert-Rosveld (zone 6)	52	LaTène C/D-225	-	-	+	Hiddink 2006
Weert-Kampershoek	23	150/175-225	-	-	-	Hiddink 2003c
Weert-Molenakkerdreef	124	LaTène C-200/225	-	-	-	Hiddink 2003b

these three cemeteries belonged to three separate settlements, habitation at the Voorsterveld/Annendaal must have begun as early as the earliest graves of the Annendaal cemetery, which date to the second half of the first century. In spite of the absence of urn burials in our cemetery, the burial ritual at the Voorsterveld seems highly inconspicuous. Although a stone grave marker is suspected at Achterste Voorst (see below), the composition of the Voorsterveld graves was not very elaborate, and predominantly without many vessels (more than five) as grave finds.

In this way we can best compare the Voorsterveld cemeteries with the Kennedysingel cemetery at Melick, which is considered by Huppertz as the less 'Romanized' of both Melick cemeteries.[75] However, measuring the degree of Romanization based on comparisons of the amount of pottery in graves seems to be biased by modern conceptions. An increase of the amount of grave finds – pottery in particular – can be seen as a wider trend in the southern Netherlands from the middle of the second century onwards. The increase in pottery finds is also recorded in settlements.[76] The difference between the Melick cemeteries could perhaps be better explained in chronological terms than the degree of Romanization.

Compared with the cemeteries of Weert (Molenakkerdreef), Nederweert (both Wessemmerdijk and Rosveld), Maaseik, and Heel, the cemeteries east of the Meuse tend to begin considerably later: just before or after the middle of the first century AD. It is striking that none or hardly any grave finds of handmade indigenous pottery are known from Linne, Melick, or the Voorsterveld. Does this mean that habitation in this part of Central Limburg was rather scarce during the transition from the later Iron Age to the Early Roman period? Indeed, one can't deny that many finds from the La Tène C/D period are recorded west of the Meuse,[77] while proper sites from this period in the region of Roermond-Melick are still under-exposed.

On the other hand, Hiddink argues that habitation in the southern Netherlands decreases from the beginning of the third century onwards,[78] already a generation before the Roman Empire hits its first major crisis. However, this seems to be the general picture for the MDS-area further west, in the direction of Weert/Nederweert, while habitation in the Meuse valley continued on a small scale. A Late Roman grave with a date after the middle of the third until the middle of the fourth century was found at Achterste Voorst, and two fourth or early fifth century graves were found at Linne-Ossenberg. In both cases, these graves were created during a later phase at a slightly different location. For now, the relation between the later Roman graves and earlier cemetery phase remains unknown.[79] Still, it implies that in the Meuse valley, habitation probably lasted somewhat longer than elsewhere. This is further supported by the presence of early fourth century graves at Heel and late Roman habitation at the Roman villa of Maasbracht. Still, most occupation immediately around Posterholt seems to end before AD 250. The Late Roman grave at Posterholt thus seems to be one of the last signs of occupation, although several Late Roman stray finds from the Voorsterveld were found (see chapter 1).

(75) Huppertz 1991, 81 (76) Hiddink 2003, 43–44; Hiddink 2009, 149. (77) See Hiddink 2006. (78) Hiddink 2005, 47 (79) Hiddink 2005, 47. The same goes for Late Roman graves (300–400/420) at the cemetery of Someren-Waterdael (Hiddink/De Boer 2011, 209-215).

It is interesting to note that in several publications, the cemeteries in the region around Posterholt are characterized as being 'poor'.[80] Hiddink disagrees and argues that some exceptional finds were found, especially in grave 8 at Linne-Ossenberg, which contained three wine-amphorae, two olive oil amphorae, and several other items of pottery pointing to the presence of a funerary feast. Still, Linne-Ossenberg (together with Melick-Tonnedenhof) may have yielded the most elaborate grave finds of all rural cemeteries discussed here, and it must be said that the material culture from all cemeteries seems sober in comparison to the objects found in a cemetery like Heel-Panheelderweg.

However, qualifying these rural cemeteries in terms of 'poor' or 'rich', or estimating their degree of Romanization is a simple way of interpreting the local burial ritual. As we have seen, differences can be observed between regions like the MDS-area and the Meuse valley of Central Limburg, when looking at the presence of urn burials or grave ditches, for example. But within a particular region, these differences aren't that substantial, except from cemeteries belonging to a different kind of settlement, like the *vicus* cemetery of Heel. For now we can only state that in some cases, special features were added to the local burial ritual, as we have seen in Linne-Ossenberg and the deposition of multiple amphorae. The supposed grave sandstone marker at De Achterste Voorst could also be interpreted as a local addition to the burial ritual of the Meuse valley.

Though uncertainties exist on the monument's exact location, it was probably associated with grave 1.[81] No parallels of grave monuments have been found in the region around Posterholt, and unfortunately, the information on the monument itself is also very limited. Stone grave markers are usually found at urban or military cemeteries, which in our region are known from Nijmegen, Maastricht, and Heerlen or some of the *castella* cemeteries along the Rhine.[82] In rural contexts such as the indigenous-Roman cemeteries of the Dutch river area, the MDS-area, but also the sandy hinterland of Xanten,[83] these kinds of (simple) grave pillars or *stelae* are virtually absent. Examples of stone monuments in rural contexts can be found south of Posterholt, in the fertile loess belt of Southern Limburg or the German Rhineland.[84] In this villa landscape, we can expect monuments like the one from Achterste Voorst. One example worth mentioning may be the large grave monument found at Nieuwenhagen, in the municipality of Landgraaf.[85] It consisted of four stone walls surrounding an open space which contained the actual cremation grave, just as we know from urban contexts. Only the foundations of the four walls remained. A grave pillar is expected to have been present, but was never found. The monument's exact appearance remains unknown, but it was probably built with Nivelsteiner sandstone as well. The burial associated with the monument dated to the second half of the second century and is thus contemporary with the Achterste Voorst cemetery.[86] Although the funerary monument found at Nieuwenhagen – associated with a nearby villa – is of a different kind than the one found at Achterste Voorst, it shows that funerary monuments were present in the Roman countryside of the southern Netherlands at the end of the second century.

Conclusion

Eight certain and three possible Roman cremation graves were found at the Achterste Voorst site. The graves seem to be concentrated in the northwest part of the excavated area. Though graves were not found north, east, and south of the cemetery, more graves are expected towards the west and possibly southwest (near grave 73). The relation between the concentration of the graves and the single later burial (grave 41) located to the southeast remains unknown. Before the site came into use as a Roman burial ground, at least one but maybe more Late Iron Age cremation graves where present in the southeast part of the excavated area. Although many handmade pottery fragments are found, there are no specific indications pointing to older grave monuments still visible in Roman times.

All Roman graves – except the Late Roman grave 41 – date to the second half of the second or the beginning of the third century. This date coincides with other cemeteries found in the Meuse valley region. Still, most of the other cemeteries begin somewhat earlier. Just like the cemetery of Linne-Ossenberg, the one at the Achterste Voorst yielded a Late Roman grave. It is not certain, but we assume that this later usage of the cemetery site occurred after a period during which no burial activities took place. Thus, there is probably no continuity in burial activities between the second and the beginning of the fourth century. The second century monument may have attracted new Roman burials some generations later, as it may also have attracted new burials in Merovingian times. In that sense, it could have truly been a landmark.

An attempt was made to gain information on the Roman cremation ritual carried out at the Achterste Voorst cemetery. Because all graves were disturbed, this was not an easy task. It was possible to classify only two of the eight cremation graves, and in many cases the graves' exact content is open to debate. Still, some remarks on grave structures and their connection to the burial ritual could be made, and it was possible to compare the cemetery with some of the cemeteries found in the region around Posterholt.

At the Achterste Voorst, the cremated remains were deposited in pits together with pottery vessels and occasionally other grave goods. The presence of charcoal fragments and burned finds imply that in some cases pyre debris was used to fill the cremation pits. Some of these finds, like the coins and distaff, point to distinctive Roman practices.

The various cemeteries found in the region around Posterholt show some interesting similarities: for instance, they all lacked grave ditches and contained relatively few grave goods in comparison to some of the larger cemeteries in urban areas. At the same time, differences were visible as well. They were expressed through the variation of material culture in the graves, but also in the presence of the sandstone monument at the Achterste Voorst. What becomes clear is that the Roman cremation ritual was subject to local variability, but that this variability was structured within the boundaries of a ritual sequence that was the norm for a much wider region. For this reason the burying community of the Achterste Voorst cemetery fits well into the picture of the rural burial ritual in the Meuse valley of Central Limburg. The most striking feature of our cemetery is, of course, the sandstone monument, which may be interpreted as a burial for or by a veteran, someone familiar with the practice of erecting grave monuments containing text and iconography. But for now this seems too interpretive for a distribution of only several pieces of sandstone.

(80) Smeets 1984, 139; Schmitz 2011, 202; Hiddink 2005, 49. (81) For an extensive analysis of the distribution of sandstone fragments and the sandstone monument, see chapter 6. (82) Van Es 1981, 206–208. (83) Personal communication C. Bridger, LVR-Amt für Bodendenkmalpflege im Rheinland (Aussenstelle Xanten). (84) Crowley 2011, 197–198 and fig. 1. (85) Hiddink 2004. (86) Hiddink 2004, 39.

4 Burial pits and grave constructions

A total of 94 numbered contexts were found at Posterholt. Two contexts (contexts 13 and 28) turned out not to be graves, eight were Roman cremation graves[1] and one (grave 92) was an Iron Age cremation grave (table 4.1). Of the 83 remaining early medieval contexts, three were cremation graves. Next to these numbered contexts 44 unnumbered contexts were found. Most of them are unexcavated Merovingian inhumation graves. On the excavation plans these unnumbered contexts are indicated with: # (see fig. 2.10).

The current chapter concerns only the early medieval graves found during excavations of the HVR and ROB. The Roman cremation graves have already been discussed in the previous chapter; the Iron Age grave will be discussed in chapter 10. The construction of both the cremation and inhumation graves varied considerably in terms of size, shape and type of container used. The present chapter will provide detailed descriptions of the varied construction types as well as an analysis of variation in container and burial pit size, and grave orientation. The inhumation graves will be addressed here first; the three cremation graves will be discussed at the end of the chapter.

Inhumation graves

Of the 80 numbered Merovingian inhumation graves, three were not completely examined (graves 66, 93 and 94), and two were defined as possible graves (graves 53 and 81). We assume that each grave contained at least one body. However, there are graves in which no human remains were found. In these cases we assume the bones are missing due to poor preservation, human intervention, or other post depositional processes. Six cases exist where more than one individual was buried, sometimes as a double burial (grave 14 and 46) and sometimes as a later additional burial (graves 42, 48, 64 and 74).

In the end 75 inhumation graves were completely excavated and yielded 81 burials/inhumations. Next to that, 3 graves were partly examined and 2 were qualified as possible. The maximum number of excavated burials/inhumations is thus 86 (table 4.1).[2]

Reconstructing burial pits

Though grave constructions vary considerably, all graves contain a burial pit. Information on the shape and size of burial pits is recorded on the original excavation plans, making it possible to reconstruct the horizontal shape of almost all of Posterholt's burial pits. The only exceptions were graves 24, 38 and 66. Graves 24 and 38 were damaged by recent disturbances and grave 66 was only partially excavated.

The outline of most burial pits was rectangular with slightly rounded corners, but pits with other shapes were found as well. The burial pits of graves 10, 17, 32 and 35 were irregularly shaped. They were rounded and seem to have been dug just wide enough to accommodate the containers of the deceased. Interestingly, all four of them belonged to the cluster of graves with smaller burial pits situated at the cemetery's eastern edge.

The only other two graves with irregularly shaped burial pits were graves 9 and 54. Grave 9 was probably rectangular before the outline of its burial pit was disturbed by post depositional interventions. Grave 54 is almost rectangular, but contains a possible alcove near the pit's southeast corner. The alcove's purpose remains unclear. On trench 10's level I drawing, the alcove is presented as a separate feature cut by the burial pit (fig. 4.1). On grave 54's individual drawing it looks like a bulge that was deliberately been placed there to function as an alcove for grave goods. In the report written after excavation, however, the irregularity is presented as the result of the collapse of the burial pit's wall.

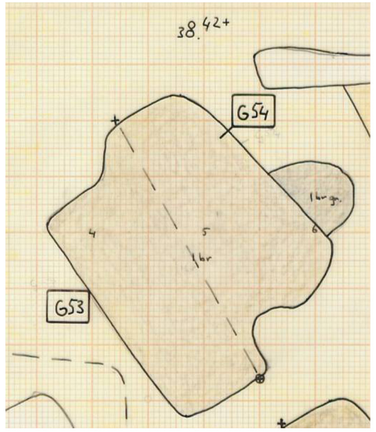


Fig. 4.1
Part of the drawing of trench 10, showing graves 53 and 54 at level I. Scale 1:50.

A vertical reconstruction of the burial pits is more difficult to provide. The ROB did not create section drawings of the graves, which could have provided accurate information on the vertical construction of burial pits and their containers. The excavators did document one large section along the excavation's eastern limits. This section cuts two graves, but neither of them were examined nor possess a context number (fig. 4.2). Examining these burial pits' shapes, however, it becomes clear that both their vertical shapes were almost rectangular. This is expected for most other graves as well, since individual grave drawings show that most burial pits retain their rectangular shape at a deeper level. It is also confirmed by two section drawings made during excavations of the HVR (fig. 4.3). Unfortunately, the drawings were made at a scale of 1:50, leaving no room for great detail. Grave 9's A-B section shows the burial pit with nearly straight edges that incline only slightly towards the pit's bottom. The C-A section differs somewhat. There the edges are not as straight and the pit's eastern wall slopes down a bit more. Unfortunately grave 9's drawings only display the grave pit's bottom. This makes it difficult to determine its complete vertical shape. Grave 5's drawings provide us with a more complete vertical reconstruction of the grave pit. These drawings, however, were made because the grave was cut diagonally by the trench's wall. The presented sections, therefore, do not provide us with accurate images of the burial pit's size.

Cumulatively, though, the burial pits seem to have had nearly straight edges, perpendicular walls, and levelled bottoms.

Table 4.1
Quantitative data from the excavations at Posterholt-Achterste Voorst.

Merovingian period	
Number of numbered inhumation graves and possible inhumation graves	80
Numbered cremation graves	3
Roman period	
Numbered cremation graves	8
Iron Age	
Numbered cremation graves	1
Other	
Numbered Pits	2
Number of numbered contexts all periods	94
Unexcavated and unnumbered inhumation graves (Merovingian?)	44
Additional information	
Roman Period	
Possible cremation graves*	3
Merovingian period	
Number of burials (inhumations)	86
Number of cremated persons	3
Total number of buried persons	89

* remains in Merovingian graves

Analysing grave constructions

A detailed analysis of different Merovingian grave constructions in the region is provided by Dieuwertje Smal. In her master thesis, she developed an elaborate typology of different grave constructions found in early medieval burial sites.[3] Five different elements of grave constructions described in her typology were identified at Posterholt. These were: trenches (or burial pits), wooden beams, wooden coffins, wooden chambers and tree trunk coffins. Sometimes a combination of different elements was found. Grave 47, for instance, contained a wooden coffin placed on beams, and grave 48 contained a wooden coffin possibly placed inside a wooden chamber. It is important to note that it is difficult to distinguish between wooden coffins and wooden chambers. Following Smal's typology, a wooden coffin is constructed outside the grave, and the body is placed in the container before deposition. Wooden chambers, on the other hand, are constructed inside the grave after which the body is then deposited.[4] Wooden

(1) Graves: 1, 2, 3, 6, 11, 12, 41 and 56. (2) The number can be higher if in some of the inhumation graves without human remains contained more than one burial.

(3) Smal 2005. (4) Smal 2005, 34-35.

Fig. 4.2
Part of the section drawing showing two grave sections. Scale 1:50.

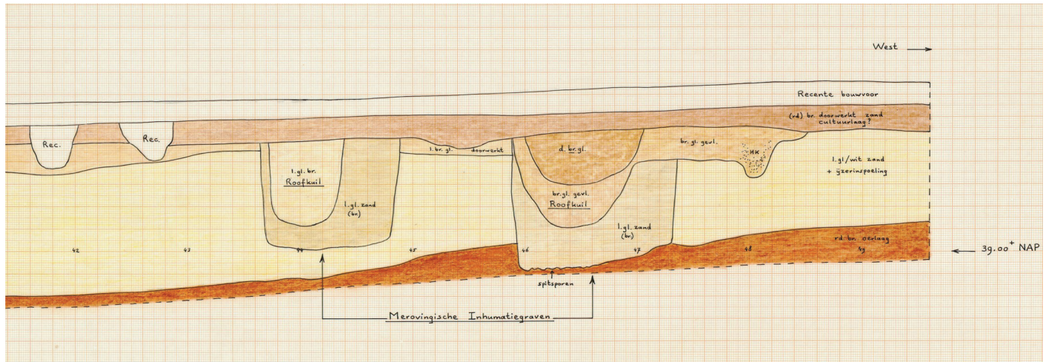
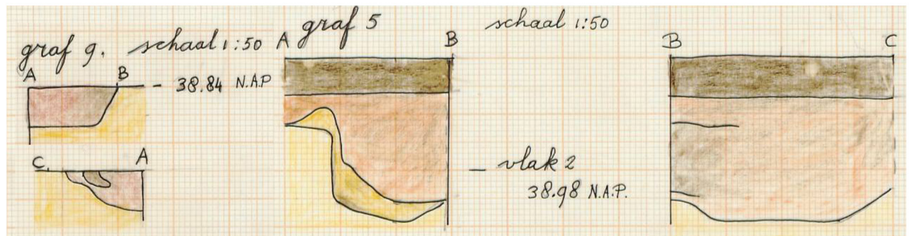


Fig. 4.3
The section drawings of graves 5 and 9. Scale 1:50



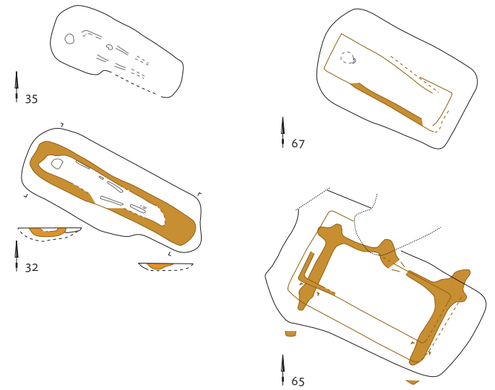
coffins are usually constructed with nails, fittings, or specific wood joints. Wooden chambers can be constructed with similar means, but it is also possible to place loose planks in the burial pit while using earth, stones or wooden beams to support and fixate them.

Though the distinction between wooden coffins and chambers appears clear cut, it becomes more ambiguous when dealing with traces found in the archaeological record. Especially at cemeteries like Posterholt where wood was not preserved. The distinction between coffins and chambers is often based on size. After all, large containers are difficult to carry and must thus be constructed inside the burial pit. However, since it is impossible to pinpoint a size at which settlers stopped carrying containers, we choose to refer to both wooden coffins and wooden chambers as wooden containers in this publication. An exception is made when two clear container outlines are found in a single grave. In those cases, the outer is called a wooden chamber, and the inner, a wooden coffin.

Container presence

A problem at Posterholt is that most organic remains are very poorly preserved. Nevertheless, container presence is recognized not only by traces of wood remains, but also by colour differences in soil. Unfortunately, these indications were difficult to find at Posterholt since many graves had been reopened. Disturbances occurring when most wood had decomposed could obliterate clear colour differences between the fill of the pit and that of the containers and erase most evidence for container outlines. It should be noted however, that the deceased may have been buried without a wooden container as well. For instance on a construction made of beams and boards – or simply in a trench. It is also important to recall that other types of grave furnishing, like shrouds or pillows, probably leave no trace behind at all (fig. 4.4).

Fig. 4.4
Different grave constructions discovered at the Posterholt cemetery. From top to bottom: trench grave (grave 35), wooden container grave with a tree trunk coffin (grave 32), wooden container grave with a single wooden container (grave 67), wooden chamber grave with a double container placed on beams (grave 65). Scale 1:40.



Graves without containers

In nineteen cases[5], traces of wood or outlines of a wooden container were not visible. Some of these graves may have been trench graves, but we assume that in most cases, traces of the wooden container were not preserved. One of the main arguments supporting this assumption is that most of these graves were at least possibly reopened. During the disturbances, partly decomposed wooden containers may have been damaged or even removed from the grave.[6] In addition, the grave's disturbance probably interfered with the conservation of the organic remains as well. Even if a wooden container was present during the disturbance, its preservation must have subsequently decreased more rapidly.

Eight trench graves were certainly reopened (graves 33, 49, 51, 76, 79, 82, 84 and 89), two were possibly reopened (graves 5 and 7); and three cases were impossible to assign (graves 53, 69 and 75). Furthermore, two contexts may not have been graves (grave 53 and context 81), one grave was not examined (grave 66) and in only two cases the graves were certainly not reopened (graves 35 and 38). These latter two cases seem exceptional, but they are not the only graves in which the deceased were buried without a container. The other two burials (graves 42a and 64a) were additional burials; the original burials were deposited in a wooden container but the later additional burials were not.

Graves 35 and 38 are part of the easternmost row of graves, representing Posterholt's latest burial phase. Most of the additional burials may belong to this same phase. If this is true, the Posterholt cemetery might show that use of wooden containers decreased by the beginning of the eighth century. This would be interesting to study in more detail.

Graves with single containers

In sixty cases[7], the outlines or traces of a single wooden container were visible. In most of these container graves, these outlines and traces probably represented wooden coffins. However, some of the larger specimens could have been wooden chambers as well. Since the difference between wooden coffins and wooden chambers is impossible to provide in these circumstances, no distinction was made for the present analysis. In three cases (graves 23, 32 and 43), the traces or outlines represented tree-trunk coffins. This container type is recognised by the coffin outline's rounded shape, and by clear colour differences in the soil.

In nine cases[8], the containers were probably placed on beams. In the case of grave 58, the container may have contained a partition wall as well. The outline, however, is very vague and partly disturbed by a reopening pit. A second possible partition wall was documented for grave 63, but this interpretation was probably incorrect. The wooden container is visible at level II and the possible partition wall, along with several other beams, is only visible at level III. It seems therefore more likely that the presumed partition wall is a beam that was part of a construction of beams supporting the wooden container.

Graves with double containers

In four cases (graves 23, 48, 65 and 72), traces or outlines of two wooden containers were possibly visible. Grave 23 contained a tree trunk container that was places in a wooden chamber. With grave 48, we are dealing either with a container placed in a wooden chamber, or the reuse of an old grave with a single container, in which an additional burial was deposited in a second container. The probability of these two different scenarios will be discussed more elaborately in the following chapter.

Graves 65 and 72 possibly possessed double containers. In the case of grave 65, traces of a wooden container with a construction of beams are clearly visible. A second outline of a possible chamber is more vague, but visible at level II. Since the chamber outline is quite vague and only visible at level II, we cannot be certain of its presence. The same is true for grave 72. In this case, traces of a possible chamber wall are visible in the grave's northwest corner. These traces are only visible at level II, and only part of the possible chamber wall is present.

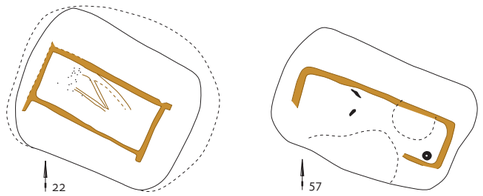
(5) Graves 5, 7, 33, 35, 38, 42a, 49, 51, 53, 64a, 66, 69, 75, 76, 79, context 81, 82, 84 and 89. (6) The removal of complete containers seems unlikely, but Van Haperen demonstrated that at Bergeijk this may have been the case. (7) Graves: 4, 8, 9, 10, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 29, 30, 31, 32, 33, 34, 36, 37, 39, 40, 42b, 43, 44, 45, 47, 48, 50, 52, 54, 55, 57, 59, 60, 61, 62, 63, 64b, 65, 67, 68, 70, 71, 72, 73, 74a, 74b, 77, 78, 83, 85, 87, 88, 89, 90 and 91. (8) Graves: 47, 58, 63, 65, 68, 78, 85, 90 and 91.

Graves with beams

Nine containers were placed on wooden beams, which is a relatively small number for a cemetery in this region. Beams were probably used to support wooden containers, but a more extensive discussion on their function is presented later in this chapter.

In the case of grave 80, only traces of beams were discovered, while all evidence for the presence of a container are absent. It remains unclear whether a container was absent or just unpreserved. The deceased was unlikely to have been deposited on two beams without some kind of additional grave construction, thus we presume that it was not preserved. Even if no container was used, one would expect the body to have been placed on at least a board or a bier.

Fig. 4.5
Different container constructions discovered at the Posterholt cemetery. Left: container with crossing container walls (grave 22). Right: container with almost straight corners (grave 57). Scale 1:40.



Containers: shape and construction

Not much is known about the construction of early medieval grave containers. Although recent studies focus on various aspects of the burial ritual, grave constructions are often not addressed.[9] Poor preservation of organic remains probably contributes to this neglect.

Most of Posterholt's graves bear only the outlines of possible container walls. It is thus difficult to make any firm statements on the shape and construction of containers. Still, several indicators provide information about container constructions even if wood remains are not preserved. Container outlines for instance, tell us that most containers were rectangular. In addition, traces of container walls inform us that different construction techniques were employed. The containers of graves 8, 22, and 44, for instance, have cross-fixed container walls while other containers, like those of graves 46 and 57, have straight corners of almost 90 degrees (fig. 4.5). Examining cemeteries where wood is actually preserved is useful in understanding these various construction techniques. One such cemetery is the Oberflacht cemetery.[10] Besides altering container constructions, the cemetery unearthed musical instruments, wooden tableware, and furniture such as chairs and tables. It thus demonstrates the richness of furnished Merovingian burials and provides us with extraordinary insight into different construction techniques that were used.

The Oberflacht cemetery contained several wooden containers (both chambers and coffins) with cross-fixed container walls. In some cases, the wooden chambers walls were supported by earth and vertical posts, or beams. The reconstruction of the container from grave 162 demonstrates the technique used to fixate the crossing container walls with the help of beams.[11] It is demonstrated in figure 4.6. Wooden coffins with straight corners are expected to contain nails holding the boards together. The Oberflacht cemetery, however, demonstrates that wooden joints could be used as well.[12] With this information in mind we return to the subject of beams.

Posterholt, too, exhibits several graves with beams.[13] Beams are thought to have helped lower a coffin into a grave pit by using ropes.[14] This could have been true where beams were found in combination with a wooden coffin, but not when a wooden chamber was found. After all, wooden chambers were built inside the grave and therefore did not need to be lowered into the burial pit. It thus seems more likely that in these cases beams were used primarily for support. Oberflacht's reconstruction provides a good example of this.

In two cases at Posterholt (graves 58 and 85), the beams were deliberately dug into the burial pit's side walls before the container was placed into the grave. In three other cases (graves 65, 85 and possibly grave 68), the coffin seems not to have been placed on top of the beams, but integrated in them like grave 162 from Oberflacht. In each of these cases, beam traces and container outlines were present at the same excavation level. In grave 63, the container was probably placed on a framework consisting of several beams. This construction is visible at level III, while the wooden container is visible at level II. Grave 63 was originally presented as a container grave with a partition wall. Since this possible partition wall is only visible at level III, it seems more likely that it was a central beam and part of the construction supporting the wooden container.

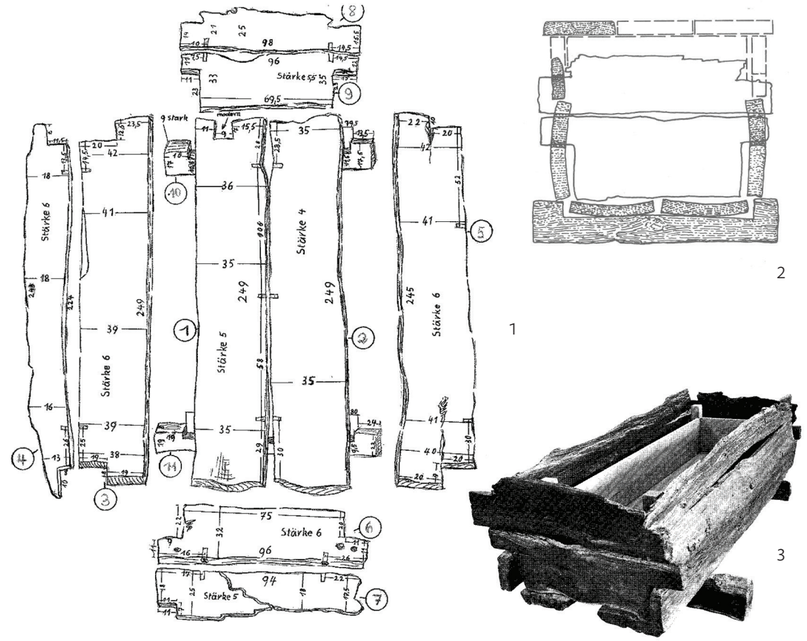
The fact that beams were found in different ways suggests they functioned differently as well. Nevertheless, we can reliably conclude that they were mainly used to stabilize and support different types of wooden containers.

Nails

Large nails can indicate the presence of wooden constructions in graves. Nails are found regularly in Merovingian cemeteries all

(9) Smal 2005, 6. (10) Paulsen 1992; Schiek 1992. (11) Reconstructed examples are provided for graves 162 and 211. Paulsen 1992, 16-19; Abb. 3-7. (12) This is clearly visible in the remains of the wooden bedstead from grave 162. For details of the remains, see Schiek 1992; Tafel 81; and Paulsen 1992, 43; for a reconstruction of the bedstead, see Abb. 28. (13) Traces of beams were found in graves 47, 58, 63, 65, 68, 78, 80, 85, 90 and 91. (14) The ropes could more easily be extracted from the grave once the container was placed the on beams.

Fig. 4.6
The wooden chamber of grave 162 at Oberflacht.
1. drawing of the wooden remains made by W. Veeck in 1933 (Paulsen 1992, 16),
2. drawn reconstruction of the container section (Schieck 1992, tafel 80),
3. photograph of the reconstruction of the wooden chamber from grave 162 from Oberflacht (Paulsen 1992, 17).



over Europe and they were also found at Posterholt. Different types, however, were used for varying purposes. Small nails were possibly used to adjust fittings to leather belts and sheaths. At Posterholt, where burial pits cut through Roman cremation graves, most of the small nails probably derived from Roman shoes. However, nails of other sizes and shapes were found in many graves as well. Fifteen graves yielded large nails.[15] These large specimens are probably associated with large wooden constructions such as containers. In most cases however, only a single specimen was found, making it difficult to see them as indicators for the presence of a container. The location within the grave could help us reveal their function. Nails lined up at the location of a possible container wall can indicate a container's presence. Wooden remains attached to the nail, can also indicate the presence of some sort of wooden construction, though not necessarily a container.

Seven graves with no traces or outlines of a wooden container unearthed nails. Unfortunately, the number of nails is small, as is their size. Graves 5, 51 and 53 contained only small iron nails, which do not indicate the presence of a wooden container. Grave 82 contained only a single large nail. Grave 49 contained 13 small nails, two large nails and one medium sized nail. Grave 76 contained three small nails, two large nails, and one medium sized nail. Grave 89 contained two large nails and one medium sized nail. The nails' locations doe not provide any useful information; in all cases, the graves were reopened and disturbed and the nails were found mostly in the middle of a reopening pit.

Tree trunk coffins had no need for nails. These containers were constructed by either hollowing the tree trunk by hand, or burning away part of the trunk. At Posterholt, this latter option was probably used in two of the three cases. In graves 32 and 43, the traces of tree trunk coffin contained many charcoal fragments, probably indicating that fire was used to hollow out the trunks. A similar amount of charcoal was not documented for grave 23.

There is ultimately no single construction method for Posterholt's wooden containers. Instead, we are confronted with a great variability in types, shapes, and construction methods of containers.

Grave size and depth

Although the shapes of burial pits seem quite consistent, they vary considerably in size. In the present section we will examine correlations between burial pit size and other features such as container size, chronology, and demography. The size of a burial

(15) Graves 24, 45, 47, 49, 51, 73, 74, 76, 76, 77, 82, 85, 89, 91 and 94.

Fig. 4.7
The relation between width and length of grave pits.

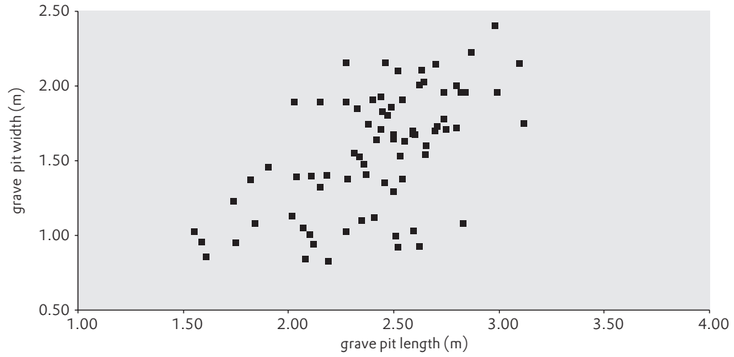
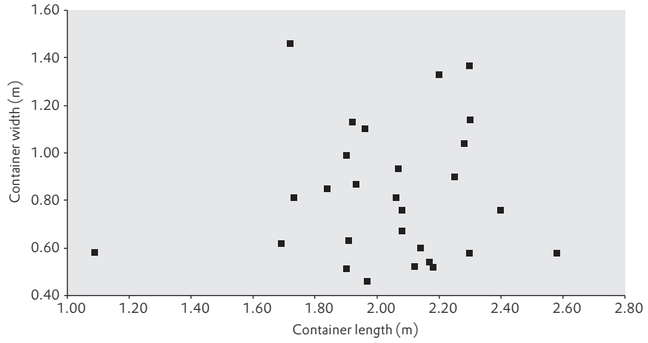


Fig. 4.8
The relation between width and length of containers.



pit is usually based on length, width and depth. At Posterholt, length and width are easily established by looking at individual grave drawings. The depth has to be reconstructed with the help of the heights of the first excavation level because the excavators did not record the absolute heights of the top of each individual grave. These heights were recorded at five-meter intervals.

We assume that later disturbance of the original surface level due to tilling occurred more or less equally. This is illustrated by the section drawing, of which a small part is displayed in figure 4.2 (see above). Both graves are covered by a layer of brown soil caused by post-Merovingian natural soil formation, resulting in the blurring of anthropogenic soil interventions. Above the brown layer is the recent plough-soil. The thickness of both layers remains more or less equal throughout the complete section. Even though the original surface level is no longer present, it is easy to establish that the grave on the right is not only wider, but deeper as well. Similar information can be gleaned from other graves by using the absolute height of the bottom of the graves and the interpolated absolute height of the first excavation level The results will be presented separately later on in this section. For now, grave size is based on length and width of burial pits alone.

Grave size

Figures 4.7 and 4.8 plot the available lengths and widths of burial pits and wooden containers.[16] Together with appendix 4.1 they show that the largest burial pits often contained the largest containers, though it must be said that container size does not differ too much. The calculated surface area of the containers ranges from about 1 to about 3 m², while that of the burial pits is roughly between 2 and 6 m² with an average of 3,8 m². Some exceptions were found as well. Grave 14 contained small containers in a large burial pit, but this comes to no surprise since it held a double burial. Grave 65 contained a somewhat smaller container in comparison to some of the other large graves and grave 74's container seemed relatively large to its smaller grave pit. Nevertheless, the unsurprising overall picture is that large burial pits contain large containers.

The correlation between burial pit size and the grave's date is also of importance. If we compare this data with that of burial pit size as presented in table 4.2, graves from the seventh century seem to have the largest burial pits. However, it is difficult to make solid statements on the subject since only a few graves could be dated with precision. Nevertheless, one other interesting observation

(16) Only graves with visible burial pits and containers are presented in this table.

Table 4.2
Burial pit dimensions and chronology.

Context	Posterholt phase	Calculated surface area burial pit (m²)
89	(I)	5.53
73	I	4.10
88	I-II	5.36
72	(I)-II	4.69
58	II	4.24
82	II	4.16
86	II	5.55
77A	(II)	2.77
30	II-(III)	4.70
7	II-III	2.49
8	II-III	4.37
9	II-III	5.31
22	II-III	5.29
50	II-III	2.84
52	II-III	3.34
90	II-III	5.60
4	II-IV	4.85
46	II-IV	5.78
70	II-IV	5.57
83	II-IV	4.71
85	II-IV	3.49
78	(II)-III-IV	4.18
24	IV	2.95
44	IV	2.84
47	IV	3.51
62	IV	4.29

Table 4.3
Burial pit dimensions and gender.

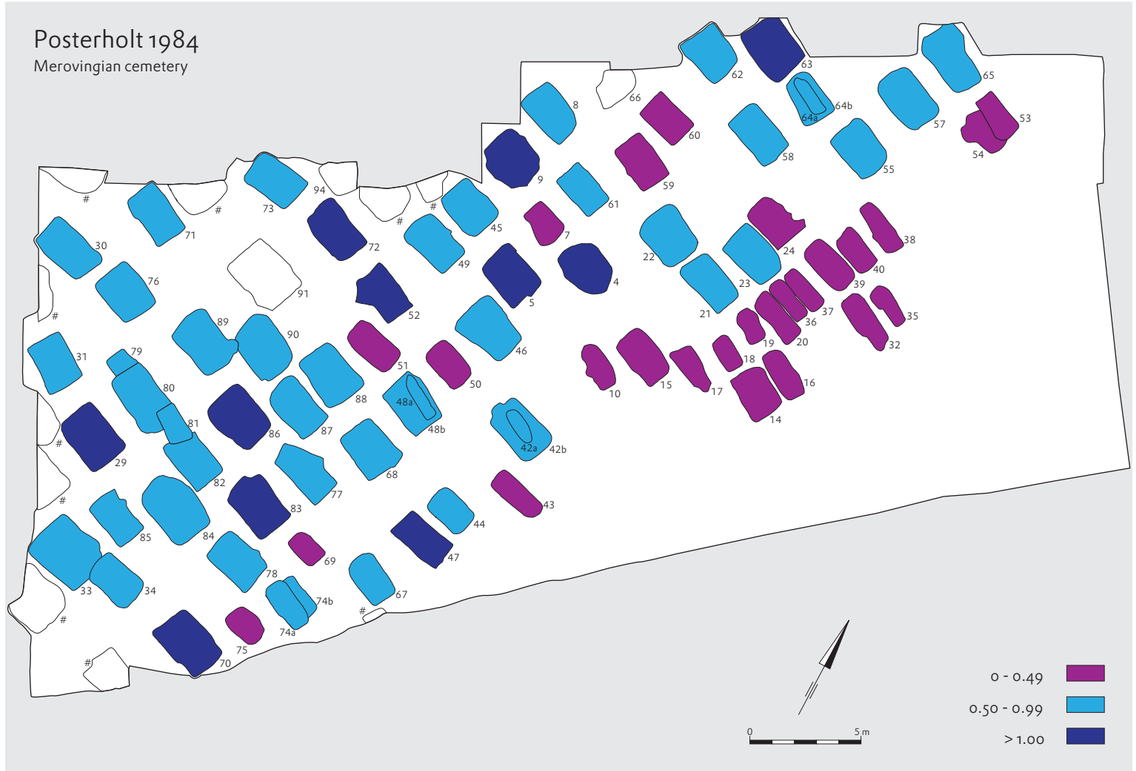
Context	Calculated surface area burial pit (m²)	Gender
91	6.37	Male?
46	5.78	Male? / Female
90	5.60	Male
86	5.55	Female
88	5.36	Male
9	5.31	Female
22	5.29	Female
30	4.70	Male
5	4.63	Male
76	4.58	Female
49	4.40	Female?
8	4.37	Female
62	4.29	Male?
58	4.24	Male
78	4.18	Female
68	4.17	Male?
31	4.14	Female?
73	4.10	Male?
59	3.58	Female?
85	3.49	Female
50	2.84	Female
77	2.77	Male
7	2.49	Female

can be made. The graves forming the cemetery's easternmost row seem to have smaller burial pits. Since most of these graves did not contain datable objects, they are not dated. We assume, however, that this group represent a latest burial phase of the cemetery. This is supported by the presence of early eight century sceattas in graves 24, 44 and 47, all part of this same burial group. If the assumption is correct, it can be concluded that burial pit size decreases at the end of the seventh and in the first half of the eighth century. A similar trend is also noticeable at the Bergeijk cemetery[17] and it would be interesting to see if the trend exists in other Dutch Merovingian cemeteries as well.

One final subject of analysis is the correlation between the burial pit size and information on sex, gender, and age of the deceased. Again, the general lack of data makes it difficult to investigate the subject. In many cases, gender specific objects were not found and in addition, skeletal remains were poorly preserved. Information on both sex and gender is therefore scarce. Still, table 4.3 shows no clear correlation between burial pit size and information on sex and gender. The largest burial pit found at Posterholt probably contains grave goods of a male gender. Nevertheless, there are large burial pits containing female grave goods as well.[18] Several burial pits seemed exceptionally small compared to the average size of burial pits at Posterholt. These burial pits are 7, 18, 19, 50, 69 and 75. They are expected to be graves of children. In the case of graves 7, 18 and 19, this assumption is confirmed by the physical anthropological analysis of skeletal remains. Grave 7 contained the remains of a child with the age between 6 and 12 years old; grave 18, between 8 and 11 years; and grave 19, between 4 and 10 years. In the case of graves 50, 69 and 75, no information on the deceased's age is known. Conversely, there are several examples of children buried in larger burial pits as well. In most cases, these burial pits were not exceptionally big. The pits of graves 20, 23, 44, and 67, for instance, all have calculated surface areas of below the average 3,8 m². The pits of graves 9, 14 and 42 are

(17) Theuws/Van Haperen 2012, 43 and fig. 3.6 (18) An example of this is grave 86.

Fig. 4.9
Grave depths at the
Posterholt cemetery.



bigger, however. Grave 14 is a double grave with two containers. One of the deceased is a female between 20-40 years old; the other is a child ca. 12 years old. Both individuals are buried in separate containers, but there is no difference between the woman's and child's container size. Because the burial contains two containers, the grave pit is also considerably large. Grave 42 also contained two burials, one of a possible adult and one of a child between 12 and 18 years of age. In this case, however, the child is a later additional burial that was deposited in an already existing burial pit. Ultimately, grave 9 is the only large grave dug exclusively for a child's burial. The remains found in the grave belonged to a child of ca. 10 years old. The child was buried in a wooden container. Both the grave pit and the container are among the largest examples at the Posterholt cemetery.

Grave depth

As explained above, it was impossible to provide accurate information on each burial pit's exact depth. However, examining the closest height of each burial pit documented on the drawings of level I enabled us to reconstruct relative differences in depths. These relative measurements differ considerably, and because they may not always be accurate, a more gradual approach was used to analyse them.

It was possible to provide the relative depth of 76 graves. They are divided into three groups. The first group consists of graves of depths less than 0,49 m; the second of depths between 0,50 and 0,99 m; and the third of depths of 1,00 m and more. Figure 4.9 displays the distribution of graves belonging to these groups. It is immediately apparent that all the graves at the cemetery's easternmost edge belong to the shallowest group. Most other graves

Fig. 4.10
The frequencies of
grave pit orientations.

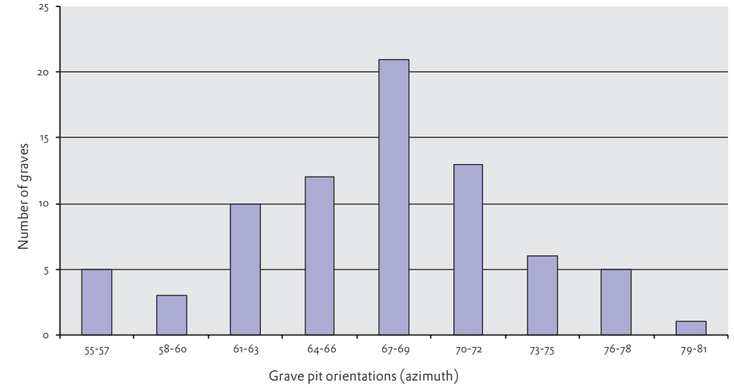
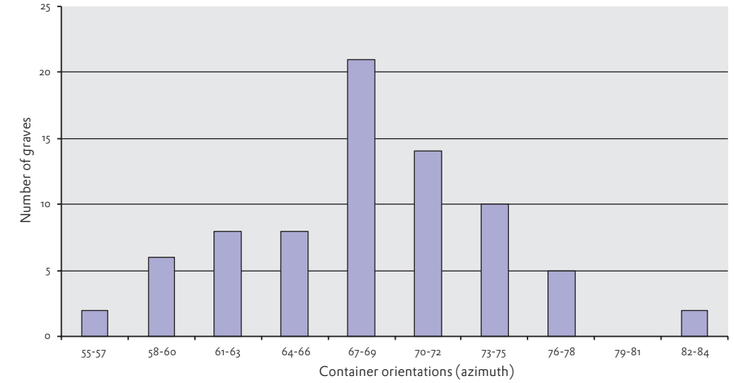


Fig. 4.11
The frequencies of wooden
container orientations.



belonging to this group are graves with small burial pits that probably belonged to children (graves 7, 50, 69 and 75). Only graves 51, 59 and 60 were difficult to interpret. Their calculated surface areas are not exceptionally large and with depths of 0,44, 0,46 and 0,49 m, their measurements are not extraordinarily shallow either.

The group of burials with depths between 0,50 and 0,99 m does not seem to show any anomalies. Most graves belonging to this group have average sized surface areas, though some of the largest pits (graves 33, 46, 65 and 84) are also found among this group. Still, their depth is not exceptionally low and the group thus does not seem to be of great significance.

The group of burial pits with depths over 1,00 m contains most of the larger graves. Six have surface areas of more than 5 m² (graves 9, 29, 63, 70, 86 and 90), and four have surface areas of at least 4,5 m² (graves 4, 5, 72 and 83). Since the average surface area of burial pits found at the Posterholt cemetery is 3,8 m², their size is above average. The only exceptions in this group are graves 47 and 52. Both have calculated surface areas below the average 3,8m², but depths of more than 1,00 m. They demonstrate that although larger burial pits are generally deeper, exceptions exist as well.

Ultimately this analysis reveals that at Posterholt, burial pits with the largest surface areas are often the deepest. Nevertheless, exceptions exist.[19] Some of the largest pits were of average depths and some of the smaller pits were over 1,00 m deep. Still, exceptions like these are not found among the smallest burial pits. None of the graves at the cemetery's eastern edge have depths exceeding 0,49 m. These graves, probably belonging to the cemetery's latest burial phase, seem to have burial pits dug with less effort and precision than earlier specimens.

Orientation

At first there seems to be no major differences in grave orientations at Posterholt. All graves were orientated more or less

(19) Unfortunately we did not have the original field drawing of grave 91 so that the information on this important grave is incomplete.

west-east, and though many graves did not contain skeletal remains, we assume the deceased were buried with their heads in the west. Nevertheless, when examining the orientation angles more closely, some differences appear. This task, however, presents its difficulties. Some burial pits are irregularly shaped or contain vague outlines that are often disturbed by reopening pits. The same is true for containers. In order to take consequent measurements, the orientation angle is measured from the centre of the widths of both the burial pits and containers.[20] In 76 cases, it was possible to obtain the orientation angle of the burial pits and containers. The total range of burial pit orientations was between 55° and 81°, while that of the containers was between 56° and 83°. Initially, the range at the Posterholt cemetery seems considerably large. However figures 4.10 and 4.11 show that the peak in orientations of both burial pits and containers at the Posterholt cemetery lies between 67° and 69°. Compared to the Bergeijk cemetery, where a similar analysis was undertaken, the difference in orientation angle range is smaller too. At Bergeijk, the range of orientations lies between 69° and 104° for burial pits, and between 69° and 101° for containers.

Though their orientation angle differs, both cemeteries have orientation angles fitting the range at which the sun rises during the summer and winter solstice (41° and 120°).[21] If we assume that grave orientation is indeed based on sunrise, as suggested by Van Haperen, the deceased at Posterholt are orientated more towards the summertime, while most people at Bergeijk were buried according to the sunrise in late autumn or early spring.[22] An explanation for this difference is difficult to provide. One of the possibilities is that the orientation differences between cemeteries could reflect the sunrise when the first person (or founder) was buried at the burial ground. Still, this is only one of many explanations that could be in order here and certainty on the subject cannot be provided.

Some final differences in orientation are worth discussing here briefly. They are that of possible burial groups and possible additional burials. An interesting change in orientation is visible within the burial group situated at the cemetery's eastern edge. Graves 20, 36 and 37 seem to have been located near one another with a similar orientation of 69°, while the group of graves 14, 16, 18, 19 and possibly 17 are differently oriented, between 57° and 59° (see fig. 4.9). Whether these minor differences are accidental or intentional is difficult to say, but it could be possible that burial pits with such similar orientations may have been dug simultaneously, or represent members of a small (family) group.[23]

Some of the additional burials are orientated differently than the original burials. In most cases the difference are difficult to trace, since the first burial was disturbed or removed and the later burial was deposited without a container. This is not the case with graves 74, 77, and possibly grave 48. In all these cases the orientation of the possible additional burial was slightly different.[24]

Cremation graves

As noted, three Merovingian cremation graves were found at Posterholt (graves 25, 26 and 27). They were discovered in two trial trenches (trench 4 and 5) dug to establish the size of the cemetery. The inhumation graves found during these investigations were not examined, since the trench's main purpose was only to indicate if graves were present. To establish the presence of inhumation graves, however, all higher lying features, including the cremation graves, needed to be excavated.

Cremation graves at Posterholt

All three cremation graves were discovered in a layer of brown soil situated immediately below the recent plough soil.[25] Unfortunately, one of the features of this layer of brown soil is that visibility of archaeological features was almost completely eradicated. Burial pits of inhumation graves, for instance, were not visible anymore, though they must have been present at this level. The three cremation graves were only discovered by the presence of a high concentration of charcoal remains and pottery fragments. Besides oxidation, the brown soil layer was also disturbed by ploughing activity. All three cremation graves were disturbed and cut by ploughing marks.

The fact that all three graves were disturbed raises the question if there were more cremation graves, unnoticed or unnoticeable because of ploughing disturbances and poor visibility in the brown soil. Nevertheless, if there had been more (disturbed) cremation graves, one would expect to find scattered pottery and charcoal fragments and cremated remains in the brown soil. The layer was carefully lowered with a hydraulic digger, but concentrations of charcoal and pottery fragments were not present. We thus conclude that probably no other cremation graves were present in the excavated areas.

Grave constructions

Because elaborate grave constructions like wooden containers were not used for the deposition of cremated remains, the analysis of the constructions of cremation graves is less elaborate. Still, some remarks on each cremation grave's construction must be made, especially since all three seem slightly different.

Grave 25 consisted of a round pit with a diameter of ca. 0,5 m (fig. 4.12). The grave was recognised due to the presence of a high concentration of charcoal fragments. Around it, a vague circular area of slightly more reddish soil was visible. Its diameter was between 2-3 m.[26] Within the area, dispersed pottery fragments and cremated remains were found. A concentration of small charcoal fragments was located northeast of the round pit. Among the pottery fragments were fragments of a steep walled pottery vessel with a coarse fabric, and two fragments of a biconical pot. Besides that, an indeterminate iron fragment was found. No remarks on the function of both pottery vessels were provided by the excavators, but one may have been used as an urn. Both items are common types of early medieval pottery vessels, but unfortunately they cannot be dated accurately.

Grave 26 consisted of a ca. 0,8 m long, oval pit (fig. 4.13). Charcoal fragments, cremated human remains and pottery fragments were found dispersed throughout the entire pit, but not around it. The pottery fragments belong to a biconical pot defined as Siegmund type Kwt2.21 and Franken AG type Kwt2A. It is dated between 510/20-580/90. The pottery fragments are burned. The excavators noted on the find list that the pottery vessel may have been used as an urn. Since the pottery fragments are burned, however, it is likelier that the vessel was placed with the deceased on the pyre during cremation. Besides the pottery vessel, several Roman pottery fragments and four indeterminate iron fragments were found as well. The iron fragments were probably Roman shoe nails. Both the iron fragments and Roman pottery are thus not associated with the early medieval cremation grave. They could have landed in the Merovingian cremation grave when the pit was dug or through ploughing or animal burrowing.

Grave 27 consisted of a round but slightly irregular pit with a diameter of ca. 0,5 m (fig. 4.14). In the middle of the pit, the bottom of an urn bearing some cremated remains was found. Most of the urn was disturbed by recent deep ploughing. Ploughing marks were still visible and loose urn fragments, cremated remains, and a small bronze rivet were found scattered throughout the small pit. The urn was made of a coarse fabric. It was undecorated and bore a hollow rim. Unfortunately, it could not be accurately dated.

(20) For a description of the method, see: Theuws/Van Haperen 44, fig. 3.8. (21) Theuws/Van Haperen 2012, 44. (22) Theuws/Van Haperen 2012, 44. (23) Later, in chapter 11, we will see that such minor differences in orientation also occur in a similar group of graves at the Beerlegem cemetery. (24) For an elaborate description of each of these cases see chapter 5. (25) As said before this layer will be the result of natural soil formation processes. The presence of cremation graves shows that it is not a post-Merovingian plough layer.

(26) For an interpretation of this feature see below.

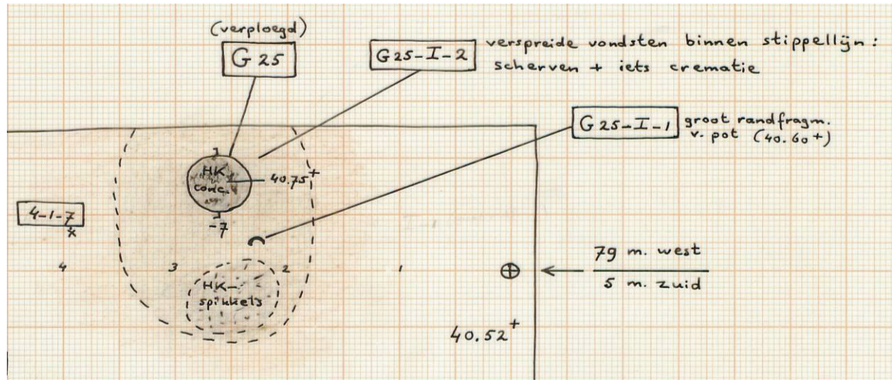


Fig. 4.12
Drawing of grave 25
(ROB documentation).

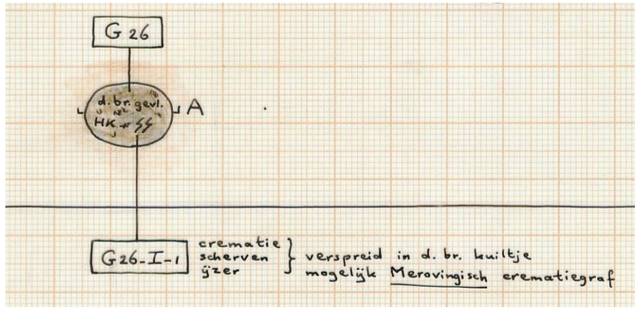


Fig. 4.13
Drawing of grave 26
(ROB documentation).

Fig. 4.14
Drawing of grave 27
(ROB documentation).

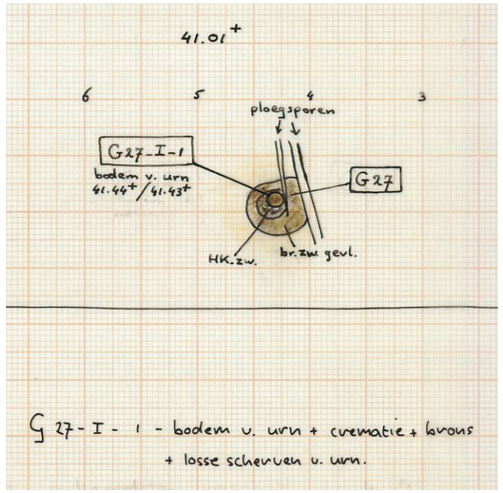
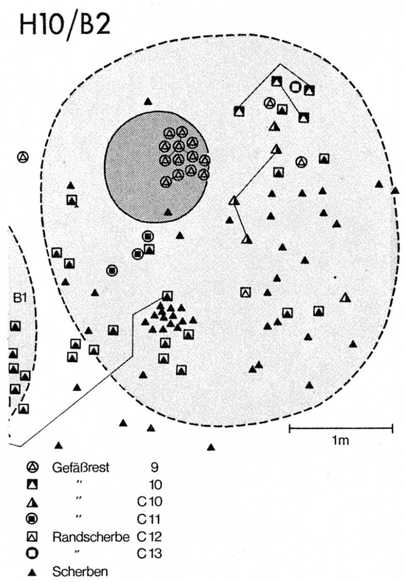


Fig. 4.15
Grave H8/B2 of the Liebenau cemetery
(Cosack 1982, Tafel 50).



The cremation ritual

In most cases, what we find during excavations is only the final product of the cremation ritual: cremated remains buried in pits or urns. In many cases, no evidence of the ritual's earlier stages is found since they might have occurred at a different location. After all, the body of the deceased was cremated on a pyre and after that placed in an urn or another type of container and possibly buried somewhere else. Nevertheless, there are exceptions. The Liebenau cemetery, for instance, provides us with evidence for some of the cremation ritual's earlier stages.[27] Only a small number of buried urns with cremated remains were found at Liebenau. Instead, most cremation graves consisted of complete pyre sites where remains of the pyre were found along with buried cremated remains.

These pyre sites at Liebenau were recognized as circular areas with diameters between 2-3 m. In most cases, remains of the pyres were still preserved. The pyres were constructed in various fashions. There is evidence for the presence of large pyres that needed support from wooden posts,[28] but most pyres were probably constructed over shallow pits in which a fire was held.[29] Post-cremation remains were treated diversely as well. In some cases, the cremated remains and pyre debris were left untouched while a mound was erected over the complete pyre site. In other cases, the lack of cremated remains indicates that they were removed to be buried somewhere else (perhaps in one of the loose urns). Finally, several cases exist where cremated remains were buried in urns at the pyre site itself.[30] Remains of grave goods were found among the pyre debris as well. Most were burned and melted, indicating they were placed with the deceased on the pyre.

Clear evidence informing us on earlier stages of the cremation rituals were not found at the Posterholt cemetery. Grave 25, however, may be a pyre site comparable with those at Liebenau. If we re-examine figure 4.12, we see that that the striped line may be the boundary of a large pyre area, while the small pit with a high concentration of charcoal and cremated remains can be either the remains of a small pyre or a pit where remains were buried after cremation. If the first option is correct, the grave resembles graves H8/B2[31] and H10/B2[32] of the Liebenau cemetery. They are described by Cosack as pyre areas with *Verbrandungsstelle* (fire places) (fig. 4.15). Still, grave 25 does not provide a strong case for a pyre site since the pit found at Posterholt seems too small to be the location of a pyre.

(27) Cosack 1982, 15. (28) See for instance grave J10/B1, Tafel 45. (29) Cosack 1982, 10-12. (30) Cosack 1982, 15-20. In at least 7 cases, it was established that remains from the urn and remains left at the pyre site where the urn was located belonged to the same individual. (31) Cosack 1982, Tafel 50. (32) Cosack 1982, Tafel 57.

Variability

The Liebenau cemetery demonstrates that the cremation burial ritual was as variable as the inhumation burial ritual. Evidence for variability is also found among Posterholt's three cremation graves. Firstly, the pottery is used differently. In grave 27, the pottery vessel was certainly used as an urn, while in graves 25 and 26, the vessels probably functioned as grave goods. In addition, different types of pottery vessels were deposited in the graves as well. Graves 25 and 27 contained simple undecorated coarse ware pottery vessels, while grave 26 contained a decorated biconical pot of a fine fabric. Two further fragments of a possible biconical pot were found in grave 25 as well. The variability in pottery vessels at Liebenau is even greater, though urns are often simpler and less decorated than vessels deposited as grave goods. Liebenau unearthed no biconical pots in the function of urns. Pottery vessels with bulges on the other hand were used regularly.[33]

Most of the urns found at Liebenau contained only cremated remains. Burned grave goods and charcoal fragments were thus not collected. Cosack believes this implies that effort was made to carefully extract human remains from large piles of (pyre) debris.[34] Since at Liebenau, finds and pyre debris are usually found dispersed over areas of 2-3 m, Cosack argues that pyre material was probably intentionally spread after the cremation process. This would not only help cool the burned remains and charcoal fragments, but also make it easier to pick out human remains.[35] Still, evidence for similar practices has not been found at Posterholt. In each case, the areas where cremated remains were found also contained a high concentration of charcoal fragments. Nonetheless, only accidental iron and bronze fragments were found among the remains, many pottery fragments are missing, and human remains seem incomplete. This implies some sort of selection took place at Posterholt after all. But since all three graves were disturbed by recent ploughing activity, some remains may have disappeared due to this disturbance.

In addition to variation in pottery usage and type, the graves' location differed too. Grave 25 probably cuts an inhumation grave, though the relation between the graves remains unclear since the inhumation grave's burial pit was not visible in the layer of brown soil. The cremation grave was visible at level I, while the inhumation graves are only visible at level II.[36] Grave 26 is located in an open space between several inhumation graves. The grave is the only cremation grave that could be dated. However, because there is no direct relation between the cremation grave and the surrounding inhumation graves, we cannot use this information to date any of the surrounding graves. Finally, grave 27 is located on the cemetery's southern edge, almost outside the boundary of the burial ground.

Many questions can still be raised when examining the cremation graves found at Posterholt. One of the most important is why some people were cremated when inhumation seemed to be the most common method interring the dead. The subject will be addressed more elaborate in chapter 12; there some of the more important social implications brought forward by the cremation ritual will be discussed.

(33) Cosack 1982, see catalogue: Tafel 4 - Tafel 57. (34) Cosack 1982, 19. (35) Cosack 1982, 19. (36) In trench 4 and trench 5, the first excavation level was constructed at the level where the cremation graves were discovered, while the second excavation level was constructed at the level where the inhumation graves became visible. The absolute height of the first excavation level in these two trenches is thus higher than that of the other trenches in which inhumation graves were discovered.

5 Post-depositional interventions

As mentioned earlier, many graves of the Posterholt cemetery were disturbed. Though several natural causes can explain post-depositional interventions in grave contexts, it is certain that most disturbances at Posterholt were human-inflicted. Pinpointing when the graves were reopened exactly is difficult, but the practice is generally thought to have been carried out within the early medieval period.[1]

In many studies, the practice of reopening graves has been presented as a criminal act executed solely to collect valuable goods of precious materials.[2] It thus comes as no surprise that grave reopening is often labelled 'grave robbery'. Various scholars have attempted to step away from economic perspectives and offer a more symbolic explanation for grave reopenings. Ursula Koch, for instance, sees the practice as a product of the transition from old pagan practices to new institutionalised Christian burial rituals in which objects were no longer tolerated.[3] Recent studies, however, focus more on different scenarios and motivations behind grave reopenings instead of searching for a single static interpretation.[4] This is reasonable, given that the practice shows great variability. Martine van Haperen is currently investigating the subject, and has presented some of her ideas in the ANASTASIS project's Bergeijk cemetery publication.[5] A similar approach is used to analyse Posterholt's reopened graves in the present chapter.

Defining reopened graves

Before delving into the different aspects of grave disturbances, it is important to delineate the guidelines by which we label reopened graves. The excavators frequently documented reopening pits at Posterholt. It is important to understand, however, that some reopening pits could be traces of a collapsed container as well. Still, the presence of possible reopening pits in conjunction with dispersed, shattered finds and a lack or displacement of human bones are usually enough evidence to determine whether a grave is reopened. Several cases exist where multiple scenarios are possible. These are discussed later in this section.

Following Van Haperen's analyses on reopened graves from Bergeijk, Posterholt's graves are categorized in four different groups, defined as follows:[6]

Intact: The excavators noted no traces of a reopening pit and/or disturbances of artefact distributions and/or body silhouette.
Reopened: The excavators noted traces of a reopening pit, and/or marked atypical, chaotic artefact distribution and/or disarticulated position of the deceased's body silhouette.
Possibly reopened: The excavators observed no traces of a definite reopening pit, yet artefact distribution was vaguely chaotic and atypical. The above could have resulted from a reopening or from container collapse, deep ploughing or animal burrowing.
Unknown: It is impossible to determine whether the grave was subject to an intervention, or whether observed disturbances resulted from an ancient or recent intervention. The two possible graves (53 and 81) were assigned to this category as well. At the Bergeijk cemetery, this category also included graves partly dug away by construction workers before they were examined. However, at Posterholt, this kind of disturbance was not found.

(1) Roth 1978; Steuer 1998; Aspöck 2005; Klevnäs 2010; Van Haperen 2010. (2) See for instance Sági 1964; Roth 1978; Schneider 1983; Knaut 1993; Effros 2002; Bofinger/Sikora 2008. (3) Koch 1996, 736-737. (4) Kümmel 2009; Van Haperen 2010; Klevnäs 2010; Aspöck 2011. (5) Theuws/Van Haperen 2012; see also Van Haperen 2010. (6) Theuws/Van Haperen 2012, 46.

Fig 5.1
A plan of the cemetery showing the distribution of reopened graves at the Posterholt cemetery.

Of the 86 burials found in 80 inhumation graves, 39 burials were certainly reopened, 11 were possibly reopened and eight were unknown (fig. 5.1). Most burials were relatively easy to categorize. Some, however, were difficult to interpret since different scenarios applied to the documented disturbance. They are discussed here separately.

Grave 22
Possibly reopened. A possible reopening pit is visible at excavation levels I and II. However, level III reveals a coffin outline that is intact except for the northeast corner, where the outline becomes more vague at level IV. The excavators attributed the vagueness of the outline to grave disturbances. This is supported by finds that are seemingly scattered throughout the grave's fill and container. Most of these scattered finds, however, are Roman pottery and sandstone fragments, while the Merovingian beads are still concentrated in the western part of the coffin's fill, where the neck and thorax of the deceased probably lay. Still, no skeletal remains were recovered except for two long bones found in the centre of the coffin fill in a vertical position.

Two scenarios seem possible here. The grave may have been reopened while the container was still intact, or the disturbance was caused by the collapse of the wooden container in combination with animal burrowing. If the latter is true, the possible reopening pit seen at levels I and II could be a depression caused by the container collapse. In combination with the animal burrowing documented at level IV, this could produce a disturbed character of the grave. Still, it does not explain the bones' vertical position. That kind of disturbance is likely to be caused by human intervention. In the end there is no certainty on the subject, though human intervention cannot be ruled out completely.

Grave 44

Intact, but probably a secondary deposition. A skull of a child between 6 and 8 years old was recovered from grave 44. Other bones were not found in the grave, probably because they had not been preserved. The grave seems intact, but the wooden container measures 1,09 m. in length, and 0,58 m. in width. Since the average length of a child between 5 and 9 years is 1,19 m.[7], this container would be too small to contain the intact body of this child. Moreover, the position of the skull seems dislocated which suggests that the grave contained disarticulated remains. The presence of disarticulated remains in a small container implies the grave contained a secondary burial.

Grave 63

Unknown. Traces of a wooden container were visible at level II. According to the excavators, this container was probably a wooden chamber with a partition wall. This possible partition wall is only visible at level III, where it seems integrated with several wooden beams. Since the possible partition wall is not visible at level II, it may not have been part of the wooden container as such. Instead, it seems to have been part of a construction of beams underneath the wooden container (fig. 5.2). If this was the case, some of the finds thought to be dislocated were actually found in situ. The iron buckle, for instance, is now located in the middle of the pelvic area, as would some of the other iron mount fragments that were possibly part of the same belt set. At the same time however, the presence of iron clasps implies that a seax was removed from the grave. Additionally, no skeletal remains were found. Since most undisturbed graves contain human remains, this suggests some intervention occurred.

Graves 79, 80, 82 and context 81

Intercut and reopened with a possible reopening pit. Graves 79, 80, 82 and context 81 are complex in terms of post-depositional processes. Chronologically, grave 79 seems to be the oldest of the group, followed by grave 80 and possibly grave 82. The latest feature of the four is context 81.

Grave 80 cuts through grave 79 and in doing so disturbs most of that grave. Grave 79 was not reopened before this occurrence because it still contained an articulated skull. Grave 80 contained traces of a possible reopening pit, but this feature could also have resulted from the collapse of its wooden container. At the same time, grave 80 was intercut by context 81, which was a possible reopening pit by itself. Context 81 is a later feature cutting through graves 80 and 82. Its rectangular shape resembles that of a small grave, but no signs of a wooden container or human remains were found. The fill contained only one find, a fragment of a back plate, whose other part was found in grave 82. It therefore seems more likely that context 81 was not a grave. Grave 82 appears disturbed because it only contained some shattered finds and no human remains. No clear reopening pit was found unless we assume it was context 81. If this was indeed the case, graves 80 and 82 were reopened simultaneously.

Reopening pits

To unravel some of the motives behind grave reopenings, it is useful to take a closer look at the location of reopening pits within the graves. It has been argued that reopening pits were often aimed directly at specific parts of the body where valuable objects were expected to be found. In the case of women's graves, this would be the area around the neck and thorax where beads and jewellery were usually located; with men, it would be the area around the waist, where belt sets could be found, and along the body, where items of weaponry were mostly found.[8]

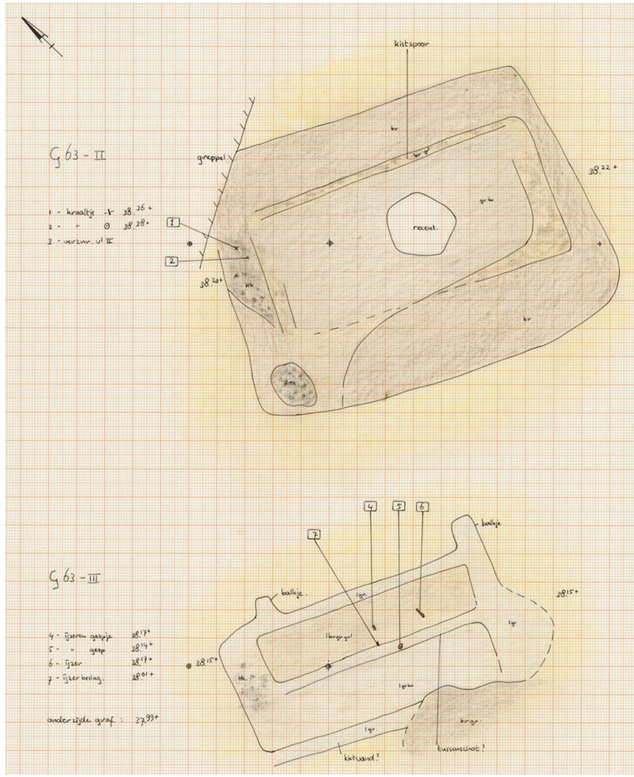
Van Haperen examined the location of reopening pits in the reopened graves of the Bergeijk cemetery. She divided the graves into six parts, and documented exactly which parts were disturbed and which were not. At Bergeijk, some graves' disturbances were aimed directly at a specific location, but in most cases the reopening pit covered the complete container content. Interestingly enough, in many cases the graves' foot or head ends were left undisturbed and pottery vessels and other finds were still found there in situ.[9]

A similar approach is used for analysing the reopened graves at Posterholt. The results are presented in table 5.1. A question mark is used to indicate that a particular location's disturbance is unclear. In contrast to Bergeijk, the disturbances at Posterholt seem far more rigorous. Almost all of the reopened graves featured reopening pits that covered the entire burial pit, including the head- and/or foot end of the grave. Only one reopened grave still contained a complete pottery vessel deposited in situ at the foot end (though still within the wooden container).

The scale of the disturbance could not be determined completely for graves 8, 30, 31, 45, 46, 48B, 58, 61, 68, 72, 78, 83, 86 and 88.

(7) An overview of length and age in the early medieval period is presented in chapter 8. (8) Roth 1978, 67. (9) Theuws/Van Haperen 2012, 47-51, 167-175.

Fig 5.2
Field drawing of grave 63 at levels II and III.
Scale 1:40.



In all these cases, the reopening pits covered the entire container, but the wooden containers' walls were still partly intact, suggesting that the disturbance may not have been aimed at the head or foot end of these burial pits. However, since there were no in situ finds at the head- or food ends, it is possible that the burial pits' head and foot ends were disturbed without the wooden container being damaged.

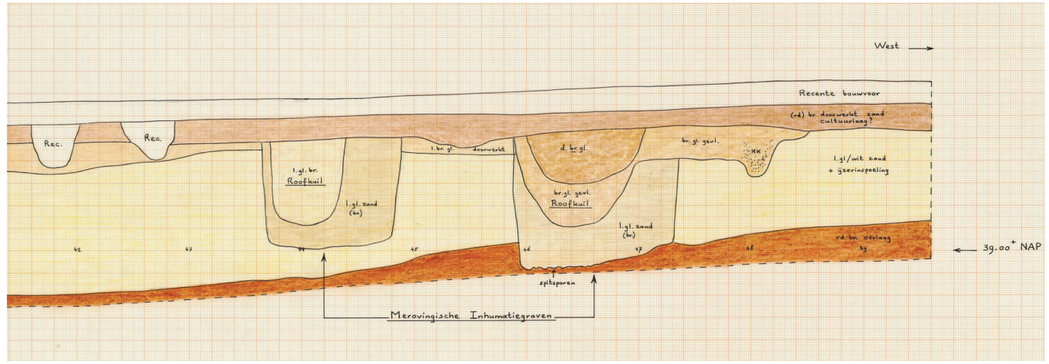
Examples were grave reopeners possibly left specific parts of the graves undisturbed are graves 24, 64B, 79, 88 and 90. The reopening pits of graves 24, 64B and 79 seem to cover the entire grave, but the skulls are still found in situ. This could imply that parts of the graves were left undisturbed, or that the wooden container's open space made it easy to remove finds without disturbing the skulls. On the other hand, graves 70, 88 and 90 contained no human remains at all, which suggest the entire grave was disturbed, while some finds were still found in situ. Grave 70 contained an in situ lance head and a complete pottery vessel. Both items were located in the wooden container's southeast corner. Most of the grave was disturbed and it is therefore difficult to detect whether these finds were left behind intentionally or by accident. Being inside the wooden container however, it is difficult to imagine they were simply overlooked. In grave 88, a lance head and three arrowheads were found at the grave's foot end. Only part of the grave's southeast corner seems intact. The lance head and arrowheads however, were found in the part of the foot end that was probably disturbed. The items thus seem to be left behind on purpose. Grave 90's head end featured a lance head and a pair of shears in situ. In this case, the entire head end seems undisturbed.

Information on different types of reopening pits can be found in figure 5.3. This section drawing is a part of the long section made along the eastern limits of the excavation and shows the vertical cut of two graves. The grave on the left displays a clear cut reopening pit that covers most of the grave's fill. The grave on the right displays a large reopening pit ('roofkuil' in Dutch) that extends the size of the burial pit. The presence of charcoal fragments ('HK') in the reopening pit outside the grave suggest a small fire was possibly made within the reopening pit. The purpose of

Table 5.1
The location of disturbances in reopened graves.

Grave	Gender	Sex	Headend	Head	Thorax	Pelvis	Legs	Footend
8	Female	x	?	yes	yes	yes	yes	yes
24	Indet	Indet	?	no	yes	yes	yes	yes
30	Male	x	?	yes	yes	yes	yes	yes
31	Female?	Indet	?	yes	yes	yes	yes	yes
33	Indet	x	yes	yes	yes	yes	yes	yes
34	Indet	x	yes	yes	yes	yes	yes	yes
42B	Indet	Indet	yes	yes	yes	yes	yes	yes
45	Indet	x	?	yes	yes	yes	yes	yes
46	Male?	Female?	yes	yes	yes	yes	yes	?
48B	indet	x	?	yes	yes	yes	yes	yes
49	Female?	Indet	yes	yes	yes	yes	yes	yes
50	Female	x	yes	yes	yes	yes	yes	yes
51	Indet	Female?	yes	yes	yes	yes	yes	yes
52	Indet	x	yes	yes	yes	yes	yes	yes
58	Male	x	?	yes	yes	yes	yes	?
61	Indet	x	?	?	yes	yes	yes	yes
62	Male?	x	yes	yes	yes	yes	yes	yes
64B	Indet	Indet	?	no	yes	yes	yes	yes
68	Male?	x	?	yes	yes	yes	yes	yes
70	Male	x	yes	yes	yes	yes	yes	?
71	Indet	Indet	yes	yes	yes	yes	yes	yes
72	Indet	x	yes	yes	yes	yes	yes	?
73	Male?	Indet	yes	yes	yes	yes	yes	yes
76	Female	x	yes	yes	yes	yes	yes	yes
77	Indet	Indet	yes	yes	yes	yes	yes	yes
78	Female	x	yes	yes	yes	yes	yes	?
79	Indet	Indet	?	no	yes	yes	yes	yes
80	Indet	Indet	yes	yes	yes	yes	yes	yes
82	Indet	x	yes	yes	yes	yes	yes	yes
83	Indet	Indet	yes	yes	yes	yes	yes	?
84	Indet	x	yes	yes	yes	yes	yes	yes
85	Female	x	yes	yes	yes	yes	yes	yes
86	Female	Indet	?	yes	yes	yes	yes	yes
87	Indet	x	yes	yes	yes	yes	yes	yes
88	Male	Indet	yes	yes	yes	yes	yes	no/?
89	Indet	x	yes	yes	yes	yes	yes	yes
90	Male	Indet	no	yes	yes	yes	yes	?
91	Male?	Indet	yes	yes	yes	yes	yes	yes

Fig 5.3
Part of the ROB's section drawing showing two grave sections with different reopening pits. Scale 1:50.



this fire is impossible to ascertain, but it could have been associated with ritualised practices carried out during the grave's disturbance. Another difference between both reopening pits is that the right one is not filled up at once. A second filling is visible and implies that the grave must have been left partly reopened for quite a long time. It could be that the reopening pit was not filled up until the field was brought into cultivation in the later medieval period.

Grave dimensions

At the Bergeijk cemetery, Van Haperen investigated the relationship between grave dimensions and grave reopening. She concluded that at Bergeijk, graves with the deepest and largest burial pits were often the ones reopened.[10] A similar analysis was undertaken by myself for the reopened graves at Posterholt. Because grave depth was not documented accurately, it was not taken in account. The height (NAP+) of each grave's bottom was measured during excavation, but the height of each top was not. It is possible to use the height of level I, documented every fifth meter. But because these measurements differ, it is difficult to estimate an accurate height for the top of each individual grave. I therefore chose to examine only length and width of burial pits here. A more extensive discussion on the depth of burial pits is provided in chapter 4.

The analysis' results are presented in figure 5.4. While examining this figure, it becomes clear that large burial pits were often the subject of post-depositional interventions at Posterholt. It is nonetheless important to realize that in addition to size, other factors, such as chronology, have played a role in post-depositional interventions as well. After all, as we will see further on in this publication, most smaller graves are thought to be younger graves.[11] It can thus be concluded that it was probably the younger graves that were not reopened and not necessarily the smallest graves. A problem with these possible younger graves is that they are difficult to date since they hardly contain grave goods. Some are completely empty, while others only contain simple iron buckles and occasionally a knife. Because the human remains are still present and often in an articulated position, we know this lack of finds cannot be the result of grave reopenings. Instead, these graves seem to represent a new type of burial ritual. The fact that they are located on the cemetery's outer edge supports the idea that they are later depositions. In at least two cases, the graves' later dates are confirmed by the presence of a late Merovingian silver *sceatta* (grave 47) and a coin plate of a silver *sceatta* in the mouth of the deceased (grave 44). We will return to this later phase of burials later on in this publication.

In the end, a straightforward analysis of the results presented in figure 5.4 is difficult to provide. Taking the information on chronology in mind, it seems that the reopening of graves at Posterholt depends mostly on chronology instead of size of the burial pits.

(10) This may however be a chronological phenomenon, since most small graves were located in the southern section of the cemetery, which may have formed the cemeteries final phase. (11) The relation between the size of burial pits and chronology will be discussed more elaborately in chapter 9.

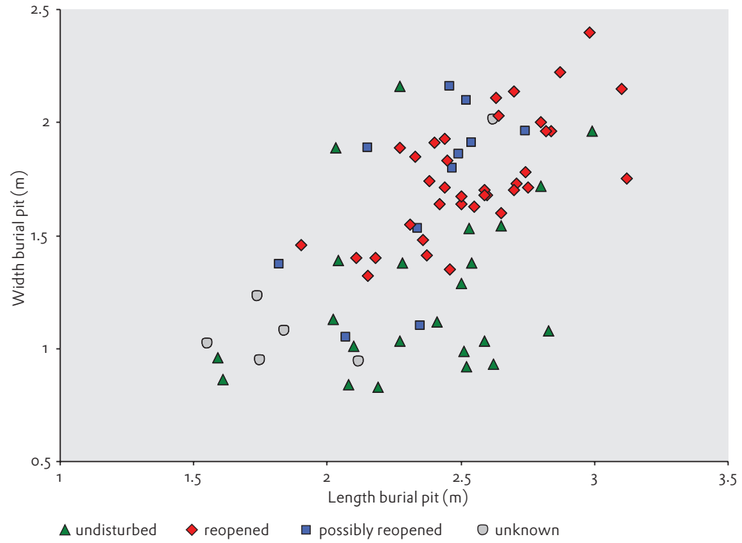


Fig 5.4
The relation between reopened graves and burial pit dimensions.

Artefact removal

As noted earlier in this chapter, Posterholt's grave reopening seems quite severe. Compared to Bergeijk, the disturbance often affected the complete grave and in many cases, most objects appear to have been removed. In her research on grave disturbances, Van Haperen demonstrated it is difficult to detect homogenous patterns of artefact removal in reopened graves.[12] Posterholt also seems to have great variability in the amount of disturbance caused. Though the reopening itself seemed severe in most cases, and some graves had all their contents removed, others still contained object of considerable value.

It is important to remain cautious when interpreting artefact removal. After all, although many objects may appear to have been taken, we can never know exactly what is missing. Some graves may hardly have contained any grave goods in the first place. It is therefore most useful to analyse find categories where only a selection was removed. With Posterholt, these categories are best represented by beads and belt fittings, though other types of grave goods left traces of their former presence as well. Five graves contained traces of possible seax and sword scabbards, and in four graves, the presence of large dome-shaped rivets indicate the presence of a shield. Nevertheless, because the presence of these items is only presumed, they do not represent reliable find categories to examine more closely.

Most of Posterholt's undisturbed graves contained only simple iron buckles occasionally accompanied by iron knives. Because many of the disturbed graves also rarely contained belt fittings, it seems that the Posterholt cemetery may not have contained many elaborate belt sets to begin with. After all, only grave 58 contained a complete belt set with a seax and seax scabbard. One grave out of the 90 seems quite insignificant. Still, scrutinizing some of the single belt fittings found in reopened or possibly reopened graves unveils a different picture.

Grave 4 contained an iron buckle bearing honeycomb decoration. It may have belonged to a plate buckle with animal style II decoration. Grave 30 contained two iron plates that may have been part of a sword belt and grave 62 contained a plate and strap end that were probably part of an 'Ophoven'-type belt set. Two further fragments of a single back plate with geometric decoration were found in context 81 and grave 82. The back plate must have belonged to a large belt set too. Grave 90 held a counter plate with animal style II decoration, and a shielded tongue with silver and copper alloy inlay. Many more fragments of indeterminate iron plates were found as well and the same is true for copper alloy specimens. A hollow copper alloy back plate was found in grave 77, and a copper alloy strap end in grave 54. Furthermore, small copper alloy plates were found in graves 8, 61, 83 and 85. All these were part of more elaborate belt sets; thus the content of most of these graves was probably a lot richer than when they were excavated.

Though it is difficult to study missing objects systematically, some interesting remarks can be made. Firstly, the items taken seem to vary considerably. If we assume most belts with fittings consisted of at least a tripartite belt set consisting of a plate buckle, counter plate, back plate, and strap end, the items missing differ each time. Sometimes the plate buckle was missing (for instance, in graves 30 and 62). In other cases, the buckle is the only item left in the grave (grave 4). In several cases, only a single belt fitting was found (graves 54 and 77) and sometimes the item was broken (context 81, grave 82 and grave 90). We can therefore conclude that belt sets were often removed from graves, but that it happened quite random. It was not considered worthwhile to remove all items from a belt set, and in some cases, items were even deliberately or accidentally damaged during removal. We will return to this subject later in this section. It is first important to examine another find category found regularly in disturbed graves.

Beads of various materials are found mostly in women's graves. They are recovered from 27 graves at the Posterholt cemetery, only one of which was not reopened. This indicates that although graves with beads were regularly disturbed, part of the bead assemblages were occasionally left behind. Some scholars have argued that beads were not removed from graves because they were tabooed.[13] As noted by Van Haperen, this interpretation is difficult to study.[14] Nevertheless, it does not seem to apply to the Posterholt cemetery. The number of beads found at Posterholt is low and many of them must have been removed. Still, the amount of removed beads remains unknown. At Bergeijk, Van Haperen could compare the number of beads in reopened graves with the number of beads in undisturbed graves. Unfortunately this is impossible at Posterholt since only one grave with beads was not reopened, and this grave contained only a single bead. We can thus only conclude that compared to other cemeteries, the overall number of beads at Posterholt is very low.

Finally, the find category of human remains needs to be addressed here briefly. The Posterholt cemetery bears clear evidence that bones were removed from graves. Most reopened graves did not contain skeletal remains, while undisturbed graves often held human bones or bone silhouettes. It is nonetheless important to note that the preservation of skeletal material at Posterholt is quite bad and that grave disturbance could accelerate human remains degradation. Still, bone presence in reopening pits along with disarticulated remains in some reopened graves indicate that bones were moved, and probably taken too. Examining which bones were removed and which were not would be interesting. Unfortunately, this is impossible, since most human remains recovered from reopened graves were not recognisable.

Let us return to the removal of some of the artefacts some of the graves already mentioned earlier. In four cases it is clear that part of the reopened grave's content remained intact. Grave 70 held a lance head and pottery vessel in situ, grave 88 held a lance head and three arrow heads, and in grave 90, a lance head and pair of shears were left untouched. These items may simply have been overlooked, but could also have been intentionally left behind. This is also the case in grave 58. The grave was reopened, but a complete belt set was still found in the container's northwest corner. The items' positions suggest this was not the original location of the belt set. The question remains when the items were placed there and whether they were part of the grave's original inventory. The belt set may have been moved from the body to the container's northwest corner during the grave's reopening. It may also have been part of another grave inventory. If this was the case, it could have been placed in grave 58 during reopening. Many questions can be raised; most important is why the belt set was not taken from the grave. It seems impossible it was overlooked, but it having been left behind intentionally is puzzling as well. Grave 58 thus demonstrates that grave reopening is an ambiguous subject in the study of early medieval burial ritual.

Artefact fragmentation

As already mentioned, artefact removal was not the only motivation for reopening graves at Posterholt. Careful documentation of find locations indicates that objects were removed, damaged, and then thrown back into reopening pits. In some cases, fragments of single objects were even found in the reopening pits of different graves.

Artefact fragmentation is probably best studied by examining pottery fragments in reopening pits and grave fills. Only one complete Merovingian pottery vessel and two complete Roman pottery vessels (deposited in early medieval contexts) were recovered at the Posterholt cemetery. All other pottery vessels were damaged and fragmented. The fact that so many vessels were broken may not seem extraordinary. After all, many post-depositional processes cause pottery vessels to break. Coffin collapse or animal burrowing could be responsible, but artefacts are also damaged by ploughing, soil levelling, and perhaps even excavation work itself. Most of Posterholt's undisturbed graves did not contain pottery, making it difficult to compare artefact fragmentation in reopened and undisturbed graves.

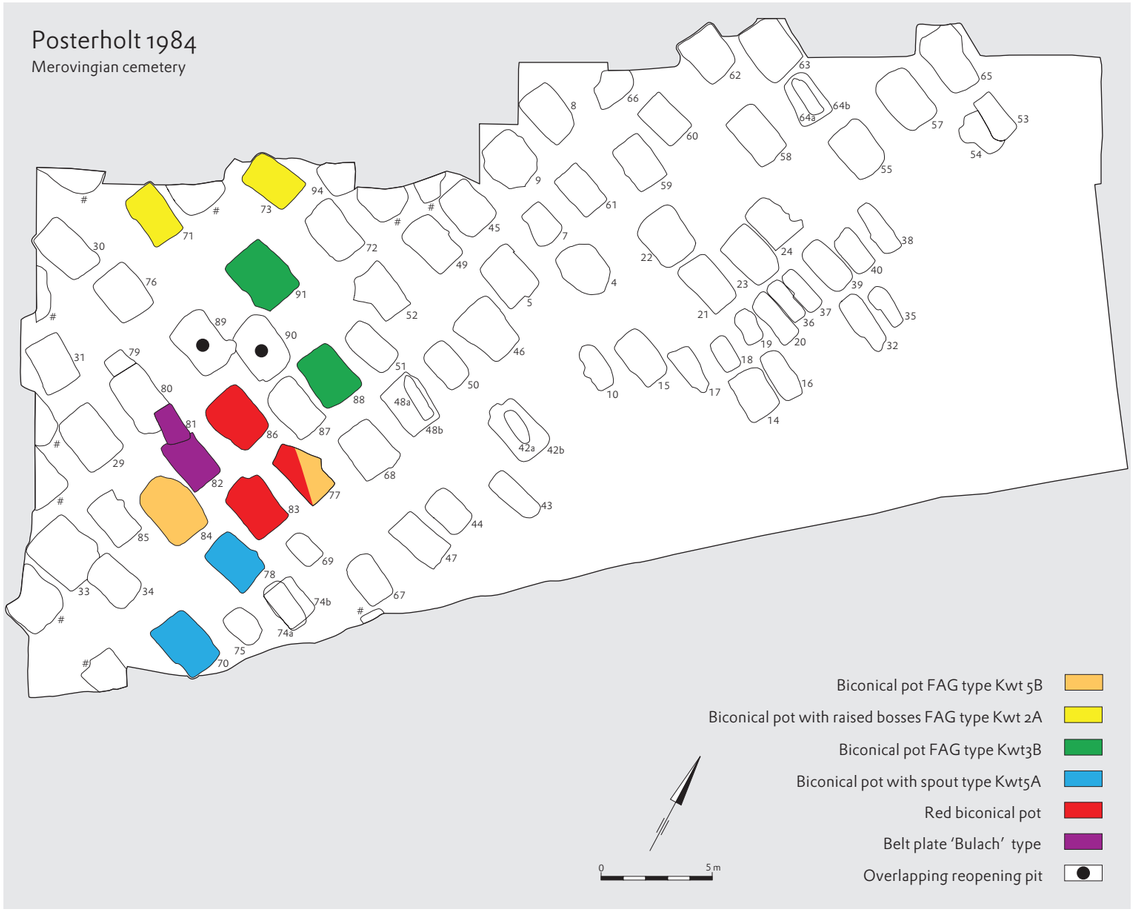
Difficult though it is to prove pottery vessels were damaged intentionally, Posterholt shows several signs of deliberate artefact fragmentation. The degree of fragmentation is often high, and complete vessel profiles can only scarcely be reconstructed. This suggests that part of the vessels were possibly removed from the grave. Besides that, in several cases fragments of single artefacts were found in two of more different contexts (fig. 5.5). Most of these artefacts were pottery vessels, but context 81 and grave 82 also contained a fragment of a single belt fitting. The fact that the item was broken and found in different contexts is interesting. One would not expect a back plate to break accidentally; we can therefore assume the damage was intentional.

Pottery provides a more extensive find category to study artefact fragmentation. Pottery fragments are found regularly in

(12) Van Haperen 2010.

(13) Roth 1978, 67-71 and Koch 1974. (14) Theuws/Van Haperen 2012, 48-49.

Fig 5.5
A plan of the cemetery showing distribution of fragmented artifacts found in the fill of multiple graves.



reopening pits. These fragments may have accidentally ended up in grave fills or reopening pits, which is probably the case for most of the Roman material. After all, several Merovingian graves cut right through Roman cremation graves, damaging Roman pottery vessels and scattering fragments in fills of Merovingian burial pits. Still, much of the material in reopening pits is of Merovingian origin as well. We assume most of these fragments are part of the grave's original content but in at least three cases, fitting fragments from a single pottery vessel were found in different contexts. Graves 70 and 78 contained two fitting fragments of a biconical pot with a spout. Graves 88 and 91 contained several fragments of a biconical pot decorated with undulating grooves. And finally, graves 77 and 83 contained pottery fragments that fit the fragments of a red biconical trefoil jug found in grave 86. A possible fourth case is found in graves 71 and 73, which contained fragments of a similar pottery vessel with raised bosses. It differs from the other cases in that the fragments do not fit together.

All of these cases imply that pottery vessels were broken intentionally during grave disturbances. It also shows that fragments of these vessels were thrown back in the fill of reopening pits.

When fragments from the same object are found in different contexts, it can be difficult to determine the object's original context. Since context 81 was probably not a grave, we can assume the broken back plate originally belonged to grave 82. Concerning graves 77, 83 and 86, we can assign the pottery vessel to grave 86 since graves 77 and 83 only contained a single fragment, found at a high level in the reopening pit. The two other cases do not prove as simple. The fragments from graves 70 and 78 as well as graves 88 and 91 were all found at a relatively high level of the reopening pit. It is therefore impossible to pinpoint the original deposition location. An additional question is whether graves contained fragments of the same object or whether fragments of broken pottery vessels were lying around before ending up in the fill of another grave. The fact that fragments of a single pottery vessel were found in different graves indicates that these graves were reopened simultaneously. This implies that the disturbance of graves did not occur in singular cases, but may have comprised one or more large events, involving a group of people or even the whole community. We will elaborate on these implications in this publication's interpretation section.

Also interesting when studying find fragmentation is the sandstone monument belonging to Posterholt's Roman cremation cemetery. There are clear indications the monument was intentionally destroyed, but when this occurred is unclear. It could have been when the cemetery was first used by early medieval inhabitants. If so, the monument's destruction may have been part of the burial ground's annexation. However, it may also have happened when the graves were reopened, or perhaps even later, during soil levelling, when the burial ground was put into agricultural use. Many sandstone fragments are found in the fills of burial pits, containers and reopening pits. If fragments were found only at high levels, they may have come there through deep ploughing or soil levelling. However, since several fragments were found at deeper grave fill levels as well, we assume at least some damage was done earlier. Part of the monument was still erect in the middle of the twentieth century, which means it was there all through the medieval period as well. Pinpointing the exact moment of the monument's destruction is difficult, but we assume that at least part of the damage took place while burial ground was in use. The fact that fragments of sandstone were found in the fills of many graves distributed over a large area also implies that some effort was taken to damage the monument, though it was never completely destroyed.

Additional burials

The Posterholt cemetery is curious in that several graves seem to have been reopened with the purpose of depositing an additional corpse. In some cases, the older burials together with their possible content were completely removed. In other cases, the primary burial was simply moved aside to make room for the new burial. Because additional burials are often difficult to understand in terms of stratigraphy and taphonomy, each grave with a possible additional burial is discussed here in detail.

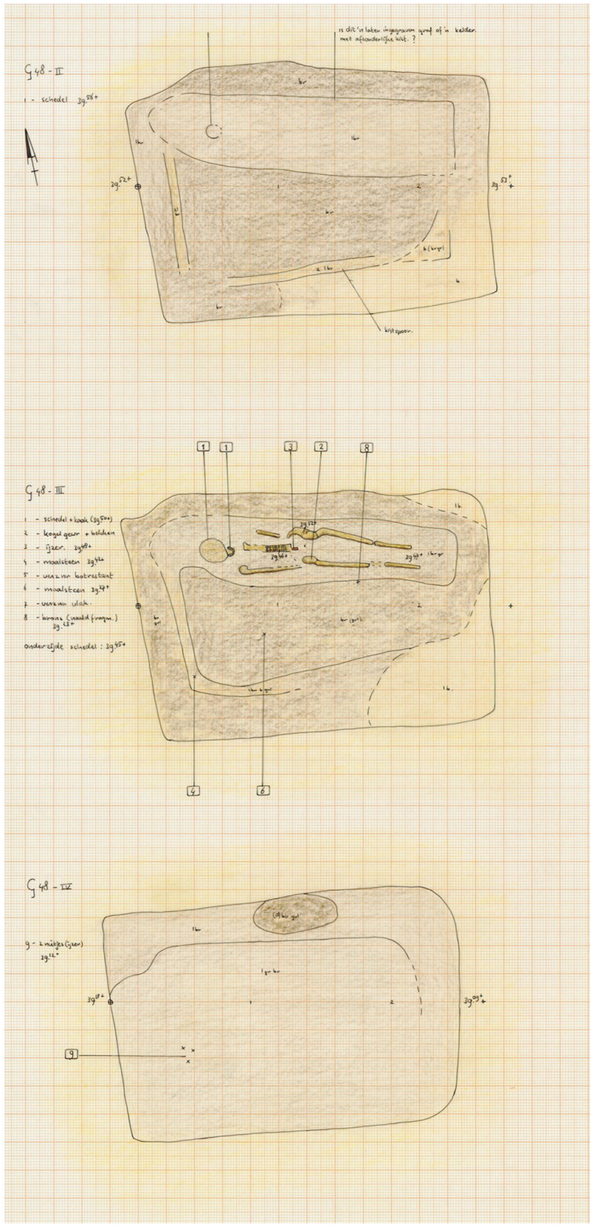
Grave 42
Reopened for additional burial. Grave 42 contained two burials placed above each other. Grave 42B is the first burial deposited in the grave. It is disturbed and partly moved to the wooden container's northeast corner. This disturbance was probably executed to make room for grave 42A, the second, still intact burial. Grave 42B was placed in a wooden container. A vague coffin outline is visible at level III. Its orientation seems to differ slightly from that of grave 42A. Grave 42A did not contain grave goods and was deposited without a wooden container.

Grave 46
Reopened with a possible disturbed double or additional burial. Grave 46 is complicated in terms of post-depositional interventions. Traces of the north and east wall of a wooden container are visible at level II, together with a vague reopening pit covering the southwest corner of the wooden container. A coin and long bone were found at this level too, though probably outside the reopening pit. The coin was found at 39.45 + NAP, the long bone at 39.26 + NAP. At level III, a clear reopening pit is visible, containing many finds, including a human skull. Traces of the wooden container are still visible in the northwest corner, though more vague than at level II. The container's fill possessed disarticulated human remains, including a second skull. Several scenarios are possible:

(1) Grave 46 could be a reopened double burial without an additional burial. In this case, the grave was reopened, during which some bones were moved to the wooden container's eastern end while others were removed from the grave and thrown back in the reopening pit together with soil and other finds.
(2) Grave 46 could be reopened twice; once for the deposition of an additional burial and once to disturb the additional burial. Following this scenario, the first burial was moved to the wooden container's eastern end when the second burial was placed in the grave. This second burial was later reopened, during which its skull and a possible long bone were thrown back into the reopening pit together with soil and other finds.
(3) Grave 46 could be reopened once, and secondary burial never took place. If this was the case, the skull in the reopening pit did not belong to grave 46, but landed there because one of the surrounding graves was reopened at the same time. The fact that pottery fragments of a similar pottery vessel are found in different grave fillings suggests that reopening of the graves happened simultaneously in several cases. If contents of graves were removed and thrown back, bones could end up in other grave fills as well.

Physical anthropological analysis could provide useful information on the subject. After all, if post-cranial remains of two individuals were found in the coffin fill, this would confirm that secondary burial took place. Unfortunately, the skeletal material is in such poor condition that it is impossible to differentiate long bones from each other. Besides that, the second skull found in the reopening pit is currently missing.

Fig 5.6
Individual grave drawing of grave 48 at levels II to IV.
Scale 1:40.



Grave 48

Reopened for additional burial. At first, grave 48 appears to be a single burial with a wooden container inside a wooden chamber. However, this is not the case. The wooden container in the grave's north has a slightly different orientation compared to the possible wooden chamber and more importantly, it cuts through the northern wall of the wooden chamber. The outline of the wooden container's north wall is visible in the drawing of level IV (fig 5.6). It is located a metre above the measuring line, which is almost underneath the wooden container's centre line which is visible at level II. It is thus impossible that grave 48 contained a wooden container inside a wooden chamber. Instead we are dealing with an additional burial (grave 48A) deposited in a wooden container. Remains of the first burial (grave 48B) were not found. They could have been removed from the grave, but there is also the possibility that they were simply not preserved.

Grave 64

Reopened for additional burial. Grave 64 contains two burials. The first burial (grave 64B) was visible at level III, the additional burial (grave 64A) at level II. Grave 64B was reopened, during which all bones except the skull were moved to the grave's east. An iron buckle and knife were found among the human remains and the outline of a wooden coffin was present. Grave 64A remained undisturbed. The body was buried without a wooden container. The only grave good was a simple iron buckle.

Grave 74

Possibly reopened, but with a second or additional burial. Grave 74 contained two overlapping container outlines. The second or additional burial (grave 74A) was thus not dug in the old burial pit of grave 74B, but at a higher level above it. Grave 74A was visible at level II. The deceased was buried in a wooden container and remained undisturbed. Grave 74B is visible at level III. Part of the wall and outline of a wooden container were still visible. The coffin was quite small, suggesting it may have belonged to a child. Whether the grave was disturbed when grave 74A was dug remains unknown. Only one molar was found in the grave; the grave did not contain any grave goods. However, because the wooden container was still intact, it is possible that this burial was not disturbed when the additional burial took place. It is thus doubtful whether grave 74B could be defined as reopened.

Grave 77

Reopened with a reopening pit and possibly two burial pits. Examining the burial pit's outline at level II, it seems that grave 77 consisted of two burial pits with slightly different orientations. A large reopening pit covers both graves and the area where the possible burial pits overlap. The second burial pit is only visible at level II. Traces of a wooden coffin or coffin outline were not found. It is thus more likely that this pit is not a grave. Still, it is difficult to provide another explanation for its irregular outline. The presence of at least one grave is verified in the east part of the first pit. The east end of a wooden container is visible at levels II and III. The grave was disturbed by the large reopening pit and no human remains were present.

Though it can be difficult to verify the presence of an additional burial, the Posterholt cemetery revealed several clear cases where graves were reopened deliberately to deposit a new burial in an older grave. Unfortunately, it is not possible to establish the time lapse between the old and new burials. The situation of graves 42, 48, 64 and 74 is reminiscent of the situation in the Geldrop settlement, where younger simple coffin graves were placed above older graves with large containers or chambers.[15] The motive behind the practice to position graves exactly on top of each other is difficult to unravel. Again, the ways in which the ritual was carried out seem to vary. In some cases, the older burial seems to have been removed completely, including all human remains and accompanying objects. In other cases, the remains were moved aside, sometimes with grave goods and sometimes without. In one case, the primary burial may have been left intact. At the same time, some similarities occur as well. All of the secondary burials are deposited in these older graves without accompanying grave goods and often without containers as well.

Many questions can be raised on the relationship between the original graves and their additional burials and the relationship between additional burials and the reopening of other graves. Answers are difficult to provide, especially since preservation of human remains is poor. What becomes clear however, is that these graves were significant to those responsible for the additional burials. This issue will be further addressed in the interpretative section of this publication.

Chronology of interventions

The idea that early medieval graves were often reopened during the cemetery's use period is generally accepted among scholars. One argument often used to support this assumption is that grave reopening was carried out with precision, implying that knowledge of grave's exact location and contents was still available. Still, this is not necessary the case. According to Klevnäs, several examples exist where locations of reopening pits show uncertainty about the grave's exact location.[16] At Posterholt, examples that support this argument were not found. The disturbance is severe and perhaps not aimed towards specific areas within the graves, but the location of burial pits seem to have been known by those that inflicted the disturbance. The reopening of graves for the purpose of depositing additional burials is also extraordinary. It implies that at least some of the disturbances took place while the cemetery was still in use. The question remains whether the additional burials were executed during the same period as the reopening of other graves. Unfortunately, this is difficult to tell. It is impossible to speculate on the duration of grave location memory, especially since we cannot ascertain those responsible for the grave reopenings. Neither are we informed on the period during which a grave location remained visible. Still, we can glean some chronological information by looking at the spatial distribution of reopened graves, and where possible, their dates.

Looking again at figure 5.1, most of Posterholt's reopened graves are in the cemetery's southwest. The cemetery's north contained less reopened graves, and the outer, easternmost row of graves remained completely untouched. Given that these eastern graves probably represent a younger eighth century cemetery phase, this indicates that graves from the sixth and seventh century were subject to post-depositional interventions. This hypothesis is confirmed by the dates of reopened graves containing datable objects, which dated from the end of the sixth and the first half of the seventh century. Three examples with an earlier sixth century date were found as well, though in two cases (graves 88 and 89), these early dates are questionable. In two of the reopened graves, coins were found. These finds function as a *terminus post quem* and provide us with valuable information. Grave 52 contained a golden *tremissis* dating around 620 and grave 24 contained a sceatta dating around 720. There are indications that grave 24's disturbance took place shortly after its burial. According to the excavators, the deceased's left leg was angled strangely, almost as if it were placed over the edge of the wooden container. If this observation is correct, we can conclude the grave was disturbed when both the deceased's body and its wooden container were not fully decomposed. Even if the leg was not placed over the edge of the wooden container, it was definitely moved in complete articulation. Given the fact that under relatively dry conditions a body decomposes within 1 to 10 years,[17] this disturbance must have taken place within a few years after its burial. Grave 24 is the only grave clearly indicating its reopening date. Simultaneously, it is also exceptional because it is apparently the only eighth century burial subject to a post-depositional intervention. Whatever this exception's explanation may be post-depositional intervention is an area of study requiring extensive and above all detailed research in the near future.

(15) Theuws in press a. (16) Klevnäs 2010, 101. (17) Aspöck 2005, 251.

6 Grave finds

This chapter presents an analysis of finds from burial pits, containers and reopening pits of Merovingian graves. We organised the text on the basis of a division of objects into various functional categories independent of the gender of the deceased.

Coins

Thirteen coins were found during excavations at Posterholt. Three (1-11, 1-12; 12-1) were found in Roman cremation graves. They are already discussed in chapter 3 of this publication. Of the nine coins found in Merovingian contexts, six had a Roman date. The determination of the Roman coins was made by Rob Reijnen (Nijmegen). Arent Pol of the Geldmuseum Utrecht examined the Merovingian coins.

The presence of Roman coins in Merovingian graves is a regular phenomenon. M. Martin investigated the presence of Roman *denarii* in Merovingian contexts in the area between the Loire and Elbe rivers. He distinguishes three practices in which coins were deposited in graves. The first practice concerns coins deposited in the mouth or hand of the deceased as an *obolus*. The second practice concerns coins deposited as jewellery, including necklaces or amulets and as belt garments. The third practice concerns coins found in the area of the pelvis and lower spine, inside what may have been a pouch.[1] According to Martin, the deposition of *denarii* in younger graves starts at the end of the fourth century. The practice is most popular at the end of the fifth and in most of the sixth century, and gradually disappears around the beginning of the seventh century.[2] Martin only looked at *denarii* from the first and second century AD. Later Roman coins – such as the specimens found at Posterholt – are not taken into account. Siegmund, however, analysed all types of coins found in his Rhineland cemeteries. He concluded that seventy-five percent of the coins were of Roman date. Most were copper alloy coins, but silver specimens were found as well. Though most of the antique coins functioned as jewellery, 40% was deposited in other ways, for instance, as *obolus* or in a possible pouch.[3] Siegmund considers the presence of Roman coins among contemporary Merovingian coins an argument in support of the hypothesis that Roman coins still functioned as money within the early medieval monetary system. The fact that Merovingian coins were mostly deposited as an *obolus*, however, does indicate that contemporary coins were considered more valuable.[4] Whether Siegmund is correct is difficult to say, but his hypothesis is attractive. Nevertheless, it remains problematic to make statements on coin function without considering the symbolic value of coins deposited in graves. Moreover, Siegmund himself acknowledges that his Rhineland data set is too small to make solid statements on this topic.

Coins, Roman

Find numbers 9-3; 46-1; 58-2; 85-7/35/46

Nine Roman coins were found at Posterholt. Six were found in Merovingian graves. The results of Reijnen's analysis are presented in table 6.1. The oldest coin found in a Merovingian context is the *quinarius* from grave 46 (fig. 6.1). It was minted in 89 BC. The coin's original location is unknown since the grave was reopened. Grave 46 is complicated in terms of post depositional interventions. The grave contains skeletal material of two individuals. The remains of the first burial were found in a disarticulated position at the grave's eastern end. The only fragment from the second individual consisted of a skull recovered from the reopening pit. The coin from grave 46 was found in the same reopening pit. It therefore seems more likely that the coin belongs to the second burial. The question, however, is whether the remains of the second burial originally belonged to grave 46. The different possible scenarios are discussed in chapter 5.

Grave 9 contained a coin with a small suspension loop that was used as a pendant (fig. 6.1). Remains of wire are still preserved inside the suspension loop. The coin is a *dupondius/as* that displays Hadrian. It can be dated between 138 and 253 AD. Another *dupondius/as* was found in grave 58 (fig. 6.1). It displays Antoninus Pius and is dated between 147–148 AD. The coin from grave 58 was found just west of the grave's centre, but in vicinity of the wooden coffin's southern wall. It is difficult to determine whether this was its original location since the grave was reopened. Still, the reopening pit and main area of disturbance seemed to be located in the grave's eastern end. If this was the original location of deposition, the coin could have been located near the deceased's right hand. Unfortunately, no human remains were found to support this assumption.

One complete and two fragments of possible late Roman coins were found in grave 85. The complete coin (85-7) has a small suspension loop and a diameter of 11 mm (fig. 6.1). It is identified as ½ *centenionalis* and dates between 383 and 402. The two fragments (85-35 and 85-46) are impossible to determine. According to Reijnen they probably date to after the coin reform of 348. All three coins were found in a reopening pit near a considerable amount of beads. The fact that the complete specimen has a suspension hole implies it was part of a necklace, together with the beads. This could be true for the other two specimens as well. As was written earlier, the presence of late Roman coins on early medieval necklaces is a regular feature among Merovingian burials.

(1) Martin 2002, 247. (2) Martin 2002, 247. (3) Siegmund 1998, 243. (4) Siegmund 1998, 243.

Table 6.1
Results of the analysis of the Roman coins from Posterholt carried out by R. W. Reijnen (Nijmegen).

Id. nr.	Find no.	Trench	Level	Context	Date	Determination	Type of coin	Authority	Mint	Date begin	Date end	Remark	Catalogue
10267	1-11			grave 1	01-08-83	RWR20090425	as	Antoninus Pius (138-161)	Roma	141	161		RIC(III) 1179
10268	1-12			grave 1	01-08-83	RWR20081203	as	Vespasianus (69-79)	Lugdunum	71	71		RIC(II) 502(3!)
10269	9-3			grave 9	1983	RWR20090426	dupondius/ as	Hadrianus (117-138)- mid third century	?	138	253		?
10270	G12-I.....	1	I	grave 12	1983	RWR20081204	dupondius	Marcus Aurelius (161-180)	Roma	163	180		RIC(III) 853v./1244
10271	G46-II-1	9		grave 46	1983	RWR20081203	quinarius	M. Porcius Cato	Roma	-89	-89		Cra343/2b
10272	G58-II-2	10		grave 58	1983	RWR20081203	dupondius/ as	Antoninus Pius (138-161)	Roma	147	148		RIC(III) 1271(a)
10273	G85-III-7	11	I	grave 85	1983	RWR20090426	½ centenionalis	Theodosius' dynasty (379-455)	?	383	402	with hole	type VICTORIA AVGGG/SALVS REIPVBLICAE possibly.
10274	G85-III-35	11	I	grave 85	1983	RWR20090426	aes 4	? (since coin reform of 348)	?	348	402	probably 383 and later	?
10275	G85-III-46	11	-	grave 85	1983	RWR20090426	aes 4	? (since coin reform of 348)	?	348	402	probably 383 and later	?
10276	244-32	?	?		1983	RWR20081204	as	Trajanus (98-117)	Roma	98	102		RIC(II) 395/434

Fig. 6.1
Roman coins from Merovingian contexts. Above: Late Roman coin from grave 85. Middle: pendant from grave 9, Quinarius from grave 46. Below: Dupondius/As from grave 58 (front and back). Scale 2:1.

85-7

9-3

46-1

58-2

Fig. 6.2
Merovingian coins. Above: Sceatta from grave 24 (front and back), coin plate from grave 44. Middle: Sceatta from grave 47. Below: Tremissis from grave 52. Scale 2:1.

24-32

44-4

47-2

52-6

Tremissis

Find number 52-6.

A gold *tremissis* was found in grave 52 (fig. 6.2). The coin is classified as Belfort type 3033 and can be dated to around 620.[5] Similar types were found in Maartensdijk, Nietap and Dronrijp.[6] It is thought that this type of tremissis originated in the middle Rhine area.[7] The coin was found in a large reopening pit that covered most of the burial pit. Information on the coin's original location could therefore not be provided.

Sceattas

Find numbers 24-32; 44-4; 47-2

A silver *sceatta* of the MAASTRICHT-type was found in grave 24 (fig. 6.2). The coin is classified as Belfort type 5993-5999.[8] It was probably not minted in Maastricht itself, but in an unknown mint in Northern France, Belgium or the Netherlands. It can be dated to around 720. The coin was found immediately next to the skull. Although the grave was reopened, the skull was found in situ, implying that the coin was placed in the deceased's mouth.

Grave 44 contained a small coin plate for minting a silver *sceatta* (fig. 6.2). The plate's diameter is smaller than that of a *sceatta*, but it is thicker and its weight is similar to that of a regular *sceatta*. Because the coin was never minted, it cannot be dated accurately. However, it probably dates between the end of the seventh and the beginning of the eighth century. The plate was made of a small, flattened ball of silver. The coin plate was found in the skull, implying it was placed in the deceased's mouth (fig 6.3). Though placing a coin in the deceased's mouth is not extraordinary, this specific case is unusual since we are dealing with an unfinished product. It shows that the symbolic meaning of this practice is not necessarily dependent on the coin's appearance. After all, the coin plate was recognized as a suitable *obolus* although the final act of minting never took place. This is not the only example of this practice. According to Rosenstock, other examples exist where the object placed in the deceased's mouth is not a coin, but a simple plate of precious metal.[9]

A silver *sceatta* of the BMC type 77a was found in grave 47 (fig. 6.2).[10] Its provenance is uncertain but could be England. The coin's front displays a head with a runic inscription reading 'APA'. The coin is dated to the period 675-750. It was found in a skull in an articulated position, implying it was placed in the deceased's mouth.

Fig. 6.3
Skull with sceatta coin plate from grave 44.

All three *sceattas* discussed here were found in the deceased's mouth. This use of coins as an *obolus* originally derives from the Greek and Roman habit of giving the deceased means of payment by which to cross the river Styx. Bazelmans, Gerrets and Pol, however, argue that this interpretation is no longer of value in the early medieval period. Most of the coins contain Christian symbols; therefore, they can probably best be seen as a substitute for a 'viaticum'.[11] Still, Bazelmans, Gerrets and Pol only discuss contemporary early medieval coins made of gold. In many cemeteries Roman coins were used as *obolus* too. Though we assume their purpose was the same, it is often not possible to detect clear Christian connotations. It must be added, however, that several of the *sceattas* used as *obolus* are of the continental runic type, which is the only type with a cross on one side.[12] The distribution of this *sceatta*-type is mainly confined to the region along and to the west of the Rhine. It is suggested that they were minted in regions south of Frisia.[13] This *sceatta*-type could thus be minted in a Christian context.[14]

(5) Belfort 1892-1895. (6) Pol 1975/1977. (7) Pol 1975/1977, 47. (8) Belfort 1892-1895. (9) Rosenstock 1982, 100. (10) BMC. (11) Bazelmans/Gerrets/Pol 1998, 17 (but see their note 37). (12) This was the case in Dommelen (Theuws 1988); it is strange that it was not the case in Posterholt. (13) Pol 1999, 221. (14) On the possible religious context of minting, see: Theuws 2004.

Belt and strap fittings

The present section is concerned with the belt and strap fittings found at Posterholt. Belt and strap fittings had various functions. They were used on waist belts, extensions of waist belts, shoe or leg wear, and purses. Belt sets from Merovingian graves usually consist of a leather strap with a variety of metal fittings attached. Among those fittings are simple buckles, buckles with plates, and a variety of other fittings such as counter plates, back plates, mounts with slots, belt studs, strap ends, and supplementary plates. Most fittings were made of iron or copper alloy, but some were made of silver, gold and rare materials like crystal, bone and *Meerschaum*.

The analysis of the morphological development of belt parts and strap fittings has played an important role in establishing a chronology for Merovingian burials.[15] Belt sets are found in many cemeteries over a large period of time, and provide us with extensive data. This data is useful since, despite regional differences, broad categories can be distinguished, making it possible to carry out interregional comparative analyses and form typo-chronological sequences.[16] Still, it is important to keep in mind that difficulties arise when typo-chronological analysis is used to date Merovingian cemeteries. In her doctoral thesis on grave goods from the Vrijthof and Pandhof cemeteries in Maastricht, Kars demonstrated that modern typo-chronological analysis and the establishment of very short chronological phases do not take into account the prolonged circulation of objects in the context of family relations and inter-generational transfers. Modern seriation-based typo-chronological schemes are thus insufficient for dating Merovingian graves. Following Kars, this type of analysis leaves no room for understanding ante-mortem exchange of material culture. After all, objects and assemblages of objects may have circulated for more than a generation before they were deposited into a grave.[17]

Another problem with typo-chronological studies of belt parts is that they are often not only based on general characteristics like material, decoration and shape, but also on the number of different fittings present on a belt.[18] In case of Posterholt, this last characteristic is difficult to determine because so many graves were subject to post depositional interventions. Only one complete belt with copper alloy plate buckle was recovered during excavations. Most other graves contained only singular belt and strap fittings separated from their associated belt parts. These loose items can be difficult to date. Still, on the basis of general characteristics as well as contextual information about the grave it is possible to identify most material found at Posterholt.

Simple buckles: iron oval loop

Find numbers 16-6; 21-15; 24-34; 31-6; 47-4/5; 63-4; 64-6; 68-2; 71-11; 3-II-5

Simple iron buckles are widespread throughout the entire Merovingian period. This makes them unsuitable for typo-chronological analysis.[19] Siegmund, still distinguishes between earlier and later specimens. He states that broad buckles with inner widths of 2.5-3.6 cm are considered to belong to the later phases of the Merovingian period, while smaller specimens with shield or club tongues date to the early sixth century.[20] Furthermore, later buckles appear in graves of women and men, while earlier specimens are associated with graves of men only.[21] According to the Franken AG, the use of these buckles is too divers to make such an argument.[22] The evidence found at the Posterholt cemetery concurs with this proposition. Most simple iron buckles found were less than 2.5-3.6 cm wide. This would give them an early date according to Siegmund, but only one simple iron buckle had a shielded tongue, while all others had simple tongues, indicating a later date. The argument in favour of a later date is further supported by the presence of small simple iron buckles in graves with women-associated objects.[23] Unfortunately, the lack of human skeletal material makes it difficult to provide unambiguous sex determinations. Nevertheless, it is safe to state that Siegmund's distinction between earlier and later simple iron buckles does not apply to the Posterholt material.

Nine complete and two fragments of simple iron buckles with an oval loop were found at Posterholt. Only one (47-4) had an inner width of more than 2.5 cm. The others had widths between 1.3 and 2.1 cm. The buckle from grave 16 was found near the left hip and seems to have been part of a waist belt. The broader buckle from grave 47 was found near the left hip near an iron knife, while a second slightly smaller buckle (47-7) was found on the pelvis. It seems that the first buckle was used to attach the knife to a waist belt, while the latter was used to close the waist belt. A similar situation existed in grave 21. Here a simple iron buckle with an oval loop was found near the left hip and a knife, while a buckle with a band-shaped oval loop was found on the pelvis. All other buckles were found in disturbed contexts, so information on their location is not provided.

(15) For an historiographical overview, see: Ament 1976; Koch 2001, 26-44. (16) Siegmund 1998, 18. (17) Kars 2011, 13-33. (18) Siegmund 1998, 18-41. Siegmund distinguishes belt types consisting of one, two, three or more fittings. (19) Böhner 1958, 204. (20) Siegmund 1998, 21-22. (21) Siegmund 1998, 38. (22) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 15-16. (23) This gender determination is based on specific grave goods found in the graves. Simple iron buckles were found together with glass or amber beads in graves 31, 63, and 84. Grave 31 also contained a spindle whorl and the simple iron buckle from grave 48 was found with a copper alloy needle.

Simple buckles: iron, rectangular loop

Find numbers 23-34; 48-3; 57-16/17; 64-3; 65-9/10

Five complete and two fragments of simple iron buckles with a rectangular loop were found at Posterholt. Again, only one buckle exceeded a width of 2.5 cm, while others had widths between 1.8 and 2.4 cm. The buckles from graves 48 and 64 were found on the pelvis and were probably used for closing waist belts. The buckles from graves 57 (57-16) and 65 (65-10) were found on similar locations. In both cases, a second buckle (57-17 and 65-9) lay near the left hip together with a knife. A similar combination of waist belt and knife was probably present in grave 23. A simple iron buckle with a rectangular loop was found near the right hip with a knife in grave 23 (23-34), but no buckle for closing the waist belt was found.

Simple buckles: iron, band-shaped oval loop

Find numbers 21-22; 84-10

Two simple iron buckles with a band-shaped oval loop were found in graves 21 and 84. The buckle from grave 21 was probably part of the same waist belt as the simple iron buckle with the oval loop from this grave. The buckle with the band-shaped oval loop was found on the pelvis, while the buckle with the rectangular loop was found near the left hip together with a knife. The buckle from grave 84 was found in a disturbed context, so no information on its original location can be given.

Simple iron buckles of different sizes and shapes thus appear regularly in Posterholt's graves. They probably had various functions. An item's position can provide information about its purpose, but since many graves at Posterholt were reopened, this information was not always available. Still, the combination of a waist belt with a simple iron buckle and a knife with a second simple iron buckle, as seen in graves 21, 23, 47, 57 and 65, seems to have been a regular feature at Posterholt. Similar situations where simple iron buckles were used to attach knives to a possible waist belt were found, for example, at Stetten an der Donau in graves 33, 98, 125 (with a knife and a seax) and 153 (with a knife and a seax).[24]

Simple buckles: iron, missing

Find numbers 29-5; 52-14

Two iron buckles are missing. The excavators documented the presence of both items but no information on the shape and size of the buckles was provided.

Fig. 6.4
Iron buckle with a honeycomb decoration pattern from grave 4. Scale 1:1.

Buckle: iron, band-shaped oval loop, decorated

Find number 4-4

A decorated iron buckle with a band-shaped oval loop was found in grave 4 (fig 6.4). This grave contained only bone fragments; no other belt parts or finds associated with the buckle were found. The decoration pattern is corroded but seems to consist of a geometric honeycomb motif with silver or copper alloy inlay. The buckle was found around the left hip or pelvis. It probably belonged to a waist belt and was part of a plate buckle.

The buckle cannot be placed in any of the available typologies. A similar type of buckle, however, was found at the Braives cemetery (Belgium, Province of Liège) in grave 92.[25] The loop's shape and decoration pattern are identical, but the buckle from Braives has a shielded tongue. It is possible that the buckle from grave 4 at Posterholt had a shielded tongue too. Given the thickness of the tongue's end, its original shape must have been thicker. This is especially true for the area where the tongue is fixed to the rod. The buckle from Braives was associated with a counter plate and a back plate with animal style II decoration. Both items are classified by the Franken AG as type S-Gür4.7, which they assigned to their phase 8 (640/50-670/80).[26] Similar buckles are found in grave 1972/24 at the Lent cemetery (Gelderland, the Netherlands)[27] and in grave XXX at the Borsbeek cemetery (Belgium).[28] The Lent grave can be dated to the JM II phase (630/40-670/80). The Borsbeek grave is dated to the second half of the seventh century.[29]

The honeycomb motif also figures on the buckle of the belt set from grave 1981 in the Sissach church cemetery.[30] The buckle is part of a plate buckle with animal style II decoration that is also comparable to the back plate found in grave 90 at Posterholt. Looking at the distribution pattern presented by Marti, the distribution of specimens with honeycomb decoration is limited mostly to Belgium and the Meuse valley. The Posterholt specimen fits very well within this pattern while the Sissach specimen seems to be a southern outlier.

(24) Weis 1999, 131, Abb. 20; 157, Abb. 57; 169, Abb. 70; 183, Abb. 86. (25) Brulet/Moureau 1979, 74, Pl. 15, 92.3. (26) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 21. (27) Van Es/Hulst 1991, 233-239; 124-128; Abb. 67b, 4. (28) De Boe 1970, 83-85, fig. 47. (29) De Boe 1970, 111. (30) Marti 2000, 97.

Fig. 6.5
Rectangular back plate from context 81 and grave 82. 'Bülach' type. Scale 1:1.

81-1 & 82-6

Back plate: iron, monochrome geometric decoration
Find numbers 81-1; 82-6

Two fitting fragments of the same rectangular iron back plate were found in context 81 and grave 82 (fig. 6.5). This back plate probably belongs to a set of 'Bülach' type belt fittings.

A small fragment with one copper alloy rivet and textile remains was found in a pit that has been identified as a possible grave (context 81), but which might as well be a reopening pit related to grave 82 (see below). A large fragment with three copper alloy rivets was found in grave 82. The decoration pattern is geometrical and consists of a central double braided band with dots.[31] The decoration is not executed very carefully. The central field is surrounded by a zone with stripes. The length is bordered by a line, while along its width, the stripes touch the braided bands. A second band of stripes, bordered by lines is present at the fragment's edge with zigzag lines along the plate's length. The rivets are encircled by lines on the interior.

It is difficult to determine why this particular belt plate was found in two different contexts. If we are dealing with two graves, the presence of the two fragments suggests both graves were reopened simultaneously. If this was the plate's original location of deposition, it could have been either context. However, the fact that the fragment in context 81 is its only grave good and no human remains or container outline was present, we assume it was probably not a grave. It may have been a reopening pit instead, although its rectangular shape and location still raise questions. Most reopening pits are irregularly shaped and aimed directly at a specific grave. This is not the case for context 81. Still, the option of a reopening pit seems more probable and it is therefore reasonable to assume that the back plate's original context was grave 82 rather than context 81. Another question is whether the plate was damaged deliberately or accidentally. A clear answer cannot be provided, but it is important to notice that breaking a solid iron plate takes quite an effort. The kind of action that has caused this must therefore have been vigorous.

The decoration pattern of the back plate shows characteristics of a 'Bülach' type belt fitting but geometrical decoration patterns also occur on other types of belts.[32] 'Bülach' type belt sets are not always easy to classify. Werner suggests that these plate buckles were made in one production centre, though this does not mean that it was necessarily situated in Bülach itself.[33] In the years following his publication, similar types were found in cemeteries outside the Bülach region. This implies that several workshops may have produced this type of belt fittings with geometrical decoration. Schrickel discusses the development of band-motifs and animal style decoration on the Bülach plate buckles.[34] It is difficult to place the back plate from context 81 and grave 82 in Schrickel's typology because the typology is based mainly on the shape and decoration patterns of plate buckles. Nonetheless, the back plate's decoration most resembles the decoration type presented in *Tafel* 1, with its braided bands, zigzag lines and vertical stripes in the border zones.[35]

A nearly identical decoration pattern is also found on the back plate in grave 289 of the Bülach cemetery.[36] Other examples from Bülach resembling the back plate's decoration are found in graves 65 and 87.[37] The back plate from grave 65 bears a slightly smaller braided band. The back plate from grave 87 also bears a slightly different type of braided band but shows the same decoration around the central field.

Siegmund does not provide any useful parallels, but the Franken AG assign the belt fittings with geometric decoration (their type Gür4.6) to their phase 7 (610/20-640/50).[38] The back plate mostly resembles type 185 by Legoux, Périn and Vallet because of the braided band's points. This type dates in their phases MR 1-MR 2 (600/10-660/70).[39] A better parallel is provided by Böhner and was found in grave 1 at the Nennig cemetery.[40] Böhner dates this type in the beginning of his phase IV (600-700).[41] A rectangular plate with such decoration (part of an elaborate set of horse gear) was found at the Schretzheim cemetery in grave 345.[42] According to Koch, the grave dates in her phase 5 (620/30-650/60). Similar plates with slightly different decoration patterns were found at Rosmeer in grave 4,[43] at Beerlegem in graves 130 and 131,[44] and at Iversheim in grave 152.[45] These belts are mostly dated to the *Jüngere Merowingerzeit* I (c. 600-630/40).[46] Since Ament did not create a phase around the turn of the sixth and seventh century, current authors date these belts between 610 and 640.[47]

(31) The braided band is of the same type as Schrickel 1979, Tafel 1 289. (32) Werner 1953, 31-34; Schrickel 1979, 15-28. We would like to reserve the term 'Bülach' for plate buckles and counter plates with swallow tail ends. (33) Werner 1953, 30-31. (34) Schrickel 1979. (35) Schrickel 1979, Tafel 1. (36) Werner 1953, Tafel 19, 3C. (37) Werner 1953, Tafel 21, 2C; Tafel 22, 1C. (38) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 20-21. (39) Legoux/Périn/Vallet 2004, 16, 33, 53. (40) Böhner 1953, Tafel 45, 1C. (41) Böhner 1953, 196, 199-200. (42) Koch 1977, Tafel 209.8. (43) Roosens/De Boe/De Meulemeester 1976, 7, plaat 1. (44) Roosens/Gyselinck 1975, Pl. 33, 130.3 and 131.2. (45) Neuffer-Müller 1972, Tafel 32, 152.1-3. (46) Ament 1976, 314-322. (47) Walter 2008, 32-35, 160-162, who bases herself on a seriation

Fig. 6.6
Counter plate and shielded tongue with animal style II decoration from grave 90. Scale 1:1.

90-14 90-17

Plate buckle: iron, bi-chrome animal style decoration
Find numbers 90-14/17

A counter plate and an associated shielded tongue were found in grave 90 (fig. 6.6). The triangular counter plate (90-14) has profiled edges and is decorated with silver and copper alloy inlay in animal style II decoration. Only part of the decoration pattern is preserved but it is clear that there was no central field. The end rivet is encircled by dots. The shielded tongue (90-17) is decorated too, but the decoration pattern is impossible to determine. This ensemble must have been part of a tripartite belt set.

Siegmund classified these belt fittings as Gür4.7, which he dates to his phase 9 (640-670).[48] Both the counter plate and shielded tongue are classified by the Franken AG as type Gür4.8A and date to their phase 8 (640/50-670/80).[49] The closest parallel in the typology of Legoux, Périn and Vallet is type 188. This type dates mostly in their phase MR 2 (630/40-660/70) and occasionally in their phase MR 3 (660/70-700/10).[50] However, all the specimens they illustrate have a central field. This may be coincidental; their distinguishing criterion is the form of the bands composing the animals (lines or ladder form) and not the overall composition. The same is true for Plumier-Torfs, who studied silver and copper alloy decorated iron belt fittings from Belgium.[51]

Fig. 6.7
Iron plate and strap end from grave 62. 'Ophoven' type. Scale 1:1.

62-13 62-18

The importance of distinguishing between specimens with and without central fields, however, is made clear by Bilo-Trenteseau. She mapped both types and shows that those without central field occur in Belgium and along the Rhine, but somewhat less in northern France and southern Germany.[52] A belt set with comparable decorations is found in grave 1975/14 of the Lent cemetery.[53] Van Es and Hulst mapped similar belt fittings and concluded that the best resembling specimens were found in Belgium, although similar belt fittings were also found along the Rhine. A few were found in Southern Germany and Switzerland. Marti discusses this type of belt decorations on the basis of a plate buckle found in grave 1981 of the Sissach church in Switzerland.[54] He explicitly mentions the dots encircling the end rivet. He also mapped similar specimens. The Sissach specimen is one of the southern outliers of the type, which occurs more generally in Belgium and the Rhineland.[55] Marti dates these belt sets to the *Jüngere Merowingerzeit* II.[56]

Belt plate and strap end: iron, part of an 'Ophoven' type belt set
Find numbers 62-13/18

Grave 62 contained a rectangular iron plate (62-18) and a strap end (62-13) with silver and messing inlay (fig. 6.7). This combination

(48) Siegmund 1998, 32. (49) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 21. (50) Legoux/Périn/Vallet 2004, 33, 53. (51) Plumier-Torfs 1986, 102-106. It concerns her group 4. See also Bilo-Trenteseau 1970. (52) Bilo-Trenteseau 1970. The group without a central field is group IIA. (53) Van Es/Hulst 1991, 130-131, Karte 5, Abb. 72,9. (54) Marti 2000, 97, fig 53. (55) Analysis of this type of belt set is a desideratum of the Anastasis project group. (56) Ament 1976.

Fig. 6.8
Copper alloy belt set from grave 58. Scale 1:2.

of plate and strap end bearing this type of decoration reminds of an 'Ophoven' type belt set. A detailed description and discussion of 'Ophoven' type belt sets can be read in the publication of the Bergeijk cemetery[57], a short description will suffice here. An 'Ophoven' type belt set is characterised not only by its material and decoration pattern, but also by the specific combination of fittings and their position in the grave. It consists of a waist belt with a plate buckle. A long strap hung from the belt along the left or right leg, and was decorated with three or four small rectangular plates and a strap end. 'Ophoven' type belt fittings are made of iron or copper alloy. They are usually found around the deceased's waist and alongside its upper and lower legs.

Grave 62 provides no information on the belt plate and strap end's original locations. The grave was reopened and the items were found separated. In this case, it thus is the shape and decoration that are decisive for the belt set's identification as an 'Ophoven' type belt set. The decoration pattern on both items is slightly corroded, but the pattern on the strap end is partly recognizable. It contains elements of animal style decoration and fragments of a striped band (*Leiterband*). Other iron 'Ophoven' type belts are found at Ophoven in graves 64, 131 and 132[58], at Bergeijk in grave 89[59], at Borsbeek in grave II[60], at Meerveldhoven in grave 41[61] and at Hamoir in grave 136[62]. It is difficult to determine which of these resembles the Posterholt plate and strap end the most. Looking at the size and shape of the strap end, the Posterholt belt set is probably comparable to the one from grave 131 of the Ophoven cemetery. Belts of 'Ophoven' type with iron fittings date to the last three decennia of the seventh century.

Plate: iron, triangular with profiled edges, undecorated
Find number 46-16

An iron plate with undulating edges was found in grave 46. It is probably a counter plate of a belt set. The counter plate from grave 46 is difficult to place in any of the available typologies. The end of the plate is broken off and it is not decorated. Because of its undulating edges it is expected to date in the second or third quarter of the seventh century.

Plates: iron, indeterminate and/or fragmented
Find numbers 9-1; 29-11; 46-8/9.1; 52-2; 84-2

Fragments of plates were recovered from graves 9, 29, 46, 52 and 84. Their shapes often remain indeterminate and they cannot be placed in any of the available typologies.

A fragment of a rectangular iron additional plate with two copper alloy rivets was found in grave 29. Leather remains are preserved on the plate's back. Both ends of the plate are broken off. It could have been part of a strap end, but its original shape remains indeterminate. In grave 46, a small fragment of a square or rectangular iron plate (46-9.2) was found. A fragment of a semicircular iron plate-end with one copper alloy rivet was found in grave 84. It could have been the end of a plate buckle or a counter plate. Amorphous fragments of iron with copper alloy rivets or remains were found in graves 9, 46 (46-8) and 52. They might be fragments of belt fittings. Textile remains are present on the fragment from grave 46 and leather fragments on that from grave 9. The fragment from grave 52 bore leather and textile remains. All graves were certainly or possibly reopened, so no information on the plates' original positions is available.

Mounts with slots: iron
Find numbers 46-9.1/17; 61-3; 84-11; 88-13/16

Four complete and two fragments of iron mounts with slots were found in graves 46, 61, 84 and 88. All graves were reopened and no information on their original location can be provided. The fragments from graves 61 and 84 could not be classified because their original shape was impossible to determine. Both fragments had a rectangular slot and one copper alloy rivet.

(57) Theuws/Van Haperen 2012, 63-67. (58) Roosens 1977, 65-67, figures 36, 37 and 38. (59) Theuws/Van Haperen 2012, 63. (60) De Boe 1970, 11-14, fig. 6. (61) Verwers 1978, 292, fig. 44. (62) Alenus-Lecerf 1978, I 31-32, planche 41 (136 6-9); II 32, fig. 3 d/e.

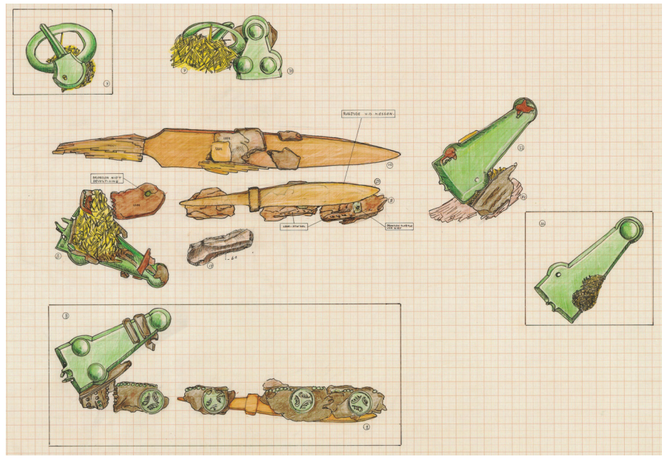


Fig. 6.9
Drawing of the belt set from grave 58 in situ. Made by Jo Kempkes after exposing the objects in the cast in block of earth. Scale 1:4, original scale 1:1.

In grave 46, two identical elongated slotted plates with rectangular slots were found. They have two rivets placed on the plate's axe. Leather remains are preserved on both. Two fragments of identical t-shaped mounts with slots were found in grave 88. Both had a rectangular slot in the broad side of the mount and two copper alloy rivets immediately next to it. The mounts from grave 46 and grave 88 cannot be classified.[63] Böhner does not present slotted plates of this type.[64] Neither are they found in the lower Rhine area where slotted plates are rare anyway.[65]

Mount: iron
Find number 11-II-4 (grave 90)

Grave 90 contained a flat spoon-shaped plate with one rivet. A small square plate is attached to the spoon-shaped plate with two very small copper alloy rings. The item cannot be placed in any of the available typologies. However, four comparable plates were found in context 81 of the Braives cemetery.[66] No clear information on their function can be given, but in context 81 at Braives, they were found near the left arm of a possible male burial and near the back plate of a tripartite belt set. They may have been attached to the belt.

Plate buckle, counter plate and additional plate: copper alloy, triangular, hollow
Find numbers 58-7.1/7.2/7.3/8/10.1/10.2/11/14.1/14.2/14.3

A complete copper alloy belt set with a plate buckle was found in grave 58 (fig. 6.8). The belt set consisted of a plate buckle (58-7.1 and 8) with a counter plate (58-11) and a back plate (58-10.1). The plate's shapes are triangular but slightly protruding at the place of the rivets. The plates are hollow. The fronts contain fake rivets with plain edges. The backs contain clasps to fix the mounts to a leather strap. Some clasps are missing. The buckle and plate were fixed to each other with a hinged joint.

The belt set was found in the grave's upper northwest corner, near a seax, a small knife, and a piece of flint. This was probably not its original location of deposition. The grave was disturbed and the seax was found parallel to the container's width, while seaxes are usually deposited parallel to the corpse and thus the container's length. The whole set of seax, knife, flint and belt fittings was plastered in and brought to the laboratory of J. Kempkes (now Restaura) who meticulously laid bare the various finds and recorded the presence of organic remains such as grass, textile and leather (58-7.2/3, 58-10.2, 58-14.1/2/3).[67] Remains of the wooden container, such as floor planks, were preserved as well. The organic remains were preserved due to their impregnation with iron and copper alloy oxides. One of the drawings made during the mini-excavation is presented in (fig. 6.9). It shows that the buckle of the belt was separated from its plate. Moreover, the seax and the seax scabbard with copper alloy rivets were also separated. This all indicates that the whole set of objects was moved during the grave's reopening. However, the fact that the belt fittings, seax, knife and scabbard were found near each other suggests they were still attached when they were moved. The leather remains attached to the belt fittings were most likely part of the belt. Grass was found on the back of the buckle and its plate, and textile remains were found on the front of the plate buckle and counter plate. The combination of textile and grass could indicate that a pillow was present, but the exact find circumstances of the two (each on one

(63) Similar mounts with slots are not discussed by Legoux/Périn/Vallet (2004) or Siegmund (1998), and similar specimens are not known for the Trier area (Böhner 1958). (64) Böhner 1958. (65) Siegmund 1998. (66) Brulet/Moureau 1979, 69, Pl. 12, 81.7-10. (67) Wiel Kusters filmed part of this process.

side of the copper alloy objects) do not support such an interpretation.[68] The corpse and objects may have been laid down on a layer of grass or straw and the textile remains may come from the deceased's clothing or shroud.

There has been considerable debate on the dating and origin of such belts after Robert Koch discussed these belt fittings.[69] Since then, small differences in the form of the back plate (trapezoid or triangular) and the absence of decoration (pearl rim) on rivets are considered important for the belt's interpretation. The discussion focuses on the place of this belt type in the long-term development of copper alloy belt sets, and its possible origin in Lombard, Italy. This would then especially apply to belts of the '*Tauberbischofsheim*' type. However, Walter is hesitant about this interpretation.[70] The Posterholt specimen cannot be considered an example of the '*Tauberbischofsheim*' type because of its triangular back plate, and the absence of rivet decoration. Similar belt sets are also regularly found north of southern Germany and Switzerland.[71] They could have been developed in the north on the basis of older copper alloy belt fittings with triangular plates.

The plate buckle, counter plate and back plate can be classified as Siegmund's type Gür3.3, which dates in his phase 8 (610-640).[72] Siegmund does not seem to clearly distinguish between hollow and flat plates, decorated and undecorated rivets, rectangular and triangular back plates, and straight and profiled edges. The specimens in his group are varied. None seem to be of the Posterholt specimen type. The Franken AG further elaborated Siegmund's category, and according to their typology, the plate buckle can be classified as a type Gür3D, dating in their phase 7 (610/20-640/50).[73] Legoux, Périn and Vallet classify this type of plate buckle as a type 172, which dates in their phases MR 1-MR 2 (600/10-660/70).[74] They, however, illustrate a belt with multiple fittings, not a tripartite belt. Additionally, they do not seem to distinguish between hollow and flat plates either. Koch assigned this type of belt to her phase 5 (c. 620-650/60)[75], and Walter assigned the type to the second quarter of the seventh century.[76] Adding all this information, it is safe to conclude that these belt sets are usually dated to the first half of the seventh century and more specifically to the second quarter of the seventh century. Copper alloy belt fittings with triangular hollow plates seem to be rare in the Meuse valley region.

Plate: copper alloy, hollow
Find number 77-7

Grave 77 unearthed a hollow, triangular copper alloy belt plate with three fake rivets on the front and three clasps on the back (fig 6.10). Because the grave was reopened, no information on the plate's original location can be given. One rivet is missing and a piece of iron wire is still present in one of the clasp's holes. The edges of the hollow plate are decorated with incised lines. It closely resembles the back plate of grave 58's belt set. It can be classified as Siegmund's type Gür3.3 (phase 8, 610-640)[77] and type 172 by Legoux, Périn and Vallet (phase MR 1-MR 2, 600/10- 660/670),[78] but those types are undecorated, while the type found at the Posterholt cemetery bears engraved lines along the hollow plate's edges. The plate's date will be identical to grave 58's belt fittings.

Fig. 6.10
Copper alloy belt mount from grave 77. Scale 1:1.

77-7

Plates: copper alloy, undecorated
Find numbers 8-1; 61-4; 83-3/9/11/14; 85-8.2

Six square copper alloy plates with four copper alloy rivets and one rectangular copper alloy plate with four copper alloy rivets (61-4) were found in graves 8, 61, 83 and 85. None are decorated. Most have oblique edges. All plates discussed here come from reopened graves, so no information on their original location is available. It is also not possible to place the plates in any of the available typologies. The presence of three or four copper alloy plates could indicate the presence of an 'Ophoven' type belt.[79] However, small copper alloy plates appear in many different belt sets or on leather straps and can be found in numbers up to ten.

To establish the presence an 'Ophoven' type belt set, information on the plates' original locations is necessary. In all cases described here, no accompanying buckles were found, and no information on location can be provided. This leaves too little evidence to establish the presence of an 'Ophoven' type belt.

Plates: copper alloy, fragments
Find numbers 86-21; 91-4

A fragment of a copper alloy plate with two copper alloy rivets was found in grave 86 (86-21). The fragment has textile remains attached. Its original shape is difficult to determine and the grave was reopened, so no information on its original location can be provided.

A fragment of a copper alloy plate with a copper alloy rivet was found in grave 91. The plate has a rounded end and might thus be the end of a belt plate. Grave 91 was reopened, so no information on the fragment's original location was provided.

Mounts with slots: copper alloy
Find numbers 90-8/13/15.1/15.2/15.3

Four rectangular plates with slots and a fragment of a leather belt were found in grave 90. Three are identical, with three rectangular slots. In each case, leather and textile remains are attached. The fourth is more or less square with two slots. These plates are found in grave 90 together with an iron counter plate with bi-chrome animal style II decoration (90-14) and associated shielded tongue (90-17). It is not certain that the slotted plates were part of the same belt set. Still, comparable assemblages of belt fittings have been found before. At the Schretzheim cemetery, a similar combination of a decorated iron plate buckle, counter plate and back plate, copper alloy strap end and three copper alloy mounts with slots was found in grave 622.[80] According to the grave's description, the plate buckle, counter plate, strap end and mounts with slots were all found in the pelvic area.[81] At first sight, this suggests they were part of the same belt set. However, a sword and sword belt were also deposited in this grave. The slotted plates may belong to the sword belt. The grave dates to the second quarter or middle of the seventh century. Plates with a similar slot arrangement are found in grave 6 of the Oberlörick II cemetery, but like the Schretzheim plates just discussed, they were fixed to the belt with four small rivets in the plates' corners. They are associated with a copper alloy triangular counter plate of a type discussed above that will date to the first half or second quarter of the seventh century.

Strap end: copper alloy
Find number 54-2

A copper alloy strap end was found in grave 54. It has slightly curved edges, a rounded lower end, and a straight upper end with a hole from which a rivet is missing. The item was found just left of a human jaw, but since the grave was possibly reopened we cannot determine the item's original location.

The item can be classified as type 199 by Legoux, Périn and Vallet, and dates to their phases MA 1-MR 1 (470/80-630/40).[82] This end date, however, seems to be too early in view of the finds discussed below. Similar types of undecorated copper alloy strap ends are found regularly in Merovingian graves. In both Schretzheim and Rosmeer, they were found in graves dating to the middle and second half of the seventh century. Usually they have two rivets at the upper end instead of one. An example of a copper alloy strap end with only one rivet was found at the cemetery of Schretzheim in grave 615.[83] This grave is dated by Koch in her phase 6 (650/60-680).[84]

Belt stud: copper alloy
Find number 73-4

A violin shaped copper alloy belt stud was found in grave 73. The grave was reopened, and no information on the belt stud's original location was available. Belt studs were used to fix the end of a belt's leather strap after it was pulled through a buckle. They are therefore often found together with simple buckles without a plate. Legoux, Périn and Vallet distinguish between belt studs smaller and larger than 2.5 cm. Examples exceeding this length are younger than the smaller examples. The belt stud found at the Posterholt cemetery is smaller than 2.5 cm and can therefore be classified as their type 193. This type is dated in the second half of phase MA 1-MA 2 (470/80-560/70) and occasionally in their phase MA 3 (560/70-600-610).[85] The Franken AG classified the belt stud as Gür2.10B, which dates in their phase 4 (510/25-565).[86] This belt stud thus indicates that belts of considerably older date than the ones discussed above were present in the Posterholt cemetery.

Rivets: copper alloy and iron
Find numbers 49-21; 77-9/11; 78-10/11/12; 89-7/12

Rivets belonging to belt fittings were found in graves 49, 77, 78, and 89. Two copper alloy specimens were found in grave 89. One was dome-shaped with a diameter of 1,1 cm, the other flat with a diameter of 1,5 cm. Grave 49's copper alloy rivet had a diameter of 1,1 cm. Grave 77 contained two similar rivets with a diameter of 0,9 and 1,0 cm. In this case, however, they were made of iron instead of copper alloy. The iron rivets found in grave 78 were smaller. They had a diameter of 3mm.

(68) For further interpretation of textile remains, see chapter 7. (69) For this debate, see Marti 2000, 92-93 and Walter 2008, 156-157. (70) Walter 2008, 156. (71) Koch 1977, 125. (72) Siegmund 1998, 27, 198. (73) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 19, 79. (74) Legoux/Périn/Vallet 2004, 16, 32, 53. (75) Koch 1977, 125. (76) Walter 2008, 156. (77) Siegmund 1998, 27, 198. (78) Legoux/Périn/Vallet 2004, 16, 32, 53. (79) Theuws/Van Haperen 2012, 63-67.

(80) Koch 1977, II, 132, Tafel 167, 622.5-7. (81) Koch 1977, 132. (82) Legoux/Périn/Vallet 2004, 17, 34, 53. (83) Koch 1977, Tafel 161, 615.6. (84) Koch 1977, 32, 47. (85) Legoux/Périn/Vallet 2004, 16, 34, 53. (86) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 18, Abb. 6.

Fig. 6.11
Copper alloy earring with polyhedron end from grave 50. Scale 1:1.

50-2

Fig. 6.12
Copper alloy bird brooch from the reopening pit related to graves 89 and 90. Scale 1:1.

11-I-8

Only three items of jewellery were found during excavations at Posterholt. They are a copper alloy earring, a bird brooch and an *agrave* with inlays. This small number is probably due to the reopening of many graves. It can be concluded that most dress accessories and jewellery were taken from the graves during the disturbances.

Earring

Find number 50-2

A single copper alloy earring with a polyhedron end was found in grave 50 (fig 6.11). This type of earring dates to two different periods.[87] Problematic is that both chronological groups are identical in form. The first group dates to the fifth and to the first half of the sixth century.[88] The second group dates to the *Jüngere Merowingerzeit* I and II, that is from c. 600 to 670/80.[89] It is thus not possible to date the Posterholt earring accurately. Also present in grave 50 were some beads that cannot be dated more precisely than to the second half of the sixth and seventh century. This might, however, indicate that the earring belongs to the second chronological group.

Legoux, Périn and Vallet classify this type of earring as type 302, which they mainly assign to their phases MA1 and MA2 (470/80-560/70), although they might be somewhat younger or older.[90] Siegmund states that the number of earrings in his research area is small.[91] This type of polyhedron earrings gradually disappears with the appearance of large earrings with a polyhedron and wire twisted around the main wire.[92] No overview of earrings in the Meuse valley and adjacent regions yet exists, but a general impression connotes that earrings are not a regular phenomenon in the area's cemeteries. One comparable specimen was found in grave 86 of the Rosmeer cemetery.[93] It is the only earring in the entire cemetery. Two comparable earrings were found in the Hamoir cemetery, in graves 120 and 183.[94] The specimen in grave 183 is decorated with a point-in-circle motif. Both graves contained undecorated iron plate buckles with triangular plates, which date them at least to the late sixth and seventh centuries. In view of this earring paucity, the few found in the Maastricht-Pandhof cemetery stand out.[95] Two pairs and one single earring of this type are silver and one specimen, now lost, was gold. Following Von Freeden, Kars dates these Maastricht earrings to the sixth century. Exquisite earrings with inlaid polyhedron ends were found among others in the cemeteries of Huy-Saint-Victor, Trivières, Haine-Saint-Paul, Franchimont, Wellin and Maastricht again.[96]

Bird brooch

Find number 11-I-8 (grave 89 or 90)

A bird brooch was found in the backfill of a reopening pit overlying graves 89 and 90 (fig. 6.12). It could have belonged to either grave. The brooch is somewhat bent, possibly due to activities related to the grave's reopening. It could also have been bent when it was first buried.

The bird brooch is a copper alloy cast specimen with no inlays. The eye is indicated with a point-in-circle motif. The mouth and claw are joined so the bird appears to be shouting out loud. The back is ribbed. Remains of the iron fastener are still present on the brooch's back. Wener classifies this as 'Westhoven' type brooches.[97] One could split the type in two subtypes, but each type would only contain a few specimens. Most 'Westhofen' bird brooches have a relatively pronounced swallow tail; others (like the Posterholt specimen) bear a trapezium shaped straight tail. Ten specimens of 'Westhofen' brooches are known to us.[98] Most are found along the Rhine, and others are found further east.

(87) Von Freeden 1979, 277-293. (88) Von Freeden 1979, 288. (89) Ament 1976. (90) Legoux/Périn/Vallet 2004, 18, 38, 54. (91) Siegmund 1998, 41. (92) For the latter type of earring, see Theuws/Van Haperen 2012, 74-75. (93) Roosens/De Boe/De Meulemeester 1976, 28, Pl. XVIII. (94) Alenus-Lecerf 1978, 28, 39, Pl. 35 and 51. (95) Kars 2011, 285-286, fig. 36. (96) Docquier/Bit 1989-1990, fig. 11; Faider-Feytmans 1970, II, planche 38, 70; Dierkens 1981, planche 14; Evrard 1997, 25; Kars 2011, 287-288, fig. 36. (97) Thiery 1939, 97; Werner 1961, 46, 61 (Fundliste 9), Tafel 43, nr 244; Hässler 1990, 192, Tafel 95, nrs 7 and 8; Ludowici 1997. (98) See appendix 6.1.

Fig. 6.13
The distribution of 'Westhoven' type bird brooches (see appendix 6.1).

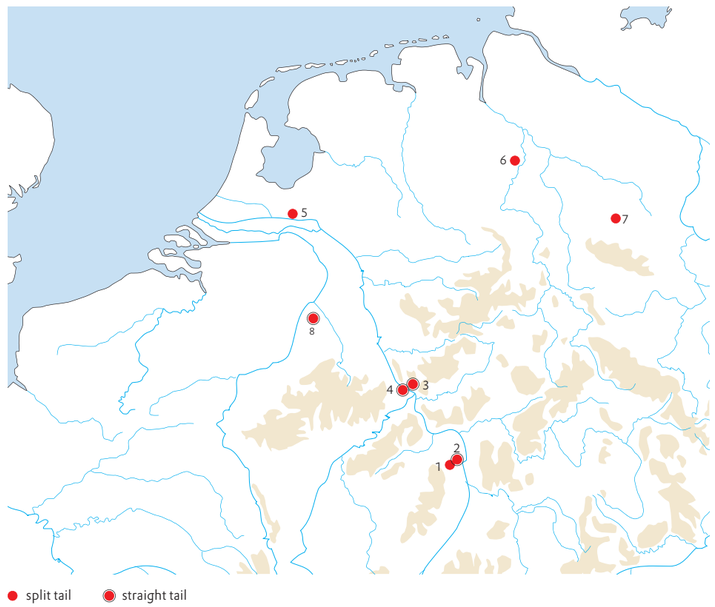


Fig. 6.14
Copper alloy and inlaid agrave from grave 57. Scale 1:1.

57-23

The Posterholt specimen is, seen from the Rhine river, the westernmost brooch (fig. 6.13). It is not made from any of the other brooches' casting models. Legoux, Périn and Vallet designated these kind of brooches as their type 245. They assigned it to their phases PM (second half) and MA 1 (460-520/30).[99] Ludowici, too, dates this type of brooch to the first half or middle of the sixth century.[100] This is probably the date of the Posterholt specimen.

Agrave (staple)

Find number 57-23

A copper alloy object best indicated with the French word *agrave* was found in grave 57 (fig 6.14). They are a kind of staple probably used to fasten textiles or small chains. The Posterholt specimen has a flat upper portion decorated with three inlaid circles. The two outer circles are filled with either garnets or glass, the central with glass or a whitish paste of other material. Legoux, Périn and Vallet designate these *agraves* as their type 295 and assign it to their phase MR 3 (660/70-700/10).[101] This is a late date, but it accords with the date Collardelle gives to these objects.[102] *Agraves* are a general phenomenon in early medieval France since c. 600 AD.[103] Their form however, is usually slightly different than the Posterholt specimen. As far as can be told, *agraves* are rare in the Meuse and Rhine river valleys.

Finger ring

Find number 22-115

Grave 22 unearthed half of a ring with a D-shaped section. Textile remains are attached. It is probably part of a finger ring.

(99) Legoux/Périn/Vallet 2004, 17, 36, 53. (100) Ludowici 1997, 149. (101) Legoux/Périn/Vallet 2004, 18, 38, 54. (102) Colardelle 1983, 356. (103) Cuisenier/Guadagnin 1988, 190. http://legio6victrix.com/archeologie/les-agrafes-a-double-crochet (consulted 30 April 2012).

Beads[104]

Beads of various materials appear regularly in Merovingian cemeteries.[105] They are mostly found in graves of women and children, and were used as jewellery (mostly necklaces and bracelets), but also as decoration on clothing, garments, straps, and pouches. Beads were most commonly made of glass, but also of other materials like amber, various types of metal, shell disc and precious stones (such as amethyst).

A total of 184 beads were recovered during excavations at Posterholt. Most were made of glass, some were amber and one bead fragment was of amethyst. The beads were distributed over 28 graves. One of these was a Roman cremation grave, which is already discussed in chapter 3. Since the Roman cremation grave contained one bead,183 beads dispersed over 27 Merovingian graves remain to be analysed.

The total amount of beads is quite small for early medieval cemeteries. Theuws and Van Haperen state that the overall amount of beads in Bergeijk is small, too, especially compared to the Rhineland cemeteries studied by Siegmund.[106] Still, with a total of 383 beads distributed over 35 graves, the average number of beads per grave in Bergeijk is 10.6, while the average at Posterholt it is only 6.8.[107] Looking at the average number of beads per grave, however, is not sufficient to make statements on the presence of beads in a cemetery. It is important to examine the range of bead numbers in each grave as well. Table 6.2 presents an overview of the number of beads per grave found at Posterholt. In 7 graves, only one single bead was found.[108] The three graves with the highest number of beads are grave 9 (24 beads), grave 22 (20 beads), and grave 85 (35 beads). Still, the largest number of beads in a grave being only 35 demonstrates that the amount of beads at the Posterholt cemetery is indeed very low.[109]

There are several explanations for the low number of beads found at the Posterholt cemetery. Small items such as small barrel shaped beads could have been overlooked during excavations. Careful sieving of the grave's complete filling could prevent this, but this was not regularly done during the Posterholt excavations.[110] Alternately, some beads could have disintegrated in the non- preservative sandy soil. This is especially the case with late Merovingian beads of yellow glass. Most of Posterholt's yellow glass beads were partly or almost completely disintegrated. Some were still recognizable as yellow opaque (often small barrel shaped) glass beads, but others were completely disintegrated, leaving nothing more than yellow traces in a bag of sand. If these beads were in such bad condition when they were excavated, many may have vanished long before investigations took place. This is also true for possible beads made of organic material like shell disc.

Still, the low number of beads may mainly be attributed to post-depositional processes and human interventions. Many of Posterholt's graves were reopened, during which beads were probably deliberately removed. Beads may also have accidentally gone missing while other objects were taken from the grave. Another consideration involves the possibility that more than one grave was reopened at once. It is possible that beads from one reopened grave were unintentionally transferred to the fill of another reopened grave.

Table 6.2
Number of beads per grave.

Context nr	Number of beads	Missing beads	Mono-chrome	Poly-chrome	Amber	Amethyst
4	1				1	
7	18		18			
8	6		2		4	
9	24		16	4	4	
22	20		12	6	2	
31	1		1			
46	13		12	1		
49	4		3		1	
50	9		9			
52	2	2				
55	2		2			
59	3		3			
62	2			1	1	
63	2		2			
67	1		1			
75	1		1			
76	10		10			
77	3		2		1	
78	8		5	3		
80	1		1			
82	2	1	1			
83	3		3			
84	1				1	
85	36		20	10	5	1
86	9		9			
87	2		1		1	
88	1				1	
total	185	3	134	25	22	1

Table 6.2 also displays the materials the beads are made of. Most of Posterholts' beads are made of glass, but 22 are made of amber and one fragment is made of amethyst. Three beads have gone missing after the excavation. Two were the only beads in grave 52 (52-11/13), and the other was from grave 82 (82-5). They are excluded from this analysis since their material is unknown. This leaves us with 180 beads to be analysed.

The number of glass beads amounts to 157. Glass beads are found all over the Merovingian world and the variety in types is immense. The present analysis distinguishes between monochrome and polychrome glass beads. Monochrome beads are made of a single colour of glass, whether opaque or translucent. The base material of polychrome beads may be a single colour, but their decoration consists of one or several different colours and patterns. As apparent in table 6.2, Posterholt contained 24 polychrome beads versus 133 monochrome glass beads. Polychrome beads may be under-represented because of one of the reasons discussed above, but this under-representation may also be a good example of later seventh century bead assemblages. According to Walter, these later assemblages are in general less varied and contain less elaborately decorated beads than earlier sixth century assemblages.[111]

The typo-chronology of beads

Most studies of beads from early medieval contexts have focused on bead typo-chronological analysis using seriation methods. Theuws and Van Haperen discuss the history of bead analysis and the problems that arise when using seriation methods in their publication of the Bergeijk cemetery.[112] When reading their section on the beads found at the Bergeijk cemetery, it becomes clear that difficulties arise when typo-chronologies of beads are used to date graves of women or children. Still, Theuws and Van Haperen consider themselves moderate pessimists in the debate and acknowledge that some of the extensive bead studies are indeed useful for analysing beads.[113] The most relevant studies used in this section are those of Siegmund and Koch.[114] Koch's contribution is most useful in defining polychrome beads. Siegmund provides us with a typology for both monochrome and polychrome glass beads, but more importantly, establishes a typology not based on single beads but on bead assemblages, or *Kombinationsgruppen*. Siegmund relates his *Kombinationsgruppen* to his Rhineland chronology. Koch uses the same method in her publication on the material from Pleidelsheim. She, too, relates different *Kombinationsgruppen* to her Southern Germany chronology phases (SD *Stufen*). Both chronologies were used to analyse the beads from Posterholt. Still, many of the graves from Posterholt contained only a small amount of beads, making chronological analysis un-ideal. Dating single beads is problematic, since Siegmund acknowledges that old beads were reused in new assemblages.[115]

For classification of Posterholt's monochrome beads, a similar approach as for the beads from Bergeijk is used. This approach is best explained when looking at table 6.3 and figure 6.15. Two variables are displayed: colour and shape. The variable 'shape' is defined on the basis of different publications.[116] As apparent in table 6.3, a total of 43 different shapes were distinguished.[117] They are presented in figure 6.15. The variable 'colour' consists of basic colours and different materials (silver, gold, crystal, amethyst, shell discs and amber). Among the basic colours, a separation between opaque or translucent types is made. A bead's type is defined by the combination of colour and shape. For example, an opaque orange barrel shaped bead becomes type OO19.

This method's purpose is to create a relatively simple overview of different bead types found in a single cemetery. As already stated in the Bergeijk publication, it would be interesting to undertake a similar extensive analysis for all cemeteries in the southern Netherlands and Meuse valley. Unfortunately, due to insufficient cemetery publications, this is not possible.[118] For now we could only compare Posterholt's collection with Bergeijk's, and for a broader view, relate those collections to the beads analysed by Koch and Siegmund.

Glass beads: monochrome

Find numbers 7-1/2/3/4/5/6/7/8/9/10/11/12; 8-2; 9-5/6/7/8/11/13/15/17/19/20;22-90/91/92/93/95/97/100/101/102/110/112; 31-8; 46-5/12/13/14/15/21/23/24/25/26/28/29; 49-9/14/15; 50-1.1/1.2/3/6/8/9/10/11/12; 55-6/7; 59-6/7/11; 63-1/2; 67-3; 75-1; 76-6/8/9/10/11/12/14/18/19/20; 77-2/6; 78-3/5/6/9/13; 80-5.2; 82-4; 83-10/12/13; 85-1/5/6/10/13/14/18/23/25/27/28/29/30/32/40/41/44/45/47/60; 86-9/13/14/15/16/17/18/19/20; 87-4

As written earlier, 133 monochrome glass beads were found. The beads could be classified in 128 cases. The results of this classification are presented in table 6.4.[119] A total of 44 types of monochrome beads were distinguished. The colours most frequently found at Posterholt are yellow and green, with 30 yellow opaque beads and 24 green opaque beads being found. The amount of

(104) The beads were analysed by M. de Haas. (105) However, it is important to state that beads are found in men's graves as well, as decoration on straps, scabbards and pouches, etc/. (106) For the average amount of beads in Rhineland cemeteries, see Siegmund 1998, 60-61. (107) Theuws/Van Haperen 2012, 78, table 6.1. (108) Graves 4, 31, 67, 75, 80, 84, and 88. (109) To compare: at Bergeijk the highest number of beads in a grave is 63 and even that number is considered low by Theuws and Van Haperen (2012). (110) In order to prove this point: 2 beads were found during sieving of skeletal remains from Posterholt when preparing them for physical anthropological analysis. Furthermore, in grave 2008-2 of the Borgharen cemetery, almost 150 beads were found. Several were recovered during sieving of the grave filling after the grave was excavated, even though excavation was carried out meticulously. (111) Walter 2008, 85. (112) Theuws/Van Haperen 2012, 79-80. (113) Theuws/Van Haperen 2012, 79-80. (114) Siegmund 1998; Koch 1977 (Schretzheim), 2001 (Pleidelsheim). (115) Siegmund 1998, 58. (116) Theuws/Van Haperen 2012, fig. 6.17. (117) New forms may be defined when larger numbers of beads appear in a cemetery. (118) Theuws/Van Haperen 2012, 89. (119) The total amount of beads in this figure is 139, but it also contains 11 amber specimens.

Table 6.3
The standard identification table for monochrome beads used in the ANASTASIS project, including Siegmund's corresponding types (Siegmund 1998).

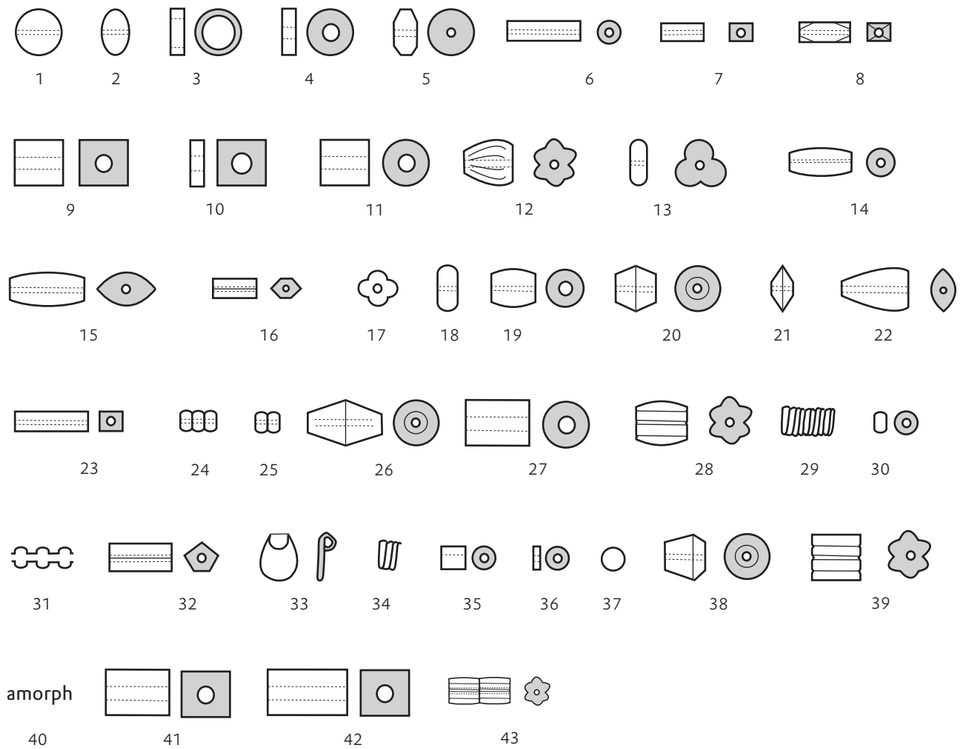
	Shape	RO	RT	GO	GT	YO	YT	BO	BT	OO	OT	BLO	BLT	BRO	BRT	WO	WT	CT	SU	GU	C	AM	S	OG	TG	A
1																										
2																										
3																										
4																										
5																										
6	S35.1				S46.2			S1.2	S1.2																	
7																										
8									S47.9																	
9																										
10																										
11				S36.2						S34.1																
12																										
13																										
14																										
15				S1.8																						
16					S46.4																					
17																										
18																										
19																										
20	S35.6					S33.5		S37.1	S47.3	S34.1																
21					S46.1		S43.1		S47.2																	
22									S47.6																	
23																										
24	S35.7			S36.4		S33.6		S37.2	S47.7			S31.2														
25	S35.7			S36.4		S33.6		S37.2	S47.7			S31.2														
26									S47.5																	
27					S46.3																					
28																										
29					S46.5				S47.4																	
30												S31.1														
31						S42.2																				
32					S46.4																					
33																										
34	S35.5			S36.3																						
35	S35.2			S36.1		S33.1			S47.1																	
36	S35.3	S45.1				S33.2																				
37	S35.4	S45.1				S33.3	S43.1		S47.1																	
38						S33.4																				
39									S47.8																	
40																					S5.1					
41																										
42																										
43																										

	Shape	RO	RT	GO	GT	YO	YT	BO	BT	OO	OT	BLO	BLT	BRO	BRT	WO	WT	CT	SU	GU	C	AM	S	OG	TG	A
1																										
2																										
3																										
4																										
5																										
6	S35.1				S46.2			S1.2	S1.2																	
7																										
8									S47.9																	
9																										
10																										
11				S36.2						S34.1																
12																										
13																										
14																										
15				S1.8																						
16					S46.4																					
17																										
18																										
19																										
20	S35.6					S33.5		S37.1	S47.3	S34.1																
21					S46.1		S43.1		S47.2																	
22									S47.6																	
23																										
24	S35.7			S36.4		S33.6		S37.2	S47.7			S31.2														
25	S35.7			S36.4		S33.6		S37.2	S47.7			S31.2														
26									S47.5																	
27					S46.3																					
28																										
29					S46.5				S47.4																	
30												S31.1														
31						S42.2																				
32					S46.4																					
33																										
34	S35.5			S36.3																						
35	S35.2			S36.1		S33.1			S47.1																	
36	S35.3	S45.1				S33.2																				
37	S35.4	S45.1				S33.3	S43.1		S47.1																	
38						S33.4																				
39									S47.8																	
40																					S5.1					
41																										
42																										
43																										
		RO	RT	GO	GT	YO	YT	BO	BT	OO	OT	BLO	BLT	BRO	BRT	WO	WT	CT	SU	GU	C	AM	S	OG	TG	A

Table 6.4
Classification of the monochrome beads from Posterholt.

Shape	RO	RT	GO	GT	YO	YT	BO	BT	OO	OT	BLO	BLT	BRO	BRT	WO	WT	CT	SU	GU	C	AM	S	OG	TG	A	# colours	# beads	Shape
1																										0	0	1
2																										0	0	2
3																										0	0	3
4								1																		1	1	4
5																										0	0	5
6	1						1																			2	2	6
7																										0	0	7
8																										0	0	8
9																									1	1	1	9
10																										0	0	10
11			5												1											2	6	11
12																										0	0	12
13																										0	0	13
14																										0	0	14
15			1																							1	1	15
16																										0	0	16
17																										0	0	17
18			1					1	1			1	1			2										4	5	18
19	4		3						6	12						4										7	31	19
20	3						1			3						1										4	8	20
21																										0	0	21
22									1																	2	9	22
23																										1	1	23
24	4		6		1			3				1														4	12	24
25	4							1				1			1											5	13	25
26																										0	0	26
27																										0	0	27
28				3	2		1																			1	1	28
29				3	2				1																	4	7	29
30	1		4	1	26			1	1						4											6	37	30
31																										0	0	31
32					1																					1	1	32
33																										0	0	33
34																										0	0	34
35	2																									1	2	35
36																										0	0	36
37																										0	0	37
38																										0	0	38
39																										0	0	39
40																										0	0	40
41																									1	1	1	41
42																										0	0	42
43																										0	0	43
# beads	19	0	24	4	30	0	4	15	15	0	2	1	0	0	14	0	0	0	0	0	0	0	0	0	11		139	
# shapes	7	0	7	2	4	0	4	8	2	0	2	1	0	0	7	0	0	0	0	0	0	0	0	0	4			
Shape	RO	RT	GO	GT	YO	YT	BO	BT	OO	OT	BLO	BLT	BRO	BRT	WO	WT	CT	SU	GU	C	AM	S	OG	TG	A	# colours	# beads	Shape

Fig. 6.15
The repertoire of bead shapes included in tables 6.3 and 6.4.



yellow opaque small barrel shaped glass beads is striking. The presence of 26 specimens is extraordinary since they are very small and in many cases poorly preserved. Many were almost disintegrated when recovered. The fact that such a large number remained suggests that the original amount was even bigger. The most frequently found shape is barrel shaped. In total, 37 small barrel shaped and 31 (larger) barrel shaped beads were found. Barrel shaped beads are very common in the Merovingian period, thus the plethora of this shape is not conspicuous.

Of the 44 types of beads at Posterholt, 21 types correspond with those described by Siegmund. The most frequently found types are the green opaque double or multiple segmented beads[120] and red opaque double or multiple segmented beads.[121] The green specimens are identical to Siegmund's type 36.4 and belong to his *Kombinationsgruppen* G-H. The red specimens are identical to Siegmund's type 35.7 and belong to his *Kombinationsgruppe* H.

The green opaque short cylinder shaped beads are identical to Siegmund's type 36.2,[122] the blue translucent double or multiple segmented beads are identical to type 47.7[123], the orange opaque biconical shaped beads are identical to type 34.1[124], the red opaque biconical shaped beads are identical to type 35.6,[125] the red opaque short cylinder shaped beads are identical to type 35.2,[126] and the green translucent long twisted beads are identical to type 46.5.[127] All these types belong to his *Kombinationsgruppen* G-I or F-I except type 35.2, which belongs to his *Kombinationsgruppen* C-F.

Single beads corresponding to one of the Rhineland types are: find number 46-28, identical to type 1.8; find number 83-12, identical to type 37.1; find number 86-17, identical to type 31.2; find number 49-14, identical to type 32.3; and find number 78-3,

(120) Find numbers 8-2, 9-7, 9-19, 46-14, 46-25, 85-28 and 86-16. (121) Find numbers 7-1, 7-6, 46-26 and 85-23. (122) Find numbers 50-3, 50-8, 50-10, 50-11, 50-12. (123) Find numbers 9-8 and 85-6. (124) Find numbers 9-5 and 77-2. (125) Find numbers 83-10, 83-13 and 87-4. (126) Find numbers 46-15 and 78-9. (127) Find numbers 7-7 and 46-24.

Table 6.5
Siegmund's *Kombinationsgruppen* and their corresponding dates.

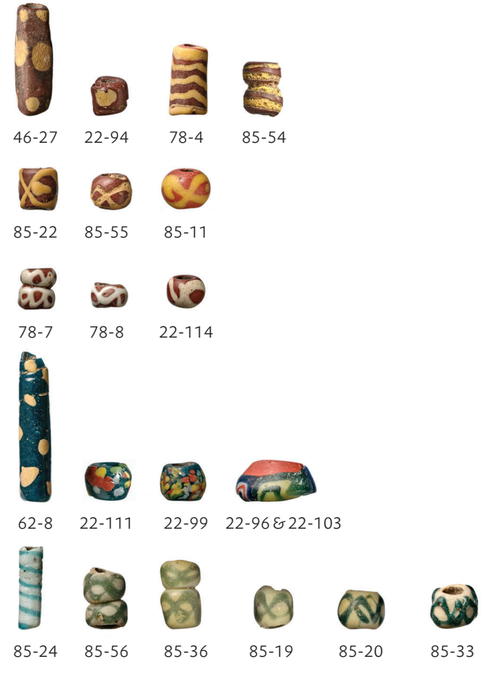
Kombinationsgruppe	Phase	Date
A		Roman-400
B	2	440-485
C	3-4	485-555
D	3-6	485-585
E	4-7	530-610
F	5-9	555-640
G	6-8	570-640
H	8-10	610-705
I	8-10	610-705

identical to type 32.2. All these belong to his *Kombinationsgruppen* H-I.

Types belong to other *Kombinationsgruppen* are find number 7-12, identical to type 47.4 and belonging to *Kombinationsgruppen* F-I; find number 59-7, identical to type 35.1 and belonging to *Kombinationsgruppe* B-F; find number 7-10, identical to type 33.6 and belonging to *Kombinationsgruppen* G-H; and find number 59-6, identical to type 1.2 and belonging to *Kombinationsgruppe* A. Find number 85-1 is identical to Siegmund's type 47.6 but could not be assigned to one of his *Kombinationsgruppen*.

Table 6.5 presents an overview of Siegmund's *Kombinationsgruppen*, the phases in which they appear, and their corresponding dates. Looking at the types described above, most of Posterholt's beads can be assigned to Siegmund's *Kombinationsgruppen* G-I, giving them a date between the second half of the sixth and the third quarter of the seventh century (555-670). There are exceptions, such as grave 59's beads. Find number 59-6 belongs to *Kombinationsgruppe* B-C (440-555) and find number 59-7 belongs to Siegmund's *Kombinationsgruppen* B-F (440-640). Other anomalies are find numbers 46-15 and 78-9, which belong to Siegmund's *Kombinationsgruppen* C-F (485-640). In the latter two cases, an earlier date is possible, but because they are the only two cases with a broad date, their presence does not challenge the hypothesis that most beads found at Posterholt have a late sixth or seventh century date. Grave 59 could have an earlier date because it contained two early beads. The grave contained three beads in total: two could have a fifth or sixth century date and one (59-11) cannot be assigned to any of the available typologies. The question remains whether more beads (of a possible later date) were present when the deceased was buried. All three beads were found at the bottom of the grave (4 cm above the deepest level of the grave pit),

Fig. 6.16
Polychrome beads found at the Posterholt cemetery. Scale 1:1.



in the vicinity of a possibly articulated skull. However, the rest of the human remains seem disarticulated and other datable objects were not found. The disturbed character suggests that the grave was reopened, making it impossible to provide an accurate date for grave 59.

Most of the monochrome beads cannot be placed in the available bead typologies. In 6 cases, this is because the bead shape cannot be determined. In all the other cases, the lack of comparable specimens may indicate that some of these monochrome beads were produced only locally. It would thus be interesting to see if similar types are found in cemeteries located in the vicinity of Posterholt.

Glass beads: polychrome

Find numbers 9-9/10/16/18; 22-94/96 and 103/99/111/114; 46-27; 62-8; 78-4/7/8; 85-11/19/20/22/24/33/36/54/55/56

As written earlier, 24 polychrome beads were found at Posterholt. The beads are shown in figure 6.16. The publications of Siegmund

and Koch were used to analyse Posterholt's polychrome beads.[128] All of Posterholt's polychrome beads had comparable specimens found in either the Rhineland or Southern Germany. The only exceptions were those of which the decoration pattern could not be established.

Four polychrome beads were found in grave 9. Two were impossible to classify because their decoration pattern was damaged. The other two are identified as Koch type 20.26 (9-9) and Koch type 1.27 (9-16).[129] Type 20.26 is assigned to Koch's *Kombinationsgruppe* C. Type 1.27 belongs to Koch's *Kombinationsgruppe* E.[130]

Four polychrome beads and two fragments of a single polychrome bead were found in grave 22. Find numbers 22-96 and 22-103 represent two fragments of a single *Millefiori* bead. *Millefiori*, or 'leaf type' beads, are characterized by their floral decoration motifs. They are a common bead type in Merovingian contexts and appear in the cemeteries discussed by Siegmund and Koch. Siegmund distinguishes three types of *Millefiori* beads; Posterholt's specimen is identical to his type 2.13.[131] Koch's typology is much more elaborate, but it is difficult to find an exact parallel for the specimen from Posterholt. Its decoration pattern resembles that of types M38 and M48, but its shape is different.[132] According to Siegmund, *Millefiori* beads were used all through the Merovingian period and could therefore not be assigned to a specific phase or *Kombinationsgruppe*. Koch is slightly more specific in dating *Millefiori* beads. In her publication of the Schretzheim cemetery she argues that *Millefiori* beads appear for the first time in her *Stufe* 2 (545/550-565/70) and become more frequent in her *Stufe* 3 (565-590/600).[133] Her typology is further elaborated by Volkmann and Theune. They state that *Millefiori* beads appear in graves of Southern Germany just before the second half of the sixth century. The types dated around 600 are most varied. They become less varied, more simple and of lower quality towards the end of the seventh century.[134] One important difference between earlier and later specimens is that later beads bear an orange opaque rim at both ends.[135] Koch does not mention a specific *Stufe* for *Millefiori* beads of types M48 or M38. However, the graves in which these types of *Millefiori* beads are found are assigned to *Stufe* 2 (grave 70) and *Stufe* 4 (grave 251).[136] The fact that the specimen from Posterholt has an orange opaque rim implies that it is a later type of *Millefiori* bead. A specific date however, cannot be provided.

Four other polychrome beads were found in grave 22. Find number 22-94 is a red opaque short cylindrical glass bead decorated with three yellow dots. This bead type can be classified as Koch type 1.33, and belongs to her *Kombinationsgruppe* E.[137] Find numbers 22-99 and 22-111 are blue opaque barrel-shaped beads decorated with green, yellow, white and red dots. They can be defined as Siegmund type 2.15 and belong to his *Kombinationsgruppen* H-I.[138] Find number 22-114 is a red opaque barrel-shaped bead with a white braided band. This type is defined as Siegmund type 35.8 and Koch type 34.47.[139] According to Siegmund it belongs to his *Kombinationsgruppen* F-I.[140] Koch assigns this type to her *Kombinationsgruppe* D.[141]

Only one polychrome bead was found in graves 46 and 63. Grave 46's bead (46-17) is a red opaque cube-shaped bead decorated with yellow dots. It can be defined as Siegmund type 2.5[142] and Koch type 4.8.[143] According to Siegmund this bead type belongs to his *Kombinationsgruppen* H-I. Koch assigns it to her *Kombinationsgruppe* E.[144] Grave 63's bead (62-8) is a blue opaque long cylindrical bead decorated with yellow dots. It is defined as Koch type 3.42.[145] This type is not assigned to any of Koch's *Kombinationsgruppen*.

Three polychrome beads were found in grave 78. Find number 78-4 is a red opaque cylinder-shaped bead decorated with yellow bands. The bead is defined by Siegmund as type 35.19 and belongs to his *Kombinationsgruppe*n F-H. Find numbers 78-7 and 78-8 are red opaque double-segmented beads decorated with a white braided band. Find number 78-8 has one of its segments missing. The breakoff notch is still clearly visible, implying it was probably similar to find number 78-7. Double-segmented beads of this type are not found in the studies of Koch and Siegmund. However, the single segments resemble Siegmund type 35.8 and Koch type 34.48. [146] According to Siegmund this type belongs to his *Kombinationsgruppen* F-H.[147] Koch assigns it to her *Kombinationsgruppe* D.[148]

Ten polychrome beads were found in grave 85. Five (85-19, 85-20, 85-33, 85-36, 85-56) are opaque white beads decorated with a green braided band. Two (85-36 and 85-56) are double-segmented, the others are barrel-shaped. The barrel-shaped beads are defined as Siegmund type 32.6, and belong to his *Kombinationsgruppen* F-H.[149] Koch is more specific about the way the green braided band is draped around the white opaque bead. Find numbers 85-19, 85-36 and 85-56 are decorated as Koch type 34.30, find number 85-20 is decorated as Koch type 34.25, and find number 85-33 is decorated as Koch type 34.37.[150] Koch's type 34.30 is not assigned to any of her *Kombinationsgruppen*, but types 34.25 and 34.37 belong to her *Kombinationsgruppe* D.[151] Other polychrome beads found in grave 85 are red opaque beads decorated with a yellow band (85-54), a yellow braided band (85-55), or a yellow braided band with dots (85-11 and 85-22), and a white opaque long cylindrical bead with a blue band twisted around the bead (84-24). Find number 85-11 is defined as Siegmund type 35.12 and belongs to his *Kombinationsgruppen* F-G. The bead is identical to Koch type 20.23.[152] Find number 85-22 has a similar decoration pattern, but is short cylinder-shaped instead of barrel shaped. This type is defined as Koch 20.30.[153] Type 20.30 is not assigned to any of Koch's *Kombinationsgruppen*, but type 20.23 is assigned to her *Kombinationsgruppe* C.[154] Find numbers 85-24 and 84-54 do not resemble any of the types mentioned by Siegmund. Still, find number 85-24 is defined as Koch type 42.2. This type is discussed in Koch's publication on the Schretzheim cemetery. There she assigns the type to her *Stufe* 4 (590/600-620/30).[155] Find number 85-54 is decorated as Koch 42.35[156] and assigned to Koch's *Kombinationsgruppe* D.[157] Find number 85-55 is defined as type 35.8 by Siegmund, and type 34.59/60 by Koch. Siegmund's type is assigned to his *Kombinationsgruppen* D-H (485-705). Koch's types are assigned to her *Kombinationsgruppen* D (600-650).

Examining the Rhineland phases to which most beads were assigned, the results for the polychrome beads do not differ much from those of the monochrome beads. Most beads could be assigned to Siegmund's *Kombinationsgruppen* F-I (555-670), only slightly earlier than most of the monochrome beads belonging to *Kombinationsgruppe* G-I (570-670). Comparing these dates to those presented by Koch in the Pleidelsheim cemetery publication reveals a similar picture. Most of her types belong to her *Kombinationsgruppe* D, which appears in her *Stufen* 8 and 9 (600-650), but specimens from *Kombinationsgruppe* C and E were found as well. When all *Kombinationsgruppen* are considered, the beads found in Koch's typology date from *Stufe* 6 through 10 (555-670), which is in exact agreement with the dates provided by Siegmund.

All of Posterholt's polychrome beads had comparable specimens, or at least similar decoration patterns as the types discussed by Koch and Siegmund. This implies that if beads were indeed produced locally, widespread consensus existed on the beads' form and decoration patterns. It is also possible that beads types were produced on a more regional scale and played an important role in the long distance trading system, and in supra-regional exchanges between families or other alliances.[158] Systematic analysis of bead assemblages from other cemeteries in the Meuse valley could provide us with more information on the production and circulation of beads in the early medieval period.

Amber beads

Find numbers 4-5; 8-5.1/5.2/5.3/5.4; 9-4/12/14; 22-98/123; 49-13; 62-16; 77-10; 84-14; 85-9/12/15/21/31; 87-2; 88-14

Amber beads occur in graves throughout the entire Merovingian period. Their material recourse can be found in the Baltic area, or Eastern Europe.[159] Detailed studies of the presence of amber beads in cemeteries in the Netherlands have not been carried out.[160] The same is true for typo-chronological analysis, but with good reason. Because amber beads are widespread throughout the Merovingian period and because many were not subject to major transformations in shape and style over time, typological analysis will not be helpful in dating individual beads. It is therefore not yet possible to make useful statements on the chronology of these bead types.

Fig 6.17 presents all complete amber beads found at the Posterholt cemetery. Most are asymmetrical biconical or droplet shaped (find numbers 4-5, 8-5.1, 8-5.4, 9-12 (two specimens), 85-9, 85-12 and 85-15). Others are rectangular shaped (9-14), cube shaped (22-98) and elongated with a square section (85-31). In two cases, the shapes do not match with any of the shapes of the classification scheme used to classify monochrome glass beads.[161] Find number 85-21 was elongated with a D-shaped section, and find number 8-5.2 was droplet shaped with a triangular section. In 9 cases, the shape was irregular or indeterminate.[162] Two specimens (85-21 and 85-31) are decorated with grooves, which is quite rare in the Merovingian period.

Amethyst bead

Find number 85-26

As noted earlier, Posterholt unearthed one fragment of an amethyst bead (fig 6.18). In his recent study on the presence of amethyst beads in early medieval contexts, Drauschke argues that amethyst beads are widespread in the Merovingian world from the second half of the sixth century onwards.[163] To learn more about amethyst bead distribution through time, Drauschke took a closer look at the presence of amethyst beads in well-dated contexts of Southern Germany. He concluded that the number of amethyst beads increases considerably around the end of the sixth century. It decreases slightly in the middle of the seventh century, but in general, amethyst beads are still widely used throughout the seventh century.[164] Information on the provenance of amethyst beads is more difficult to provide. Koch and Christlein argue for a Mediterranean provenance, based mainly on common combination with gold pendants.[165] Drauschke, however, argues that these assumptions are not valid for all beads found in Merovingian

(128) Siegmund 1998; Koch 2001. (129) Koch 2001, 604, Farbtafel 4; 593, Farbtafel 1. (130) Koch 2001, 162-163, Tabelle 8. (131) Siegmund 1998, 67. (132) Koch 1977, 216-217, Farbtafel 6. (133) Koch 1977, 218. (134) Volkmann/Theune 2001, 521-553. (135) Volkmann/Theune 2001, 521-553. (136) Koch 1977, 216-218, Tabelle 2. (137) Koch 2001, 594, Farbtafel 1. (138) Siegmund 1998, 67. (139) Koch 2001, 612, Farbtafel 6. (140) Siegmund 1998, 72. (141) Koch 2001, 163, Tabelle 8. (142) Siegmund 1998, 66. (143) Koch 2001, 596, Farbtafel 1. (144) Koch 2001, 163, Tabelle 8. (145) Koch 2001, 595, Farbtafel 1. (146) Koch 2001, 612, Farbtafel 6. (147) Siegmund 1998, 71. (148) Koch 2001, 163, Tabelle 8. (149) Siegmund 1998, 68. (150) Koch 2001, 611, Farbtafel 6. (151) Koch 2001, 163, Tabelle 8.

(152) Koch 2001, 604, Farbtafel 4. (153) Koch 2001, 604, Farbtafel 4. (154) Koch 2001, 162-163, Tabelle 8. (155) Koch 1977, 208-209. (156) Koch 2001, 615, Farbtafel 7. (157) Koch 2001, 163, Tabelle 8. (158) Kars in press. (159) Bohnsach 1976. (160) At present M. Langbroek creates an inventory and analysis of such beads in the Netherlands in the context of a master thesis. (161) This classification scheme is presented in figure 6.14. (162) Indeterminate shapes were: 8-5.3, 9-4, 22-123, 49-13, 62-16, 77-10, 84-14, 87-2 and 88-14. (163) Drauschke 2010, 54. (164) Drauschke 2010, 55-56. (165) Koch 1977; Christlein 1966.

Fig. 6.17
Amber beads found at the Posterholt cemetery. Scale 1:1.

contexts, and that only scientific analysis can provide definitive answers. Unfortunately, mineralogical and chemical analysis of amethyst beads from the region north and west of the Alps has not yet been executed on a grand scale.

The fragment found in grave 85 at Posterholt is 1.3 cm long. Its original shape is indeterminate, but it probably was droplet shaped. The original specimen was probably quite large. It has been suggested that amethyst beads become larger and more transparent in the seventh century, possibly due to a change of raw material[166] The Posterholt specimen could thus be seen as an example of these later specimens. Nevertheless, Drauschke takes issue with this theory. He measured the length of 776 beads from datable contexts. He established that most of the larger beads with lengths between 1.7 and 1.9 cm indeed appear from the end of the sixth century onwards. At the same time however, some of the largest specimens with lengths over 2 cm were also found in earlier contexts. He thus concludes that large beads occur in the sixth century as well.[167]

The location of beads in the grave

Bead location depends on processes occurring after the deceased's deposition. Body decomposition, animal burrowing, and grave reopening can all contribute to bead movement. The location of most finds was carefully documented during Posterholt's excavations. Each find was marked on the field drawings with its find number and height. Grave 85 was even provided with a separate drawing, on a 1:20 scale, to finesse its bead location. Unfortunately, this grave was reopened, which makes this information of little value in establishing the bead's original location of deposition.

Twenty-seven graves contained beads. Grave disturbance was clear for graves 17 of them (graves 8, 46, 49, 50, 52, 55, 63, 76, 77, 78, 80, 82, 83, 84, 85, 86, and 87). Most of them possessed clear reopening pits, and if they didn't, shattered finds and displacement or absence of skeletal material indicated human intervention. Nine graves (4, 7, 9, 22, 31, 59, 62, 75 and 88) were possibly reopened. For most of these, lack of skeletal remains together with possible displaced finds indicate the grave was probably disturbed, but not necessarily by reopening. After all, skeletal remains are not well preserved in the sandy soil, and other post depositional processes could give the grave a disturbed character as well.

Since seventeen graves had certainly been reopened, and nine were possibly reopened, only one grave with beads remains undisturbed. Because so many graves were disturbed or possibly disturbed, clear statements on bead location are difficult to make.

(166) Christlein 1966; Koch 1987. (167) Drauschke 2010, 57.

Fig. 6.18
Fragment of the amethyst bead found in grave 85. Scale 2:1.

However, in 14 out of the 27 cases, bead concentrations were still found in the grave's west. Three other graves (4, 59 and 67) contained a bead near the skull. For graves 4 and 67, this was the only bead found in the grave. Both their beads were found during sieving of skull and jaw remains in preparation for physical anthropological analysis. Interestingly, grave 67 was the only undisturbed grave containing beads. We would expect it to have possessed more beads, but cannot determine whether beads were overlooked during excavation or if there are other reasons for the lack of beads, such as bad preservation or animal burrowing. It could be possible that only a single bead was deposited in the grave. Three beads were found in grave 59: one near the skull, the others slightly more south, but still in the grave's west. Some skeletal remains looked displaced and there were dispersed pottery fragments and sandstone fragments, making the grave appear reopened. Still, the skull may have been untouched. This is not certain for the area around the thorax, were most beads are expected. Maybe most beads were taken from the grave, while the three specimens present where left behind (accidentally or on purpose). However, these three beads may also have been the only ones deposited. After all, a clear reopening pit was never found.

In several cases (graves 9, 49, 50, 63, 76 and 82), beads are scattered in the grave's northwest corner. Since most bodies were placed with the head to the west, this is likely the location of the neck and thorax. No skeletal remains were present so certainty cannot be provided. Still, despite the disturbance of many graves, most beads are found in areas where a necklace is expected. In graves 9 and 85, Roman coins were found that were used as pendants. They were probably part of a necklace together with the beads. Nonetheless, beads were also used as decoration on clothing, garments and straps, in which case they could still be located around the neck and thorax.

The beads from the Posterholt and Bergeijk cemeteries

A goal of our research program is to provide information on bead circulation, bead deposition and the various ways beads were used in the burial ritual. We hope to grasp some of the intra- and inter-family exchange patterns and define social positions and various female gender identities, in combination with other evidence on age and gender, as well as later evidence from isotope- and DNA- analysis. We will build this image by comparing each newly analysed cemetery with the previously ones. Here we compare the beads from Posterholt with those from the Bergeijk cemetery.

In comparing Posterholt's beads with Bergeijk's, it must be noted that both cemeteries contained few beads. In both cases many beads seem to be missing. Grave reopening may be the major cause for that. In the chapter on Bergeijk's post-depositional interventions, Van Haperen compares bead presence in reopened graves with undisturbed graves. Unfortunately, this cannot be done for Posterholt since all but one of Posterholt's graves were possibly or definitely reopened.

Speaking broadly, Posterholt's beads resemble those found at Bergeijk. Both cemeteries contained mainly glass beads and more monochrome beads than polychrome beads. The total number of beads at Bergeijk is higher, making the percentage of polychrome beads at Posterholt slightly higher. In both cases, all polychrome beads had parallels to those studied by Koch or Siegmund, while it was more difficult to find parallels for monochrome beads. This strengthens the hypothesis that the monochrome beads were produced and exchanged more locally while polychrome beads were produced and exchanged over larger regions.

Posterholt does contain more amber beads than Bergeijk. Twenty-two out of 182 of Posterholt's beads were of amber, while at Bergeijk this was only 10 out of 244. This means that 12% of Posterholt's beads were of amber compared to 4% in Bergeijk. Nonetheless, both cemeteries were probably missing many beads, and too few cemeteries have been analysed to interpret this difference. The presence of beads from other materials differed as well. Posterholt contained a fragment of an amethyst bead while Bergeijk lacked beads of this material. Conversely, Bergeijk contained shell disc and metal beads while beads of this material were not found at Posterholt. Again, there are too few beads of any material to comment on these differences.

The comparison so far is based on general statistics. To learn more about Posterholt's and Bergeijk's bead assemblages, we must examine the most frequently found bead type: glass. Since both cemeteries contained few polychrome beads, comparing those assemblages is fruitless. Such an analysis might be valuable when more evidence from the southern Netherlands becomes available. This section thus focuses on monochrome beads only; they are the commonest bead type in both cemeteries and they are similarly analysed.

Table 6.6 displays all classified beads found at the Bergeijk. Posterholt's table (table 6.4) shows some striking similarities. Yellow (opaque) is the most common colour in both cemeteries and blue translucent, orange opaque, and white opaque beads appear frequently at both sites as well. Bead shapes share similarities too. Barrel shaped and biconical shaped beads are common

Table 6.6
Classification of the monochrome beads
from Bergeijk (Theuws/Van Haperen 2012).

# beads	# forms	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1		Shape
15	8								3	1					1	1		1			2				5	1																	RO	Red opaque
0	0																																											RT	Red translucent
8	4									3										2						2				1													GO	Green opaque
6	3																				1									3										2			GT	Green translucent
59	9								1	4	2				15	12				12	4				8	1																	YO	Yellow opaque
1	1																										1															YT	Yellow translucent
4	4															1					1				1		1															BO	Blue opaque
35	11	1									1					10				4	1		1		9	1											1				1		BT	Blue translucent
33	2																								7	26																	OO	Orange opaque
0	0																																										OT	Orange translucent
1	1														1																											BLO	Black opaque
1	1																				1																					BLT	Black translucent
0	0																																										BRO	Brown opaque
4	1																						4																			BRT	Brown translucent
31	11								1						1	1				2	1				7	3				1				1					12		1		WO	White opaque
0	0																																										WT	White translucent
0	0																																										CT	Colourless transparent
0	0																																										SU	Silver (Überfang perle)
0	0																																										GU	Gold (Überfang perle)
0	0																																										C	Cristal
0	0																																										AM	Amethyst (various forms)
3	1																																						3				S	Shell discs
0	0																																										OG	Opaque general
0	0																																										TG	Translucent general
9	5			1	1	4																	2												1								A	Amber
		1	1	1	1	1	0	0	3	5	3	2	0	0	4	4	1	1	0	4	7	0	3	6	6	2	0	0	4	0	0	0	1	0	0	1	1	0	0	2	3	0	0		# colours
		1	1	1	4	0	0	0	5	8	3	0	0	0	18	24	1	1	0	20	11	0	7	37	34	10	0	0	0	0	0	0	0	0	0	0	1	0	0	15	4	0	0		# beads
		43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1		Shape

in both cemeteries, though the number of biconical beads is less at Posterholt. Both contain many double and multiple segmented glass beads. Still, Posterholt has many small barrel shaped beads while Bergeijk has many long twisted glass beads.
Overall, the cemeteries contain similar beads. Differences appear, but given that the cemeteries contained few beads, the similarities are quite conspicuous. It could even imply that the people from Posterholt and Bergeijk had access to beads produced in similar production or distribution centres or from the same exchange networks. The topic requires more research to support this hypothesis.

Finally, almost all of Bergeijk's and Posterholt's beads are types still widely used throughout the seventh century. Posterholt contained more specimens with a possible earlier date. After all, most of Posterholt's beads belong to Siegmund's *Kombinationsgruppen* G-I (570-670), while most of Bergeijk's belong to *Kombinationsgruppen* H-I (610-670).[168]

Weapons

Posterholt did not contain fully furnished weapon graves.[169] Swords and axes are absent, and most graves with weapons contained only one item considered to be weaponry. Weapons are often considered exclusively male and therefore primarily associated with graves of men.[170] Exceptions exist, and Posterholt too, had graves containing items of weaponry together with artefacts associated with women.[171] The female associated artefacts in these cases are beads, which could have been used to decorate scabbards and male clothing as well. Their presence should therefore not be considered anomalous.

Seaxes and seax scabbards

Böhner was one of the first to create a typo-chronology of seaxes.[172] In his publication on the Trier region, he distinguishes between three seax types: narrow, broad, and long. Koch elaborates on this distinction in her publication of the Schretzheim cemetery.[173] She argues that narrow seaxes should be divided into short seaxes and narrow seaxes, and broad seaxes, into heavier and lighter specimens. Siegmund agrees with this categorization. He also comments on the difference between short seaxes and knifes. He claims that the blades of seaxes are at least 15 cm long, while the blades of knives never exceed this length.[174] Besides the morphological development of seaxes, information on their date can be gained by looking at scabbard mounts and rivets. In most cases, however, typo-chronologies of seaxes and seax scabbards are based on their association with metal belt fittings. This means that Siegmund's dates for seaxes rely on his typo-chronological study of belt parts.

Seax with copper alloy scabbard rivets

Find numbers 58-9.1/9.2/12/16

Grave 58 contained a complete seax (58-12) with remains of a leather scabbard with rivets (58-9.1) (fig 6.19). The back of the seax was slightly curved and the point was located on the blade's axis. Wood and leather remains from the grip and scabbard were still attached to the metal. Loose organic remains associated with the scabbard were found as well (58-9.2 and 58.16). Because the grave was reopened, it is difficult to determine the seax's original location. It was found in the grave's northwest corner together with a copper alloy belt set, small knife, and piece of flint. No human remains were recovered from the grave, but given the grave's orientation, the head is likely to have been placed in the west, implying the seax was placed left of the head. We must now question whether this was the original location of deposition, or whether the belt set was moved during reopening. The fact that

(168) Theuws/Van Haperen 2012, 81-89. (169) Many of Posterholt's graves were reopened; weapon removal may have been one intention. (170) See Halsall (1995) and Effros (2000). (171) 13 glass beads were found in grave 46, 2 small yellow glass beads were found in grave 80, and an amber bead was found in grave 88. (172) Böhner 1958, 130-164. (173) Koch 1977, 106-107. (174) Siegmund 1998, 87.

Fig. 6.19
Seax and part of the seax scabbard from grave 58. Scale 1:1.

58-9

58-12

the seax was still attached to the belt suggests that the group of finds was placed there intact. However, small displacements of parts of the scabbard, with the knife away from the seax and the separation of the buckle loop and the plate of the buckle, clearly indicate the group of finds was displaced.[175] Moreover, if the seax was moved during reopening, this disturbance took place in the period before the total decomposition of organic remains.

Following Koch's typo-chronology, the seax should be classified as a short seax due to its 17,4 cm long blade.[176] According to Siegmund,[177] narrow and short seaxes are only found with early belt-types and scabbards without rivets. Interesting in this perspective, is the combination of the seax with its associated copper alloy belt set, and decorated rivets. Posterholt's seax was found with four decorated flat rivets (58-9.1) that could be classified as type 4.1 by Siegmund and the Franken AG. Siegmund assigns them to his phases 8-9 (610-670).[178] The Franken AG provide a similar date, in phase 7-8 (610/20-670/80).[179] A complete copper alloy belt set with a similar date was also found near the seax. In view of the rivets and associated belt set, the seax from grave 58 thus seems to date to the seventh century. It could be an older seax combined with a younger belt. However, Siegmund also states that very small seaxes occasionally reoccur in graves in the later Merovingian period.[180] Examples of these types, that are sometimes difficult to distinguish from knives, are found in the Iversheim cemetery. The seaxes found in Iversheim graves 59 and 173 provide good parallels for the Posterholt's seax.[181] Here, too, there is doubt whether the specimens are very large knives or small seaxes, but in both cases, the blades do exceed 15 cm.

Possible seaxes and seax scabbards
Find numbers 5-1/3; 31-4; 46-33.1/33.2; 63-6/7; 70-4

The Posterholt cemetery yielded several fragments of possible seax scabbards and two mount fragments of a possible seax scabbard (Fig 6.20). Grave reopening probably explains the absence of the seaxes themselves.

Copper alloy rivets belonging to a seax scabbard were found in graves 31 and 46. Grave 46 was severely disturbed but contained two leather fragments and one scabbard rivet (46-33). The leather fragments were 2 cm in length. One contains a small copper alloy rivet. The decorated copper alloy rivet from grave 46 resembles the rivets of grave 58, and is also classified as type 4.1 by Siegmund and the Franken AG. Siegmund assigns them to his phases 8-9 (610-670).[182] The Franken AG provide a similar date in phase 7-8 (610/20-670/80).[183] In grave 31, a single flat rivet decorated with punched-in points is the only indication for the presence of a seax

(175) This displacement is visible in figure 6.9. (176) Koch 1977, 106-107. (177) Siegmund 1998,90. (178) Siegmund 1998,94. (179) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 46. (180) Siegmund 1998, 93. (181) Neuffer-Müller 1972, 57; Tafel 8, 59; Tafel 35, 173. (182) Siegmund 1998, 94. (183) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 46.

Fig. 6.20
Various fragments of possible seax scabbards found at the Posterholt cemetery. Scale 1:1.

5-3

46-33

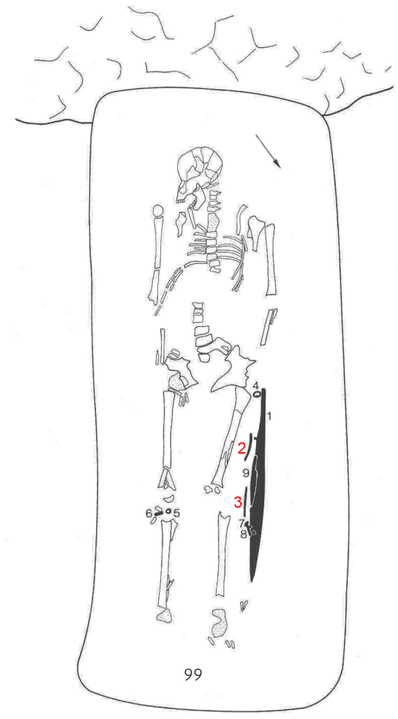
31-4

63-6

63-7

70-4

Fig. 6.21
Grave 99 of the cemetery at Stetten an der Donau (Weiss 1999, 157). The red numbers show the locations of the iron clasps.



99

scabbard. The rivet cannot not be assigned to any of the available typologies.

Graves 5 and 70 were also reopened, but different stories apply here. Three leather fragments with small copper alloy rivets attached were found in grave 5 (5-3). The grave also contained a knife whose blade was 11.5 cm long (5-2.1), together with 5 fragments of a second, possibly larger seax or knife (5-1). Two explanations are in order here. Either the scabbard was not made for a seax, but for the small knife, or the fragments of the second knife were in fact parts of a seax. Because knife scabbards with copper alloy rivets are rare, the second explanation is preferred. Grave 70 is more complex. It contained a leather fragment with eight small copper alloy rivets but no seax. According to the excavation report – written before any restoration work on the iron material was done – a seax and a small knife were deposited in the grave's southeast corner near a biconical pot. This is an usual location for a seax, and no seax and knife are among the finds. There is, however, a lance head (70-7). According to the grave plan, it is this find number 70-7 that was deposited near the biconical pot. The question remains whether the lance head was accidentally mistaken for a seax during excavation. This is possible, since heavy corrosion can make it difficult to identify objects in the field. However, the scabbard fragments suggest a seax was at some point present in the grave. Unfortunately, there are no clear answers to

Fig. 6.22
Iron belt fittings from grave 30. Possibly elements of a sword belt. Scale 1:1.

30-44

30-43

Fig. 6.23
Iron belt dispenser from grave 91. Possibly an element of a sword belt. Scale 1:1.

91-9

these questions, so the story of the missing seax and knife remains a mystery.

Two bended iron clasps with flat ends were found in grave 63. The clasps were probably part of a seax scabbard. Find number 63-7 still contains two rivets, but they are missing on find number 63-6. Similar items were found in graves 10, 29, 39, 99, 107, 174 and 177 of the Stetten an der Donau cemetery.[184] All these graves contained seaxes or fragments of seax scabbards. Figure 6.21 demonstrates the clasps' position in grave 99.[185] They were found along the seax's length and were probably fastened to the edge of the leather seax scabbard. The clasps from grave 39 and 107 were found in similar positions.[186]

Swords and sword scabbard

No swords were found at Posterholt, but three graves contained objects indicating a sword had once been present. Though the objects vary, they are all discussed here.

Possible sword belts and sword scabbard

Find numbers 30-43/44; 73-3/7; 91-9

Two belt fittings probably belonging to a sword belt were found in grave 30 (fig 6.22). Grave disturbance probably explains the absence of the plate buckle, other associated fittings and the sword itself. The grave contained a triangular iron plate with profiled edges and two copper alloy rivets attached (30-44), and a rectangular iron plate with four copper alloy rivets attached (30-43). The counter plate most likely resembles type 153 by Legoux, Périn and Vallet. This type dates to their phase MR 2 (630/40-660/70), but occasionally occurs in their phases MR 1 and MR 3 (600/10-700/10).[187] A similar counter plate was found in Rosmeer's grave 71.[188] Two plate buckles with similar counter plates were found at Braives in graves 39 and 97.[189] No exact parallels for the associated rectangular plate are found, but decorated specimens were found in Wijchen's grave 38.[190] Its unusual shape, suggests that it may have been part of a sword belt. The same could be true for the triangular plate. Sword belts usually consist of a belt (with a possible plate buckle) to which a smaller strap is attached with the help of an additional plate (sometimes trapezoid-shaped). This smaller strap runs from the belt to the sword scabbard and often has smaller plates, strap-ends and a small (plate) buckle attached.[191] Small additional plates were sometimes used to attach this smaller strap to the scabbard.

Grave 73 contained two objects that may have been part of a sword scabbard. The fragments consisted of an iron fitting with a U-shaped section, probably used to reinforce the edges of a sword scabbard (73-3), and an iron pointed fragment that could have been used to reinforce the scabbard's point (73-7). The latter fragment has textile and leather remains attached.

Grave 91 contained a belt dispenser consisting of an iron ring with three small rectangular plates (fig 6.23). The object resembles a belt dispenser found in grave 146a of the Wijchen cemetery.[192] Here it was part of an elaborate belt set used to hold both a sword and seax. The whole set of grave goods was lifted *en bloc* and laid bare with great care. The belt dispenser was located on top of the seax that was located on top of the sword. The item itself cannot be dated, but the grave contained two copper alloy mounts with slots that are defined as Franken AG type Gür8b and belong to their phase 6-7 (580/90-640/50).[193] Still, we have to consider the possibility that the belt dispenser was used for other purposes. It could have been part of horse gear as well.

Lance heads and arrowheads

In the case of lance- and arrowheads, a clear chronological development of forms is difficult to give. Siegmund provides a typo-chronological study of lance heads based on the shape of their sockets and blades and, again, on their association with belt parts.[194] At the same time, however, he states that different types exist over long overlapping periods of time.[195] Böhner distinguished six arrowhead types.[196] He assigns them to varied chronological phases, but because Böhner's chronology has been amended, we use these dates with caution.[197] Legoux, Périn and Vallet distinguish nine arrowhead types, only one of which can be accurately dated.[198]

Lance heads

Find numbers 3-II-1 (grave 33 or 34)[199]; 70-7; 88-8; 90-9

Fig. 6.24
Lance heads found at the Posterholt cemetery. Scale 1:2.

70-7 90-9 3-II-1 88-8

Four lance heads were found in the Posterholt cemetery. The lance-head from grave 33 or 34 bears an oval blade, a pronounced mid-rib, and a closed socket (fig 6.24). Siegmund classified similar lance heads as type Lan2.1. This type is assigned to his phases 7 and 8A (585-640).[200] The Franken AG classifies it as S-Lan2.1 too, but assign it to their phase 6 (580/90-610/20).[201] Legoux, Périn and Vallet classify the lance head as type 38. They claim the type can be dated somewhat earlier in the phases MA 2 and MA 3 (520/30-600/10).[202]

A lance head with a small diamond shaped blade and closed socket was found in grave 88 (fig 6.24). The lance head was found in the grave's southeast corner, but since the grave was reopened we cannot confirm that this was the original deposition location. Grave 88's lance head can be classified as a type S-Lan2.2 according to the typologies of Siegmund and the Franken AG. Siegmund dates this type in his phases 7-8A (585-640).[203] The Franken AG date it in their phases 5-7, though it is more common in phase 6 and the beginning of phase 7 (580/90-620/30).[204] Legoux, Périn and Vallet classify the lance head as a type 35. They date this type in their phase MA 3 and MR 1 (560/570-630/40), though it occasionally occurs in phases MR 2 and the first half of MR 3 (530/40-680/90).[205] Good parallels of this lance head type are found in the Rübenach cemetery (Germany, Rheinland-Pfalz) in graves 217, 235 and 470.[206]

The lance heads from graves 70 and 90 have long diamond shaped blades and closed sockets (fig 6.24). Both can be classified

(184) Weis 1999, catalogue. (185) Weis 1999, 157-158 Tafel 22. (186) Weis 1999, 132-133 Tafel 10; 159-160 Tafel 23. (187) Legoux/Périn/Vallet 2004, 31, 53. (188) Roosens/De Boe/De Meulemeester, 1976, 25, pl. 17, 71.3. (189) Brulet/Moureau 1979, Pl. 7, 39.2; Pl. 16, 97.3. (190) Heeren/Hazenberg 2010, 58, 208, fig. 5.19, fig. 16.37. (191) For a description and drawing of different types of sword belts, see Ament 1974. (192) Heeren/Hazenberg 2010, 56-58; fig. 16.134 and fig. 16.136, 426-427 (193) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 22. (194) Siegmund 1998, 97-105. (195) Siegmund 1998, 97. (196) Böhner 1958, 162-164. (197) A critique of Böhner's chronology, amongst others, is given by Ament 1976, 285-288. (198) Legoux/Périn/Vallet 2004, 24 and 52. Only type 22 can be dated to the PM and MA1 phase. The dates for the other types are less certain and should be treated cautiously. (199) According to the find-ticket, this lance head was found in grave 6. However, the same ticket also shows that the find number of this lance head is 3-II-1. If we assume this find number is correct, the lance head was found in trench 3 on the boundary between grave 33 and grave 34. Because 'grave 6' was later added to the find ticket, we assumed this information is incorrect. (200) Siegmund 1998, 102. (201) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 48-49. According to the Franken AG, this lance head type is associated with iron belts with round, undecorated plates. (202) Legoux/Périn/Vallet 2004, 14, 26, 52. (203) Siegmund 1998, 102, 206-207. (204) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 49, 77-79. (205) Legoux/Périn/Vallet 2004, 14, 29, 52. (206) Neuffer-Müller/Ament 1973, Tafel 13, 217.13; Tafel 16, 235.1; Tafel 33, 470.4.

Fig. 6.25
Arrowheads found at the Posterholt cemetery. Scale 1:2.

68-5 89 11-I-9

Fig. 6.26
Flint arrowhead from grave 89. Scale 1:1.

89-14

as type Lan2.5 according to Siegmund, who dates this type in his phases 8B-9 (610-670).[207] A similar classification is given by the Franken AG. They date this type in their phases 7-9 (610/20-710).[208] Legoux, Périn and Vallet classify the lance head as their type 34. This type dates in their phase MA 3 and MR 1 (560/70-630/40) and occasionally in their phase MR 2 and the first half of phase MR 3 (up to 690).[209]

The lance head from grave 70 was found in the grave's southeast corner near an intact biconical pot. We cannot be sure this was the original place of deposition since, as written earlier, a seax and knife were supposedly deposited in the same location. Grave 90's lance head was found in the grave's southwest corner. Although the grave was reopened, the lance head's position seems undisturbed. It was still stuck in the grave's western wall.

Iron arrowheads

Find numbers 30-42; 68-5.1/5.2; 71-3; 88-10/11/12; 11-I-9 (grave 89); 11-II-1.1/2 (grave 89 or 90); 8-II-1 (grave 93); 10-I-7

A total of 12 iron arrowheads were found at Posterholt. All graves were reopened so information on the original locations of the arrowheads cannot be given. In the case of find number 11-II-1, both arrowheads were found in the reopening pit over graves 89 and 90. The arrowheads could thus belong to either grave.

Böhner, and Legoux, Périn and Vallet are the only ones to provide detailed typo-chronological studies of arrowheads.[210] The Franken AG does not mention arrowheads, and Siegmund briefly mentions them, but does not provide a typo-chronological classification.[211]

Four arrowheads could not be classified. Grave 71 contained a fragment of an arrowhead's socket, grave 93 contained a possible arrowhead, and in the case of grave 89 or grave 90 (11-II-1.1) it was impossible to determine whether the socket was open or closed.

In grave 88 (88-10), and just west of trench 10 (10-I-7), two arrowheads with oval blades and open sockets were found. Böhner classified this type of arrowhead as type A, and assigns it to his phases II-IV (450-700). Legoux, Périn and Vallet classify this type of arrowhead as type 24 and assign it to their phases PM-MA 3 (440/50-600/10).[212] Similar types are found in Rittersdorf grave 59[213] and Rübenach graves 281 and 299.[214]

In graves 30 (30-42), 68 (68-5.1), 88 (88-11, 88-12) and 89 or 90 (11-II-1.2), five arrowheads with oval blades and closed sockets were found. Böhner classified these items as type B, dating in his phases III and IV (525-700). Legoux, Périn and Vallet classified the arrowheads as type 26, dating in their phases MA 1-MR 1 (470/80-630/40).[215] Similar types are found at Rill (Germany, Nordrhein-Westfalen) grave 44.4.[216]

Two arrowheads with slightly less common shapes are found in graves 68 and 89 (fig 6.25). The one deposited in grave 89 (11-I-9) is a barbed arrowhead with an open socket. This type can be classified as Böhner type F. He dates this type in his phases III and IV (525-700). Legoux, Périn and Vallet classify this arrowhead as type 27. It can be assigned to their phases MA 1-MA 3 (470/80-600/10).[217] Similar types are found at Rübenach graves 136 and 558, and in grave 182 at Stetten an der Donau (Germany, Baden-Württemberg).[218] Unfortunately, these graves were not provided with dates.

Grave 68's arrowhead (68-5.2) is difficult to classify because the blade is square in section. The item has no parallel in the typologies of either Böhner or Legoux, Périn and Vallet, but a similar type is found in Stetten an der Donau's grave 74.[219] The grave was not dated because it lacked datable finds.

(207) Siegmund 1998, 103, 207. (208) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 49-50. (209) Legoux/Périn/Vallet 2004, 14, 29, 52. (210) Böhner 1958, 162-164 and Legoux/Périn/Vallet 2004, 24 and 52. (211) Siegmund 1998, 95-97. (212) Legoux/Périn/Vallet 2004, 24 and 52. (213) Böhner 1958, Tafel 29.7. (214) Neuffer-Müller/Ament 1973, Tafel 19, 281.22; Tafel 21, 299.14. (215) Legoux/Périn/Vallet 2004, 14, 24 and 52. (216) Siegmund 1998, Tafel 150, 44.4. (217) Legoux/Périn/Vallet 2004, 24 and 52. (218) Weis 1999, Tafel 49, 182.2. (219) Weis 1999, Tafel 16, 74.4.

Flint arrowhead

Find number 89-14

A flint arrowhead was found in grave 89 (89-14) (fig 6.26). Arrowheads of this type date to the (late) Neolithic, Bronze and Iron Age and are rarely seen in Merovingian graves. No early medieval parallel for this artefact was found, leaving it unclear whether the object was placed in the grave deliberately or landed there accidentally. Grave 89 was reopened, and since material from the Iron Age was found on the site, the arrowhead could have ended up there unintentionally. It could also have been placed in the grave intentionally as well. The presence of older or 'antique' objects from the Roman period in early medieval graves is a regular feature,[220] so there is no reason to assume that prehistoric material would be treated differently.

Shields

Information on shields is derived mostly from the analysis of shield bosses. Only one fragment of a shield grip was found at Posterholt, so no information on the shield's date can be given. Other indicators for the presence of shields derive from the presence of large rivets in the graves. The graves in which these rivets were found are discussed here as well.

Shield

Find number 30-6

Grave 30 contained a fragment of a shield grip, consisting of a square iron fragment with wooden remains attached. Because all typo-chronologies are based on the morphological development of shield bosses, no information on the type or date of the shield can be given. The grave was disturbed so the shields original location cannot be identified.

Possible shields

Find numbers 29-10/12/19/21.1/2; 80-7/8/14/15; 84-3/16.1; 91-5/18; 3-II-10

Large rivets with heads over 2 cm in diameter can indicate a shield's presence. Graves 29 and 80 respectively contained five and four large rivets with domed heads. In both cases, the rivets were 22 mm in diameter. Grave 80's rivets were made of iron, but their heads were covered with a copper alloy foil. This was probably the case with grave 29 as well, but the copper alloy foil was only visible on two of the four rivets. A fifth rivet from grave 29 was documented by the excavators but is currently missing.

In grave 84, only one large rivet was found (84-3). The specimen resembles the rivets found in graves 29 and 80 but is slightly larger. Because only one rivet was found, the presence of a shield seems uncertain. However, near the rivet lay an iron fragment with wooden remains (84-16.1) that could have been part of the shield grip.

Two large rivets were found in grave 91 (91-5 and 91-18). Their heads were flat instead of domed. The rivets could be seen as an indication for the presence of a shield, but with only two rivets found certainty is not provided.

Trench 3 contained the head of a large dome-shaped rivet with a copper alloy foil. The rivet probably belonged to a shield, but its location is not documented and the rivet can therefore not be associated with a specific grave.

Rivets: copper alloy

Find numbers 27-1.1; 30-13/31/37; 84-4; 91-13/23/24/26/27/29

Indeterminate copper alloy rivets were found in four graves. The rivets are too small to belong to shields but are larger than small copper alloy rivets found on the edges of seax scabbards. The size of grave 27's rivet is impossible to determine. The specimens from grave 30 have an average diameter of 4mm, those found in graves 84 and 91 have a diameter of 6mm. Since weaponry items were found in all these graves, the rivets seem likely to have been associated with these items.

(220) See Eckardt and Williams (2000) for an article about the use of Roman objects in early Anglo-Saxon graves.

Utensils

Knives: iron

Find numbers 5-2.1; 15-16; 21-23; 23-35; 24-33; 31-10; 42-9; 44-5; 47-3.1; 57-20; 58-3/13; 64-7; 65-8; 70-3; 84-8; 11-II-2 (grave 89 or 90); 3-II-2.1

The presence of knives is very common in Merovingian graves. They are often found in women's graves hanging from the belt with other utensils, but also in men's graves attached to the scabbard of a seax. Several authors have tried to differentiate various types of knives in the hopes of dating them more accurately. Their typologies stress different features of the knives. Böhner considered the blade's shape most important and distinguished six types of knives.[221] Härke pointed to the importance of a knife's size and its possible cultural and social connotations.[222] Siegmund, on the other hand, did not observe any specific classes in terms of size and shape in the material of the lower Rhine.[223] He did not attach much importance to differences amongst knives and only differentiated between 'normal' knives, '*Hackmesser*', folded knives, or knives with an angled back.[224] The form of 'normal' knives is determined by the curves created by the back and the cutting edge. Either the back or the cutting edge may produce straight, curved, or angled lines. It can be difficult to determine the line of either the back or the cutting edge. But what can often be determined is whether the knife's point is on the blade's axis, near the back, or near the cutting edge.

Relatively few knives were found at Posterholt. Only eleven more or less complete specimens (graves 5-2.1, 15, 21, 24, 31, 44, 47, 57, 58, 64, 65) were present, as well as six fragments of other knives (graves 23, 42, 58, 70, 89/90 and the stray find). One of the complete knives has its point near the back of the blade, four have their points on the axis of the blade, and six have their points near their cutting edges. These differences however, are not considered to have chronological value. Knives with an angled back and '*Hackmesser*' are considered elements of the late Merovingian period, but these types were not found at Posterholt. Blade lengths vary from 7.7 to 13.2 cm and the average blade length is 10.8 cm. Too few of the deceased's age and sex determinations are available to establish patterns of knife deposition or analyse knife size relating to sex and age of the deceased.

Needle/Pin: iron

Find number 30-32

A fragment of an iron pin or needle was found in grave 30. The grave was reopened; therefore the pin's original location cannot be provided. The fragment was found in the reopening pit at a depth of 39.39+. Pins and needles occur regularly in Merovingian graves. They are mostly found in women's graves, but pins have been found in men's graves as well. This may have been the case at Posterholt, where the pin was found with grave goods associated with a male gender. Because only a fragment was found, the item cannot be classified and information on its purpose remains unknown.

Needle: copper alloy

Find number 48-8

A fragment of a copper alloy needle was found in grave 48. Grave 48 contained two burials. The copper alloy was found in the additional burial's container fill, together with only a simple small iron buckle and some shattered pottery and stone fragments. The fragment was found in the vicinity of the upper right leg. This could be its original location of deposition, but it may have accidentally landed in the container's fill after its collapse. The first burial was disturbed during the digging of the additional burial and the needle could thus have belonged to this first burial as well. The item cannot be classified because only a fragment was found. Copper alloy needles are usually associated with female burials.

Needle: bone

Find number 62-10

The knob of a bone needle was found in grave 62. The fragment was found in the grave's west corner, outside a possible container outline. No reopening pit was found, but the presence of scattered finds suggests the grave was disturbed. It is uncertain whether the knob of the bone needle is of Merovingian origin. According to the excavators, grave 62 cuts a Roman cremation grave. On the original field drawing, this possible Roman cremation grave is located in the grave's west corner. The bone needle was found there along with two fragments of coarse ware Roman pottery.

Shears, iron

Find number 90-10

A pair of iron shears was found in grave 90. Shears appear in graves throughout the entire Merovingian period, and are therefore not suitable for typo-chronological analysis. Grave 90's shears are 19,7 cm in length. They were found in the grave's westernmost section, outside a possible container outline. A lance head was found somewhat southward in the grave's southwest corner. Grave 90 was reopened; most of the finds in the container's fill were disturbed, but the pair of shears and lance head were probably found in situ. The shears were part of a grave goods set associated with men.

(221) Böhner 1958, 214-216. (222) Härke 1992, 90-91; Härke 1989. (223) Siegmund 1998, 112-113. (224) These are the knives Böhner types A, B and C.

According to Siegmund, shears are found in graves of women as well as men. However, shears over 20 cm in length only occur in men's graves, while shorter specimens are associated with women's graves.[225] Grave 90's shears are just under 20 cm in length. This length probably still concords with Siegmund's proposition. Siegmund and the Franken AG do not provide dates for shears. Legoux, Périn and Vallet assign them to their phases MA1-MR3 (470/80-700/10), which cover almost the entire Merovingian period.[226]

Rings: various

Find numbers 33-6, 82-11.1, 91-14

Three rings of various materials were found at the Posterholt cemetery. A small specimen of copper alloy was found in grave 33. The ring from grave 82 was also made of copper alloy but was oval and had leather remains attached. The ring from grave 91 was iron and had indeterminate remains attached. The function of all rings remains indeterminate.

Spindle whorls

Find numbers 8-3; 31-7; 76-16; 85-58

Ceramic spindle whorls were found in four graves. They are all of fine fabric, and of grey, grey-brown or black colour. The shapes are even or uneven biconical. Spindle whorls seem uncommon in the cemeteries of the southern Netherlands. The Wijchen cemetery (Netherlands, province of Gelderland), however, contained thirteen specimens.[227] Spindle whorls are used in textile production, but their deposition in graves may have been related to the symbolic aspects of female craftwork. Weaving may have been associated with the creation of bonds and relations; e.g. to marriage partners, and between families and groups.[228] Brides may have been perceived as 'peace-weavers'.[229] It would be interesting to explore which persons are buried with spindle whorls; gender and age may have played an important role.

Glass vessels

Fig. 6.27
Glass fragment from grave 31, possibly of a conical beaker. Scale 1:1.

31-9

Only shattered glass vessels were recovered from Posterholt. The vessels' fragmentary state is probably due to grave reopenings, during which vessels were (accidentally) broken or even smashed. Fragments infiltrated the backfill of various reopening pits. The graves in which the fragments were found are located near each other in the eastern part of the excavated area.

Possibly conical beaker

Find number 31-9

A rim fragment of a beaker with straight walls was found in grave 31. The fragment was decorated with horizontal trails (fig 6.27). It may have been part of a conical beaker but could also have belonged to a claw beaker. The greenish-whitish glass rim was slightly thickened and somewhat hollow. Whether the wall was diagonally ribbed cannot be determined. The fragment was found at the bottom of the reopened grave. If it is a fragment of a conical beaker, it probably belongs to type Koch IIIH,[230] which dates to the second half of the fifth and first quarter of the sixth century. Other datable finds have not been found in grave 31, but the fragment dates considerably earlier than other objects found in this part of the cemetery. It could have been an antique object or a fragment that accidentally landed in the backfill of the reopening pit.

Bell beakers

Find numbers 30-17/38/39/40/47; 89-1.3/3/10.1/17

Fragments of bell beakers were found graves 30 and 89. Because the graves are not very far apart and are both reopened, the fragments may be from a single beaker. However, in view of the colour difference between the fragments from both graves, this is unlikely. We thus account for two beakers.

(225) Siegmund 1998, 117. (226) Legoux/Périn/Vallet, 19, 41, 54. (227) Heeren/Hazenberg 2010, 100. Two other spindle whorls may be of a younger date. (228) Weiner 1992; see also the discussion of spindle whorls by Peters 2011, 114. (229) Bazelmans 1999, 133. Bazelmans bases himself on this term mentioned in the Beowulf poem. (230) Koch 1987, 83-84.

Four rim- and five wall fragments of a greenish to whitish glass bell beaker were found in grave 30. Although the fragments of the body seem somewhat less green, the fragments all seem to originate from the same beaker. The rim is slightly thickened and straight. The wall seems to have no decoration. The glass is of mediocre to poor quality, with many small round and ellipse bubbles. There were no fragments from the beaker's bottom and a complete profile could not be reconstructed; it is thus not possible to determine the beaker's exact type.

One rim fragment and five wall fragments of a bell beaker were found in grave 89. They are of green-brownish-whitish glass of mediocre quality with many small round and horizontal elliptical bubbles. The rim fragment is thickened and straight, and at one place hollow. The wall fragments show traces of vertical ribbing. One lower wall fragment shows the curve towards the vessel's base, which is considerably thicker than the wall. The wall is 1 to 1.5 mm thick. It is not possible to determine the beaker's type due to its fragmentary state.

Bell beakers generally date from the second quarter of the sixth to the first quarter of the seventh century (c. 530-625).[231] Graves with this kind of beaker thus do not seem younger than c. 625, unless the beaker is a residual find in a younger grave.

Glass fragments, indeterminate

Find numbers 76-3/4; 4-I-3

Three indeterminate glass fragments were found at Posterholt. Grave 76 contained a wall fragment of yellowish glass with a vertical rib, and wall fragment of yellowish brown glass. The vertical rib is not of equal width over its entire length. The fragment could be part of a palm cup.

Stray find 4-I-3 is a wall fragment of greenish glass. It cannot be assigned to a specific type of glass vessel.

Pottery: Merovingian

Compared to other cemeteries in our region of study, Posterholt's graves contained little pottery. Most pottery was fragmented; hardly any complete pots were found. The small amount of pottery and its condition are mainly due to grave reopenings and the removal and/or destruction of objects. The fact that grave reopeners at Posterholt targeted pottery vessels seems extraordinary. In the Bergeijk cemetery, pottery ensembles at the grave's foot end were often left undisturbed when a grave was reopened.

The removal and destruction of pottery at Posterholt affects the detail with which we can describe the pottery. Merovingian pottery can generally be divided in three groups: pottery with fine fabric, with coarse fabric, and handmade pottery. Posterholt contained only the first two groups, which we will discuss in order.

Fine pottery: jug, orange/red

Find numbers 77-4; 11-I-7 (grave 83); 86-2/3/4/6.1/7/8

Fragments of the upper half of a biconical jug were found in the fill of grave 86's reopening pit. (fig. 6.28) Fragments of the same pottery vessel were found in graves 83 and 77 (one in each). Since both graves only contained a single fragment, the jug seems most likely to have belonged to grave 86. However, grave 86's fragments were found at a height between 39.46+ and 39.29+, which is an average of c. 56 cm above the grave's bottom (38.78+). In comparison, the beads in the grave's west were found at heights varying from 38.78+ to 38.87+, which is more or less on the grave's bottom. Since the potsherds were found in the reopening pit, the jug could have been taken from grave 86 or any other grave, broken above ground, and the sherds thrown back into the pit, together with the soil.

The jug is of a rare type. Van Wersch knows only two other fine fabric jugs produced in an oxidizing atmosphere.[232] One specimen was found in grave 122 of the Hamoir cemetery (Belgium, province of Liège).[233] The other was found in grave 2 of the Merlemont cemetery (Belgium, province of Namur).[234] It was accompanied by three arrows that are of no help in dating the jug. The Meerveldhoven cemetery contained two somewhat more slender specimens, also produced in an oxidizing atmosphere. One jug, from grave 14, was decorated with zigzag impressions and two zones of three straight grooves.[235] The other, from grave 24, had a foot stand and was decorated with two zones of square roulette impressions.[236] It was broken in many pieces. Noteworthy, all four red biconical jugs were found in men's graves. This is probably

(231) Siegmund 1998, 170-172; Legoux/Périn/Vallet 2004, 20-21, 50, 55, although they date the first occurrence of these beakers somewhat earlier. In Belgium, these beakers are found in graves dating from the second quarter of the sixth to the beginning of the seventh century (Alenus-Lecerf 1995, 65-67). Maul 2002. (232) Van Wersch 2011, 109-110. (233) Alenus-Lecerf 1978, 62-63. (234) Wautelet 1967, 10-11, fig. 4 nr. 4. (235) Verwers 1978, 274, fig. 12, 14a. (236) Verwers 1978, 280, fig. 25, 24a. See colour photograph in Bloemers/Louwe Kooijmans/Sarfatij 1981, 126.

Fig. 6.28
Fragments of a red biconical jug from grave 86. Scale 1:2.

Fig. 6.29
Drawing of the human figure stamp on the pottery vessel published by De Boone and Ypey (1959).

not the case with Posterholt's specimen. Grave 86 was probably a woman's grave, but the pot could have come from another grave.

It is difficult to date this type of jug. The Hamoir specimen can be dated with the help of the tripartite undecorated iron belt set with round plates found with it. It can be classified as Siegmund's type Gür4.1 and Gür4.2, which he assigns to his phase 7 (585-610).[237] Legoux, Périn and Vallet identify this type of belt as nr 148.[238] It is mainly assigned to their phase MA 3 (560/570-600/610), but also incidentally occurs in phase MR 1 (600/610-630/640). In the Schretzheim cemetery (Germany, Baden Württemberg), the earliest iron plate buckles with round plates are dated in phase 3 (565-590/600), but the majority are assigned to phases 4 and 5, which span 590-650/60.[239] Finally, the Franken AG merges Siegmund's types and identify the belt set as Gür4.1/2.[240] They assign it to their phases 5 (565-580/590) and occasionally 6 (580/590-610/620). The widest range of dates of this type of belt buckle is thus from phase 3 of Schretzheim (565-590/600) to phase MR1 of northern France (600/610-630/640).

Meerveldhoven grave 14 contains a belt set decorated in animal style II decoration. It probably dates to the second and third quarter of the seventh century. Meerveldhoven grave 24 contains an iron belt set with triangular plates and large bronze rivets. If we must fit the triangular plates into Siegmund's Rhineland typology, we end up with his type Gür4.5 which dates to his early phase 8 (c. 610-635).[241] Unfortunately, we do not know whether grave 24's plates were part of a tripartite belt. Moreover, they seem a bit small. The Franken AG retain this type definition, but date the belt fittings to a somewhat longer period (phases 6 and 7, c. 580/590-640/650).[242] In women's graves, this belt type may even last until their phase 8 (640/50-670/80). In Legoux, Périn and Vallet's typology, type 150 comes closest to the belt plates from grave 24. They date this type to their phases MA 3 to MR 2 (c. 560/570-660/670).[243]

On the basis of dating the Hamoir and Meerveldhoven graves, the type of jug found in Posterholt's grave 86 probably dates to the late sixth and early seventh century. The more slender types may be somewhat younger than the broad ones.

Fine pottery: spouted pot, black and grey

Find numbers 70-2; 72-2/3-7/9-11/13-15/18/20/21/24/33/35-37/39; 78-2; 4.II.4.1; stray find 1953

The cemetery was discovered in 1953 when a spouted pot was found during road renovations.[244] The spouted pot was published in 1959 by De Boone and Ypey.[245] The illustration from their publication is reproduced in chapter 2 (see fig. 2.1). We could not trace the pot and have not studied it ourselves, so all information is based on the drawing by De Boone and Ypey. It is 19.5 cm high and decorated with single stamps consisting of a short vertical row of narrow rectangles between two zones of probably two grooves. One single stamp seems to represent a human figure. (fig. 6.29). De Boone and Ypey identified a sagging body, two legs, at least two arms (there seem to be two right arms), and a head.[246] The pot is classified as Siegmund type Kwt2.12, which he assigns to his phase 4 (530-555).[247] In the Franken AG's typology, it is type Kwt2A, which they assign to their phases 4

(237) Siegmund 1998, 30-31. (238) Legoux/Périn/Vallet 2004, 16, 31, 53. (239) Koch 1977, Abb. 8B, 125-126. (240) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 20. (241) Siegmund 1998, 31-32. (242) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 20. (243) Legoux/Périn/Vallet 2004, 16, 31, 53. (244) Ypey 1959, 110. He mentions that cremation remains were inside the pot. (245) De Boone/Ypey 1959, 207, fig. 28. (246) One wonders whether this reading of the stamp is correct. (247) Siegmund 1998, 129.

Fig. 6.30
Fragments of the black spouted pot from graves 70 and 78. Scale 1:2.

70-2

78-2

and 5 (C. 510/525-580/590).[248] The pot is thus seems to be of sixth century date.

A grey spouted pot was found in grave 72. It is incomplete and fragments of the pot were scattered in the fill of the reopening pit.[249] Most fragments were found at a height of 39.38+, 64 cm above the grave's bottom. A few fragments were found on the grave's bottom. Traces of the container at that height indicate that the container was more or less intact. This implies that the pot was removed from the grave during reopening and broken above ground. Later, the fragments were re-deposited in the container's fill and reopening pit, probably together with the soil. The upper part of the pot's belly was decorated with rouletting of square rectangular impressions. The rim's interior was decorated with rouletting consisting of a single row of triangular and one or two rows of square impressions. The pot is of type Kwt3.21 of Siegmund's typology, which he assigns to his phases 7 and 8 (585-640).[250] In the Franken AG's typology, it is type Kwt5B, which they assign to their phases 5 to 7 (C. 565-640/650).[251] The pot thus probably dates to the late sixth century or first half of the seventh century.

The fragments of a black spouted pot from graves 70 and 78 belong to a single pottery vessel (Fig 6.30). The fragment with spout in grave 70 was found in the upper layers of the reopening pit's fill, at a height of 39.35+. The bottom of the grave is at 38.73+, 62 cm lower. The grave's bottom held an intact biconical pot. Grave 78 contained a fragment with an ear, which was also in the upper layers of the reopening pit's fill, at a height of 39.64+, 73 cm above the grave's bottom (s38.91+). It is not possible to determine in which grave the spouted pot was originally placed.[252] The upper half of the pot was decorated with seven single lines of square roulette impressions. The complete profile of the pot is not known. It is thus not possible to assign it to one of Siegmund's types. On the basis of the decoration, the pot can be identified as type Kwt5A of the Franken AG, which they assign to their phases 5 and 6 (c. 565-610/620).[253]

Find number 4-II-4 is a fragment of a grey spouted pot. It was found at the second excavation level in trench 4 outside a grave context. The fragment was probably separated during reopening activities and must have been lying around on the site. Animal activities may be responsible for its downward movement in the soil. It is a fragment with a spout and a flat horizontal rim. The upper part of the body was decorated with single lines of rectangular roulette impressions. The rim was decorated with four undulating grooves. The pot's complete profile remains unknown. On the basis of the decoration, it can be identified as type Kwt5E of the Franken AG, which dates from phase 5 to the beginning of phase 7 (c. 565-640/650), but mainly to phases 5 and 6 (c. 565-610/620).[254]

Fine pottery: bottle, black
Find number 91-3

In grave 91, a fragment of a pottery bottle was found. The upper part of the belly was decorated with at least seven straight grooves ordered in one zone of three and two zones of two. Pottery bottles, especially red ones, are a rare phenomenon in Merovingian graves

(248) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 58. (249) See chapter 5. (250) Siegmund 1998, 130-131. (251) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 61. (252) For the meaning of this find distribution in relation to grave reopenings, see chapter 5. (253) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 60-61. (254) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 62.

Fig. 6.31
The only complete pottery vessel from grave 70. Pot: scale 1:4, surface: scale 1:1.

70-6

Fig. 6.32
Pottery fragments decorated with single rosette stamp impressions from grave 26. Scale 1:2.

26-1

Fig. 6.33
Pottery fragment decorated with single rosette stamp impressions and raised bosses from grave 73. Scale 1:2.

73 (11-I-4)

and are difficult to date.[255] The fragment cannot be placed in any of the available typologies.

Fine pottery: biconical pots
Biconical pots are the most common form of pottery in Merovingian graves in our region of study. However, only one complete biconical pot was found at the Posterholt cemetery. Most other pots were fragmented during grave reopening activities. Only one of the fragmented pots allowed a complete profile to be reconstructed. We will first discuss the complete pot and the pot whose profile is known. Then we will discuss the (decorated) wall, rim and base fragments of which most can be found in the available typologies. Finally, we will enumerate all certain fragments of biconical pots and all fragments of fine fabric that are probably of biconical pots.

Fine pottery: biconical pot of type Siegmund Kwt2.43, brown/grey
Find number 70-6

A complete and intact undecorated biconical pot, standing upright, was found in the south-east corner of grave 70's container, near the remains of an iron lance head (fig. 6.31). It can be identified as Siegmund's type Kwt2.43, which is assigned to his phases 8 and 9 (610-670).[256] The Franken AG kept this type in their typology and dated it to their phases 6 to 9 (580/90-c. 710).[257] This type of biconical pot thus can date to the end of the sixth century and the entire seventh century.

Fine pottery: biconical pot of type Siegmund Kwt2.21, grey
Find number 26-1.2

A fragmented biconical pot was found in cremation grave 26 (fig. 6.32). The fragments are burnt, indicating the pot was placed on the pyre during the cremation process. It was not used as an urn. The pot's upper portion was decorated with single rosette stamp impressions. It is Siegmund's type Kwt2.21, which he assigns to his phase 4 and occasionally to phase 3 (530-555).[258] It is type Kwt2A in the Franken AG's typology, which they assign to their phases 4 and 5 (510/520-580/590).[259] Siegmund and the Franken AG differ as to the date of this type of pot. It is therefore safest to accept a wide date range for the fragment, one between c. 510/520-580/590.

Fine pottery: fragments of biconical pots decorated with single rosette or cross-shaped stamps between grooves
Find numbers 71-1/2, 6; 11-I-4 (grave 73); trench 1 (1.1)

Fragments of biconical pots with single rosette or cross-shaped stamps were found in graves 71 and 73, and in the HVR trench. This type of decoration can be associated with pots of type Kwt2A, as defined by the Franken AG (fig. 6.33).[260] They assign this type to their phases 4 and 5 (c. 510/525-580/590).

The black fragment, found in the upper layers of grave 73, is decorated with two zones of single stamps between two single grooves (above and between) and two grooves below. The stamps of the upper zone are a rectangle consisting of two short rows of

(255) Van Wersch 2011, 112. (256) Siegmund 1998, 130. (257) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 59. (258) Siegmund 1998, 129. (259) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 58. (260) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 58.

Fig. 6.34
Pottery fragment decorated with cross-shaped stamp impressions from the HVR trench. Scale 1:2.

Fig. 6.35
Pottery fragment decorated with roulette stamp impressions in zigzagged pattern from grave 73. Scale 1:2.

Fig. 6.36
Pottery fragments decorated with multiple lines of single roulette stamp impressions from grave 30. Scale 1:2.

square impressions. The lower zone of single stamps consists of rosette impressions. The carination was also accentuated with small bosses.

The three black fragments from grave 71 (find numbers 71-1/2) resemble the fragments found in grave 73. One of them shows a rosette impression as well as a boss on the pot's carination. It could be of the same pottery vessel as the fragment from grave 73, though its colour differs slightly. Another pottery fragment from grave 71 (71.6), with a slightly different decoration, shows two grooves and a part of a rosette stamp. It must be from another pot.

The fragments found by the Heemkundige Vereniging Roerstreek (HVR) are of a red/orange fabric, decorated with a single zone of single stamps in the form of a cross, consisting of small square impressions between two zones of four straight grooves (fig 6.34). A similar decoration pattern is found on a pot in grave 2140 of the Krefeld-Gellep cemetery.[261] There, the crosses are placed diagonally and grooves are only found above the zone with crosses.

Fine pottery: fragments of biconical pots decorated with single stamps over grooves, black
Find numbers 29-1.1; 11-I-13.1 (grave 94)

These wall fragments from graves 29 and 94 contain individual stamps that had been placed over grooves, an uncommon pot decoration. Find number 29.1's stamp impressions are well executed compared to the other single stamp impressions found in the cemetery.

Fine pottery: fragments of biconical pots decorated with single rectangular stamps of three rows of square impressions between grooves
Find number 73-2.1

The type of decoration on grave 73's fragment (fig 6.35) can be associated with pots of type Kwt2B as defined by the Franken AG.[262] They assign this type to their phases 4 to 6 (c. 510/525-610/620), but predominantly to phases 4 and 5 (c. 510/525-580/590). The decoration of the Posterholt specimen differs in that the individual stamps are placed in a zigzag pattern instead of a vertical one. Such a zigzag pattern is also present on a pot from the Rill cemetery.[263] The fragment was found 60 cm above the grave's bottom in the fill of the reopening pit.

Fine pottery: fragments of biconical pots decorated with undulating grooves
Find numbers 88-9.1; 11-II-3 (grave 88); 91-2

Fragments of the same biconical pot with undulating grooves are found in graves 88 and 91. This type of decoration can be associated with pots of type Kwt3B as defined by the Franken AG.[264] They assign this type to their phases 4 and 5 (c. 510/525-580/590).

The fragments from grave 88 were found in the upper levels of the reopening pit's fill, at 81 cm above the grave's bottom. Grave 91's fragment was found c. 69 cm above the grave's bottom, also in the reopening pit. Since all fragments were found in reopening pits, the original location of deposition remains unknown.

Fine pottery: fragments of biconical pots decorated with square roulette impressions (multiple lines)
Find numbers 30-3/4/7/8/9/10/11/15/16/18/20/21/24/25/26/27/29/30/34/35/36; 3-I-1 and 3-III-47.1 (grave 30); 52-8; 77-3; 84-6; 11-I-1 and 11-0-0.1 (grave 84)

Fragments of biconical pots with multiple lines of roulette impressions were found in graves 30, 52, 77 and 84. This type of decoration can be associated with pots of type Kwt5B as defined by the Franken AG.[265] They assign this type to their phases 5 to 7 (c. 565-640/650).

The fragments from grave 30 allow the profile of the pot's lower part to be reconstructed. Above the carination, the pot is decorated with three zones of square roulette impressions. Each zone consists of three lines of impressions (fig 6.36).

A fragment of the lower part of a biconical pot was found in grave 52. Just above the carination, a zone with square roulette impressions can be seen. Two lines of impressions are visible.

A fragment of the upper wall of a black biconical pot (find number 11-I-1.1) was found in the upper layer of grave 84's reopening pit. It was decorated with lines of square roulette impressions. It can be fitted to fragments from find number 11-0-0.1, which were collected from the spoil heap. One fragment shows the carination of a biconical pot. The fragments are decorated with 11 lines of square roulette impressions. Fragment 84-6.1 shows square roulette impressions, but also three grooves. This fragment is not of the same pots as the other fragments from this grave. It is of the same pot as fragment 77-3, which also shows square roulette impressions and grooves.

Fine pottery: fragment of biconical pot decorated with irregular roulette impressions (single lines)
Find number 11-0-0.2 (grave 84)

Also associated with grave 84 was a pottery fragment with roulette impressions. The decoration pattern consisted of three single lines of irregular roulette impressions. It differs from the fragments mentioned above. Grave 84 thus contained fragments of three different pots.

Fine pottery: fragments of biconical pots decorated with rectangular roulette impressions
Find numbers 2-I-6; 3-I-3; 4-II-1

Decorated fragments of biconical pots were found in trench 2, 3 and 4. The type of decoration found on these fragments can be associated with pots of type Kwt5E as defined by the Franken AG.[266] They assign this type to their phases 5 to early 7 (c. 565-640/650), but more specifically to phases 5 and 6 (c. 565-610/620).

The small wall fragment found in trench 3 is decorated with at least three single lines of rectangular roulette impressions. The fragment was associated with an unnumbered grave that was not examined. The rim fragment in trench 4 was also found in the upper layers of the fill of a grave that has not yet been excavated. It is decorated with lines of rectangular roulette impressions; two lines just below the neck's ridge are visible.

Fine pottery: rim, wall and base fragments probably of biconical pots
Find numbers 8-4; 25-1; 29-1; 33-2/3; 3-II-3 (grave 33); 34-1; 45-3; 46-31; 52-1/8; 58-1.3; 68-3/4; 9-I-9.1 (grave 68); 70-1.1; 71-8; 11-I-5 (grave 73); 77-3/4; 78-14; 88-9; 11-I-6 and 11-I-13.3 (grave 94); 3-I-0; 3-I-5; 3-II-2.2; 4-I-0.1; 4-I-1; 4-II-1/2/4; 8-I-0.1; 11-I-0.2; 12-I-0/1, 12-I-1.2; 13-I-1.1; HVR stray finds 1983.2

Fragments of fine pottery, probably of biconical pots.

Coarse pottery
Coarse pottery is relatively rare in Merovingian cemeteries in the Meuse valley and adjacent regions. Most common are egg-shaped cooking pots (*Wölbwandtöpfe*), cooking pots with a round belly, and jugs. In Posterholt only fragments of cooking pots were found. They are described using Van Wersch's classification of cooking pots based on three common rim types. Siegmund tried

(261) Pirling 1974, II, 104, Tafel 80, 7. (262) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 58-59. (263) Siegmund 1998, Tafel 166, 249. (264) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 59-60.

(265) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 61. (266) Müssemeier/Nieveler/Plum/Pöppelmann 2003, 62.

to classify the cooking pots on the basis of metric criteria to distinguish early forms from late, because he observed that the deposition of such cooking pots in graves was interrupted after the early sixth century until the seventh century.[267] His attempts are not very convincing. Van Wersch dates such cooking pots to the entire sixth and seventh century,[268] although dates may differ slightly according to their fabric type. We will not try to date the few fragments of coarse ware pots.

Coarse pottery: egg shaped pot with simple outward bend rim (French: lèvre simple), grey
Find numbers 62-1/2/3/4

A rim and base fragment from grave 62 allow reconstruction of the pot's profile. It is one of the most common coarse pottery types.

Coarse pottery: pot with thickened and outward folded rim (French: lèvre enroulée)
Find number 25-2.2

Eight fragments of a steep walled pottery vessel with a very common type of rim were found in grave 25. It was made of grey fabric.

Coarse pottery: pot with hollow rim (French: lèvre à gorge), brown
Find number 27-1.2

Many fragments of a pot with were found in grave 27. It was made of brown fabric.

Coarse pottery: base wall fragments, black, brown, red brown, probably Merovingian
Find numbers 18-1; 30-33; 45-3.2; 46-31; 58-1.3

These are fragments of Merovingian coarse pottery whose shape could not be determined.

Missing pottery fragments, possibly Merovingian
Find numbers 23-28; 33-1; 72-8/23/34/40; 1-I-17; 8-I-1

These pottery fragments were missing when the cemetery finds were studied.

Pottery: other

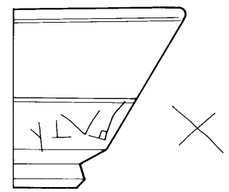
Fig. 6.37
Samian ware cup (Dragendorff 33) from grave 57. Scale 1:4.
Surface: scale 1:1

Roman and Iron Age pottery
Find numbers 1-17/18; 2-2/3; 3-6; 4-1.1; 5-1.5/2.2/4.3; 6-1/2; 8-9.2/3; 10-2/4; 11-1/2; 12-1/2/3; 13-1/2/5/6/8; 13 (1-I-18); 14-3; 15-1/3/4/5/6/9/10/11/12/13/18; 16-1/2/4/5; 17-1/2/3/4; 20-3/4; 21-1/2/3/6/11/12/13/17/20; 1-I-15 (grave 21); 22-2/4/5/6/7/10/11/12/15/17/24/26/34/36/37/42/48/49/51/52/55/61/62/63/64/66/68/69/71/72/76/77/78/80/81/86/87/104/108/116/119/120/121/122; 1-I-1/2/3/7 (grave 22); 23-3/4/5/6/7/8/11/12/17/19/20/21/22/23/26/33/38; 1-I-10/11.2 (grave 23); 24-1/2/4/5/7/8/9/10/11/12/14/16/17/18/21/22/23/24/27/28/29/31/36; 1-I-12/24.5 (grave 24); 26-1.3; 29-2; 30-1/2/5/12/14/18/23; 31-2/13; 39-1.2/2/3/5; 40-3; 41-1/2/5/6/7/8/9/11/12/14; 42-1/4.3/5/7/8/10; 43-1; 44-1.3/2.2/3.2; 46-3.3; 47-1.3/8.2; 48-1/7.2; 9-I-7 (grave 48); 49-1.4/27; 51-10; 9-I-5 (grave 51); 52-9; 9-I-3/4 (grave 52); 53-1/2; 57-19/25; 58-1.4; 59-1.2/5/12.2; 60-1.2/3; 61-8.2/9; 62-7.2/11/12/14.2/15; 63-3.2; 64-4; 65-3; 67-1; 68-1.3/6; 69-1.2; 70-1.2; 71-3.4; 72-1.3/6.3; 73-1.6/1.7; 74-1.2; 75-3; 76-1.3/21; 77-1.4; 78-1; 79-4; 80-2; 82-11.2; 83-1.2; 84-1; 86-1.3/6.2; 11-I-3 (grave 86); 87-1; 88-1.2; 89-1.5; 90-1.4; 91-1.3; 9-0-7.2 (grave 92); 1-I-0/13/20/21/23; 3-I-0.2; 3-I-2/4; 3-II-2; 4-0.2; 4-I-2/4/5/6/7; 5-I-0/1; 6-I-1/2/3; 8-I-0.4; 8-II-2; 9-0-1/2/5/6.2/9; 9-I-6/10; 10-I-0; 11-0-I; 11-I-0.3; 11-I-3 (grave 86); 11-I-13.2 (grave 94); 12-I-1.3/2.1/2.2/2.3/3; 13-I-1.2; HVR stray find 1983.1; trench1 (1.4)

Roman pottery fragments and handmade Iron Age pottery fragments were found in the fill of many Merovingian inhumation graves. An analysis of all Roman pottery found at Posterholt is provided by Hendriks. The results are presented in chapter 3 of this volume.

(267) Siegmund 1998, 135-138. (268) Van Wersch 2011, 166.

Fig. 6.38
Drawing of the sgraffito on the Samian ware cup from grave 57. Scale 1:2.



Most Roman pottery fragments derive from Roman cremation graves disturbed by the digging of later Merovingian graves. The only exception is find number 57-19 (fig 6.37). This Samian ware cup was found in a Merovingian context and was part of grave contents deliberately deposited in the grave. The cup is of the type Dragendorff 33.[269] The Posterholt specimen is of a fabric that dates from the middle of the second century to the end of the third century. It contains *sgraffito* marks. One side displays the letter X, and the marks on the other side are indeterminate (fig 6.38).

Most fragments of Iron Age handmade pottery were found in the vicinity of the Iron Age cremation grave (grave 92). An analysis of the distribution of Iron Age handmade pottery and Roman pottery is provided by Hendriks in chapter 3.

Medieval pottery
Find numbers 1-17; 39-4; 8-I-0.3; 10-I-6

Several fragments of later medieval pottery were found at the Posterholt cemetery. A possible fragment of Late Merovingian or Early Carolingian coarse ware was found in grave 1. A fragment of cookery ware (kogelpot) was found in the fill of grave 39. Furthermore, a small fragment of Carolingian or High Medieval pottery was found in trench 8 and a fragment of 'Zuid-Limburg'-ware was found in trench 10. These fragments provide evidence for later medieval occupation in the area.

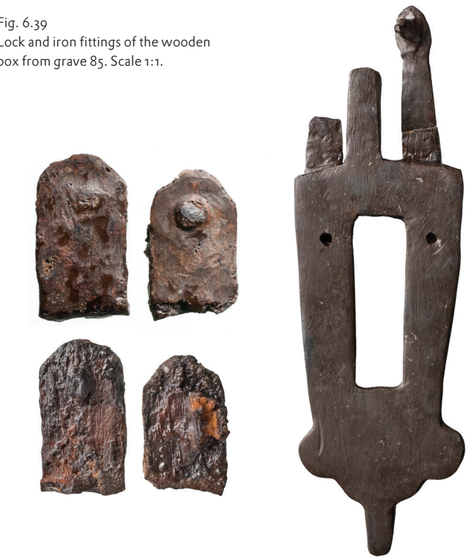
Indeterminate pottery fragments
Find numbers 7-15; 8-9.1; 23-2/30; 29-2; 30-19/22; 31-2; 39-1.1; 42-8; 78-15; 3-I-2; 3-I-3; 3-I-5; 4-II-3.1

These small pottery fragments cannot be adequately determined.

(269) Oswald/Price 1920, 189-191. (270) Evison 1987, 100-103.

Various objects

Fig. 6.39
Lock and iron fittings of the wooden box from grave 85. Scale 1:1.

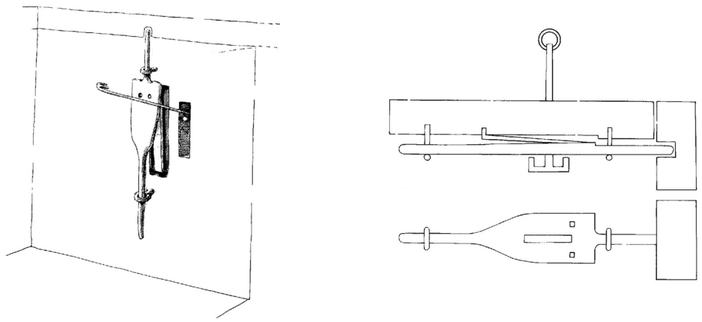


85-48 85-8

Wooden box with iron fittings
Find numbers 85-8/48.1/48.2/59 (and probably other indeterminate iron fragments from grave 85)

The iron fittings of a wooden box were found in grave 85 (fig. 6.39). The grave had been reopened and remains of the box were found scattered in the reopening pit's fill. The box's wood has completely decayed. This process was possibly speeded up after the grave was reopened. The best identifiable fitting is the bolt of the box's lock (85-8). It was fitted on the inside of the lid or against one of the walls. It bears typical characteristics of similar locks found in the Dover-Buckland cemetery (England, Kent) and described by Evison.[270] The central plate has one rectangular end and one rounded end. In contrast to the Dover specimens, it contains two extra 'wings' at the rounded end. Both the rectangular and rounded ends bear extensions in the form of narrow flat bars. These bars passed through staples on the inside of the lid or wall. The centre of the bolt has a rectangular slot through which a key was inserted from outside. It must then have been a key with a T-shaped end. The key would have been turned 90 degrees so its two pointed ends could be inserted in the two holes near the rectangular slot. The key was pulled somewhat back so the two iron springs fixed to the lid's inside would be lifted, and

Fig. 6.40
Drawings showing the functioning of the lock mechanism. Reproduced from Evison (1987) and Hirst/Clark (2009,561).



the bar could be moved and the lid unlocked. The two springs are preserved but now fixed to the bolt due to corrosion. To illustrate the mechanism's functioning we have reproduced the drawings provided by Evison and Hirst and Clark (fig. 6.40). The fittings of find number 85-48.1 and 85-59 almost certainly belong to the same box. They are likely to be the box's iron corner brackets. Another fragment (85-48.2) with textile remains attached may be a part of the key. Moreover, a number of the indeterminate iron fragments could be remains of the box's other fittings.

Wooden boxes must have been a regular phenomenon in Merovingian graves. Soil discolorations indicating the presence of wooden boxes are observed in five graves of the Meerveldhoven cemetery (Netherlands, province of Noord-Brabant).[271] These boxes, however, bore no metal fittings. Cemeteries occasionally surface wooden boxes with elaborate decorated copper alloy sheets covering the front surface, such as the one in grave V, 217 of the Cologne-Saint-Severin cemetery.[272] Boxes with iron fittings found in north-western Europe are listed by Nieveler.[273] She dates wooden boxes with iron fittings to her phases 3 to 7 460/80-640/50).[274] Another interesting box in the shape of a house is found in grave III, 73 of the Köln-Sankt-Severin cemetery.[275]

Boxes with locks, like the one from Posterholt, do not seem common on the continent; we have not identified many.[276] Still, an iron object in grave 106 of the Soest cemetery (Germany, Nordrhein-Westfalen) seems to be a bolt of a lock,[277] and iron fittings of a wooden box were found in grave 186 of the Dortmund-Asseln cemetery.[278] Near the corner fittings lay a bolt to which part of a staple and a spring were attached due to corrosion. The bolts from Soest and Dortmund, differ slightly from Posterholt's specimen. They lack, for instance, the central slot and the two holes. However, in the Dover-Buckland cemetery in England, eight such bolt plates were present.[279] They date mainly to the later sixth and early seventh century. Evison enumerates a series of other cemeteries in which such bolts were found. She mentions a similar lock with a double spring in grave 621 of the Mucking II cemetery (England, Essex), but could not elaborate on it. By now, the cemetery is published and the grave's contents can be inspected. The bolt does not have a central slot but the lock seems to have had a double or V-shaped spring. The corner brackets resemble those of Posterholt but have rectangular ends.[280] Such boxes seem to be rare in England before the seventh century, although those at Dover seem to date to the end of the sixth century.[281] On the continent, wooden boxes are found already in the sixth century. Hirst and Clarke suggest that the early date of the wooden boxes in the Dover-Buckland cemetery is due to contacts with the Frankish continent. But why then are so few boxes with such locks found on the continent? How do we interpret the observation that such boxes are not uncommon in England but rare on the continent? Were these boxes brought to the continent? What did they contain? [282] Important in this respect is the observation that such boxes were deposited in women's graves. In view of grave 85's many beads, this will have been the case in Posterholt as well.

(271) Verwers 1978, graves 11, 32, 46, 50, and 51. (272) Päffgen 1992, I, 473, II, 603, III, Tafel 92. For such boxes see: Koch 1990, 172-174; Koch 2001, 242-244, Abb. 99. (273) Nieveler 2003, Fundliste 6 (282-283). (274) Nieveler 2003, 110, note 1215. (275) Päffgen 1992, I, 473, II, 238-239, III, Tafel 51. Päffgen discusses a series of finds of boxes. (276) A different type of lock was found in grave 413 of the Rhenen cemetery (Netherlands, province of Utrecht) (Ypey 1964). One almost identical example was found in the Grez-Doiseau cemetery (Belgium, province of Brabant Wallon). It is not yet published but was an exhibit in the 2008 exhibition Rome and the Barbarians in the Palazzo Grassi in Venice. (277) Peters 2011, 19, Tafel 23, 106.19. It was not identified as such by the author. It is the grave of a woman containing exquisite grave goods, such as a high quality circular brooch with garnets, gold pendants, two bow brooches, a glass beaker, a bronze basin, a wooden bucket, as well as a key. The grave is dated to shortly after 600 (Peters 2011, 151). (278) Sicherl 2011, 93-94, 436, Tafel 34. (279) Evison 1987, 100-103. (280) Hirst/Clark 2009, vol 3.1, 95-97 and fig 52. (281) Hirst/Clark 2009, vol 3.2, 560-561.

Iron objects of indeterminate function

Find numbers 72-12, 80-16; 89-10.1, 89-19, 90-2; 11-I-10

Several objects whose shapes could be determined but whose function remains unknown were found at the Posterholt cemetery. They are discussed here.

An iron object with wood remains attached was found in grave 72. The object's shape suggests it was used as an awl, but certainty cannot be provided. The grave was reopened so there is no information on the original location of deposition. Furthermore, two flat iron strips were found in graves 80 and 89. Grave 89 also contained a bent flat iron strip. The purpose of these strips is indeterminate. An iron strip with a D-shaped section was found in grave 90. Here, too, the purpose of the object is unknown. A gaff-shaped object was found in trench 11 (11-I-10). The object is probably recent and has no associations with the Merovingian cemetery.

Stone

Sandstone

Find numbers 2-1[283]; 5-1.4/6; 8-6.1; 13-7[284]; 14-1/17/18; 19-1/2; 21-4/5/7/8/9/14/19; 22-3/8/9/13/14/16/18/19/20/21/22/23/24/25/27/28/30/31/33/35/39/43/44/46/47/50/53/54/56/57/59/60/65/67/73/79/82/83/84/85/88/109; 23-1/13/27/31; 1-I-11.1 (grave 23); 24-3/6/13/19/26/35; 1-I-24.1 (grave 24); 31-1; 44-1.2/3.1; 46-3.2; 49-1.3/10; 57-24; 58-1.2; 59-1.1/2/4/12.1; 10-I-2.1/2 (grave 59); 61-8.1; 62-7.1; 63-3.1; 68-1.2; 69-1.1; 71-3.3; 72-1.1.6.2/16; 73-1.5/2.2; 76-1.1; 77-1.1; 79-1; 80-1.2/9; 82-1/3; 83-1.1; 86-1.1; 89-1.4; 90-1.3; 91-1.2; 1-I-14; 1-I-16; 1-I-22; 3-I-7; 9-I-2; 10-I-3; 10-I-4; 11-I-2; trench 1 (1.2)

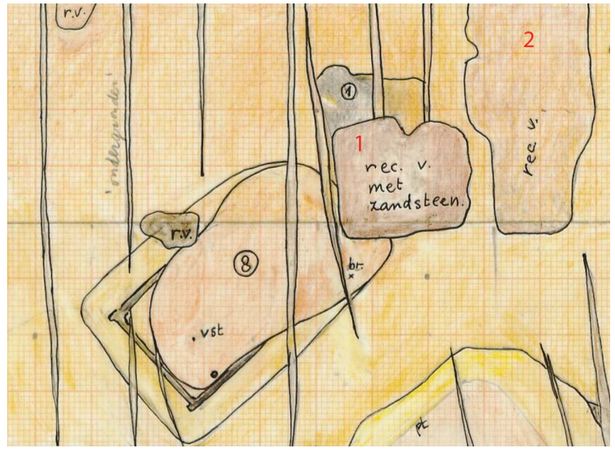
Sandstone fragments were found in many graves at Posterholt. They belonged to a sandstone monument associated with the Roman cremation cemetery.[285] The monument was made of Nivelsteiner sandstone, a type of stone deriving from the area around Kerkrade and Nivelstein. Part of the monument was still standing when the Merovingian cemetery was in use. Its exact location, however, is subject to debate.

According to the members of the Heemkundevereniging Roerstreek (HVR), a large sandstone fragment was removed by the landowner in 1958 (fig 6.41). It now decorates the garden of a house in the hamlet of Voorst.[286] Two recent pits were documented by the HVR during trial excavations in 1983. They are visible in fig 6.42. One is immediately adjacent to grave 1 and cuts grave 8. The other is immediately adjoining. During the ROB's excavation, grave 61 was found on the location of the second pit. Most of this grave was disturbed by the recent pit. In the brief report on the HVR's trial excavation, Schmitz writes that the large sandstone fragment was removed from the first pit, near grave 1. On grave 61's original field drawing and in the report on the 1984 excavation, however, the second pit is said to have been the sandstone fragment's location. Though certainty cannot be provided, this latter explanation seems unlikely. If the sandstone fragment came from the recent pit disturbing grave 61, the monument was located in grave's middle. It would be very difficult to dig a Merovingian grave right through a sandstone monument. This scenario could thus only be plausible if the large fragment was deliberately deposited in grave 61 during its reopening. However, the HVR's field drawing shows that a concentration of sandstone was still present in the recent pit near grave 1. They are probably

(282) The house-shaped casket in grave III, 73 of the Cologne-Saint-Severin cemetery contained exquisite textiles (Päffgen 1992, I, 473, II, 238-239, III, Tafel 51). (283) Roman cremation grave. (284) No grave. Indeterminate context, probably just a pit. (285) We expect there to have been one monument but cannot exclude the possibility that others were present once. (286) The owner of the house unfortunately did not allow us to inspect the stone, which can be seen from the street.

Fig. 6.41
Photograph of the piece of sandstone removed by the landowner in 1958. (photo by Ted Jongerius).

Fig. 6.42
Part of level I of the HVR trench.
Scale 1:50.



remains of the large fragment. It therefore seems safe to state that the sandstone monument was associated with grave 1.

An overview of the amount of sandstone found in each grave is presented in table 6.7. Only one Roman cremation grave contained sandstone fragments. The presence of sandstone in this grave (grave 2) seems unexpected if we assume that the sandstone monument was destroyed in a later period. However, the grave was cut by a later Merovingian grave and disturbed by ploughing activity. Both activities could have moved sandstone fragments to the grave's fill.

The sandstone fragments' fragmentation differs considerably. The smallest sandstone pieces weigh only three grams, while the largest weighs over 5 kg. This latter fragment was found in grave 59 (59-2) along with a second large fragment weighing just over 1.3 kilograms (10-I-2). Measured by weight, they provide the highest sandstone concentration within a grave. The highest number of sandstone fragments is found in grave 22. These 41 fragments cumulatively weigh only 628 grams, indicating that the pieces found in the grave were relatively small. A similar picture emerges when examining overall sandstone fragmentation. Over 230 fragments were found dispersed over 35 graves. If we assume Posterholt contained only one sandstone monument, the fragmentation level is considerably high. The fragments' total weight was over 13,2 kilograms. The fact that small sandstone fragments were found in so many graves indicates that great effort was taken to destroy the monument. It also suggests that this was done intentionally.

The spatial distribution of the sandstone is presented in figure 6.43. It becomes clear that the distribution covers a very large part of the cemetery. Only the southern corner and easternmost row of graves remain clear of any fragments. The highest concentration of sandstone was found around graves 22, 59, and 61. Surprisingly, however, a second high concentration seems present around graves 72 and 73. Why are the fragments from a singular sandstone monument distributed over such a large area? As discussed earlier, the sandstone monument was probably associated with grave 1. The large concentrations in graves 22, 59, and 61 fit this explanation. After all, all three are located in the grave 1's vicinity. The concentration of sandstone around grave 73 and 72 is more difficult to explain. According to the excavators, grave 73 cuts through a Roman cremation grave.[287] This indicates that the Roman cremation cemetery may have been larger than expected. The existence of other Roman cremation graves with sandstone monuments is possible. It must be asked whether this wide sandstone distribution is due to later (medieval) soil levelling when the area was used agriculturally. The collapse of wooden containers and slumping of soil in reopening pits may have left minor depressions in the landscape. If the sandstone fragments are found only in the grave's upper fill, they could have landed there when the terrain was levelled. If this is the case, the sandstone was not part of the fill of the container or burial pit, and the destruction of the sandstone monument cannot be dated to the cemetery's use. Unfortunately, the sandstone fragments' location in the graves is difficult to study. Examining colour differences of the soil and find depth could be instructive, but unfortunately, the depth of sandstone fragments is not always recorded. Most of them are found in reopening pits among other shattered finds. Still, there are several cases where sandstone fragments are found at deeper levels in the grave fill. Grave 22 provides a good example. The grave was discovered at a depth of 39.25 +NAP and the grave's bottom was discovered at a depth of 38.31 +NAP. Many sandstone fragments are found between 39.00 and 39.17, but are also found at deeper levels. The lowest sandstone fragment was found at a depth of 38.48 +NAP, only 17 cm above the grave's bottom. In this case, we can assume the sandstone was part of the grave's fill. This is also true for grave 59. Here, a fragment of sandstone was found beneath the skull. Its depth is not documented, but it is safe to state that the sandstone fragment was ended up in the grave before the deceased was buried. Still, most sandstone fragments were found in reopened graves while hardly any sandstone was found in the fill of the younger undisturbed graves located along the cemetery's eastern edge. This could imply that the monument's destruction was associated with grave reopenings and may have been contemporary with the latest burials. In the end, a definite 'biography' of the Roman sandstone monument cannot be provided, and multiple scenarios exist to explain its destruction.

(287) An extensive overview of the complete Roman cemetery is presented in chapter 3.

Table 6.7
The weight and number of sandstone fragments per grave.

Grave	No. of fragments	Weight	Highest level	Lowest level
2	4	25	39.54	39.54
5	5	40	38.98	38.58
8	1	12	?	?
13	1	10	39.05	39.05
14	3	184	39.1	38.85
19	2	7	39.12	39.05
21	7	48	39.08	38.72
22	41	628	39.17	38.48
23	5	30	39.06	38.77
24	7	138	39	38.36
31	1	135	39.91	39.91
44	7	188	39.05	39.05
46	1	10	?	?
49	16	255	39.29	39.27
57	2	6	?	?
58	5	68	?	?
59	21	1,829	38.98	38.92
61	13	430	?	?
62	4	110	?	?
63	9	235	?	?
68	1	10	?	?
69	1	45	?	?
71	2	83	39.36	39.36
72	19	945	38.98	38.98
73	9	568	?	?
76	3	60	?	?
77	2	50	?	?
79	1	80	39.74	39.74
80	3	278	39.2	39.2
82	2	153	39.68	39.43
83	1	60	?	?
86	4	158	?	?
89	1	3	?	?
90	2	37	?	?
91	3	183	?	?
trench 1	3	86		
trench 3	2	185		
trench 9	2	252		
trench 10	12	>5.5 kg		
trench 11	1	84		
Trench HVR	2	30		
	231	7,738		

Flint

Find numbers 4-1.2; 5-5; 8-6.2; 15-14; 22-38/107; 1-I-24.4 (grave 24); 42-4.1/13; 44-1.1/2.1; 46-34; 48-7.1; 9-II/III.1/3 (grave 51); 58-15; 65-6; 68-1.1; 71-3.2; 72-1.2; 74-1.1; 77-1.3; 80-10; 86-1.2; 89-1.2; 9-0-7.1 (grave 92); 8-I-0.2; 12-I-1.1; trench 1 (1.3)

A total of 33 fragments of flint were found at Posterholt. Only four fragments were probably part of a Merovingian grave assemblage (15-14, 46-34, 58-15, 65-6). All other fragments were either found outside the grave (stray finds), in the reopening pit, or at a non-specific location in the grave filling (for instance, as collected finds from level II or III). Since the site bore signs of prehistoric and Roman occupation, these fragments are likely to be of an earlier date than Merovingian.

The five fragments from Merovingian contexts showed traces of wear, probably caused by fire-steel use. In the case of grave 58, the fragment may have been part of a pouch attached to a belt. It was found together with the elaborate belt set with seax and seax scabbard. The flint fragment's exact location, however, remains uncertain. The complete belt set was probably moved when the grave was disturbed and the flint fragment was found in what may have been a mole pipe.

Graves 15 and 65's fragments were found associated with other finds as well. Find number 15-14 was found just below the pelvic area near an iron knife. Find number 65-6 was found in the vicinity of two simple iron buckles and an iron knife. Grave 46 was

Fig. 6.43
Distribution of sandstone fragments in the excavated graves of the Posterholt cemetery.

reopened, but the flint fragment was found near a leather fragment from a possible scabbard and several belt fittings. All these flint fragments could have been part of a pouches' contents. In all other cases, the fragments' purposes and original locations are impossible to determine.

In six cases, the fragments were burnt (42-4.1, 68-1, 72-1.2, 74-1.1, 9-0-7, 8-I-0 (stray find)). It seems probable that these fragments come from Roman cremation graves, although an Iron Age cremation grave (grave 92) was also found at Posterholt. Grave 80's fragment shows traces of fire-steel use. Because the grave was reopened and cuts through grave 79, it is impossible to determine whether or not the fragment belongs to grave 80.

Grinding stone / Tephrite fragments

Find numbers 4-1.3; 47-8.1; 48-4/6; 9-II/III.2 (grave 51); 90-1.1

Several fragments of tephrite were found. Tephrite was used to make grinding stones from prehistoric times to the later medieval period.[288] Most fragments found were found in the fill of Merovingian burial pits. In the cases of grave 47, 51, and 90, the fragments' location is not documented. This is probably because their location did not seem significant.

In all cases, the fragments could be Prehistoric, Roman or Merovingian. Since tephrite was already used in prehistoric times, it is seems possible that earlier fragments accidentally ended up in early medieval grave fills.

(288) Kars 1980.

Stone

Find numbers 5-4.1; 13-3.1/4; 15-2/7/8; 16-3; 22-29/40/74, 1-I-4 (grave 22); 40-4; 42-4.2; 46-3.1; 47-3.2; 9-I-8 (grave 48); 73-1.4; 76-1.2; 9-0-6.1

Several fragments of stone were recovered at Posterholt. They were found in the fill of burial pits and are probably not part of the original grave assemblages. The fragments are not analysed and therefore information on their origin and material composition cannot be provided.

Organic remains

Charcoal samples

Find numbers 8-8; 20-1; 3-I-8; 5-I-2

Five charcoal samples were taken during excavations at Posterholt. Two derive from Merovingian graves (graves 8 and 20), and two from indeterminate pits. The samples were heavily fragmented and not suitable for further analysis.

Soil samples:

Find numbers 31-12; 57-22; 70-8; 9-0-8

Four soil samples were taken during excavations at Posterholt. Two are missing: a phosphate sample from grave 31 and a botanical sample from an indeterminate pit.

The other two soil samples are the contents of pottery vessels from Merovingian graves. One is from the Samian cup found in grave 57 and the other from a biconical pot in grave 70. The samples were not analysed because of their incidental character.

Bone: animal

Find numbers 9-24; 58-6

Animal bones were found in two graves. Grave 9 contained molars of a cow and a pig, and in grave 58 contained a dog's jaw.

Nails

Small iron nails

Find numbers 8-7; 9-25; 14-2, 22-32/89/105, 23-9/10/16/18/24/25/37; 24-15/25; 1-I-24.3 (grave 24); 40-1/2.1; 45-1/3.1; 46-4/11/22/30.2; 48-9; 49-1.2/2/3/4/11/12/19/22/23; 50-7; 51-3; 52-7; 55-2; 57-3/4/5/8/9/10/11/14; 58-1.1/4/5, 60-1.1; 61-1; 62-6/9/14.1; 71-12/13; 72-31/41; 73-1.2/3; 76-7/15; 80-5.1; 85-38; 87-7; 89-18; 91-10; 11-I-12 (grave 91); 2-I-0

A large number of small iron nails was found at the Posterholt cemetery. Most of these nails were found in the fill of containers or burial pits. They are probably shoe nails from Roman cremation graves. In some cases, such as grave 73, the number of small iron nails is exceptionally large. This is because the grave cuts through a Roman cremation grave (grave 73). Most graves located near disturbed Roman cremation graves contained a high number of small iron nails, but several graves unearthed single specimens. It is important to realize that many of the small nails were heavily corroded. It is therefore not always possible to determine whether they were Roman shoe nails. Some of the nails listed here may be of Merovingian origin instead.

Iron nails

Find numbers 5-1.2; 21-16; 22-45; 26-1.1; 28-1; 34-4; 49-1.1/6; 52-4/5; 53-3; 57-7/15; 59-3; 61-5/6; 65-1/2/7; 76-5; 85-42; 88-7/17; 89-2/9; 91-1.1; 11-I-0.1

Nails that were certainly not Roman shoe nails were found in many graves as well. It is useful to distinguish between 'normal' and larger specimens. The ones listed here could have belonged to wooden boxes or other small wooden constructions. Unfortunately, this is difficult to establish because most graves were reopened.

Large iron nails

Find numbers 24-30; 45-2; 47-1.1; 49-7/8; 52-3; 62-5; 73-1.1; 74-5; 76-2; 77-1.2; 82-10; 85-43; 88-5/6; 89-4/8; 91-19; 11-I-14.1 (grave 94); 2-I-0

The large nails found at Posterholt are listed separately because they can indicate wooden container presence. Several specimens were square in section and two (find number 47-1.1 and stray find 2-I-0) were probably of a recent date. We must ask how a recent nail could end up in a Merovingian grave context. The nail from grave 47, however, was found at a high level. It probably landed there when the grave was disturbed by deep ploughing, or more likely, during soil levelling in later times.
Since most graves only contained a single specimen, container presence cannot be verified by the presence of large nails alone. A more elaborate discussion of the construction and presence of containers can be found in chapter 4 of this publication.

Indeterminate fragments: various

Indeterminate iron fragments

Find numbers 5-1.3/4.2; 13-3.2; 21-10/18; 22-1/41/58/106; 1-I-5/6 (grave 22); 25-2.1; 29-3/4/6/7/8/9/13/14/15/16/17/18/20/22; 30-28/41/45/46; 3-III-47.2 (grave 30); 31-5/11; 33-4/5/7/8; 34-2/3/5; 37-1; 38-1; 40-2.2; 42-11; 43-2; 46-6/7/30.1/32/35; 47-1.2; 49-5/16/17/18/20/24/25; 50-4/5; 51-5/6/7/8/9; 52-12; 55-3/4/5; 57-1/2/6/12/13/18/21; 59-8; 61-2/7; 62-17/19; 63-5; 64-9/10; 65-4/5; 70-4.1; 71-5/10; 72-17/22/25/26/27/29/30/32/38; 74-4; 76-13/17; 79-3; 80-1.1/3/6/12/13; 11-I-11 (grave 80); 82-2/9; 83-5; 84-5/7/9/12/13/15/16.2/17; 85-2/3/4/16/17/34/37/39/49/50/51/52/53/57; 86-10; 87-3/5/6; 88-1.1/2/3/4; 89-1.1/5/6/11/13/15/16/20/21/22; 90-1.2/3/4/5/6/7; 91-6/ 7/8/11/12.1/12.2/15/16/20/21/22/25/28; 11-I-14.2 (grave 94); 3-II-11.1; 4-0-1; 10-I-8

Many graves contained indeterminate iron fragments. They are usually small and were not selected for restoration work. Several fragments had rivets attached. Others bore remains of leather, wood and/or textiles.[289]

Indeterminate copper alloy fragments

Find numbers 9-2; 77-12; HVR stray finds 1983.3

A copper alloy sheet fragment was found in grave 9, two indeterminate copper alloy fragments were found in grave 77, and a small indeterminate copper alloy fragment was found in the HVR trench.

Indeterminate fragments of various materials

Find numbers 22-75; 1-I-24.2 (grave 24); 46-18; 47-3.3; 52-10; 70-5; 72-28; 80-4; 82-7

A melted droplet of glass was found in grave 24. The item probably belongs to the content of a Roman cremation grave. The same is probably true for the fragments of burnt loam found in graves 22 and 47 and the indeterminate sintered material from grave 52. Graves 46, 80, and 82 contained indeterminate white material, which may be silver. Finally, grave 70 contained some textile fragments of which the purpose is unknown, and grave 72 contained a fragment of an indeterminate material that could be glass.

Indeterminate finds: missing

Find numbers: 55-8; 11-II-5 (grave 90)

The stray finds collected from level II in grave 55 are missing. The nature of these finds remains unknown. An indeterminate object from grave 90's reopening pit is documented on the field drawing of trench 11. The object is missing and cannot be found on the find list provided by the ROB.

(289) The textiles are discussed in chapter 7.

7 Textiles from the Posterholt cemetery

Introduction

The Posterholt cemetery yielded several fragments of textiles. These are remains of garments in which the dead were buried and of other textiles in the graves, such as shrouds, the covers of mattresses or pillows, or cloth wrapped around objects deposited in the graves. Of the 80 examined Merovingian inhumation graves, 15 contained one or more pieces of textile. This resulted in a total of 33 fragments of textile (appendix 7.1). In most cases, the textiles were mineralized and imbedded in the corrosion on the graves' metal objects.

Due to the textile dataset's small size, it is not possible to ascertain any developments in the cemetery's textiles over time. Furthermore, many objects in the graves were displaced; most graves had been reopened after burial. This makes it difficult, if not impossible, to reconstruct the garments of the deceased.[1] However, most textiles can be assigned to a period in the late sixth and/or seventh century, making it a useful body of textiles that can be compared to other cemetery textiles from this same period.

The dataset

The Posterholt cemetery yielded 33 textile fragments. In some cases, several fragments of the same fabric were present within one grave. These identical fabrics have been grouped together, resulting in a total of 22 individual textiles. Some textiles were very badly preserved, making it impossible to analyse the fabric's technical details. These textiles are listed in appendix 7.1 but have not been included in the analysis presented in this chapter. In nineteen cases, the weave type could be established. The weave types are discussed below. Most of the textile-containing graves contained one or two different textiles; only grave 85 contained more textiles (3 different fabrics).

Most of the textiles were preserved in the corrosion on the graves' metal objects. The textiles not in contact with metal decayed in the years after the burial. This is why the remaining textile fragments are often very small, measuring between 0.5×0.5 and 3×3 cm.

Many objects had already undergone restoration in the years following excavation; this undoubtedly has led to textile removal. However, there was still a considerable amount of (often indeterminate) iron fragments where no restoration had been conducted. These object's textile preservation was in many cases rather poor.

Methods

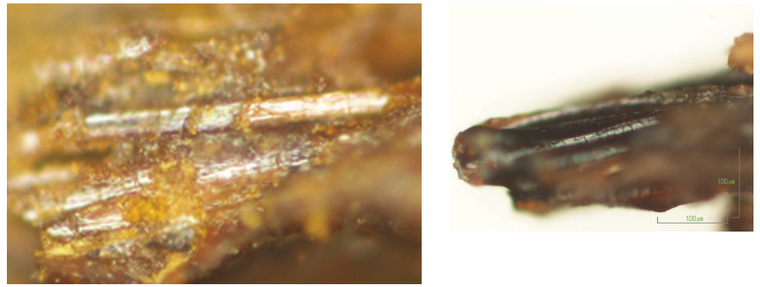
The textile analysis comprised two phases:

1. A technical analysis and description of the textile finds was carried out to present an overview of the range of textiles used in the cemetery. The cemetery textiles have been analysed using a stereo-microscope (magnification 6-40x). The technical analysis of the textiles comprised identification of weave and yarn and assessments of textile quality. Fibre identification has been conducted using an optical microscope (magnification 200x or 400x). Fibres were identified to the level of either wool or plant fibres (fig. 7.1).[2]
2. Spatial and chronological analysis is useful for larger datasets since it allows for distinguishing temporal trends and differences between groups within the cemetery. As mentioned before, the amount of textiles found in the Posterholt cemetery is insufficient to support any conclusions of this nature on the scale of the cemetery itself. Analysis and comparison of these textiles with other finds from the same region and period may prove possible.

Weave analysis is conducted to provide a detailed and local chronology of the different textiles used in the cemetery/region. Any changes or differences in the fabrics' texture through time and between men and women can be discerned on the basis of this weave analysis. Textile quality of textiles may indicate wealth or social status. An assessment of fabric quality or fineness, based on thread thickness and weave thread count brings to light changes in quality through time, or between men and women.

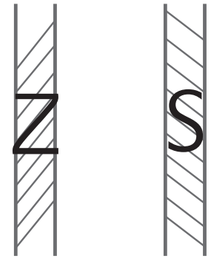
It may be possible to distinguish certain textile groups associated with specific objects in graves as well. Also recorded is the textile's position on metal objects and the object's position in the grave, even when these objects were no longer in their original position.

Fig. 7.1
Textiles have been made out of plant (a, tabby on belt part 58-11) or wool (b, another tabby on an indeterminate fragment of iron 61-7).



a b

Fig. 7.2
The direction of the twist of a yarn is indicated as z or s.



The textiles from Posterholt

In the Early Middle Ages, many techniques were used to process raw fibres into yarns, ropes, pieces of cloth, and garments.[3] Only woven fabrics and pieces of plied yarn were found in the Posterholt cemetery. The techniques to produce these materials will be briefly discussed, followed by a description of the fabrics present in the cemetery.

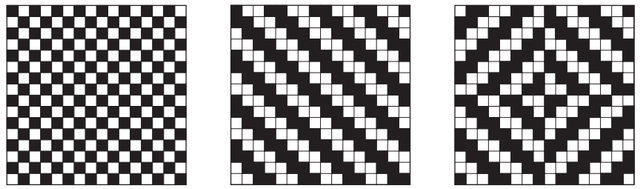
Early medieval textiles were made of fibres from plants or animals such as flax, wool and – in small quantities – silk. Fabrics of goat, beaver or rabbit fleeces are known in this period, although these are much rarer and not observed in Posterholt. Textile production was a long and elaborate process in which fibres were spun into yarns and yarns were woven into pieces of fabric. To spin yarns from fibres, a spindle and distaff were needed. Depending on the spindle's rotation direction, the yarns are twisted either clockwise or anticlockwise, resulting in z- or s-spun thread (fig. 7.2). In order to make a thicker or stronger string or rope, two or more threads were plied together.

The process of weaving large pieces of cloth was generally conducted on a warp-weighted loom. This type of loom would have stood at a slight angle against a wall. Another type of loom, known from the countries surrounding the Netherlands, is the two-beam vertical loom. The fabric's vertical threads, called the warp, were hung onto the upper crossbeam of the loom and put under tension by attaching loom weights. The way the horizontal weft threads were woven into the vertical warp threads produced various fabric types of different appearances. During the Early

(1) The possibilities and constraints of textile analysis on cemetery finds has been elaborated in detail in Brandenburgh 2012. However, Posterholt's textile dataset is too limited to enable any conclusions on grave textiles, their function as garments or grave furnishing, or their cultural significance. Nevertheless, the cemetery provides a well dated body of textiles that can be compared to textiles from other regions. In the long term, this will provide a detailed overview of the types of textiles in use throughout the area, which may lead to a better understanding of textile production and (long distance) exchange.

(2) Fibres were not further identified into species. (3) For an overview, see Walton Rogers 2007, chapter 2.

Fig. 7.3
The weaves present in the cemetery of Posterholt. A: tabby, B: 2/2 plain twill and C: 2/2 broken diamond twill.



Middle Ages, several weave types were in use; in the Posterholt cemetery, fabrics woven in tabby, 2/2 plain twill, and 2/2 broken diamond twill were observed (fig. 7.3). They will be discussed here shortly.

Tabby weaves

In a tabby weave, one horizontal, or weft thread, regularly passes over and under one warp thread. In Posterholt, 11 fabrics are tabby weaves. Five were made of wool and two of plant fibres.[4] Most tabbies were woven fully of z-spun yarns. One fabric was woven in z- and s-spun yarns, and one in only s-spun yarns. One of the tabbies was woven in a spin-pattern.[5] Spin patterns are created using both z- and s-twisted threads in the warp. The yarn's different twist lends the fabric a very subtle striped pattern. The warp-pattern is: 1z-2s-1z-2s, and is a rather open weave with 10×10 threads/cm.

2/2 twills

In 2/2 plain twills, the weft thread passes over two and under two warp threads, creating a diagonal woven pattern. 2/2 broken diamond twills are woven in more or less the same technique, but result in a diamond shaped pattern. In most cases where the fabric was evidently woven in 2/2 twill, it was not possible to ascertain whether the twill was plain or a variety of this weave, such as diamond twill. The twill pattern only becomes visible in fragments of considerable size. Consequently, most of the smaller fragments are assigned to the 2/2 plain twill group, making this group considerably overrepresented. Seven of Posterholt's textile fragments were woven in a variety of 2/2 twill.[6] One of these textiles was woven of plant fibres, with z-spun threads in both thread systems. Five textiles were woven with woollen fibres, with either z/s, z/z, or (in one case) spin pattern z/z&s-spun threads.

The fabrics' quality

A fabric's quality is commonly measured by the number of threads per centimetre in both warp and weft. As visible in fig. 7.4, there are some quality differences in the Posterholt's textiles, with most tabbies being in the higher quality groups and most 2/2 twill in the lower quality group. This distribution differs from textiles excavated in settlements in the Netherlands. In settlements, the majority of textiles had thread counts below 12 threads/cm.[7] In cemeteries such as Posterholt and Bergeijk[8], the fine and coarse groups are more evenly represented. This difference is not caused by the fact that the settlements only contained woollen fabrics. Both woollen and plant-based fabrics in Posterholt are present in a variety of qualities (fig 7.5).

Textiles throughout time

The Posterholt graves have been grouped into four phases. Phase I consists of graves from the middle of the sixth century (510/20–580/90). Phase II spans the end of the sixth and the first half of the seventh century (580/90–640/50). Phase III is relatively short, from 640/50to 670/80, and phase IV lasts from 670/80 to 750. It is not possible to analyze the textiles strictly according to this chronology, since many graves (and with that, most textiles) could not be ascribed to a single phase but to a longer period of several phases; some graves (containing nine textiles) could not be dated at all. Furthermore, some phases, such as phase I, are represented by only one grave. Its textiles do not reflect the totality of textiles of that particular phase. Moreover, Posterholt's dataset is too small to support any conclusions about textile development through time. All phases show a variety of textiles in small quantities. Diamond twill is only present in the cemetery's earliest phase.

(4) Positive fibre identification of the other four tabbies was not possible due to damage of the fibres. (5) Find numbers 62-III-13. Unfortunately, a positive fibre identification was not possible for this fabric. (6) For one fabric it was not possible to ascertain the twill type, because the weave was very decayed. This fabric is indicated as 2/? Twill in appendix 7.1. (7) Brandenburgh 2010. (8) Brandenburgh 2012.

Fig. 7.4
The quality of the different fabrics in Posterholt in number of threads per cm in warp (horizontal) and weft (vertical).

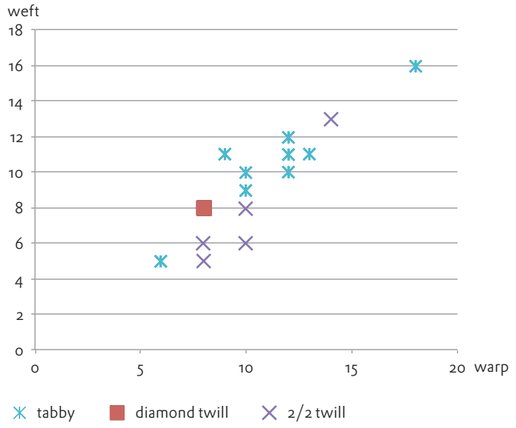


Fig. 7.5
The quality of the fabrics made out of wool and plant fibres in number of threads per cm in warp (horizontal) and weft (vertical).

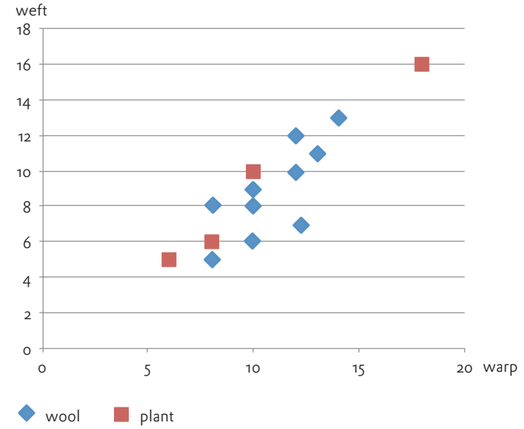


Fig. 7.6
The quality of the textiles in male and female graves in number of threads per cm in warp (horizontal) and weft (vertical).

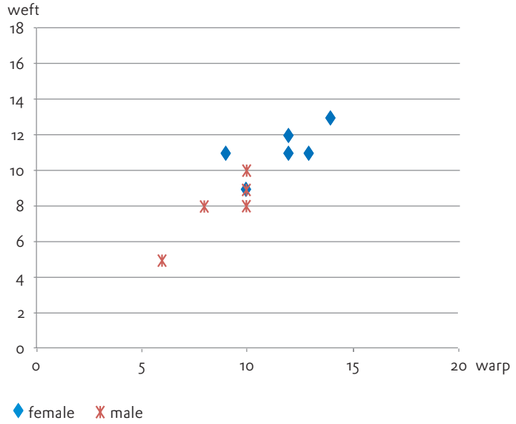
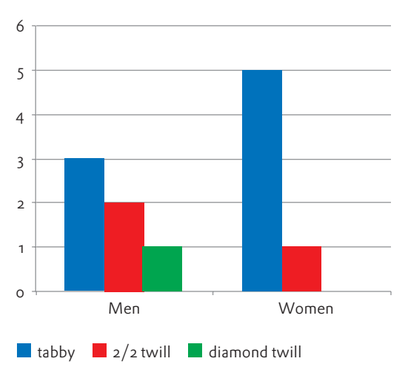


Fig. 7.7
Distribution of the different weaves in female and male graves.



Textiles from graves of men, women and children

Conservation of skeletal remains in the graves was very poor. As a result, the sex of the people buried could only be ascertained in a few graves, and only one of these graves (grave 21) contained textiles. Many other graves were distinguished as 'male' or 'female' based on the presumed gender associations of the objects found in the graves. A total of 17 textiles could thus be assigned to gender (four female graves and four male graves), but several of those were difficult to analyse, resulting in incomplete technical data.[9]

The graves of women and men from Posterholt bear some differences, but considering the small dataset, these differences are not significant (fig. 7.6 and 7.7). Women's graves of women contain predominately tabbies and only one example of 2/2 twill. Men's graves show a more equal share of tabbies and twills. More textile research is needed on Dutch cemeteries to provide a larger gender-related dataset and to enable comparison with other regions and periods. Some quality differences between fabrics associated with men and women are visible as well. Textiles from men's graves are slightly coarser than those found in women's graves.

Few graves contained enough skeletal remains to ascertain the age of the deceased, but nevertheless it is clear that several children or juveniles were buried in the cemetery. One grave from a juvenile individual contained textile (grave 23). Unfortunately, this grave could not be dated and yielded only one textile fragment. Nevertheless, this information inaugurates a juvenile textile dataset, making future comparison with other datasets possible. The textile present in this grave was a fine tabby of plant fibres (fig 7.8). The garment was folded over the front side of the buckle, which means it was probably worn over the belt. The textile found in this juvenile grave is by far the finest fabric in the Posterholt cemetery.

Textiles related to belt parts

It has been mentioned that most of Posterholt's graves had been reopened. As a result, many objects had probably been removed from the graves while the remaining objects had been displaced. This situation has had great effects on the amount and conditions of the excavated textiles and consequently results in textile analysis limitations. Two of the textile-containing graves (grave 21 and 23) had not been disturbed, but these graves yielded too few textiles to make any assumptions about the garments and burial textiles within the graves. However, in some cases it is possible to establish which textiles were originally worn under or over specific dress accessories. Many textiles were found in association with parts of belts. In practically all these cases, the textiles preserved in contact with the belt were tabbies of varying quality. The finer tabbies seem to have been worn as a garment or shroud over the belt. One example of a back plate (81-1, see fig. 7.9) shows the deceased was lying atop a tabby of medium quality. This may have been an outer garment, but could also have been a mattress cover.

The belt in grave 58 (fig. 7.10) was probably not worn on the body but placed beside the deceased. During excavation, the belt was found near the deceased's head, but the grave had been reopened; the original deposition location is thus inconclusive.[10] However, remains of straw adhered to several parts belonging to this belt; these could only have been embedded in the metal's corrosion during the first months after inhumation. Therefore, the belt was probably lying directly in the straw on the grave's bottom, not worn by the dead; it may be considered as an extra object placed in the grave, or probably a discplaced object.

Comparing the textiles associated with belt parts from Posterholt with those from Bergeijk results in noticeable differences. As mentioned above, tabbies are predominately found covering belt parts in Posterholt, whereas in Bergeijk we find mainly 2/2 twills or diamond twills.[11]

The textiles from Posterholt in a broader context

The 22 textiles found in Posterholt are a rather uniform body of textiles with only a few basic fabric types and no special or fine weaves. Since most graves had been reopened and only a very small amount of textiles has been preserved, it is not possible to attempt a reconstruction of the buried garments or an analysis of temporal changes within the burial ground. However, considering Posterholt's textiles as a building block in a larger dataset of cemetery textiles, the textiles may provide information on the use and development of textiles and clothing in the region's burial-context.

In many respects, the Posterholt cemetery is comparable to the Bergeijk cemetery: it is a rural cemetery with a similar number of – if not more – reopened graves and a chronology which may begin earlier but follows the same phases and ends at about the same time. When comparing Posterholt's textiles with Bergeijk's textiles, it is apparent that the fabric of both cemeteries are of similar quality. Very fine luxurious textiles are absent in both cemeteries, befitting the general characteristics of burial assemblages. Bergeijk, however, contains a larger variety of weaves, which may be related to the larger body of textiles found in that cemetery. There are other differences as well: Posterholt has far more tabbies compared to Bergeijk and the distribution of weaves among men and women also differs Women from Posterholt seem to have been buried often in tabbies whereas men were buried equally in twills and tabbies. In Bergeijk, tabbies were less represented and differences between men and women are shown in the use of diamond twills and plain twills. The presence of different fabrics on belt parts from Posterholt and Bergeijk suggests that people were dressed differently – or at least used different fabrics – in these two cemeteries.

Some developments observed in Bergeijk cannot be compared to Posterholt, such as the changes over time in the use of different fabrics. This is clearly due to the Posterholt database's diminutiveness.

Noting the characteristics, similarities, and differences between the two cemeteries is the first step towards understanding the differences between these cemeteries and the people buried there. However, textile variation within the cemeteries probably does not only reflect the changes and differences within the living population but also the role textiles played in the burial practice, both practical and symbolic. Insight into these processes requires more data on the cemeteries and their textiles. This topic will be addressed in more detail in future publications.

Fig. 7.8
Buckle (23-34) from a juvenile in grave 23 (10-20 years) with fine tabby folded over the front side of the buckle.

Fig. 7.9
Back plate (81-1) with a woollen 2/2 plain twill on the outside of the belt. This means this fabric belongs either to a garment worn over the belt or the person was lying on a mattress made out of this fabric.

Fig. 7.10
Belt part (58-11) with a coarse tabby (z/z 5×6 threads per cm) on the outside.

(9) In the case of five textiles, weave and/or thread count could not be ascertained. (10) See chapter 6. (11) Brandenburgh 2012, 130.

8 Human remains, body silhouettes and container lengths from the Posterholt cemetery

The physical anthropological study of the human skeletal remains

The present study researches human skeletal remains to gain insight into the nature of the population buried in the Posterholt cemetery. The physical anthropological study aims to reconstruct the demographic profile by means of age and sex diagnosis of the human remains and assessment of individuals' health status, mainly by studying pathological traits and stature calculated from the measurements of long bones.

The physical anthropological research included both cremated and uncremated remains. Three of the twelve cremation graves date to the early medieval period. These three cremation graves will be addressed here only briefly, while further results of the physical anthropological analysis are presented by grave in the catalogue. Unless mentioned specifically, the data and descriptions below refer to inhumation graves intended to contain uncremated human remains. Double internments and additional burials will be mentioned here briefly, but they are more extensively discussed in the chapter describing the archaeology of the burial contexts (chapter 5).

A selection of graves is used for demographic analysis.[1] This selection contains the inhumation graves in which skeletal remains are best preserved. Additionally, they form a group of younger graves situated at the cemetery's eastern periphery (fig. 8.1).[2] These graves date from the years around AD 700 and the first half of the eighth century.[3] They are thus contemporary to the burials in the younger southern part of the Bergeijk cemetery, and to most of the second-generation farmyard burials in settlements.[4] Moreover, all the younger group's graves contain skeletal remains. These graves are shallower than the cemetery's older graves.[5] They were not reopened after burial, in contrast to most other graves.[6] It can thus be concluded that shallow grave depth did not have a dramatic negative effect on skeletal material preservation, although the preservation rate is in general poor. It seems that grave reopening contributed significantly to the poor state of preservation of skeletal remains. The analyses of the skeletal remains of inhumation graves presented below thus concerns the entire late group of peripheral burials. We will see that the composition of this group shows distinctive features, which are important in the assessment of the last phase in the cemetery's use and its subsequent abandonment.[7]

Material and methods

The inhumation graves

Assuming that each grave contained at least one burial, excavations at Posterholt yielded at least 80 numbered inhumation graves in which at least 86 individuals were buried. However, since preservation of human remains was very poor, information on sex and age was only provided for 35 individuals. In most cases, these graves contained only some fragments of the skull, enamel teeth capsules, and parts of compact bone from the limbs. These conditions negatively influence research possibilities, specifically, estimation of stature and recording of pathological bone alterations. It was still possible to determine the sex and age of some individuals (fig 8.2).

The physical anthropological work includes determination of all human bones and dentition that are present; age diagnosis according to different methods as suited for infants, juveniles and adults; and sex diagnosis for the adults. As it turned out, stature could not be estimated because individual bones, the basis of calculations, are not complete and thus could not be measured. In some instances, pathological features were recorded; these are mainly associated to dental decay and degeneration of the vertebral column. These topics will be further addressed in the various sections below.

The cremation graves

Twelve cremation graves were found at Posterholt, together with shattered cremated remains in the fill of several inhumation graves. Three of the cremation graves were of Merovingian date and will be discussed in the present chapter. Eight of the other cremation graves were of Roman date, and one dated to the Iron Age. The cremated remains were studied and aspects such as their total weight, degree of fragmentation, and degree of burning were recorded. Determination of human bones is carried out by assigning bone fragments to various parts of the human skeletal (neurocranium, viscerocranium, axial skeleton, diaphysis, and epiphyses of the extremities). The sex and age are determined by the same standards applied for the uncremated remains.[8]

Sex and age diagnosis

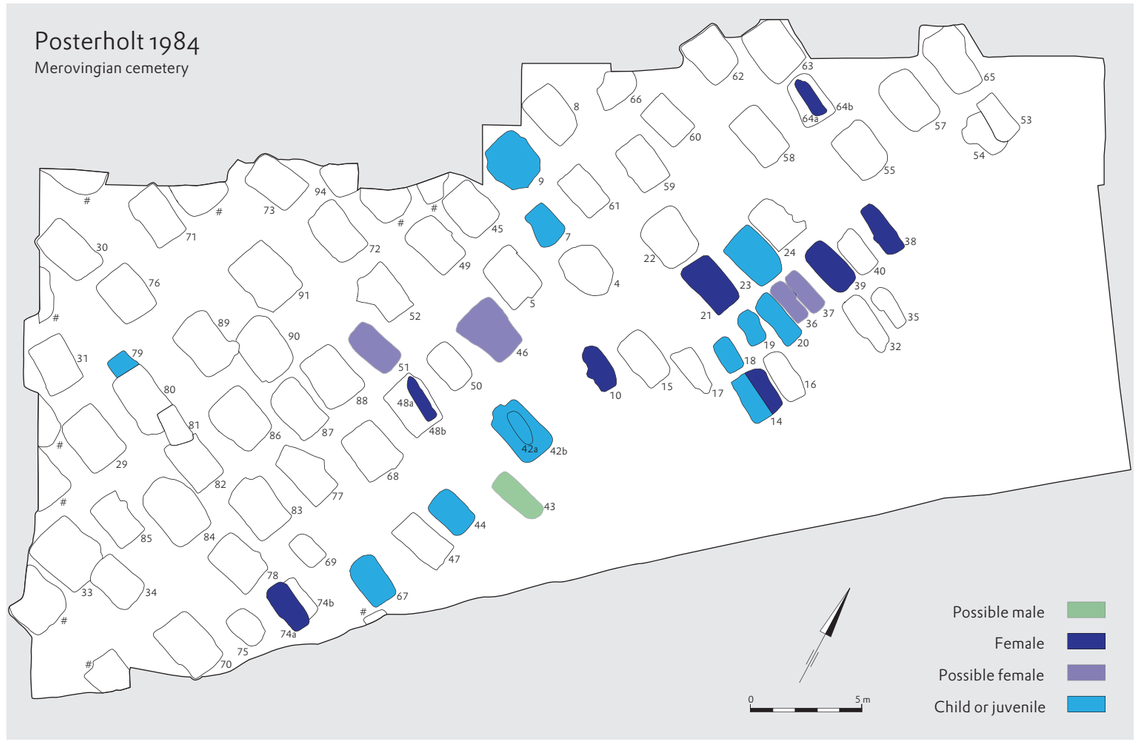
As the skeletons of children are not fully developed, sexual traits cannot be recorded reliably. Therefore only the sex diagnosis of adult individuals was carried out according to the standard methods – based on the sexual dimorphism of the skeletons, especially the skull and the pelvis. The method is based on 15 features of the skull and 10 of the pelvis; these are morphological features representing differences in size and shape between males and females.[9] The outcome, a weighted average of the recorded values,

Fig. 8.1
The distribution of graves with human remains in the Posterholt cemetery. Indicated in red are the graves discussed in this chapter. In green are the other graves with human remains.

(1) Graves 10, 14, 15, 16, 17, 18, 19, 20, 24, 32, 35, 36, 37, 38, 39, 40, 42A, 43, 44, 47, 48A, 64A, 67, and 74A. (2) The exception is grave 64. (3) See chapter 9. (4) Theuws in press a. (5) See chapter 4. (6) See chapter 5. (7) See chapter 11.

(8) Wahl 1982 for the phases in fragmentation and burning degree, as well as the methods on age and sex determination. (9) WEA 1980.

Fig. 8.2
The distribution of graves of men, women and children at the Posterholt cemetery.



is the sexualisation degree of the individual and is supposed to be 95% reliable. When dealing with incomplete skeletal remains or only post-cranial bones like long bones, their dimensions and robustness can indicate the individual's sex.

In physical anthropological research, exact age cannot be diagnosed; only an interval can be estimated. This is because we are dealing with skeletal elements, and the relation between skeletal age and chronological age is only an approximation influenced by genetic and other factors. These factors include lifestyle, diet, disease, and hormonal changes. For the age diagnosis, or better: age estimation, different methods are applied, and they vary according to the various life stages of an individual.[10] For infants, children and young adults, the methods are based on skeleton growth; for adults, methods are based on skeleton degeneration. Deciduous and permanent dentition is of major importance for the lower age groups. Ossification and synchondrosis of various skeletal elements, as well as the measurements of diaphysis of the long bones and the epiphyseal closure, are applied until the skeleton is fully grown. Up to an age of ca. 20–24 years, these methods are applied. Especially for the older age group above c. 50 years, the methods become less reliable and therefore age intervals may expand to 20 years or more. For Posterholt's very incomplete remains, adult age estimation was mainly based on the suture obliteration.[11]

Merovingian cremation graves

Three cremation graves (25, 26, and 27) that date to the Merovingian period were found at Posterholt. The weight of the cremated bones varies from 25–170 grams, which is a very incomplete representation of the skeletal remains. The burning degree was more than 800° C, a good cremation temperature. The minimum number of individuals for every cremation grave is one. The remains belong to three adult individuals, one woman and two adults whose sex could not be established (table 8.1).

(10) Ubelaker 1978. (11) WEA 1980.

Table 8.1
Merovingian cremation graves – basic data

Grave number	Sex	Age	Weight of cremated remains (g)
25	female??	20-40	25
26	unknown	20-40	93
27	unknown	30-60	170

Graves with double interments and additional inhumation burials

Four graves (graves 14, 42, 46, and 64) contained the skeletal remains of two individuals.[12] One is a double burial belonging to the group of graves selected for demographic analysis. The other three were possibly subject to later additional burial. Each of these cases is elaborately discussed in chapter 5 of this publication, in terms of their grave construction and chronology of interventions. This section presents the results of the physical anthropological analysis.

Grave 14
Skeletal remains: this double grave contained skeletal remains of two individuals.

Individual 1 (northern burial): parts of the skull, left arm, left leg, pelvis, and right upper leg. Sex diagnosis: female cranial features are present (crista supra, mastoidea, nuchal plane, external occipital protuberance). Age diagnosis: the sutures coronas, sagittal, and lambdoid are closed on the internal side. Externally, the sagittal suture is closed and the lambdoid suture (L1) is closing and partly open (L2). Based on these aspects, the age estimation is roughly 40–80 years. Conclusion: female individual of c. 40–80 years old.

Individual 2 (southern burial): parts of the skull and vertebrae, teeth, left and right arm, pelvis, left and right legs. Sex diagnosis: not possible. Age diagnosis: the spheno-occipital synchondrosis is unfused. The dens axis is not ossified. The dentition indicates an age of 12 years (± 30 months). Conclusion: child c. 12 years

Grave 42
Skeletal remains: the grave contained skeletal remains of two individuals. One was placed in the grave as an additional burial. Unfortunately, the bone material is too badly preserved to distinguish two separate individuals. Some fragments of the cranium and mandible are present, including some teeth. The post-cranial skeleton includes only the proximal parts of both femora. Sex diagnosis: not possible. Age diagnosis: the epiphyses are open and the dentition indicates an age of 15 years (± 36 months). Conclusion: juvenile of 12–18 years old, and a second individual who was probably juvenile, too.

Grave 46
Skeletal remains: the grave contained skeletal remains of two individuals.

Individual 1: Several fragments of the cranium and long bones, including fragments of enamel and dentition, were recovered from the grave. The remains were displaced during the grave's reopening but probably belong to a single individual. Sex diagnosis: possibly female. Age diagnosis: based on the closure of the sutures, the age estimate is c. 40–80 years. Conclusion: female?; age 40–80.

Individual 2: A second skull was found in the reopening pit. Unfortunately, this skull (find number 46-20) is currently missing.

Grave 64
Skeletal remains: the grave contained skeletal remains of two individuals. One was placed in the grave as an additional burial. Recovered are parts of two different craniums (one of which was very eroded), and a fragment of the femur (diaphysis).

Grave 64A: Sex diagnosis: the nuchal plane and the external occipital protuberance are feminine. Age diagnosis: on the internal table of the cranium, the sagittal suture (S 2,3,4) is closed; the lambdoid suture (L1,2,3) on the left and right side is open. Conclusion: female individual of c. 30–60 years.

Grave 64B: Only a very eroded fragment of the cranial vault was recovered; this cannot provide information on the sex and age of this individual.

Demographic analysis

The composition of the (selected) population according to sex and age
The selection of graves used for demographic analysis comprises 24 graves with 25 individuals in total (grave 14 contained two individuals). The group consists of 16 adults, and 6 children (younger than 12 years), and 3 juveniles (between 12 and 24 years). The group of adults comprises 8 women and 1 man. This is clearly a skewed representation of the sexes, but there are another 7 adults whose sex could not be diagnosed due to the incomplete state of the remains. These adults could be the 'missing' men, but the

(12) Two other graves with superimposed inhumations are graves 48 (48a and 48b) and 74 (74a and 74b). However, in both of these cases skeletal remains of only one individual were found.

men could also have been buried elsewhere, perhaps away from this site altogether. It is also be possible that this characteristic composition of the late group of burials (overrepresentation of women and children) is a 'normal' feature of the latest burials on such cemeteries. In the Gennep-Touwslagersgroes cemetery, the number of children's graves in this period increases, too.[13] In the southern group of contemporary farmyard graves at Dommelen, mostly women and children are buried.[14] Posterholt might reveal one aspect of the abandonment of Merovingian cemeteries, whereby during a certain period, men are buried in other places than women and children.

Mortality

Standard demographic issues are addressed based on the age at death of the individuals buried. This reconstruction of the population's biological mortality profile addresses demographic issues like the average life span, life expectancy at birth, and the representation of the age at death for the different age intervals.

The age at death per individual is always presented as an age interval and can vary, differing from one year to a few decades. The age intervals can differ per person and vary between just a few months (for instance for infants), a few years for children and young adults, to 20, 30, or 40 years for adults and elderly persons. Accuracy is dependent on completeness of the remains and the possibility to apply various methods. Some skeletal remains enabled no age estimation at all, or only very rough estimates as 'adult' or 'young adult' based on fragments of bone and their dimensions. The individual age intervals are subdivided into age intervals of 5 years, resulting in the construction of a mortality profile and interpretation of the results on group level.[15] The constructed age intervals of 5 years might seem inappropriate; the analyses and interpretation, however, will deal with major age classes concerning the young adult and adult age groups and their ratios.

As mentioned, the total number of individuals amounts to 25, but the mortality table includes only 17 individuals. This is because seven individuals, including three women, could not be determined any further than 'adult'. These individuals, with a minimum age of only c. 20 years, are not included in the mortality table because their age range is unknown.

The mortality table, which is calculated from the ages at death, is presented in figure 8.3. The number of deaths per age interval is depicted and shows a peak in the younger age group of 5–9 years, with c. 22%, after which the death rate declines gradually towards the adult age groups. The percentage of individuals younger than 20 years is c. 49 %; younger than 24 years, ca. 63 %. Infant death is underrepresented with less than 1 %. As infant deaths must have been much higher in pre-industrialized societies, we can conclude that the graves of young infants are underrepresented. Risks during and shortly after birth as well as a high mortality rate during the hazardous first years of life is common for pre-industrialized societies.[16] These infants are invisible to us. Various reasons can explain this. These include taphonomic processes such as the preservation conditions – these are bad for adults at Posterholt as well, thus even more so for the more fragile remains of children. Another possibility may be a more shallow depth of infant graves, making their skeletal remains more prone to erosion. Finally, one cannot overlook the possibility that young infants may have been treated in a manner making their remains invisible to us.

The adult group (intervals between 20 and 80 years) shows a mortality of 50,94% with c. 34% between 20–40 years (with a peak between 20 and 30); only 16% died at an age over 40.

In figure 8.4, the mortality curve for the separate groups is depicted, showing the mortality curve for children, juveniles, and adults (with no sex determination), and that of the group of men and women. The average age for the men is 49,5 years (n= 1) and almost 27,5 years for the women (n= 5) (table 8.2). However, this comparison between the sexes can be ignored because there is only one man present.

The mortality curve for the women has its peak at a very young age, 20–30 years, so the women are responsible for the mortality at this age of the whole population, as depicted in figure 1. The mortality curve for the men can be disregarded as it concerns only one individual.

The age at death of the children can be presented in smaller age intervals. This lends a better view of the mortality. Figure 8.5 shows the percentage of child deaths per year. Several peaks are evident at 7, 9, and 12 years.

Concluding the demographic analyses it is obvious that the division of sexes in the group is skewed in favour of females, and that young infants between the ages of 0 and 4 years are almost completely missing. In view of this fact, the child mortality is still quite high with c. 50% persons dying before the age of 20. Considering that we are dealing with only a small group, these conclusions cannot be extrapolated.

Table 8.2
The average age at death for men, women and children.

	Mean age	Number
Men	49.50	1
Women	27.50	5
Unknown	36.41	5
Children	9.08	6
Total		17
Average age		24.9

(13) Personal observation, F. Theuws. (14) Theuws 1988, 233-238. In the northern part of the cemetery are two double graves: one for two children and one for an adult and a child. (15) Açsádi/Nemeskéri 1970. (16) Zupan 2003, 266-268.

Fig. 8.3
Percentage of deaths per age interval.

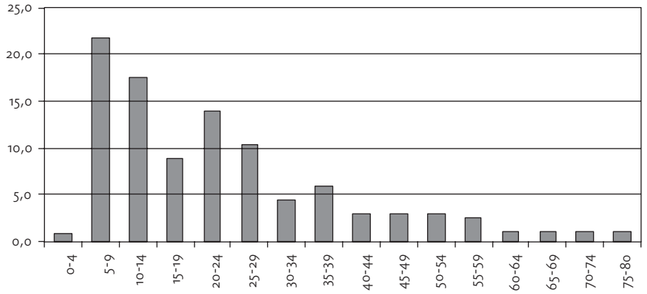


Fig. 8.4
The mortality profile according to sex and age groups.

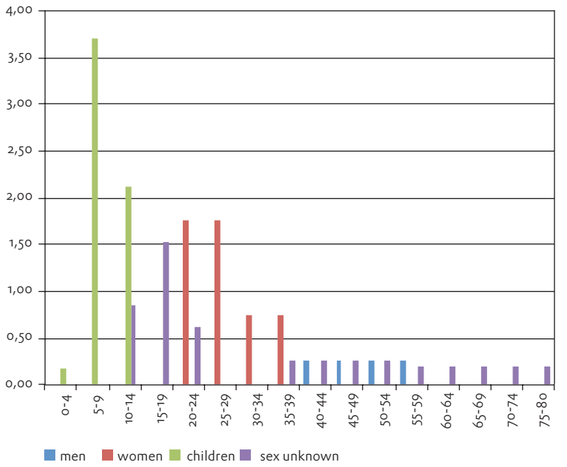


Fig. 8.5
The mortality profile of children under 15 years.

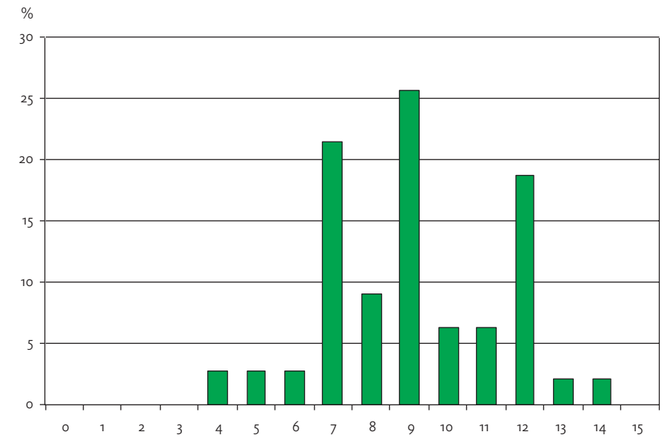


Table 8.3
Pathology

Grave number	Sex	Age (yrs)	Pathology
16	unknown	55-80	Peripheral osteoarthritis of the hip
37	female??	>20	Caries (dental decay)
43	male ??	40-60	Marginal osteophytosis of a cervical vertebra (dens axis)
48	female	20-30	Possible degeneration of the cervical vertebrae
74A	female	>20	Marginal osteophytosis and porosity of a cervical vertebra

Pathology and health

When the research possibilities are good, it is possible to study the health of former populations by means of the stature and occurrence of a variety of pathological bone changes (morbidity).[17] Age at death and mortality can also be an indication. For the Posterholt population, stature is unknown, as no measurements could be taken. Only five individuals showed some pathological features: these are dental decay, degeneration of the vertebral column, and degeneration of joints (table 8.3). The degeneration features are normally recorded for elderly individuals, and these ailments are not associated with poor living conditions. Still, the mortality table shows a population with a low percentage of older individuals, but to conclude that the health situation was bad based only on this feature seems hazardous.

Conclusions

The group of analysed individuals consists mostly of women and children. Men are underrepresented, as are infants. The preservation is very poor and therefore the skeletons are always incomplete, which hampers research possibilities. For some individuals, sex diagnosis was not possible, and age estimation often resulted in large age intervals. Stature could never be calculated and the pathological features, and therefore the health status, of the population buried in this cemetery is hardly known.

Demographic information collected from field drawings and photographic documentation (RP)

As indicated above, human skeletal remains provide information on the sex and age of the deceased in 35 of the inhumation burials from Posterholt. In addition, the field documentation was studied to determine whether the age of some buried individuals could be deduced from the dimensions of graves or the documented human remains. Often these human remains were largely decomposed. Still, for 21 individuals, a minimum length of the body silhouette could be recorded. In combination with 36 lengths of wooden containers and 81 lengths of burial pits, this provided information on the approximate length of the individuals buried in these graves. These lengths were not exact enough to determine the stature of the deceased, but for 49 individuals, the lengths provided sufficient information to determine whether the individuals had reached the length of full grown adults or not (table 8.4). In 25 cases, this information was useful, because the data from physical anthropological analysis was insufficient. The results are displayed in the catalogue and in appendix 8.1.

The method to determine the age category of buried individuals from the lengths of body silhouettes and burial containers, and the underlying physical anthropological assumptions, were described by Panhuysen in the publication of the Bergeijk cemetery.[18] In summary, this method is based on a study of the field drawings and sometimes field photography of the graves. Depending on the available information from this documentation, either an approximate length of the buried individual is recorded, or in case of incomplete data, a minimum length for the individual is determined. These lengths are then compared to a reference table (table 8.5) with data on the mean stature of early medieval individuals for each of the first fifteen years of life. Based on the recorded or assumed length of the buried individual, it can be deduced whether the deceased may have reached juvenile or adult age. It is not possible to discern juveniles from adults, since the stature of juveniles generally approximates that of adult individuals. When precise data are available for individuals younger than 12 to 14 years, it is sometimes possible to determine more exact age estimates for these individuals. For those 25 graves where additional information was collected from the lengths of body silhouettes or containers, 23 individuals had reached a length that equalled or approached adult stature. These 23 individuals were categorised as "juvenile to adult" individuals (≥ 13 years). In one individual (context/grave 69), the data were less specific, leading to an age categorization between infants II and adulthood (≥ 9 years). The body silhouette and human remains observed in context/grave 40 allowed for a more specific age indication, ranging between 7 and 12 years.

(17) Ortner 2003; Roberts/Manchester 1995; Rogers/Waldron 1995. (18) Panhuysen 2012, 138-141 in: Theuws/Van Haperen 2012.

Table 8.4
Sex and age determinations and age estimates from body lengths.

Context	Information obtained through physical anthrophological analysis	Information obtained from body sillhouettes, burial pit length or container length
4	adult	juvenile/adult
5		juvenile/adult
7	child, 6-12 years	
9	child, 8-12 years	juvenile/adult
10	female, 20-30 years	juvenile/adult
14,1	female, 40-80 years	juvenile/adult
14,2	child, 10-14 years	juvenile/adult
15	child, 17-25 years	juvenile/adult
16	adult, 55-80 years	juvenile/adult
17	adult, 35-52 years	juvenile/adult
18	child, 6-11 years	
19	child, 4-10 years	
20	juvenile, 12-18 years	juvenile
21	female, 12-40 years	juvenile/adult, 14-40 years
22		juvenile/adult
23	juvenile, 10-20 years	juvenile/adult
24	adult	juvenile/adult
29		juvenile/adult
32	adult	juvenile/adult
34		juvenile/adult
35	adult	infans II
36	female?, 20-40 years	infans II/juvenile
37	adult female	juvenile/adult
38	female, 20-40 years	juvenile/adult
39	female??, 20-30 years	
40		infans II
42A	juvenile, 12-18 years	juvenile/adult
42B	juvenile, 12-18 years	
43	male??, 40-60 years	juvenile/adult
44	child, 5-9 years	infans I (<3 years)
45		juvenile/adult
46,1	female?, 40-80 years	
47	adult	juvenile/adult
48A	female, 20-30 years	juvenile/adult
48B		juvenile/adult
51	female?, 20-40 years	
52		juvenile/adult
54		juvenile/adult
55	adult	Juvenile-adult
57		juvenile/adult
58		juvenile/adult
59		juvenile/adult
60		juvenile/adult
63		juvenile/adult
64A	female, 30-60 years	
64B	adult	
65		juvenile/adult

Context	Information obtained through physical anthrophological analysis	Information obtained from body sillhouettes, burial pit length or container length
67	child, 7-11 years	juvenile/adult
68		juvenile/adult
69		infans II/juvenile/adult
72		juvenile/adult
73		juvenile/adult
74A	adult female	juvenile/adult
74B		infans II/juvenile
79	child, 5-9 years	
86		juvenile/adult
88		juvenile/adult
90		juvenile/adult
91		juvenile/adult

Table 8.5
Reference table to deduce age estimates from body lengths
(Panhuysen 2012, in: Theuws/Van Haperen 2012)

Mean length (cm)	Age (years)	Age Category
51.7	0	Infans I
72.1	1	Infans I
83.1	2	Ínfans I
91.9	3	Infans I
99.2	4	Infans I
106.4	5	Infans I
112.7	6	Infans I
118.6	7	Infans II
124.6	8	Infans II
130.2	9	Infans II
135.9	10	Infans II
141.8	11	Infans II
147.5	12	Infans II
152.3	13	Juvenile - adult
158.4	14	Juvenile - adult
164.7	15	Juvenile - adult

9 The chronology of individual graves and the chronological structure of the cemetery

To understand the Merovingian burial ritual as a dynamic and developing event, it is important to learn about burial's chronological sequence at cemeteries. Recent investigations have pointed out that dating Merovingian graves is problematic. For many years, the chronological sequence of cemeteries was based mainly on typo-chronological schemes and seriation of grave goods ensembles. Recent studies, however, have argued that these methods are no longer sufficient. One reason for this is that many presuppositions on object circulation are accepted as facts.[1] In her doctoral thesis on grave goods from the Vrijthof and Pandhof cemeteries in Maastricht, Kars demonstrated that modern typo-chronological analyses and the establishment of very short chronological phases do not consider prolonged circulation of objects and ensembles of objects during life. For example, the typo-chronologies do not address the possibility of objects circulating for more than one generation before being deposited in a grave.[2] Kars therefore argues that objects should be studied in the context of family relations and inter-generational transfers as well. This does not necessarily mean that the seriation method should be discarded as a whole. As stated in the Bergeijk cemetery publication, seriation can still be used to arrange graves and objects in a relative order, but we must be wary of attribute to the order exclusively chronological meaning and absolute dates. We should ask more sophisticated questions about the ordering's meaning, and examine the extent to which seriation is created by archaeologists manipulating data to show neat (diagonal) ordering.[3] However, the current publication may not be the appropriate forum for this discussion. For now, it seems more fruitful to establish broad chronological phases.[4]

Methods

Three methods were used in establishing the chronology of individual graves at Posterholt. They are similar to the methods used for the Bergeijk cemetery. It is therefore unnecessary to reiterate them in great detail. I will mention them briefly; a more elaborate description can be found in chapter 9 of the Bergeijk cemetery publication.[5]

The first method concerns the dating of individual objects. When possible, all objects were described and dated on the basis of typo-chronological studies from abroad.[6] Subsequently, the dates of all objects found in a single grave were brought together to establish a date for the complete grave good assemblage. Because many of Posterholt's graves were reopened, only a small number of graves could be dated with this method.

The second method is based on comparison of grave good assemblages with identical assemblages from other regions. Here, too, difficulties arise; complete grave assemblages were hardly found at Posterholt.

The third and final method is based on the cemetery's topographical structure. This includes the stratigraphic position of graves that cut older graves. The layouts of cemeteries develop in various ways. Analysing the horizontal stratigraphy of a cemetery can provide insight on its relative chronology. When this information is combined with dates of single graves, a more accurate burial chronology can be established. Because the topographical distribution of graves is the subject of chapter 11 of this volume, it will be addressed here only briefly.

(1) Kars 2011. (2) Kars 2011, 13-33. (3) Seriations, for instance, do not sufficiently include age categories, although recent research indicates that age, along with gender or sex, is an important parameter in the choice of burial goods (Halsall 1995; Stauch 2008). (4) Theuws/Van Haperen 2012, 142. (5) Theuws/Van Haperen 2012, 142-145. (6) The results of this effort can be viewed in chapter 6 of this volume.

Fig 9.1
A plan of the cemetery with the distribution of graves assigned to the various Posterholt phases.

As mentioned earlier, these methods are not without problems. Especially in case of the first method, objects are dated on the basis of typo-chronologies imported from outside the region.[7] We cannot be sure that objects from the south of the Netherlands were used in the same period as similar objects from other regions. Furthermore, in cases where graves were reopened and many (probably datable) finds were taken, the dates of individual graves often remain uncertain. Unfortunately, no 'external' chronological evidence, such as C14-dates or dendro-chronological dates, is available for the Posterholt cemetery.

Dating individual graves

Of the 89 Merovingian burials[8], only 27 could be dated, though not always with certainty. This is mainly because most of Posterholt's graves barely contained finds. This is partly due to their reopening, but also because a considerable number of undisturbed graves did not contain many finds either.[9] Since complete grave goods assemblages were sparsely found at Posterholt, many dates of individual graves are based on the date of single finds. Since dating single

(7) Siegmund 1998 and Müssemeier/Nieveler/Plum/Pöppelmann 2003 (indicated as Franken AG or FAG). (8) This number includes: 80 inhumation graves, two double burials, four additional burials and three Merovingian cremation graves. (9) At least fifteen graves without finds were certainly not reopened. A more elaborate analysis of grave reopening is presented in chapter 5.

Table 9.1
An overview of the Posterholt phases
in comparison to those of Bergeijk and the FAG.

Franken AG 2003		Bergeijk 2012		Posterholt 2013	
Phase	Dates	Phase	Dates	Phase	Dates
1-2	400-460/80				
3	460/80-510/20				
4	510/20-565			PH I	510/20-580/90
5	565-580/90	BE I	565-640/50		
6	580/90-610/20			PH II	580/90-640/50
7	610/20-640/50				
8	640/50-670/80	BE II	640/50-670/80	PH III	640/50-670/80
9	670/80-710	BE III	670/80-<750	PH IV	670/80-<750
10	710-<750				

finds is often unreliable, Posterholt's chronological sequence thus needs to be treated cautiously.

At Bergeijk, pottery formed the largest find category of datable finds. At Posterholt, pottery vessels were hardly found. Most of the dates therefore derive from belt fittings and glass beads. Though belt sets have proven a more reliable source than pottery for creating chronological sequences,[10] the dates of the items from Posterholt still remain uncertain. In many cases, only single belt fittings of a larger set were found in reopened graves. They were once part of elaborate belt sets of which similar types are found in various parts of Europe. However, the typological analysis of belt parts is often based on the number of elements present as well.[11] Since this information is often no longer available at Posterholt, dating belts becomes problematic, too.

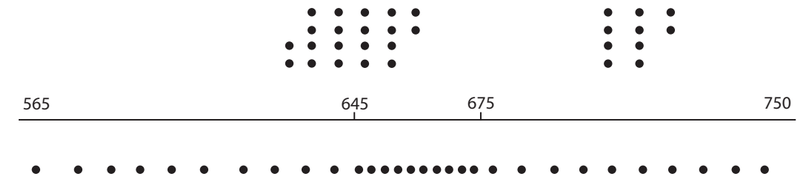
The same problem exists for bead analysis. Both Koch and Siegmund base their chronological sequence of beads on bead assemblages (*Kombinationsgruppen*), not single beads. At Posterholt, many graves contained only a single or a pair of datable beads. Their dates need to be treated cautiously, too.

In the end, only a small percentage of Posterholt's graves could be assigned to a single phase while most of the graves must be dated to more than one phase. The results are presented in figure 9.1.[12] They can also be found in the appendix published in the back of this volume (appendix 9.1).

To avoid the use of very short chronological phases, the objects and graves from Posterholt are divided into four chronological groups. These groups form the four chronological phases of the Posterholt cemetery. The first chronological phase – phase I – incorporates objects dating to most of the sixth century (510/20–580/90). It is followed by phase II, which holds objects dating to the end of the sixth and first half of the seventh century (580/90–640/50). Phase III is the shortest, with objects dating to the middle and third quarter of the seventh century (640/50–670/80). The last phase, phase IV, dates from the end of the seventh century until the end of the cemetery's use, probably around the middle of the eighth century (670/80–<750). For the greater part, the Posterholt phases coincide with the Bergeijk phases established by Theuws and Van Haperen.[13] The main difference is that the Posterholt cemetery may incorporate an earlier sixth century phase not found at the Bergeijk cemetery. To a great extent, the material culture of these phases also coincides with that in the German Rhineland further east. The Posterholt and Bergeijk phases thus mostly comprise various phases from the Franken AG's typo-chronological study of Rhineland grave goods.[14] An overview of the phasing of both cemeteries in relation to the Franken AG's phasing is presented in table 9.1. It is apparent that at Posterholt, the time span of a single phase ranges between 30 and 70 years, while phases of the Franken AG mostly comprise 30 years and occasionally even 15–25 years.[15] Additionally, many of Posterholt's graves are also assigned to more than one of the Posterholt phases. This gives them an even broader date. When comparing the phases of Posterholt and Bergeijk to those of the Franken AG, we see that both cemeteries studied in this project lack an early sixth century phase. Moreover, Bergeijk cemetery's oldest finds do not seem to date to the beginning of its Phase I; they are somewhat younger. Still, because both cemeteries are only partly excavated, earlier finds and phases may yet be discovered.

(10) Siegmund 1998, 18-19. (11) Siegmund 1998, 18-41. Siegmund distinguishes between belts consisting of one, two, three or multiple mounts. (12) The three cremation graves and grave 93 are not displayed in figure 9.1 because they are located in the trial trenches west of the main excavation area. (13) Theuws/Van Haperen 2012, chapter 9. (14) Müssemeier/Nieveler/Plum/Pöppelmann 2003. (15) Franken AG phase 5 dates from 565–580/90.

Fig 9.2
A graphic representation of two different grave distributions within archaeologically defined phases. Below the line, the graves are evenly distributed over the phases, suggesting continuity of use of the cemetery. Above the line, the distribution of graves as it may have been in reality.



Posterholt phase IV seems to encompass few graves. Nevertheless, these graves' dates are more reliable since they are based on the presence of late seventh and early eighth century sceattas.[16] Only three graves contained these coins, making this phase seem underrepresented. This was probably not the case, as will be explained in the next section.

Examining the current phasing of the Posterholt cemetery, the cemetery would appear to have been used continuously from the sixth century through the middle of the eighth century. This may not have been the case. The use of successive chronological phases suggests continuity and conceals possible gaps in the chronological sequence. We will repeat possible anomalies (already explained in the Bergeijk cemetery publication) with the help of figure 9.2.[17] The image beneath the line lends the impression that graves that are distributed equally throughout time. Hypothetically, this situation would only occur if people died systematically in equal numbers and equal intervals over a long period of time. The image above the line, however, shows an alternative distribution of the same graves through time.

Total date range of the cemetery

Most of the graves that could be dated on the basis of finds are assigned to Posterholt phase II and III. Together, these two phases comprise the end of the sixth and almost the entire seventh century., Phase I, containing graves with a possible early sixth century date, seems highly underrepresented at the Posterholt cemetery. However, since the only two graves assigned to this phase (grave 73 and cremation grave 26) are located at the western edge of the excavated area and in a trial trench (not visible in fig. 9.1) southwest of this core area, there may be more yet undiscovered graves belonging to this same phase. After all, the cemetery's western boundary was never found during excavations, and the graves surrounding cremation grave 26 were not examined.

However, there is still the question of whether there is a clear sixth century phase among Posterholt's excavated graves. Only two graves contained finds that could certainly be assigned to phase I, which dates between 510/20 and 580/90.[18] Grave 26, a cremation grave, was assigned to phase I due to the presence of a pottery vessel of Franken AG type Kwt2A. It is the grave's only datable find, making its date less reliable. Grave 73's early date is based on the presence of a sixth century belt stud. Here too, only a single find is responsible for the grave's assignment. Since both dates are unreliable, the evidence for a sixth century phase seems doubtful. Still, the overall presence of sixth-century finds indicates that an earlier phase was present. Examples of this are the first pottery vessel found during road reconstructions, the bird-shaped brooch from the reopening pit over 89 and 90, and a fragment of a late fifth or early sixth century possible conical beaker from grave 31. The fact that most of these finds were found in the cemetery's west strengthens the hypothesis that an earlier phase may have been present there. After all, the youngest phase is unmistakably located along the cemetery's eastern and north-eastern limits, thus its horizontal stratigraphy seems to have developed from west to east. This subject will be discussed in more detail in chapter 11. For now, we must understand that the presence of a sixth century phase at Posterholt can only be confirmed by excavating of some of the graves located west and southwest of the cemetery.

In conclusion: we can state that in the cemetery's excavated portion, the oldest graves probably date between 510 and 565, while the youngest grave dates in the first half of the eighth century. The dates of the oldest graves still remain quite uncertain because they are based on single finds of which one (that of grave 73) was found in the fill of a reopening pit. However, sixth century finds imply that sixth century graves must have been present, but are not excavated yet.

Most of the datable belt fittings dated to the middle of the seventh century. Accounting for all this, the total certain date range of Posterholt's excavated portion is about 170 years, from c. 580 until c. 740/750, with a strong contingent in the seventh century. We expect an older part of the cemetery to be located west of the currently excavated area. The entire cemetery may have been in use between c. 525 and 750 AD.

(16) The sceattas function as a *Terminus Post Quem*. Since some of them are of a later date, these graves could be dated later than the first half of the eighth century. Still, a much later date is not expected because the chronological distance between this group and Posterholt's other graves cemetery would become very large. (17) Theuws/Van Haperen 2012, 143. (18) Grave 89 is assigned to phase I-II because of the presence of a glass bell beaker. However, since only a few fragments were found and the grave was reopened, this date is not considered reliable.

Fig. 9.3
A plan of the cemetery with the distribution of graves assigned to the various Posterholt phases and graves that cannot be dated by itself but which must belong to phase IV.

Table 9.2
The quantitative distribution of graves over the various Posterholt phases. The last column includes graves that cannot be dated but possibly belong to the latest phase of the Posterholt cemetery.

Phase	No. of graves	No. of graves if eastern part is phase IV
1	2	2
1-2	2	2
2	6	6
2-3	7	7
3	0	0
3-4	1	1
4	4	27
2-4	5	5
No date	40	33
No finds	22	6
total	89	89

The number of graves per phase

As already written above, the total number of graves that could be dated at Posterholt is very low. Table 9.2 presents an overview of the number of graves assigned to each phase.[19] Most of the graves are assigned to phase II and II-III. Still, this number is very low in comparison to the number of graves that could not be dated or that contained no finds. The fact that phases I and IV are underrepresented is already discussed in the previous section. Still, phase IV needs to be addressed here in more detail. Only four graves could be assigned to this phase. Three are certainly of an eighth century date because they contained sceattas. The fourth grave (grave 62) is more likely to date to the later seventh century on the basis of the belt fittings it contained. As stated in the previous section, it is probable that most of the smaller graves located at the cemetery's eastern limit belong to the same phase. These graves are characterized by their narrow and shallow burial pits and are close together along the cemetery's eastern edge. Others seem to keep some distance from the older graves to the north; for instance, graves 10 and 15, 44 and 47. None of these graves are reopened or disturbed, but they contain little finds or no finds at all. The graves containing little finds are impossible to date on the basis of their find assemblage, which usually consisted of a small iron buckle sometimes accompanied by a knife. The three graves with sceattas resemble these graves. Besides the coins, grave 24 contained only a simple iron buckle, grave 44 contained an iron knife, and grave 47 contained two simple iron buckles and a knife. Beyond that, only shattered Roman pottery fragments, sandstone fragments and some iron nails were found in the grave's fill. It seems likely that all the graves located along the eastern limit, including those without datable finds, belong to the same group of graves forming the cemetery's last use phase. They are presented in figure 9.3 in light green. These burials share their characteristics with a similar group in the Bergeijk cemetery's southern portion, dating to the late seventh and first half of the eighth centuries.[20] The meaning of these later groups of graves will be discussed in more detail in chapter 11.

If the light green coloured graves are considered part of phase IV, the number of graves in this particular phase increases substantially. The third column of table 9.2 displays the number of graves assigned to each phase when most of the graves located on the cemetery's eastern edge are counted in phase IV. Among these are those graves that are certainly not reopened and contain no finds[21] as well as some of the graves that are certainly not reopened but could not be dated.[22] The additional burials found in graves 42, 48, 64 and 74 are also counted among this group. They are all dug in a later period, disturbing older graves; they are shallow and lack datable finds. Though we cannot know for certain when these additional burials were dug, it is likely that they are contemporary with the later burials assigned to phase IV.

Examining in more detail Posterholt's topographical distribution of graves, it is probably possible to assign more graves to some of the other phases as well. Some of the graves assigned to phase II and III, for instance, seem to have been laid out in neat rows.[23] It is therefore possible that some of their neighbouring graves belong to the same phase as well. Still, one must be careful with such propositions. The analysis of the cemetery's topographical structure presented in chapter 11 shows that some of these rows seem to contain 'empty spots'. These spots could have intentionally been left untouched. Perhaps they were reserved for future burial of a family or other group member. Since this is a matter of interpretation, Posterholt's topographical distribution is discussed more elaborately in chapter 11.

(19) Graves with a possible date (placed between parentheses in the appendix) are counted as well. (20) Theuws/Van Haperen 2012, 145, 163-165. (21) Graves: 10, 14-1/2, 17, 18, 19, 20, 32, 35, 36, 38, 39, 40, 42A, 43, 67, and 74A. (22) Graves: 15, 16, 37, 48A, and 64A. (23) Graves 8, 9, and 52 are part of such a row, and graves 50 as well.

10 Remaining features

Besides the Late Iron Age, Roman and Merovingian graves, a number of other features were documented at Posterholt. Not all recorded features appeared to be relevant human interventions. Four types of features will be briefly discussed in this chapter. They are: Iron Age features, a late medieval and early modern cart track, recent disturbances and remaining features. The Iron Age cremation grave was analysed by Joep Hendriks.

Features related to prehistoric (Iron Age) habitation

Grave 92 is the only Late Iron Age cremation grave found during the excavations at Posterholt. Based on the various grave finds the burial can be dated more preciously in the Middle La Tène (C) period, approximately between the middle of the third and the middle of the second century BC. The most distinctive find is the iron belt hook with a relatively large rivet (9-0-3.1). Although exact parallels are unknown, belt hooks of a similar simple nature are not extremely rare in Late Iron Age cremation graves from the Central Limburg region.[1] Next to this belt hook fragments of two burned copper alloy wire brooches were found in the grave (9-0-3.2), probably worn by the deceased at the pyre. Both specimens are only partly recovered, but judging from their bilateral spring and external chord they resemble the Middle La Tène type, dating from the late third century to the early first century BC.[2] The open and rather smooth handmade bowl of a reduced fabric (find number 9-0-3.3, fig. 10.1) can't be dated very preciously, although more or less similar bowls are quite popular in the cemetery of Panningen-Stockx.[3] Other handmade pottery fragments found in the grave could be residual. Unfortunately it is unknown whether the handmade bowl functioned as an urn or just as an secondary grave find, deposited in the grave, together with the unburned belt hook and the cremated remains from the pyre debris.

Besides this single cremation grave, a number of small and large pits that must have related to prehistoric habitation were found (fig. 10.2, A). Some pits were probably post holes and least one large pit may have functioned as an underground storage pit (feature 9a). It must have been at least 1.40 m deep (see section in fig. 10.3). Unexcavated post holes in the trenches dug further east may also have belonged to the site's prehistoric habitation, but they cannot be dated accurately. Such Iron Age features, however, can be scattered over large areas due to regular farm movement in prehistoric times.

As mentioned in chapter 3, the majority of the more than 600 handmade pottery sherds can be dated to the Late Iron Age. Their date coincides partly with the cremation grave 92, but some of the handmade assemblage could be a little bit younger, dating towards the end of the Iron Age. Considering the highly fragmented state of the pottery it is hard tell whether it concerns heavily weathered sherds from disturbed graves, or just residual material from a nearby settlement area.

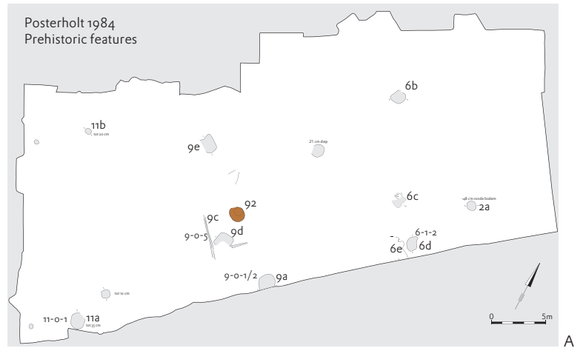
A track from the Late Middle Ages and Modern Period

In the excavation's easternmost part, traces of a cart track were visible (fig. 10.2, B). The section through the track shows the characteristic features of a track used over a longer period of time (figs. 10.4 and 10.5). Many intermingled layers are visible where

(1) For futher references, see Hiddink 2003b, 213-216, fig. 50; Hiddink 2006, 73-75. (2) Hiddink 2006, 68-71. (3) Hiddink 2008, 24-26, fig. 14.

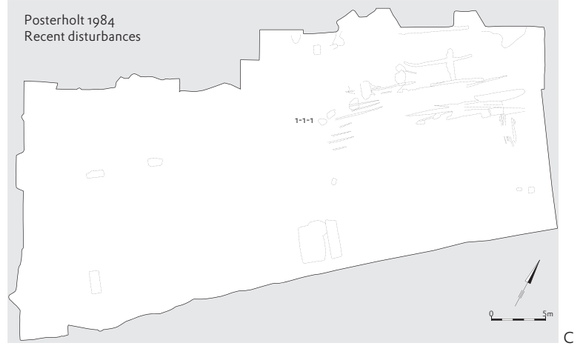
Fig. 10.1
The handmade bowl from grave 92.
Scale 1:4.

Fig. 10.2
The remaining features recorded at the site of the Merovingian cemetery of Posterholt-Achterste Voorst. A. features relating to prehistoric habitation, the cremation grave is indicated in brown, B. features belonging to a medieval track, C. recent disturbances, D. indeterminate features.

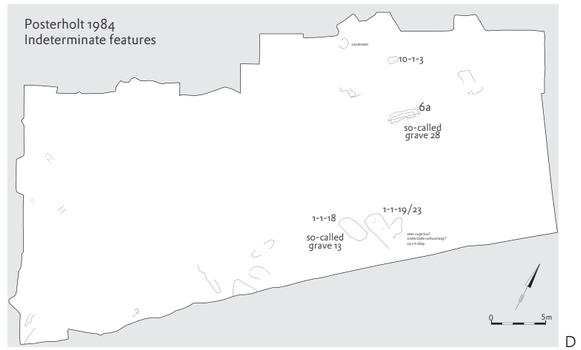


A

B



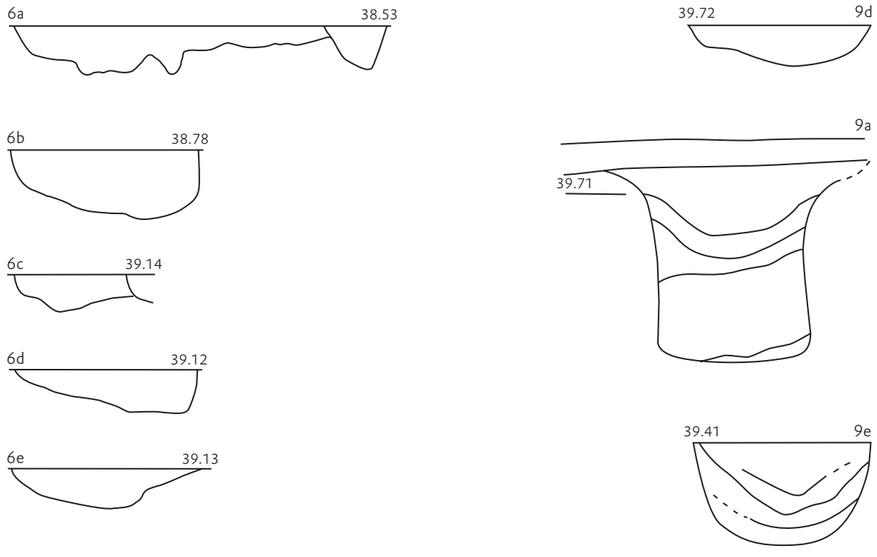
C



D

(4) See chapter 1. (5) For comments on the section's location, see chapter 1. (6) For a discussion on the archaeology of the infrastructure of arable fields see: Theuws 2010, 44-48; Verspay 2010, 141-158.

Fig. 10.3
The sections of a number of prehistoric and indeterminate features. Scale 1:40. The heighth of the excavation level above Normal Amsterdam Level is indicated.



Recent disturbances

The excavated area's easternmost section was affected by recent subsoil disturbances (fig. 10.2, C). Most disturbances resulted from deep ploughing or the removal of large sandstone pieces from the arable land. These disturbances affected the high-lying Roman cremation graves and possibly Merovingian cremation graves, but did relatively little harm to the inhumation burials.

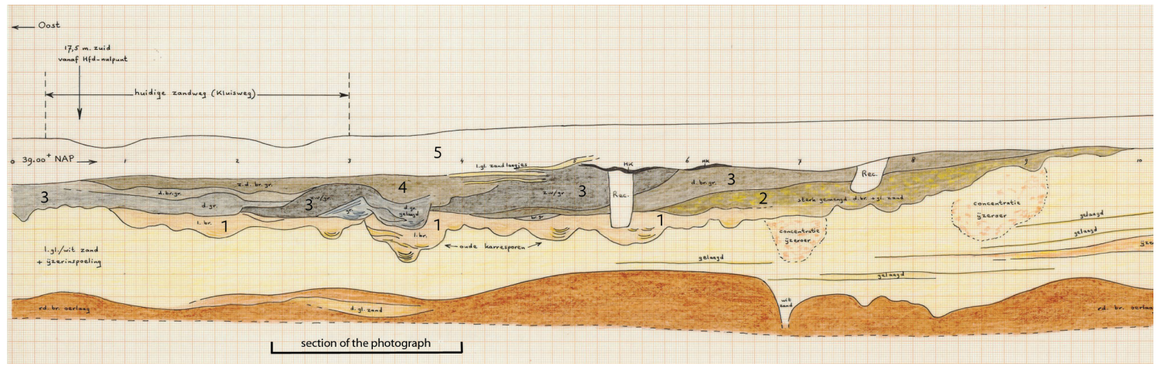
Indeterminate features

Several of the features recorded were not real human interventions (fig. 10.2, D). Some were remaining parts of the top layer of brown soil, found mainly along the excavated area's southern border. One feature (6a) was thought to be a grave (context 28), but in view of its different orientation, shallow depth, irregular bottom and the lack of characteristic features, it was ultimately not considered a grave (see section in fig. 10.3). Another feature was also thought to be a grave when first disovered at level 1, but turned out to be a local depression with brown soil from the top layer. The same is true for context 13, which turned out to be a pit of indeterminate date. Some of these features contained small finds, like pottery sherds or iron fragments.

All features observed in the excavated area have now been discussed. No features that could refer to burial-related activities contemporary with the Merovingian cemetery were identified, probably due to later ploughing of the field. The first excavation level thus lies well below that of the original early medieval surface.

Fig. 10.4
Photograph of the central part of the section through the medieval track. For the exact location and interpretation see fig. 10.5. Scale 1:10.

Fig.10.5
Field drawing of the section through the medieval track. Scale 1:50. The figures indicate the different phases in the use of the track. The location of the track at the time of the excavation is indicated above the drawing (huidige zandweg (Kluisweg)).



PART 2

INTERPRETATIONS

11 The topography of the cemetery and the 'history' of the burial community

A cemetery's topography provides information on various aspects of the burial ritual. Firstly, it displays the horizontal stratigraphy by which the cemetery was laid out. Secondly, it affords insights into aspects of the burying community's social structure. And thirdly, it provides a window to that community's mentalities. Theuws and Van Haperen already described the problems with comparing a 'cemetery population' with the 'burial community' and 'local group'. They also addressed the problems arising when dealing with the cemetery's demographic composition in relation to the variation in burial rituals.[1] There is no need to repeat the debate here, but it is important to stress that at Posterholt, we also assume that a grave's location was not a random, meaningless decision. It was a conscious choice that depended on the relation between the deceased and many other parties, such as the cemetery's population, the burial community, kin group, household, neighbouring graves, etc. Before we can address some of these issues in more detail, it is important to first examine the data.

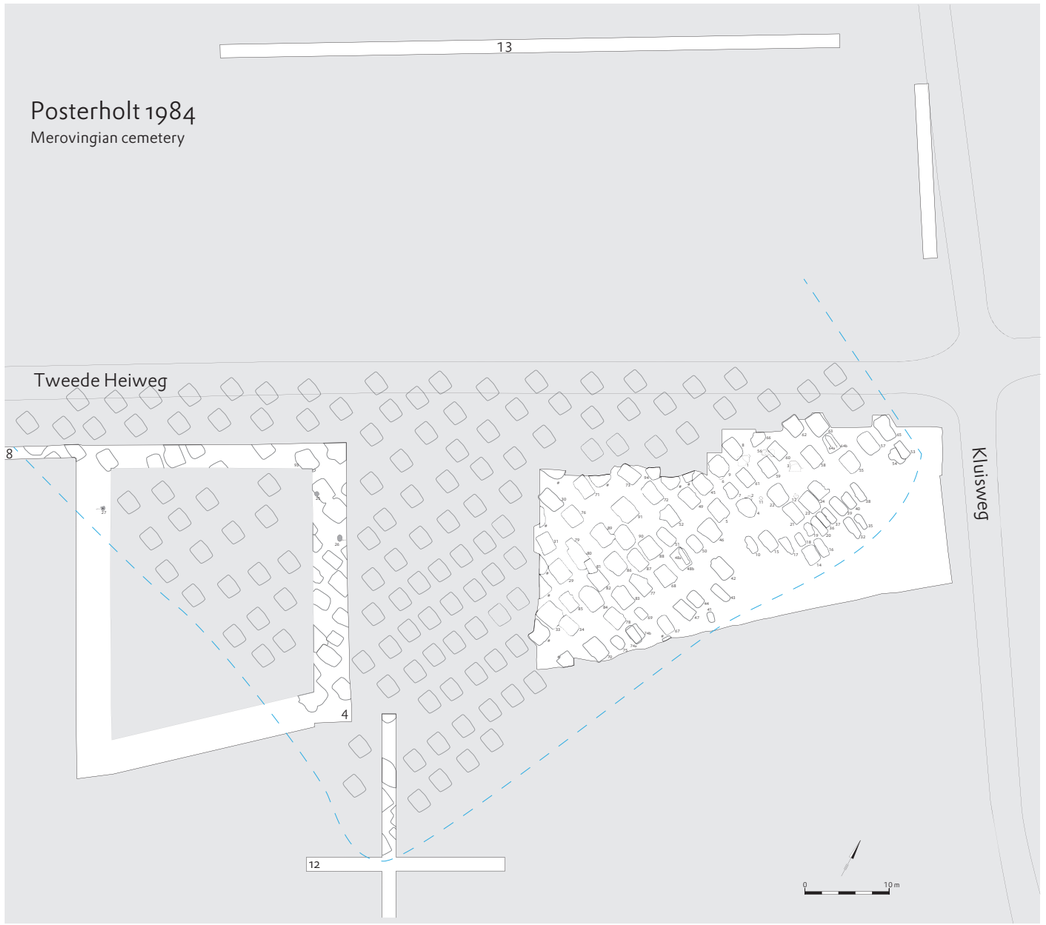
Boundaries of the cemetery

A cemeteries' layout can take on many forms. Some cemeteries display clear limits – sometimes marked by physical features such as fences or hedges – while others do not display clearly defined boundaries, but rather fade out more gradually.[2] There are cemeteries consisting of neat rows with equal orientations, while others are built up around one or more core areas, sometimes with overlapping areas of differently oriented graves. Undoubtedly, different combinations of these elements exist as well. Although some of the variation in cemetery topography was due to environmental circumstances (irregularities in the landscape, etc.), we assume that most was due to conscious strategies by the burial community. Boundaries – whether they are physically fenced or are separated representationally (e.g. with open space) – are a means by which one can include or exclude people from a cemetery. They can also be used to single out specific groups within the cemetery itself (e.g. family or kin groups, or households).

To theorise on any of these issues, a cemetery's size and boundaries need to be established. This is not always easy, especially in cases where the cemetery is not completely excavated. The exact size of the Posterholt cemetery is unknown and evidence on its boundaries is limited. Excavators determined the cemetery's eastern boundary, as well as its northeast corner and part of its southeast corner (fig. 11.1). To the west and northwest, there is no notion of the cemetery's limits since it was cut off by the Tweede Heiweg. The southern boundary can be reconstructed to some extent, but the western boundary is most problematic. In this direction, excavation is limited by the Tweede Heiweg. Graves are expected below the road's tarmac and probably in the fields immediately west of the road. Unfortunately, that area is private property, and permission to excavate there was not given. Trial trenches were dug in the field northeast of the property, but yielded no graves (trench 13, see fig. 2.3 and fig. 11.1). Both ends of the eastern boundary were found, but the area in between was not completely excavated. The presence of the northeast corner is also a matter of debate. It was probably found near the northern limits of the excavated area, but the cemetery's boundary was not confirmed by a trial trench dug immediately north of the Kluisweg. There may therefore be some graves north of this operational road. If this is the case, however, they must also be located below the later medieval cart tracks which run parallel to the Kluisweg, but are located still within the excavated area. Since graves were not found there,

(1) Theuws/Van Haperen 2012, 150. (2) Which is of coarse determined by the visibility of archaeological remains.

Fig. 11.1
A plan of the cemetery on which the boundaries and the estimated minimal number of graves are indicated.



the cemetery's northern limit may share a location with the cart tracks and the later Kluisweg. If this is true, it may indicate that this road is a consistent element in Posterholt's landscape.

Information on boundaries was also found in trench 12. This trench's purpose was primarily to establish the cemetery's size; its location seems remarkably well-chosen for this purpose. Not only was the continuation of the eastern limit established, the trench also captured the cemetery's southeast corner. Together with the graves found in trench 4 and trench 8, a considerable part of the southern boundary was discovered.

In summation, we can conclude that parts of the northern, eastern, and southern boundaries were found, but that there is no knowledge on the western boundary's whereabouts. Additionally, only the cemetery's north-east has been thoroughly excavated. Therefore, the larger part of the Posterholt cemetery still remains hidden from us today.

The estimated number of (inhumation) graves in the cemetery

Since a considerable portion of Posterholt's boundaries was found, it is possible to speculate on the cemetery's original size and the estimated number of graves. Of the 123 discovered inhumation graves, 80 were completely excavated. Figure 11.1 presents a plan of the cemetery, including its boundaries, and an estimated number of burials had the complete area south of the Tweede Heiweg been excavated. At least 118 inhumation graves fit in the unexcavated area, making the estimated total number of inhumation graves at least 241. This number is a cautious estimate. More graves are probably present in the angle between trenches 4 and 8. However, we must consider the possibility that some spots contained a lesser grave density or no graves at all, or that some areas contained a higher grave density.[3] Nevertheless, since the western boundary has not yet been found, the number might be even higher as well. Each new row of graves to the west adds about 20 graves to the total. The total number of graves may be around 300.

It becomes clear that if we agree upon the presence of approximately 241 graves, less than 25% of the cemetery has been excavated. The amount of unexcavated graves is large and prompts the realization that much is still unknown about the Posterholt cemetery and its burial community. Further excavations could prove fruitful not only for Merovingian investigations, but for Iron Age or Roman period investigations as well.

The layout of the cemetery

A cemetery's topography can be analysed by several means. For instance through the analysis of specific find distributions, or the examination of grave chronology. A third is analysis of the ordering of graves in rows; this can be done independent of the graves' contents. With this method, the rows in which the graves are ordered are defined. The method is explained in the Bergeijk cemetery publication.[4] This analysis starts from the supposition that the ordering of graves in rows, as well as beginning and ending rows, was intentional and meaningful. This is not to say that the underlying motives for creating rows can be easily detected and explained. Possible explanations include social relations of any kind between those in a single row. We can question what factors, other than chronological order of death, determine the order in which persons are buried in defined rows. Moreover, in principle, rows can develop in two directions: both ends. How does a row of graves develop over time? One also wonders whether the burial ritual and grave goods ensemble of graves in a particular row were related or opposed to previous burials.[5] Were rows filled uninterrupted or were places reserved for persons who had not yet died? At times, empty spaces seem to indicate that grave locations were 'reserved'. Not many cemeteries have the quality of data necessary to analyse the composition, chronological development, and meanings of the rows. Well-dated graves and well-preserved skeletal remains are needed to determine the sex and age at death of the buried persons. In a second phase of research, DNA and isotope analysis could be applied to try to establish the relations between neighbouring burials and find out where relatives were buried. The Posterholt cemetery does not provide such data, but it is still worthwhile to analyse the rows to gain some understanding of the cemetery's topographical structure.

Figure 11.2 indicates the rows that could be identified using the method described in the Bergeijk cemetery publication. Some rows can be defined with the help of straight lines. The row beginning with grave 83 in the south and ending with grave 46 in the north has a more curved line. The row from grave 5 to grave 60 has a wavy line, but then, grave 5 may not belong to the row. These two rows may form the original eastern boundary of the cemetery, the boundary that developed since the sixth century. The graves along the eastern boundary are placed mostly in phase 4, dating to the later seventh and first half of the eighth century. These graves seem to have been laid out at some distance from the older graves in the rows mentioned, thus giving the impression that some sort of empty space exists between the two groups. This space is indicated in grey in figure 11.2. A similar empty space can be found east of graves 33 and 85. This empty space is reinforced if one considers graves 4 and 22, which may have been graves positioned to fill the

(3) See, for instance, the cemetery of Rosmeer (Roosens/De Boe/De Meulemeester 1976; Roosens 1978). (4) Theuws/Van Haperen 2012, 152–157. (5) This was suggested by Chapman 2000.

Fig. 11.2
A plan of the cemetery on which the east-west rows are indicated.

empty space. East of grave 22 is a row of three graves (21-24), and east of that row is the row of graves between 17 and 38, followed by the row of graves 14 to 35. These three rows plus graves 10 and 15 seem to form a coherent group separated from neighbouring graves by empty spaces. It is indicated in figure 11.2 by a broken orange line. Grave 22 may also belong to that group.

Graves 4 and 22 (indicated in brown in figure 11.2) are graves that do not seem to fit neatly into the system of rows. This also counts for other graves 78, 84, 90 and 34. This latter grave is stratigraphically younger than a grave (grave 33) that fits the system of rows. It was probably dug later. This may have been the case with graves 4, 22 and other such graves, but this is difficult to establish in each individual case. Interesting is the position of grave 90 in relation to graves 89 and 91. Grave 90 seems to have been inserted into an empty space, indicated in light grey, around graves 89 and 91. This empty space, or respectful distance, kept by the surrounding graves, seems to indicate that graves 89 and 91 were considered of some importance compared to those surrounding them. The idea that some distance was kept around these two graves is supported by the observation that graves 87, 88 and 51, which form a row, could easily have been fitted in a long row, beginning in the south with the unnumbered grave near 33, to grave 8 in the north. However, they are placed somewhat more to the east, thus creating a greater distance between them and graves 89 and 91. The same goes for grave 71 and the unnumbered grave near it. They do not form a row with 76 and 73. Unfortunately, it is not possible to establish the exact chronological relation between graves 89 and 91 and those surrounding them. West of these two

Fig. 11.3
A plan of the cemetery with the distribution of graves assigned to the various Posterholt phases.

burials, no clear rows can be defined, but this may be due to the limited area excavated there.

The rows in the Posterholt cemetery are oriented north-south. In contrast to the Bergeijk cemetery, defining east-west rows is difficult. Only one ordering principle seems to have been present: the north-south rows that may have been created one after the other in an easterly direction. It is possible, however, that several of these rows were created at the same time with burial continuing in each of them. The crude dating of individual graves does not allow establishing this.

There are several empty spaces, such as the spaces between graves 22 and 58, 24 and 55, 38 and 54, 16 and 32, 15 and 21, and possibly 42 and 10. These could be 'reserved' grave locations that were never used. They are located in the younger part of the cemetery. These spaces may not have been used because the burial community began burying their dead in another location. Some of the dead for whom these locations were intended may have been buried on a farmyard in a settlement instead of this cemetery.[6]

A possible 'history' of the Posterholt burial community

As already noted by Theuws and van Haperen, the people buried at a cemetery do not necessary reflect the total burial community or burial group.[7] The organisation of early medieval rural society is a difficult one to grasp archaeologically.[8] This is despite relatively good datasets, at least in the southern Netherlands. We have some written accounts on everyday life, social organisation, mobility and mentalities of the groups and communities that buried their deceased at rural cemeteries like Posterholt and others in the region (indicated on the map in figure 1.3), but they leave serious gaps in our 'historical-anthropological' understanding of these groups and communities. What we do know is that many of the objects found in the graves were obtained through exchange networks that included long distance contacts. The mechanisms of exchange operating in the networks involved are complicated, and this subject will not be discussed here. However, we do want to stress that the existence of such networks suggest that peasant mobility and or economic agency on regional and perhaps even supra-regional scale may have been more intensive than one tends to think. Within this complicated system, the Merovingian burial ritual can be seen as an active means through which varied connections to several groups (or communities) were constructed and reconstructed. The burial ritual can be considered a rhetorical strategy actively defining social positions within society as well as constructing a discourse on it.[9] It is our incomprehension of this discours (including gender positions, age categories, personhood, 'the body', ancestral protection, landscape, etc.) that prevents us from interpreting the burial evidence unequivocally, in the light of social practices and social hierarchies. This strategy could also mean that the early medieval inhabitants used their burial ritual to actively form alliances and connections between groups and communities. An example of this would be burying one member of the burial group at a local cemetery (such as Posterholt-Achterste Voorst), another at a larger regional cemetery, and yet another in a religious centre, in the vicinity of an important saint (such as the *basilica* of Saint-Servatius in Maastricht). Ideas on these rhetorical strategies were subject to changes through time as well. Changes within society probably influenced local dwellers to start burying the dead at new burial places. This eventually led to the abandonment of rural Merovingian cemeteries. With these considerations in mind, let us see what can be said about the burial community related to the Posterholt cemetery.

Size of the burial community

It is important to remark on the (estimated) size of the community burying their dead at Posterholt. Only 83 Merovingian graves were excavated and their date range is approximately 170 years (c. 580–750). This would come down to an average of one burial every two years, which seems quite low. However, we previously pointed out that the estimated total number of inhumation graves must have been at least 240. If we make this 300 for the period 525–750, this raises the average number of burials to over one burial each year. During this period, circa nine generations (of c. 25 years each) were burying their dead on the cemetery.[10] This would mean that on average, c. 33 people per generation were buried on the cemetery. If a core family counts c. 5 people, then on average, six to seven families could have been responsible for the cemetery population. In the beginning and end of the cemetery's use, there would have been fewer families burying their dead, so it can be expected that in the central period 580–700, some seven to eight families could have buried their dead on this cemetery. This is to be considered a small burial community. Questions on the burial community's composition can only be answered with the help of physical anthropological data. In the case of the Posterholt cemetery, great difficulties arise when reconstructing the burial community, since the available data is incomplete and only a small part of the cemetery was excavated. Interesting to note, however, is that almost all graves with skeletal remains were those of women and children. This phenomenon will be discussed further on in this chapter.

We do not know where the members of the burial community lived. The majority may have lived nearby but it cannot be

(6) Farmyard burials dating from this period have been found in the southern Netherlands (Theuws 1999). (7) Theuws/Van Haperen 2012, 150. (8) Theuws 2010. (9) Theuws 2009; Theuws 2012. (10) Many formulas exist to calculate average population size on the basis of data on age and sex of a burial population. However, problems arise when dealing with these calculations, and questions can be raised about views on child mortality in the early medieval period. These difficulties are more elaborately discussed by Theuws and Van Haperen (2012) in chapter 9 of the Bergeijk publication.

excluded that some dead were brought in from other places such as neighbouring villages. The Posterholt cemetery may thus have been part of a complementary set of cemeteries.

The first settlers

We assume that arriving people colonising the area founded the Posterholt cemetery. The question is whether these new settlers had arrived already in the late Roman period. As noted in chapter 1, finds from the late Roman period were discovered in the vicinity of the Posterholt cemetery. Since the cemetery's oldest burial phase was probably not excavated, it is possible that it dates back to the (late) fifth century. In that case, we should consider the possibility that the first people buried at Posterholt were late Roman settlers, who reoccupied possible *agri deserti*.[11] Evidence to support this hypothesis, however, is hard to find. The earliest finds recovered from the cemetery date to the early sixth century. Since most of the later Roman finds date to the end of the fourth and the first half of the fifth century, there is still a gap of at least half a century. There are other examples in the southern Netherlands where later Roman occupation ends in the second half of the fifth century.[12] Until further investigations are executed, the new settler's time of arrival at Posterholt remains uncertain. However, as far as we can see now, it was probably not before the sixth century. Some finds suggest the presence of graves dating to the first half of the sixth century. This points to an initial colonisation of the area in that period.

Many other interesting questions can be raised about Posterholt's first settlers. Where did these colonisers come from, with how many people did they arrive, and where did they live? Did they arrive as a group or individually? What kind of social organisation did they have? But also: why did they choose this particular location for their place of burial?

This last question is worth answering here in more detail.

Although the earliest graves may not have yet been found, we do know the location the colonists chose as their burial ground. The Posterholt cemetery is of special significance because it is located on the remains of an older Roman cemetery. Even though the Roman cremation graves themselves may not have been visible when new settlers arrived, the sandstone monument was. Some of the social implications of these older remains are discussed more elaborately in the following chapter. What is important to realize here is that the choice of location by the new settlers must have been conscious. Choosing a burial location was also part of the repertoire of rituals used by the new colonists to actively define and secure their position within a new environment.

The seventh century burial community

Although only a small number of graves could be dated, it became clear that most contained finds from the seventh century. They are the graves belonging to Posterholt phases II and III (fig. 11.3). We can only say that most of the excavated part of the Posterholt cemetery dates to the seventh century. However, more seventh century graves are expected in the cemetery's unexcavated portion. The oldest inhumation grave dating to the sixth century (grave 73) has no direct chronological relation to any surrounding excavated graves (see fig. 11.3). There is no a clear cut boundary between this grave and any of the early seventh century graves, like graves 30 and 72 and later seventh century graves such as graves 90, 52, 8, and 9. In fact, the layout of the cemetery seems to have progressed gradually from west to east.

It would be interesting to know if there were any signs of social differentiation in the seventh century. Halsall pointed out a clear correlation between the grave good assemblage and the sex and age of the deceased.[13] However, distinguishing social differences on the basis of material culture in graves is problematic, and since most of the graves were reopened, it is impossible to clearly distinguish between the deceased in the graves on the basis of the grave inventories. Furthermore, Halsall also points out that this correlation broke down in the seventh century.[14] It thus seems unwise to make statements on social differentiation of the Posterholt burial community in the seventh century on the basis of grave goods. On the other hand, graves 89 and 91 were shown to have taken a somewhat different positionin creating an impression of empty space around them. Moreover, grave 91's pit is relatively large. These observations may indicate that both graves were in a somewhat different position than the others. Perhaps they belonged to leading persons in the burial community. They need not have been the only leading figures. More such groups of graves could be discovered if the entire cemetery were excavated. These groups may occupy (prominent) positions comparable to those of deceased in settlement farmyard graves two or three generations later. Those deceased could have been the founders of a (large) farmstead.

Possible new arrivals and changes in the burial ritual

Though the layout of the cemetery shows gradual chronological development from west to east, a clear-cut boundary seems to exist between the youngest and easternmost graves and the rest of the Posterholt cemetery. This distinction is apparent in the empty space between these easternmost graves and the older graves, making it seem as though the new graves were deliberately set apart from the older ones (see again fig. 11.2). It is possible to distinguish one coherent group of younger graves along the cemetery's eastern edge. This group is indicated with the orange

(11) *Agri deserti* were areas that were deserted in the third century AD. For more information on late Roman occupation at Posterholt, see the section in chapter 1, 'Archaeological finds from the Voorsterveld'. (12) Theuws/Hiddink 1996; Theuws 2008; see also chapter 1. (13) Halsall 1995. (14) Halsall 1995, 109.

Fig. 11.4
A plan of the cemetery showing the distribution of simple iron buckles and knifes at the Posterholt cemetery.

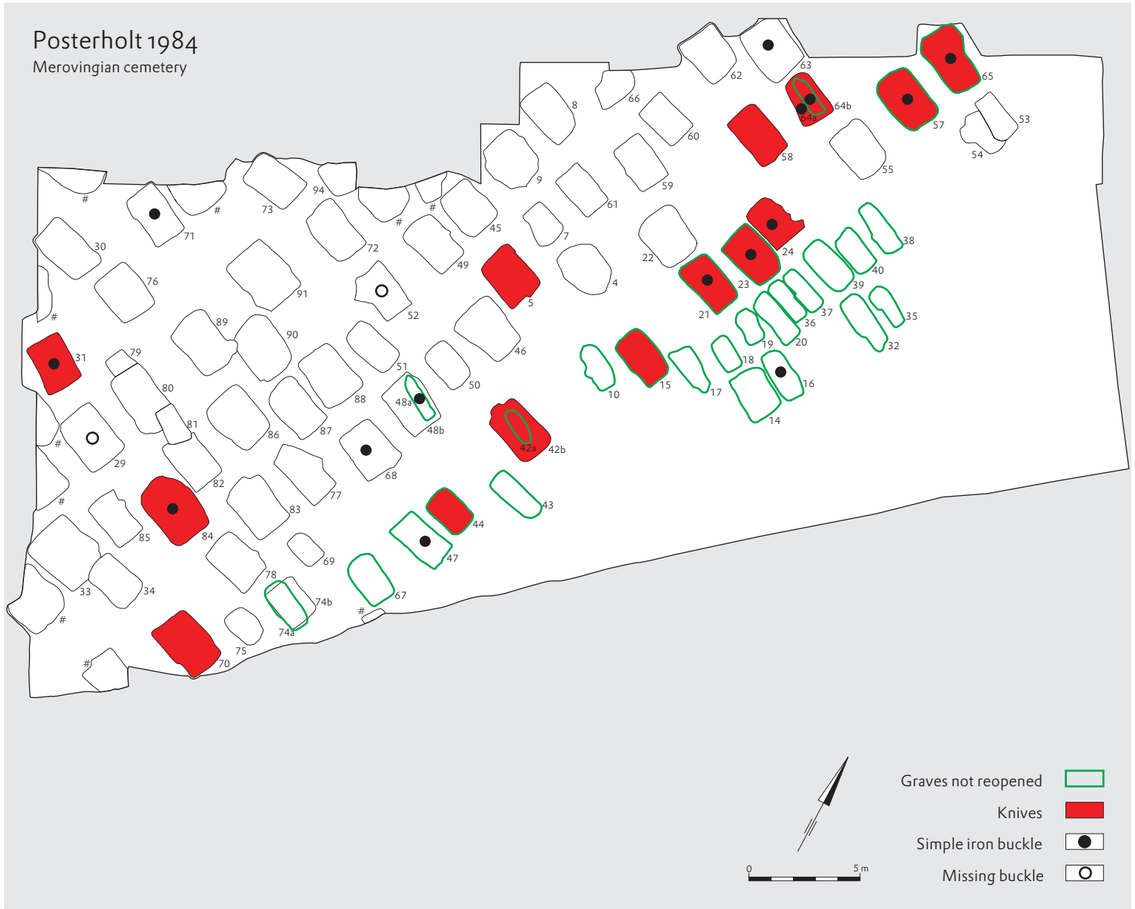


Fig. 11.5
A plan of the Beerlegem cemetery (Roosens/Gyselinck 1975, plan F). The red circle indicates the possible group of younger graves.

broken line in figure 11.2. However, they represent more than just a new burial group; a number of changes in the burial ritual can be observed as well.

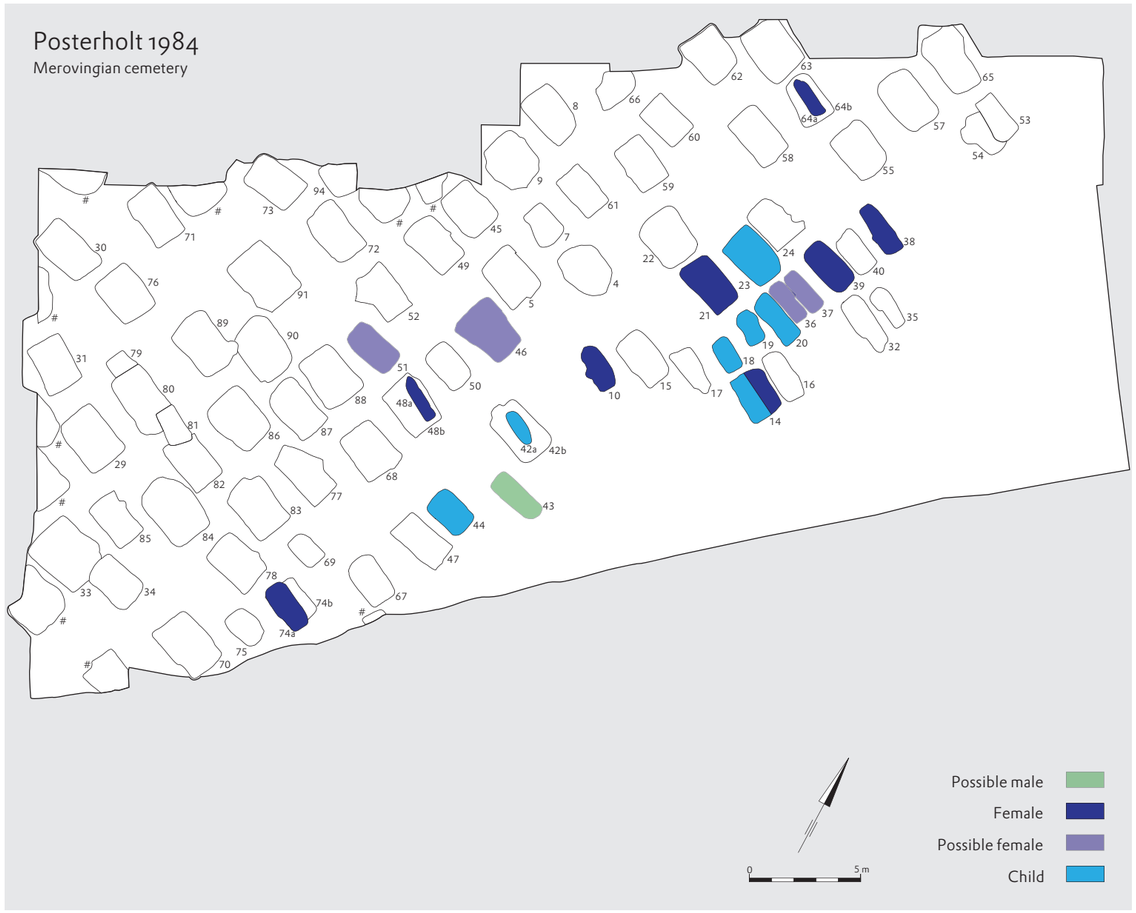
The most important change is the ceasing of depositing grave goods. Simple iron buckles are occasionally found, indicating that the dead were still dressed. These buckles were sometimes accompanied by an iron knife, but elaborate belt sets, armoury, jewellery, and pottery are no longer present (fig. 11.4).[15] Furthermore, the burial pits become narrower and shallower in this group, and the graves were not reopened. So when was this part of the cemetery created and when did the changes in the burial ritual take place?

Since most of the later graves do not contain grave goods, they are difficult to date. There are three graves dating to the end of the seventh and first half of the eighth century (Posterholt phase IV). They were all located at the cemetery's eastern boundary, and as written in chapter 9, we assume that most of their surrounding graves were contemporary. This assumption is supported by the fact that the later graves with sceattas and the surrounding graves with no finds all share the same characteristics: they contain no other datable finds, their burial pits are narrower and shallower, and they are not reopened.[16]

The changes in the burial ritual discussed here are visible not only at Posterholt. Comparable developments were found at the cemeteries of Bergeijk and Beerlegem (Belgium), among others. At the Bergeijk cemetery, a group of graves dating to the same period was present in the cemetery's south, and at Beerlegem, such a row of younger graves was present in the cemetery's westernmost portion.[17] The similarity in the layout of Beerlegem's and Posterholt's youngest graves is particularly striking. In both cases, small burial pits form the cemetery's outer row of graves. At Beerlegem, groups of graves in the western row are oriented differently and have empty spaces between them. It is possible to distinguish subgroups: graves 89, 98–101; 112, 114–116; and 113, 117–121. Grave 97 seems to be older. At Beerlegem, the younger

(15) Interestingly, grave 84 fits this late pattern of grave goods deposition. It does not fit the neat row organization in that part of the cemetery (see fig. 11.2). (16) Grave 24 is an exception, but as already explained in chapter 5, this grave is an extraordinary case. (17) Roosens/Gyselinck 1975.

Fig. 11.6
A plan of the cemetery showing the distribution of graves of men, women and children according to physical-anthropological analyses.



graves are located near two large graves (111 and 122) (fig. 11.5). In the past, scholars have considered these westernmost graves to belong to clients dependant on the owners of an estate, with the owners buried in graves 111 and 122.[18] However, there is no proof that the western row of graves is contemporary with the late sixth to early seventh century graves 111 and 122. If they were contemporary and the western graves belonged to lower ranking persons, it is strange that they were not located further from graves 111 and 122 to mark their social difference. Other graves were dug at some distance of the four 'rich' graves, 110, 111, 122, and 123.[19] Moreover, if they date from the late sixth and seventh centuries, it is strange that they possessed no grave goods. Grave 111 and 122 belong to the cemetery's oldest group of graves, which developed further in an eastern direction. We must consider an alternative explanation for the grave configuration at the western end of the Beerlegem cemetery. The westernmost graves may have been dug almost a century after graves 111 and 122, in the last phase of the cemetery's use (the late seventh and early eighth century). This configuration of graves cannot be used as proof for the existence of dependent clients on an estate in late sixth century Beerlegem.

At the Bergeijk cemetery, such a configuration of graves was interpreted as a new phase laid out in the vicinity of the new founder's grave (the exceptionally large grave 89).[20] The presence of such a founder's grave, however, is not observed at Posterholt, unless graves 21, 23, and 24 are considered as such. The size difference of these three graves is less conspicuous than at Bergeijk. Moreover, none contained a large set of grave goods, usually expected in a founder's grave.[21] Graves 21 and 23 are not reopened and only contain simple iron buckles and knifes, and grave 24 was disturbed but is one of the graves containing a sceatta.

According to Theuws, a new group of late graves characterized by different burial rituals could have been related to new people settling in the area.[22] This interpretation is related to the idea creating of a founder's grave is associated with creating new farmsteads and claims on the land.[23] Some of the farmyard burials in the southern Netherlands settlements are contemporary with the new groups of graves on earlier rural cemeteries.[24] However, since a clear founder's grave was not found in the vicinity of Posterholt's later burials, we must consider the possibility that changes were initiated from within the burial community instead.

But how can we explain the occurrence of these changes in the burial ritual? Why did the graves no longer contain elaborate sets of grave goods? And why was less effort put into digging burial pits and making grave constructions? These changes seem to be part of a profound transformation of late Merovingian society. This was a time when Christianity was becoming more important, when agricultural production organisation was changing into a pristine manorial system, and when gift exchange must have been profoundly altered by groups of aristocrats developing their power base. These changes – and many others – were all developments providing the foundations of the new Carolingian power.[25] They are clearly reflected in the type and use of material culture and in changing (burial) rituals. The most eye-catching phenomena are new types of coins (sceattas), new types of houses, new types of pottery imported from the Rhineland (Badorf), and the abandonment of traditional cemeteries. Conspicuous display of grave goods may not have been compatible with new Christian ideas or with new ways of defining relationships between each other and/or the ancestral world. The traditional burial communities' world of social relations and culture was disappearing, and new social formations were developing. We must also ask whether the latest burials coincide with the reopening of earlier sixth and seventh century graves.

We know these reopenings took place within the early medieval period.[26] The grave disturbances at Posterholt were certainly enacted for different reasons. Some were reopened to retrieve grave goods while others were reopened to insert additional burials. Most of these additional burials contained no grave goods. They were buried in shallow pits dug in already existing graves, often without a wooden container. As written in chapter 9, he additional burials are could be contemporary with Posterholt's later phase IV burials.This implies that at least some grave disturbance coincided with the burials in the beginning of the eighth century. Whether the other graves were reopened around the same time remains unclear. The only argument in support of this idea is the fact that grave 24 was probably disturbed shortly after the deceased was buried. Since this grave contained a sceatta dating to around 720, this disturbance could very well have taken place within the first half of the eighth century. This, however, cannot be verified. Moreover, grave 24 seems to represent an extraordinary case when it comes to post-depositional interventions.[27]

The abandonment of the cemetery

The burials with sceattas are Posterholt's latest datable burials discovered so far. Although the cemetery is not completely excavated, we assume that the younger phase at the cemetery's eastern boundary represents Posterholt's final burial phase. From this we can conclude that the cemetery was abandoned by the middle of the eighth century. The abandonment of cemeteries in this period is visible in most parts of the Merovingian world. In some cases it starts earlier, in the second half of the seventh century. The abandonment could have been taken place in phases. If Posterholt's youngest group of graves belongs to a new group of settlers, we must bear in mind that the traditional burial community was already abandoning the cemetery by burying some of their dead in other locations, during the time new settlers were digging their first graves. Different groups may thus have abandoned the cemetery at different times, and the abandonment could have begun in the later seventh century. Moreover, this process of abandonment may not have been abrupt and absolute. Each group may have buried some dead at a new location and some at the traditional cemetery. They may have done so since relatives were buried at the old cemetery and persons wanted to be buried nearby. As suggested, some open spaces could indicate that this may have been planned but not realized.

Another important observation needs consideration. Because the graves of the Posterholt's youngest phase were no reopened, they still contained human remains suitable for physical anthropological analyses. The group consisted mainly of women and children (fig. 11.6). The question therefore remains: where were the men? Several explanations can be given. A common sense approach suggests that for various reasons the men died elsewhere and were buried in those locations. However, we should consider that men may have been buried in other (nearby?) locations for reasons related to the redefinition of social positions in rural communities.

This brings us to the important question: why were cemeteries abandoned? The problem of the abandonment of cemeteries is often related to that of the abandonment of grave goods, but it may currently be better to consider these problems separately. The abandonment of Merovingian cemeteries is often explained as a product of the countryside's Christianisation. According to this model, traditional cemeteries were forsaken in favour of new cemeteries around chapels, churches, or other religious institutions. However, this answer has proven to be too unilateral.[28] Halsall argues that the changes in the burial ritual did not represent the internalisation of Christian norms and values, but the expressions of a more firmly established authority.[29] Theuws considered the choice for different burial locations as an important means in (re)defining the local group. Since the second half of the seventh century, people were no longer exclusively buried at the communal burial grounds, but within the boundaries of farmyards, or in the vicinity of an often privately owned church or chapel.[30] To this we may add newly created cemeteries.[31] The increase in choices of burial grounds enabled settlement dwellers to give form to several overlapping identities or loyalties (e.g. the household, the local group, the estate community, the regional community, or a religious community), and in doing so, it reinstituted people's positions within the changing early medieval society.[32]

The important point made here is that changes in burial rites and grave locations were the result of conscious choices, and a part of social strategies. Members of burial communities could bury their dead in different places within or outside their region. All of these places had their own symbolic functions that influenced and were influenced by transformations in society.[33]

The cemetery in the local context

One research topic we consider in the scope of the ANASTASYS-project, is each cemetery's place in its local context. In chapter 1 we presented the cemetery's environmental context, as well as its position in the 'archaeological' landscape. However, the lack of substantial settlement research in the region and the lack of written texts (for instance, on the process of manorialisation) prevents us from considering in detail the cemetery's meaning in its local and regional context. The Posterholt-Achterste Voorst cemetery, with its possible 240 graves or more, is one of the larger cemeteries in the southern Netherlands; most of the cemeteries are not larger than 80 to 100 graves. The area of Posterholt-Achterste Voorst suitable for habitation and cultivation, however, is not exceptionally large (see fig. 1.4). Several explanations can be given for this observation. This area might have been densely populated, persons from other areas may have been buried on this cemetery, or the inhabitants of this area chose to bury their dead in a single cemetery (whereas in other regions, inhabitants of a single habitation-cultivation area chose to create several cemeteries). Only new research and excavations can provide the answers.

(18) Roosens 1975, 32: 'De Merovingische bevolking van Beerlegem telde slechts een tiental personen die, wegens hun rijkdom aan grafgiften, tot de leidende stand behoorden. Dit komt het best tot uiting bij een groep van vier graven waarvoor een bijzondere ruimte was voorbehouden. De nrs 111 en 122 zijn hiervan wel de belangrijkste. Ten zuidoosten (sic!) sloot hierbij telkens een reeks bijzettingen aan die geen voorwerpen opleverden. Wij mogen ze aanzien als de huisdienaren van de heer en dame die in de late 6e of in het begin van de 7e eeuw het domein bestuurden.' See also Verslype 1997, 599–601. One wonders whether an estate showing such social differences already existed in that area by the late sixth century. Using the name Beerlegem (a heem-name) as proof for the existence of such an estate may not be correct. The name could date from a later period. (19) A new detailed analysis of the Beerlegem cemetery based on original field drawings should be executed. At present, it is not possible to evaluate the evidence on the basis of the publication. For instance, it is barely possible to establish whether or not graves were reopened. (20) Theuws/Van Haperen 2012, 163-164. Note that such a founder's grave does not necessarily imply social inequality in the burial community. (21) See, for instance, founder's graves found at farmyard cemeteries such as Dommelen (Theuws 1988). (22) The other possibility suggested is that the changes were brought about by the existing burial community. (23) Theuws/Van Haperen 2012, 164. (24) Theuws 1999. It will be argued when studying these grave groups anew that they are part of the same general developments that also brought about the new groups on the traditional cemeteries. They are related phenomena. (25) Theuws 2008. (26) Theuw/Van Haperen 2012, 178. (27) Grave 24 is described more elaborately in chapter 5. (28) See also Theune-Grosskopf 1997; Zadorra-Rio 2003. (29) Halsall 1995, 270-275. (30) Theuws 1990, 63; Theuws 2000, 342. (31) One of the great problems of Carolingian period archaeology in the southern Netherlands is that cemeteries from that period have yet hardly been discovered. Settlements have been excavated, but graves or cemeteries related to these have not been found. (32) Theuws 1999. (33) Theuws 2000, 346.

12 Aspects of the burial ritual

The present chapter is concerned with various aspects of the burial ritual practiced at the Posterholt cemetery. Some of the most apparent aspects of the Merovingian burial ritual are usually associated with grave good deposition and the correlation between find assemblages and chronology, gender, sex, and age. Unfortunately, the Posterholt cemetery did not yield enough data to analyse these aspects. Nevertheless, the excavations at Posterholt did reveal interesting results on aspects concerned with the cemetery as a whole. These are: the cemetery's location, the presence of inhumation and cremation graves, and post-depositional interventions and additional burials. Each of these aspects will be discussed here briefly.

The location of the Posterholt cemetery

The Posterholt cemetery was situated at a location already used by previous inhabitants from prehistoric and Roman times. Traces of Roman habitation were found together with several Roman cremation graves. In the previous chapter, we discussed the possibility of continuous occupation from the later Roman period into the Merovingian period. Since this was probably not the case at Posterholt, we must ask whether traces of former occupation were still visible when new settlers arrived in the area. Most of the prehistoric remains were probably not visible anymore, but some traces of Roman occupation were. Though the cremation graves were difficult to see above ground, the sandstone monument was still partly standing in the early 1950s. We can therefore assume that it was also visible in the early medieval period. So why did the new settlers choose this specific location to bury their dead?

Several scholars have explained the choice of a location from an economically motivated perspective. A repeated argument is that cemeteries were located on soil less suited for agricultural purposes.[1] However, the choice of a location for any type of site (settlement, production site, or cemetery) is probably never determined by rational/economic motives alone. The presence of arable land and availability of resources could be regarded as important motives for choosing habitation and cultivation areas. But other less obvious motives should not be overlooked. This is especially true for cemeteries. Cemeteries are locations where ritual practices were executed. As Härke explains, they were places of ritual, memory, emotion, subjective time, and encounter with mortality.[2] Their location therefore, is probably also chosen with different motives in mind.[3] What could these motives be?

The landscape is an important factor in the formation of collective memory.[4] In general, people have a need to structure their community mentally, and in doing so they use the landscape (amongst other things). In the early medieval period, ideas on ownership were less fixed and probably not exclusively related to the land's economic value.[5] Theuws argues that some eighth-century charters give the impression that landowners donating land did not exactly know what they owned and that 'property' should be understood in terms of overlapping claims.[6] Though we are dealing with a different period here, it seems possible that in the earlier sixth and seventh century, too, we cannot speak of exclusive land ownership. Instead, we expect the land to have multiple overlapping claims that incorporate a less fixed understanding of boundaries and 'private' property.[7]

At the same time, even if a cemetery is founded on land that is not yet claimed, it could still be perceived as being 'owned'. In the early medieval period, many regions abandoned since the later Roman period became (re)colonised. Our modern perception interprets these new communities to have encountered an empty landscape with nothing but old ruins. But this might not have been the case for the early medieval settlers. Even though no humans were living in the area, the landscape was probably still considered the home of spirits and ancestors of former dwellers.[8] So how does this help us better understand a certain location choice?

According to Härke, the choice of a location can be used to express power relations: for instance, people can be excluded from certain areas of the cemetery or from the cemetery entirely.[9] Simultaneously, it can also be used to strengthen the importance of the burial ritual by locating the cemetery at prominent locations in the landscape, or by reusing ancient remains, which may have functioned as important assembly points. These ancient remains could have been used for social, political, and religious purposes, and may have played an important role in marking boundaries. Williams sees the reuse of ancient structures in Anglo-Saxon England as a deliberate practice used in the creation of social memories. Written sources tell us that associations with these significant locations are often connected to ancestors, spirits, and supernatural beings.[10] According to Williams, the person buried inside or in the vicinity of an ancient structure could mediate between the audience and possible supernatural forces like ancestors.[11] The reuse of ancient monuments in Gaul has been studied by Effros.[12] She explains this reuse as a way of incorporating memories of the past into the ever-changing early medieval society. Ancient remains were used to adapt memories of the past to growing ideas on Christianity and the formation of early medieval society.[13] Finally, Gurewich cites an interesting but much later example of land-claiming in Norway, where land is claimed by 'enumerating the ancestors possessing the land in question from the time of the burials in barrows, that is from heathen times'.[14]

When examining the archaeological record in northern Belgium and the southern Netherlands, we encounter a great variety of ruins that were reused, from sacred buildings to prehistoric burial mounds to Roman *villa* sites (fig. 12.1).[15] Still, the reuse of these ancient structures does not seem consistent. Roymans states that in the Meuse-Demer-Scheldt area, urnfields were often reused in Roman times but not in the early medieval period. Urnfields were incorporated into the Roman cultural landscape, but not into that of new inhabitants colonising the same region in the second half of the sixth century.[16] Furthermore, ancient ruins were treated differently as well. Sometimes parts of the ancient structures, such as Roman villas, were reoccupied. For instance, this took place in Borgharen (in the province of Zuid-Limburg, the Netherlands), where burials were laid out inside a hypocaustum of the Roman *villa* complex.[17] On the other hand, there are also examples where ancient structures were deliberately destroyed. This is the case at the Posterholt cemetery. Although the Roman cremation graves could have been damaged accidentally, the sandstone monument seems to have been deliberately destroyed. In many other cases, though, ancient structures are respected. It becomes clear that the choice of location and reuse of ancient structures was a deliberate choice evoking a variety of meanings to diverse people over time.

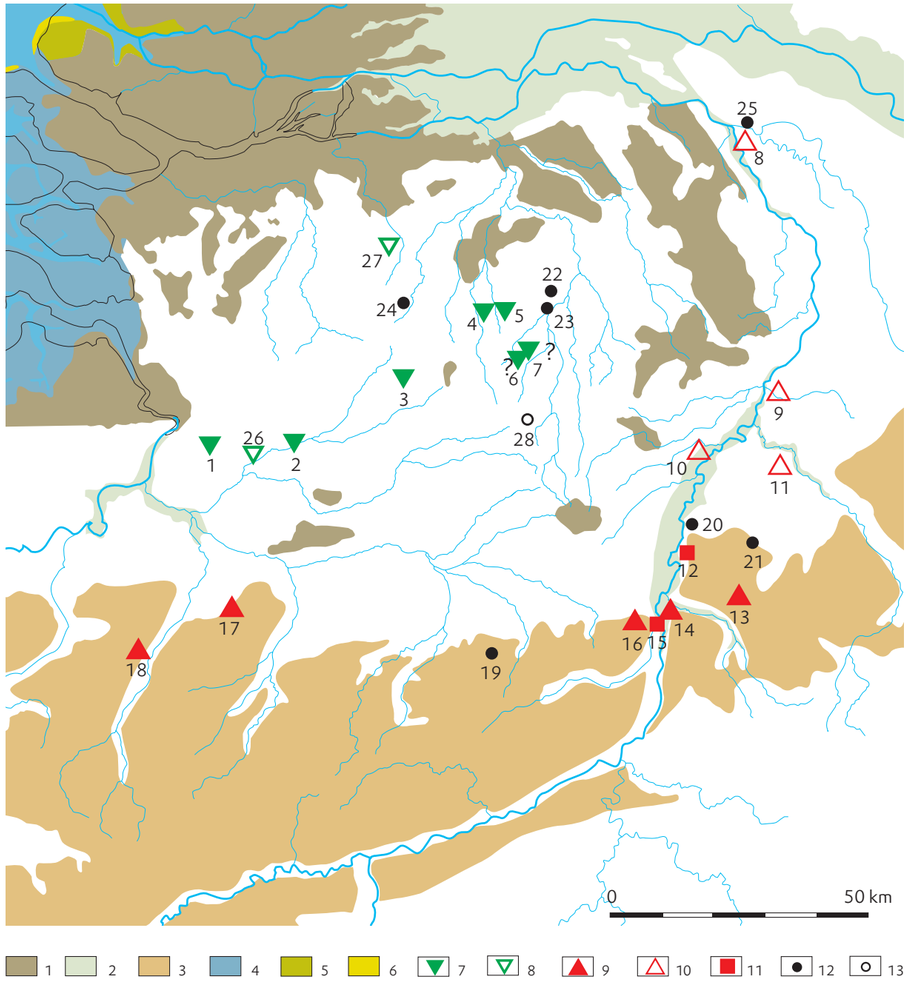
Can we unravel some of the ideas behind the choice of the Posterholt cemetery's location? It seems impossible to tell whether the cemetery was a place of assembly of any kind. However, it is interesting to analyse the location of early medieval cemeteries in relation to the land taken in and cleared by the first colonists.[18]This can be studied by comparing the cemetery's location to the reconstructed habitation-cultivation areas on a local level. These are the areas, reconstructed on the basis of modern maps, where, in early medieval times, habitation took place and arable lands can be expected.[19] At the time of colonisation, these areas were probably filled with rich oak-beech forests suitable for keeping herds of swine. The analysis thus shows where a cemetery was located in relation to this forest. The Posterholt cemetery is currently located in the middle of a large complex of arable land.[20] This stretch of arable land correlates to what was the habitation/cultivation-area around Posterholt-Voorst in the early medieval period. Most of these habitation/cultivation areas used to be woodland, which was evidently most suitable for cultivation (hence, habitation). The location of a cemetery in the middle of a forest implies that it was hidden to outsiders and possibly difficult to access.[21] However, the location of the Posterholt cemetery and its surroundings were already used in Roman times, suggesting that this part of the landscape may have been more open by the time the new early medieval settlers arrived.

The presence of a sandstone monument may have given the area a special significance as well. In fact, it may have been one of the main reasons that the new early medieval inhabitants of Posterholt chose this location. Still, it does not explain any of the ideas and mentalities evoked by its presence. The fact that the sandstone monument seems to have been destroyed intentionally favours the idea that the location of the Posterholt cemetery was chosen to reinforce new claims on the land. The new inhabitants at Posterholt had to claim the land they worked and the

(1) For instance, see Burzler 2002; Nieveler 2003; and Plum 2003. (2) Härke 2001. (3) Effros 2001; Effros 2003, 190–192. Härke/Williams 1997. (4) Williams 2006 (5) Theuws 1991, 304. (6) Theuws 1991, 343. (7) Roymans/Theuws 1999, 19–24. (8) Roymans/Theuws 1999, 18; Williams 2006, 181. (9) Härke 2001, 25. (10) Williams 2006, 25. (11) Williams 2006, 25. (12) Effros 2001. (13) Effros 2001, 118. (14) Gurevich 1992, 201–202. (15) The variability of the reuse of ancient structures in northern Belgium and southern Netherlands was examined by De Haas in her master thesis on location choice of Merovingian cemeteries (de Haas 2010). (16) Roymans 1995, 9. The reverse is also true: on the locations of Merovingian settlements hardly ever urnfields are encountered. (17) Dijkman 2003, 219.

(18) I carried out such an analysis in the context of my MA thesis (De Haas 2010). (19) See, for instance, Theuws 2010, 42. A habitation cultivation area (H/C area) thus represents the total area in which the habitation and cultivation should be sought. It is unlikely that the entire area was cultivated from the beginning of settlement. Unfortunately, it is not yet possible to establish when an H/C area was entirely cleared and used as arable. (20) See chapter 1. (21) De Haas 2010, 65-66, 81. The Bergeijk cemetery shows that cemeteries were also positioned at the boundaries of such habitation-cultivation areas (Theuws/Van Haperen 2012, 25-27 and fig 1.14).

Fig. 12.1
A provisional map of Merovingian cemeteries and the reuse of ancient structures in the Southern Netherlands and Northern Belgium. 1. peat, 2. river clay, 3. lösss, 4. tidal flat, 5. marsh, 6. beach barriers, 7. cemeteries located on Prehistoric cemeteries, 8. Cemeteries located on Prehistoric habitation sites, 9. cemeteries located on Roman villa complexes, 10. cemeteries located on Roman cemeteries, 11. cemeteries located on Roman and late Roman remains, 12. cemeteries without ancient remains, 13. unknown.



forest in which they hunted and herded their swine, and although the cemetery probably did not function as a physical boundary, it could have been used to redeem location from old (symbolical) claims thought to linger around. By deliberately destroying the old Roman sandstone monument, and by creating new powerful ancestors, old claims may have been eliminated while being overlaid with new ones.

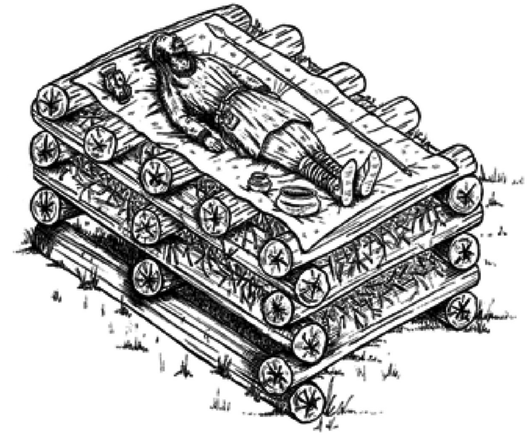
Inhumation and cremation graves

At Posterholt, Merovingian inhumation graves were found near cremation graves dating to the same period. Both rituals were thus practiced simultaneously, though the inhumation ritual prevailed. So how can we explain the presence of both rituals in a single cemetery?

Throughout this publication we continually demonstrated that the Merovingian burial ritual is subject to great variability. None of the aspects discussed so far – from the interment of grave goods, grave constructions, treatment of the body, and post-depositional interventions – have followed a single norm. The combination of inhumation and cremation rituals must therefore be seen as part of this variability. This assumption is strengthened by the fact that although the inhumation ritual may dominate the cemeteries of our region of investigation, there are also regions in north-western Europe where the cremation ritual prevails. The Anglo Saxon world is one,[22] but examples exist on the European continent as well.[23] Moreover, some cemeteries in the central Netherlands contain large numbers of cremation graves next to inhumation graves; the Rhenen cemetery is one such example.[24] But how can we explain the 'popularity' of the inhumation burial in our region of study? After all, at Posterholt, only three cremation graves were found, compared to 123 inhumation (though the cemetery was not completely excavated), and Bergeijk also contained only 5 cremation graves compared 129 inhumation graves.[25]

According to Fehr, the cremation ritual's dominance changed from cremation towards inhumation in the Later Roman period. From the second century onwards, inhumation became the new form of burial, and by the end of the third century, the cremation ritual was almost abandoned.[26] Following Fehr, the inhumation practice could thus be seen as a Roman inheritance. Whether this is true is a matter of debate, but since the origin of the Merovingian burial ritual (both inhumation as well as later

Fig. 12.2
An artist's impression of the Anglo Saxon cremation ritual just before the cremation itself (drawn by S. Mallard, published by Tempus Publishing from Glasswell (2002: 49)).



cremation) and the associated debate on ethnicity is a complicated discussion on its own, it will not be addressed here further. The fact is that both cremation and inhumation were practiced in the later Roman period, and the early medieval inhabitants were familiar with both types of rituals.[27] This does not mean that they were used randomly. So how could inhumation and cremation have been perceived by the early medieval inhabitants?

According to Williams, the presentation of the body on a pyre before the fire was set is comparable to the display of a body in a wooden container before it was closed. The deceased was probably clothed, and grave goods were placed near the deceased on the pyre (fig. 12.2).[28] However, if we assume that burning the body was a public affair, the transformation (and destruction) of the body was more visual than when the body was buried under ground in a closed container. Burning a body takes quite a long time. According to McKinley, a body takes about 10 hours to fully burn.[29] During this process, skin and flesh are burnt, muscles and intestines are exposed, and fluids and gas escape from the body accompanied by strange sounds. All this makes cremation not only a visual process, but one that involved other senses such as sound and smell as well.[30] We do not know to what extent early

(22) Some important examples are: Newark in Nottinghamshire (Kinsley 1989), Sancton in East Yorkshire (Myres and Southern 1973; Timby 1993), and Spong Hill in Norfolk (Hills 1994). (23) For instance, the Liebenau example already discussed in chapter 4 (Cosack 1982). (24) Wagner/Ypey 2011. (25) Other cemeteries in the southern Netherlands also show cremation graves. These include Hoogeloon-Broekeneind (Glasbergen 1955) and Meerveldhoven (Verwers 1978). In the western provinces of Belgium, relatively large numbers of cremation graves are found as well, for instance in the cemetery of Broechem (Annaert 2010, 206; Annaert/Deforce/Vandenbruare 2011). (26) Fehr 2008, 77. The north may have witnessed a general adoption of inhumation somewhat later, in the fourth century. At first, inhumation seems to have been more popular in towns than in the countryside. (27) Maybe grave 41 at the Posterholt cemetery dates to the later Roman period. (28) Williams 2004, 268. (29) McKinley 1994, 84. (30) Williams 2004, 271.

medieval inhabitants understood the technical influences of external factors like the arrangement and composition of the pyre, the composition of the body and its position on the pyre, the presence of different fabrics in clothing, and weather circumstances on the burning process.[31] According to Williams, each cremation is different and thus enforces different forms of remembrance upon the mourners present. It is possible that some of the incidents occurring during the burning process – like explosions of gases inside the body and movement of limbs – were perceived as acts of the deceased.[32]

In contrast, decomposition of inhumed bodies was not visible, although we do not know much about the (ritualised) practices carried out before the body was buried and how much time lapsed between death and burial. We assume that most of the decay of the body took place underground, but it is possible that body degradation was part of the elaborate Merovingian inhumation burial ritual. Moreover, given the fact that the Merovingian burial ritual was a time consuming event, demanding not only preparation (e.g. digging a burial pit, constructing containers, collecting grave goods) but possibly also the arrival of spectators from all over the region, the decay of the body could have been well on its way by the time the body was deposited.

Ultimately, though similar effects may have resulted – for instance, through the conspicuous display of grave goods – both rituals must have been experienced and perceived differently by those taking part in the ritual sequence. The choice for either one of these experiences was conscious, driven by various motives embedded in Merovingian society. To unravel some of these motives, more elaborate investigations need to be carried out. Unfortunately, not much is known about cremation graves in our region of study. Cremation remains were often buried immediately beneath the topsoil, and today they are often damaged by deep ploughing or by diggers during excavations. Besides, cremation graves have rarely been a focus of analysis when dealing with early medieval cemeteries. A first step, therefore, would be to make a detailed inventory of cemeteries with cremation graves in the Netherlands.

Post-depositional interventions and the placement of additional burials

The last aspect of the burial ritual at Posterholt discussed here is that of post-depositional interventions.[33] At Posterholt, a large number of graves were reopened for different purposes. First: it may have been an act during which artefacts were deliberately destroyed; second: it was carried out to retrieve artefacts from the grave (which may have been used for various purposes); third: it was used to take bones from graves; finally: it was used for the deposition of additional burials in the graves. A combination of these intentions is possible too.

It can be asked whether grave reopenings at Posterholt must be seen as part of a sequence of rituals associated with single burials. This partly depends on who were responsible for the grave reopenings. Several alternative possibilities present themselves. If the latest burial phase was brought about by new settlers, it is possible that they were responsible for grave reopening of older graves. In that case, they were not the same people who had carried out the original interments. Grave reopening may thus not have been part of a set or series of rituals related to the interment of the burials carried out by the burial community. It is also possible that the original burial community created the late graves and that grave reopening took place when these graves were created, as part of a changed set of burial practices. The third possibility is that the grave reopening was an element of the original community's burial ritual, and that it was carried out since the late sixth century or even earlier.

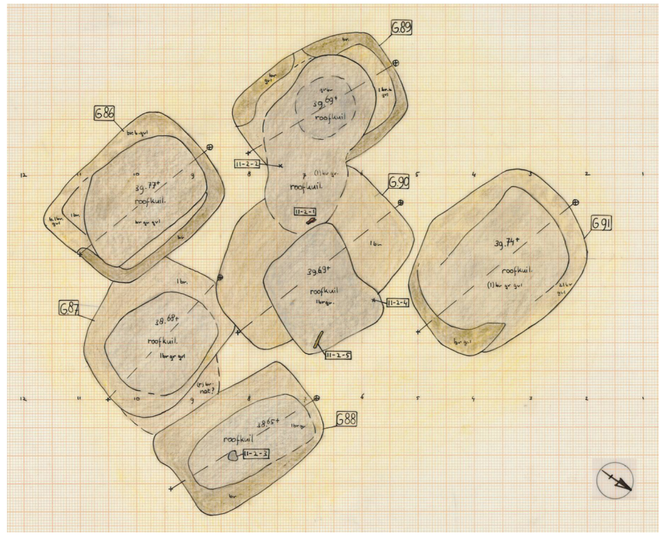
It is difficult to establish whether grave reopening was part of a 'normal' sequence of burial rituals in relation to single graves, or whether reopening took place collectively after a lapse of time. However, in order to understand the motives behind the practice, it is important to know the date of the grave reopenings. Van Haperen already explained that economically motivated explanations are not sufficient to fully understand grave reopening.[34] The practice must not be considered a one-sided event with only one straightforward explanation. The removal and treatment of artefacts and human bones in different ways could have had a variety of purposes and intentions.[35]

But what is there to say about grave reopening at Posterholt? We know that of the 86 burials found in 80 inhumation graves, 39 burials were certainly reopened, 11 were possibly reopened and in eight cases it could not be determined whether the graves were reopened or not. This leaves us with only 28 graves that were certainly not reopened. These undisturbed graves are located mostly along the cemetery's eastern boundary and form the younger group of graves already discussed in the previous chapter. Though grave reopenings are not an unusual phenomenon in Merovingian cemeteries, grave disturbance was extraordinarily severe at Posterholt. The reopening pits were not aimed at a specific area but often affected the complete burial pit. In addition, the amount of artefacts taken from the grave was considerably high. Moreover, the majority of the human bones seem to have been removed from the reopened graves.

Disturbance did vary to some extent. There are cases where some objects seem to have been left behind, either accidentally or intentionally (as was the case in grave 58). Nevertheless, the intensive

(31) Williams 2004, 271–273. (32) Williams 2004, 273-274. (33) See Van Haperen 2010 on this topic. (34) Van Haperen 2010. (35) Van Haperen 2010; Kümmel 2009; Klevnäs 2010; Aspöck 2011.

Fig. 12.3
Part of trench 11 at level II, showing a reopening pit that cuts two graves. Original scale 1:50, actual scale 1:100.



character of reopening activity at Posterholt is evident. Only one complete pottery vessel was found while all others were intentionally broken, and in many cases, large portions of the graves' contents were removed. Another interesting fact is that fragments of single artefacts were found dispersed over several graves. This indicates that these graves were reopened simultaneously (fig. 5.5). Since reopening was so intense and affected more than one grave at the same time (fig. 12.3), we suggest that it may have been a communal event. It thus points to a hypothesis of a culturally embedded practice carried out by several members (if not all) of the existing burial community, or a group of new settlers, instead of one stressing a hasty economically-motivated affair secretly carried out by grave robbers.

In at least four cases (graves 42, 48, 64, and 74), grave reopening had another purpose that needs to be addressed here. These graves were reopened for the deposition of an additional burial. Here, too, we encounter various ways in which this was executed. In some cases, the older burial was removed completely, including all human remains and accompanying objects. In other cases, the remains were moved aside, sometimes with grave goods and sometimes without. And finally, in one case, part of the primary burial had been left almost undisturbed. These additional graves show great similarities with the cemetery's latest graves and could be contemporary with the graves of phase IV.

The purpose of reopening graves for the deposition of additional burials is interesting. It implies that at least part of the reopening activity took place when the cemetery was still in use and that at least some people had no problems with grave reopening. The question remains whether the additional burials were deposited during the same period when other graves were reopened. That would imply that the reopenings were carried out by the burial community creating the group of late graves, whether newcomers or traditional residents. This brings us to the subject of the moment of grave reopening in general.

It is generally accepted that grave reopening took place during the Merovingian period itself. It was already pointed out that the additional burials resemble the type of burials of Posterholt's latest phase. They could therefore be contemporary. The reopening of grave 24 supports the idea that graves were being reopened in the first half of the eighth century. We do not know if other graves were reopened in the same period. Grave 24 seems to be exceptional because it is the only eighth-century grave that is reopened. Its 'disturbance' may thus not be related to the reopening of Posterholt's earlier graves.

The question about who was responsible for the reopenings remains difficult to answer. If members of the original burial community reopened the graves while the cemetery was still in use, some could have remembered those in the reopened graves. The practice could therefore have brought back memories of the deceased. Hopefully, new ideas and theories in combination with careful re-evaluation of cemetery data will provide new and valuable insights on the subject.

PART 3

CATALOGUE

13 A catalogue of contexts and finds

The catalogue printed below contains short descriptions of all numbered contexts, their associated finds, and finds without contexts that were discovered during the ROB and HVR excavations, and during H. Schmitz's survey investigations at the Voorsterveld.

The information presented summarizes a larger set of data that was transferred into a database created especially for dealing with early medieval cemeteries. This database can be consulted for more information on both grave structures and finds. It is archived in the E-Depot Nederlandse Archeologie, or EDNA (the electronic depot of Dutch archaeology), and can be consulted at www.edna.nl. In addition to this database, EDNA also archives a digital copy of the original documentation. This consists of field drawings, find lists, small reports on both the HVR and the ROB excavations, and digitized photographs. It also contains the contents of this book's catalogue, consisting of the catalogue text (PDF), grave drawings (Adobe Illustrator CS5.1), scans of the find drawings, and find photographs (TIFF format).

The catalogue contains the following standard list of fields. If no evidence is available, the field is omitted.

CONTEXT NUMBER
This is the number assigned to the context during excavations. In case of a grave, the context number corresponds to the grave number.

CONTEXT TYPE
This indicates the presumed nature of the context, since not all contexts are graves.

TRENCH
This is the number of the trench in which the context was found.

GRAVE TYPE
This indicates the grave's type, since different grave types (inhumation and cremation) were found.

GRAVE STRUCTURE
This indicates the grave's construction type.

GRAVE PIT LENGTH, GRAVE PIT WIDTH
These indicate the burial pit's reconstructed dimensions.

GRAVE PIT DEPTH
This indicates the absolute height (NAP) of the burial pit's lowest level.

STRATIGRAPHIC RELATION
This lists stratigraphic relations between contexts.

DESCRIPTION
This discusses the grave's construction and possible formation processes that affected its appearance.

PHYSICAL ANTHROPOLOGY
This summarizes information on human remains or body silhouettes found in the grave.

DATE GRAVE
This is the presumed date of the grave, based on the date of individual finds.

FINDS
These are short descriptions of the objects found in the grave. More elaborate descriptions, including measurements and context data, can be found in the archived database.
Find numbers consist of the grave number and a sequence number. Stray finds that were assigned to the grave at a later stage consist of the trench number, followed by the excavation level (in Roman numerals), and a sequence number. The reason for this numbering system is explained in chapter 2.

FINDS WITHOUT CONTEXTS
These are short descriptions of objects without contexts and objects found in indeterminate contexts. Finds without contexts were found on three occasions; during HVR excavations, during ROB excavations, and during survey investigations by H. Schmitz. Most of these finds are stray finds collected when the trenches were opened and surface or excavation levels were created. Others were collected from the indeterminate features discussed in chapter 10, or from the spoil heap. Finally, some were found by H. Schmitz during survey investigations of the fields surrounding the cemetery.
During the HVR excavations, stray finds were collected from different parts (called sleuf) of the HVR trench. Most of the bags contained the number of the sleuf, but some bags only contained the excavation year (1983) together with the words 'losse vondst', which means 'stray finds'. Stray finds from the ROB excavations were systematically collected for each trench at different excavation levels. Important finds were collected separately and documented on the field drawings. The location of survey finds from H. Schmitz were documented by Schmitz himself. Schmitz shared his information with us and helped us map the location of different finds from the Voorsterveld. The most important ones are discussed in chapter 1. The find numbers consist of the number 244, which is the find-spot number assigned to the cemetery by the HVR, followed by a sequence number.

ILLUSTRATIONS
Individual grave drawings are at scale 1:40. Traces or outlines of wooden containers are indicated with a brown colour and human remains with a light grey colour. More or less complete grave finds are indicated in solid black, fragments of objects are indicated with a small circle, and beads are indicated with a small dot. All finds except pottery vessels and weapons are illustrated at scale 1:2, unless indicated otherwise. Drawings of both complete pottery vessels and pottery fragments are illustrated at scale 1:4. Photographs of pottery fragments are at scale 1:2 to show the character of the fabric and surface treatment.

1
GRAVE

Trench	HVR trench
Grave type	cremation grave
Grave pit length	0,97

DESCRIPTION
Roman cremation grave. The grave was cut by a recent pit which was probably the location of a sandstone monument associated with the Roman cremation cemetery. A large fragment of sandstone was removed from this location in 1958. The relation between the cremation grave and the sandstone monument remains unclear.

PHYSICAL ANTHROPOLOGY
Cremation: the weight of the cremated remains is 925 g and anatomical allocation is possible for 125 g (13,5%) of the remains. The burning degree was > 800° C and fragment size is between 1-3 cm. Iron shoe nails were found among the cremated remains. Sex diagnosis was impossible to provide since traits were absent. The age diagnosis is 30-50 years based on the suture obliteration (Sagittal suture). Conclusion: an adult individual between 30-50 years.

DATE GRAVE
Probably second half of the 2nd century

FINDS
1 Knife, iron
Find number: 1-1
Iron knife with a ring-shaped handle. The point of the knife is broken off.
Find depth: 39.20
Complete: yes
Blade length: 140 mm

2 Pin, iron
Two fragments of an iron pin with a profiled shaft. The item is decorated with copper alloy wire.
Find number: 1-2
Find depth: unknown
Complete: no

3 Nail, iron
Find number: 1-3
Approximately three hundred-eighty small iron nails, probably from a pair of Roman shoes. Seventy of them are very well preserved.
Find depth: 39.43
Complete: no

4 Nail, iron
Find number: 1-4
Four large iron nails.
Find depth: 39.17
Complete: yes

5 Nail, iron
Find number: 1-5
Ten large iron nails.
Find depth: 39.17
Complete: yes

6 Key, iron
Find number: 1-6
Iron key.
Find depth: 39.20
Complete: yes

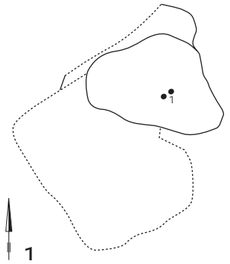
7 Lock, iron
Rectangular iron object with a hole and a small pin attached due to corrosion. The object is part of a lock to which the key from find number 1-6 belongs.
Find number: 1-7
Find depth: 39.20
Complete: yes

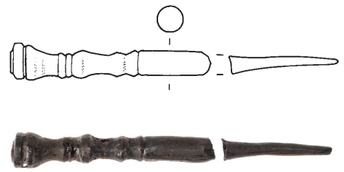
8 Lock, iron
Spiral-shaped bolt guide. The object is part of a lock to which the key from find number 1-6 belongs.
Find number: 1-8
Find depth: 39.20
Complete: yes

9 Lock, iron
Iron lock bolt with triangular holes to hold a key. The object is part of a lock to which the key from find number 1-6 belongs.
Find number: 1-9
Find depth: 39.20
Complete: yes

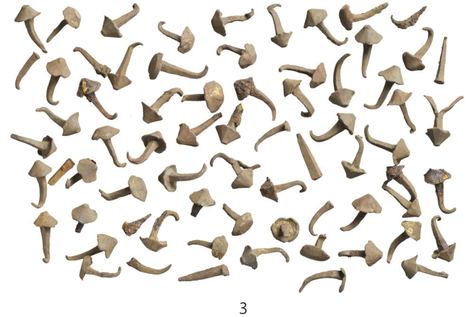
10 Object, bone
Six game pieces made of animal bone.
Find number: 1-10
Find depth: 39.43
Complete: yes
Diameter: 17 mm

11 Coin, copper alloy
Copper alloy coin, Antoninus Pius (138-161).
Find number: 1-11
Find depth: 39.17
Complete: yes
Type: As
Date: 141-161


1


2 (scale 1:1)


1


3

12 Coin, copper alloy
Copper alloy coin, Vespasian (69-79).
Find number: 1-12
Find depth: 39.17
Complete: yes
Type: As
Date: 71

13 Fragment, glass
Melted glass fragment, probably part of a melted bead.
Find number: 1-13
Complete: no
Find depth: 39.17
Length: 13 mm

14 Fragment, indeterminate material
Indeterminate fragment of yellow material.
Find number: 1-14
Find depth: 39.17
Complete: no

15 Fragment, bone
Seven decorated bone fragments.
Find number: 1-15
Find depth: 39.17
Complete: no
Length: 5 mm

16 Fragment, organic
Leather fragment.
Find number: 1-16
Find depth: 39.17
Complete: no

17 Pottery fragment
One rim fragment of a probable Late Merovingian/ Early Carolingian coarse ware jar and one base fragment of Iron Age handmade pottery.
Find number: 1-17
Find depth: unknown
Complete: no
Type: indeterminate

18 Pottery fragment
Find number: 1-18.1
Six rim fragments of a Roman colour-coated beaker, eight wall fragments of Roman fine oxidised ware (burned), one wall fragment of a Roman dolium, fourteen fragments of Roman coarse ware, one wall fragment of Iron Age or Late Roman handmade pottery (with fingertip indents) and three wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

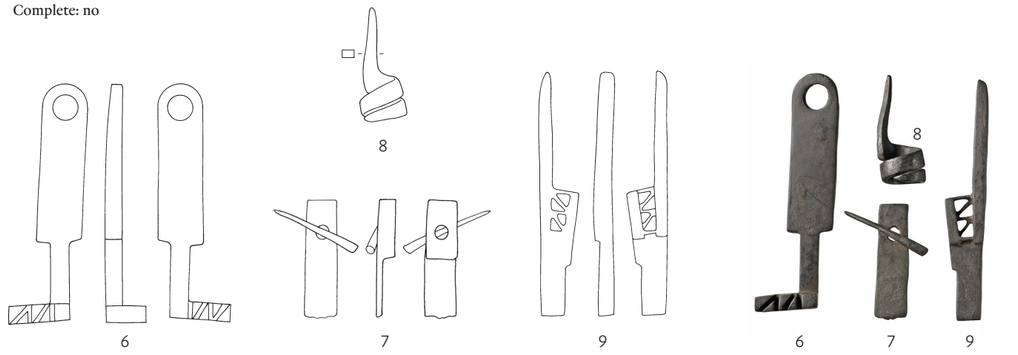
Pottery fragment
Find number: 1-18.2
One rim, nineteen wall and two base fragments of a Roman coarse ware jar.
Find depth: unknown
Complete: 10-25%
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

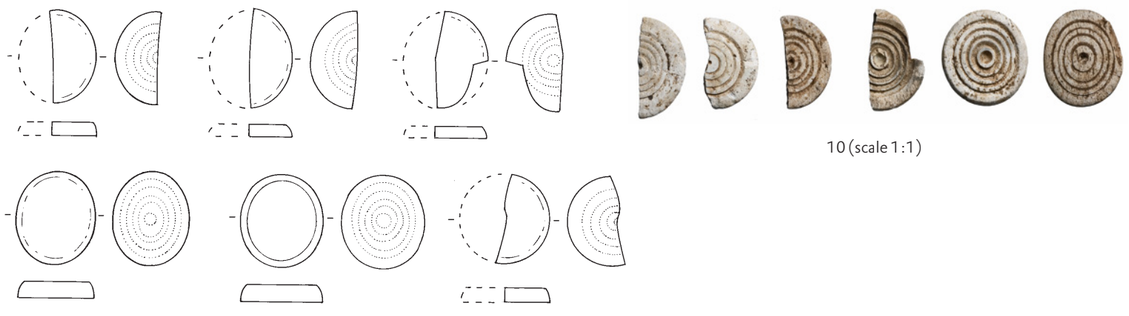
Pottery fragment
Find number: 1-18.3
Two rim and one base fragment of a Roman coarse ware plate.
Find depth: unknown
Complete: 0-10%
Type: Stuart 216
Date: middle of the 2nd – 2nd half of the 3rd century

Pottery fragment
Find number: 1-18.4
One rim and one base fragment of a Roman coarse ware plate.
Find depth: unknown
Complete: 0-10%
Type: Stuart 218
Date: middle of the 2nd – 2nd half of the 3rd century

19 Bone, human
Find number: 1-19
Teeth.
Find depth: unknown

20 Bone, human
Find number: 1-20
Cremated remains.
Find depth: unknown





10 (scale 1:1)

2
GRAVE

Trench	HVR trench
Grave type	cremation grave
Grave pit length	0,44
Stratigraphic relation	context context 4

DESCRIPTION
Roman cremation grave. The grave was damaged by recent ploughing and it was cut by grave 4.

PHYSICAL ANTHROPOLOGY
Cremation: the weight of cremated remains is 1268 g and anatomical allocation is possible for 268 g (21,1%) of the remains. The burning degree was > 800° and the fragment size is between 2-6 cm. Sex diagnosis was impossible to provide since traits were absent. Only a minimum age of c. > 20 years can be established based on the epiphyseal fusion. Conclusion: an adult individual.

DATE GRAVE
Middle of the 2nd – beginning of the 3rd century

FINDS
1 Stone, sandstone
Find number: 2-1
Four sandstone fragments, Nivelsteiner sandstone.
Find depth: 39.54
Weight: 25 grams
Complete: no

2 Pottery fragment
Find number: 2-2
Four rim, twenty wall and one base fragment of a Roman coarse ware bowl (oxidised Rhenish ware).
Find depth: 39.54
Complete: ca. 25-50 %
Type: Oelmann 103
Date: middle of the 2nd – 3rd century

3 Pottery fragment
Find number: 2-3.1
One wall and one base fragment of Roman Samian ware, one rim and five wall fragments of Roman colour coated ware, one ear fragment of Roman fine oxidised ware, one wall fragment of a Roman amphora, one base and eight wall fragments of Roman coarse ware and four wall fragments of Iron Age handmade pottery.
Find depth: 39.54
Complete: no
Type: indeterminate

Pottery fragment
Find number: 2-3.2
One rim fragment of a Roman colour-coated plate.
Find depth: 39.54
Complete: ca. 0-10 %
Type: Stuart 10
Date: 2nd – middle of the 3rd century

Pottery fragment
Find number: 2-3.3
Three rim and one wall fragment of a small Roman Samian bowl.
Find depth: 39.54
Complete: ca. 0-10 %
Type: Dragendorff 35
Date: 3rd quarter of the 1st – middle of the 2nd century

Pottery fragment
Find number: 2-3.4
One rim fragment of a Roman Samian cup.
Find depth: 39.54
Complete: ca. 0-10 %
Type: Dragendorff 40
Date: middle of the 2nd – 3rd century

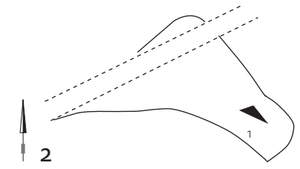
Pottery fragment
Find number: 2-3.5
One rim fragment of a Roman mortarium.
Find depth: 39.54
Complete: ca. 0-10 %
Type: Vanvinckenroye 1967.94
Date: 3rd quarter of the 2nd – 3rd century

Pottery fragment
Find number: 2-3.6
Two rim fragments or a Roman coarse ware bowl. The coarse ware fragments probably belong to grave 1. Similar fragments are also found in grave 8.
Find depth: 39.54
Complete: ca. 0-10 %
Type: Stuart 216
Date: middle of the 2nd – 3rd century

Pottery fragment
Find number: 2-3.7
Two rim fragments of a Roman coarse ware jar.
Find depth: 39.54
Complete: ca. 0-10 %
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

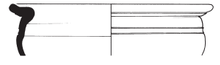
11 (scale 1:1)

13, 14 (scale 1:1)



12 (scale 1:1)

15 (scale 1:1)



2

Pottery fragment
Find number: 2-3.8
Two rim, one wall and one base fragment of a Roman coarse ware jar or bowl.
Find depth: 39.54
Complete: ca. 0-10 %
Type: Oelmann 89 or Oelmann 103
Date: middle of the 2nd – 3rd century

4 Bone, human
Find number: 2-4
Cremated remains.
Find depth: 39.54

3
GRAVE

Trench	HVR trench
Grave type	cremation grave
Grave pit length	0,93

DESCRIPTION
Roman cremation grave. The grave was damaged by ploughing and it was possibly cut by a later pit. The relation between the grave and this later feature remains unclear.

PHYSICAL ANTHROPOLOGY
Cremation: the weight of cremated remains is 9 g and anatomical allocation is possible for 5 g (55,6 %) of the remains. The burning degree was > 800° C and fragment size is between 3-4 cm. Sex and age diagnosis could not be established since traits were absent. The skeletal parts seem gracile, but the cremated remains are very incomplete so no conclusion can be provided.
Conclusion: sex and age unknown.

DATE GRAVE
Cannot be dated

FINDS
1 Fragment, iron
Find number: 3-1
Indeterminate iron fragment, decorated with silver wire.
Find depth: 39.16
Complete: no
Length: 14 mm

2 Nail, iron
Find number: 3-2.1
Sixty-five small iron nails, probably from a Roman shoe.
Find depth: 39.16
Complete: no

Fragment, iron
Find number: 3-2.2
Seventeen indeterminate iron fragments.
Find depth: 39.16
Complete: no
Length: 5-20 mm

3 Stone, flint
Find number: 3-3.1
Large irregular piece of flint, possibly a hammer-stone.
Find depth: 39.16
Complete: yes
Date: Prehistoric

Stone, flint
Find number: 3-3.2
Small flint fragment, probably a flake.
Find depth: 39.16
Complete: no
Date: Prehistoric

4 Sample, organic
Find number: 3-4
Charcoal sample.
Find depth: 39.16
Complete: yes
Remark: not analysed

5 Bead, amber
Find number: 3-5
Fragmented amber bead.
Find depth: 39.16
Complete: no

6 Pottery fragment
Find number: 3-6
One rim and two wall fragments of colour-coated ware, two wall fragments of Roman fine oxidised ware, three wall fragments of a Roman dolium, one wall fragment of a Roman mortarium, one base and ten wall fragments of Roman coarse ware and seven wall fragments of Iron Age handmade pottery.
Find depth: 39.16
Complete: no
Type: indeterminate

7 Bone, human
Find number: 3-7
Cremated remains.
Find depth: 39.16
Complete: no

Fragment, iron
Find number: 1-I-9
Two indeterminate iron fragments (probably iron slag).
Complete: no
Length: 23 mm

4
GRAVE

Trench	HVR trench
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,54
Grave pit width	1,91
Stratigraphic relation	context context 2

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners and a vague container outline was visible. The grave was possibly reopened. The fill of the grave contained shattered cremation remains and Roman pottery fragments. These remains probably belong to grave 2. The reason for this is that the northwest corner of grave 4 cuts through grave 2. During this disturbance, cremation remains and other contents of the cremation grave probably ended up in the filling of the inhumation grave.

PHYSICAL ANTHROPOLOGY
Inhumation: several indeterminate bone fragments, part of the cranial base and fragments of the right maxilla, right mandible and some teeth and molars were recovered. The preservation of the remains is poor. Sex diagnosis is impossible since sexual traits are absent. Age diagnosis: the spheno-occipital synchondrosis (cranial base) is closed which indicates a minimum age of c. 18 years. Pathology: ante-mortem tooth loss of a molar (number 46 which is the first molar of the right mandible); a fragment of one incisor shows a hypoplastic line which is associated with a spells of bad health during childhood. The time of formation is not known because the tooth was not completely preserved.
Conclusion: an adult individual with ante mortem tooth loss and enamel hypoplasia.

Cremation: the cremated remains that were found in grave 4 probably belonged to grave 2. The weight of the cremated remains is 129 g and anatomical allocation is possible for 69 g (53,5%) of the remains. The burning degree was > 800° C and fragment size is between 2-4 cm. Sex diagnosis could not be established since traits were absent. The age diagnosis is between 30-50 years based on the suture obliteration.
Conclusion: an adult individual between 30-50 years.

DATE GRAVE
Posterholt phases II-IV, FAG phases 6-9, 580/90-710

FINDS
1 Pottery fragment
Find number: 4-1.1
One rim and two wall fragments of Roman Samian ware, one base and three wall fragments of Roman colour-coated ware, one wall fragment of Roman black-slipped ware, two wall fragments of Roman fine oxidised ware, four wall fragments of Roman coarse ware, and fifteen wall fragments of Iron Age handmade pottery.
Find depth: 38.89
Complete: no
Type: indeterminate

Stone, flint
Find number: 4-1.2
Two flint fragments.
Find depth: 38.89
Complete: no

Stone, tephrite
Find number: 4-1.3
Fragment of tephrite, possibly part of a grinding stone.
Find depth: 38.89
Complete: no

2 Bone, human
Find number: 4-2
Postcranial, fragments.

3 Bone, human
Find number: 4-3
Cremated remains.

4 Belt part, iron
Find number: 4-4
Iron buckle with a band-shaped oval loop. The tongue and loop are decorated with silver inlay. The decoration pattern consists of honeycomb motives.
Find depth: 38.89
Complete: yes
Loop length: 47 mm
Type: probably FAG type S-Gür4.7
Phase: possibly FAG phase 8
Date 640/50-670/80

5 Bead, amber
Find number: 4-5
Small droplet shaped amber bead.
Find depth: 38.89
Complete: yes
Type: A22

6 Bone, human
Find number: 4-6
Skull fragments.

5
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	unknown
Grave pit length	2,49
Grave pit width	1,86

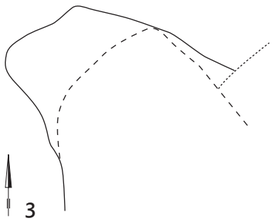
DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. No traces of a wooden container or container outline were present. Grave 5 was discovered during the trial excavations of the HVR but excavated by the ROB. The grave was possibly reopened. The lack of finds and human remains suggest the grave was disturbed, but a possible reopening pit was only visible in the northeast corner of the grave (the part that was discovered by the HVR).

PHYSICAL ANTHROPOLOGY
Inhumation: only one poorly preserved molar was recovered. No information on the sex and age of this individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

Cremation: the weight of cremated remains is 2 g and anatomical allocation is possible for 2 g (100%) of the remains. The burning degree was > 800° C and fragment size is about 2 cm. Sex and age diagnosis could not be established since traits were absent.
Conclusion: sex and age unknown.

DATE GRAVE
Cannot be dated

FINDS
1 Possible seax, iron
Find number: 5-1.1
Five iron fragments with wood remains attached, probably part of a small seax or a knife.
Find depth: 39.58-38.98
Complete: no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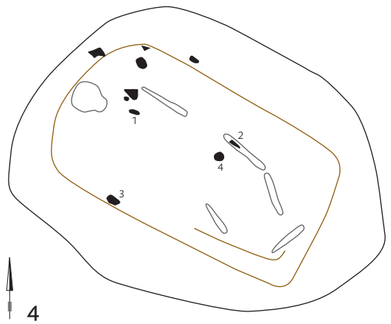

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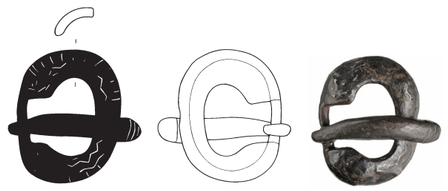
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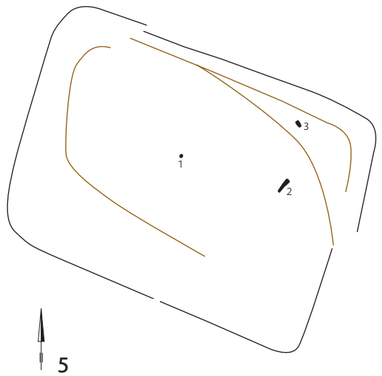


5

Nail, iron
Find number: 5-1.2
Three iron nails.
Find depth: 39.58-38.98
Complete: yes

Fragment, iron
Find number: 5-1.3
Twenty-five indeterminate iron fragments with wood remains attached.
Find depth: 39.58-38.98
Complete: no
Length: 10 mm

Stone, sandstone
Find number: 5-1.4
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.58-38.98
Weight: 10 grams.
Complete: no

Pottery fragment
Find number: 5-1.5
One wall fragment of Iron Age roughened and handmade coarse ware pottery
Find depth: 39.58-38.98
Complete: no
Type: indeterminate

Bone, human
Find number: 5-1.6
Cremated remains.
Find depth: 39.58-38.98

2 Knife, iron
Find number: 5-2.1
Iron knife with wood remains attached. The point is located on the axis of the blade.
Find depth: 39.58-38.98
Complete: yes
Blade width: 19 mm
Blade length: 115 mm
Type: Böhner type A
Date: 450-700 (Stufe II - IV)

Pottery fragment
Find number: 5-2.2
Two wall fragments of Iron Age handmade pottery
Find depth: 39.58-38.98
Complete: no
Type: indeterminate

3 Fragment, organic
Find number: 5-3
Three leather fragments with small copper alloy rivets attached. The items are probably part of a seax scabbard.
Find depth: 39.58-38.98
Complete: no

4 Stone
Find number: 5-4.1
Stone fragment.
Find depth: 39.58-38.98
Complete: no

Fragment, iron
Find number: 5-4.2
Four small indeterminate iron fragments.
Find depth: 39.58-38.98
Complete: no
Length: 13 mm

Pottery fragment
Find number: 5-4.3
Four wall fragments of Roman coarse ware and six wall fragments of Iron Age handmade pottery
Find depth: 39.58-38.98
Complete: no
Type: indeterminate

5 Stone, flint
Find number: 5-5
Flint fragment, possibly Prehistoric.
Find depth: 39.58-38.98
Complete: no

6 Stone, sandstone
Find number: 5-6
Four sandstone fragments, Nivelsteiner sandstone.
Find depth: 39.58-38.98
Weight: 30 grams
Complete: no

7 Bone, human
Find number: 5-7
Molar fragments.

6
GRAVE

Trench	HVR trench
Grave type	cremation grave
Grave pit length	0,73
Stratigraphic relation	context context 9

DESCRIPTION
Roman cremation grave. The grave was cut by grave 9.

PHYSICAL ANTHROPOLOGY
Cremation: the weight of cremated remains is 280 g and anatomical allocation is possible for 86 g (30,7%). The burning degree was > 800° C and fragment size is between 2-4 cm. Sex diagnosis is based on masculine traits of the skull (processus zygomaticus and crista supra mastoidea). A minimum age of c. 20 years can be diagnosed based on the robustness of the skeleton.
Conclusion: a probable adult male.

DATE GRAVE
Middle of the 2nd – beginning of the 3rd century

FINDS
1 Pottery fragment
Find number: 6-1
Five rim and twenty-one wall fragments of a Roman, rouletted colour-coated beaker.
Find depth: 39.57
Complete: ca. 25-50 %
Type: Oelmann 30
Date: middle of the 2nd – middle of the 3rd century

2 Pottery fragment
Find number: 6-2.1
Two wall fragments of a Roman dolium, eleven wall fragments of a Roman coarse ware jar and eleven wall fragments of Iron Age handmade pottery.
Find depth: 39.57
Complete: no
Type: indeterminate

Pottery fragment
Find number: 6-2.2
Five wall fragments of a Roman coarse ware plate.
Find depth: 39.57
Complete: 10-25 %
Type: Stuart 218
Date: 2nd – 2nd half of the 3rd century

3 Bone, human
Find number: 6-3
Cremated remains.
Find depth: 39.57
Cremation: the weight of cremated remains is 2 g and anatomical allocation is possible for 2 g (100%) of the remains. The burning degree was > 800° C and fragment size is about 1 cm. Sex and age diagnosis could not be established since traits were absent.
Conclusion: sex and age unknown.

DATE GRAVE
Posterholt phases II-III, FAG phases 6-8, 580/90-640/50

FINDS
1 Bead, glass
Find number: 7-1
Two red opaque double segmented glass beads.
Complete: yes
Find depth: 39.52
Type: RO25 / Siegmund Per35.7
Kombinationsgruppe H
Rhineland date: 570-640

2 Bead, glass
Find number: 7-2
White opaque long twisted glass bead.
Find depth: 39.52
Complete: yes
Type: WO29.

3 Bead, glass
Find number: 7-3
Fragment of a green transparent glass bead with an indeterminate shape.
Find depth: 39.52
Complete: no
Type: GT??

4 Bead, glass
Find number: 7-4
White opaque small barrel-shaped glass bead.
Find depth: 39.52
Complete: yes
Type: WO30.

5 Bead, glass
Find number: 7-5
Yellow opaque long twisted glass bead.
Find depth: 39.52
Complete: yes
Type: YO29.

6 Bead, glass
Find number: 7-6
Three red opaque multi-segmented glass beads.
Find depth: 39.52
Complete: yes
Type: RO24 / Siegmund Per35.7
Kombinationsgruppe H
Rhineland date: 570-640

7 Bead, glass
Find number: 7-7
Two green transparent long twisted glass beads.
Find depth: 39.52
Complete: yes
Type: GT29 / Siegmund Per46.5
Kombinationsgruppen H-I
Rhineland date: 610-705

8 Bead, glass
Find number: 7-8
White opaque barrel shaped glass bead.
Find depth: 39.52
Complete: yes
Type: WO19.

9 Bead, glass
Find number: 7-9
Fragmented yellow opaque glass bead, probably small barrel-shaped.
Find depth: 39.52
Complete: no
Type: YO30

10 Bead, glass
Find number: 7-10
Yellow opaque multiple segmented glass bead. The bead is broken.
Find depth: 39.52
Complete: yes
Type: YO24 / Siegmund Per33.6
Kombinationsgruppen G-H
Rhineland date: 570-705

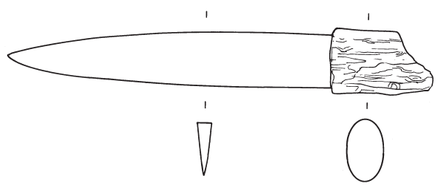
11 Bead, glass
Find number: 7-11
Fragment of a white opaque glass bead with an indeterminate shape.
Find depth: 39.52
Complete: no

7
GRAVE

Trench	HVR trench
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	1,82
Grave pit width	1,37

DESCRIPTION
Merovingian inhumation grave of a child. The orientation of the grave was probably west-east, but no human remains were present except for some teeth and molars. The burial pit was rectangular with slightly rounded corners. A patch of possible burned red and black coloured soil was found in the north side of the grave. No traces of a wooden container or container outline were present. The grave was possibly reopened, but a reopening pit was not visible.

PHYSICAL ANTHROPOLOGY
Inhumation: only several crowns of pre-molars (permanent dentition) were found. Age diagnosis was based on three crowns of pre-molars: the elements do not show any attrition which results in a rough estimate of c. 6–12 years.
Conclusion: a child between 6-12 years old.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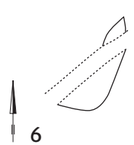
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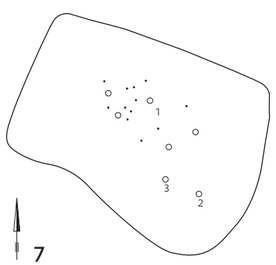
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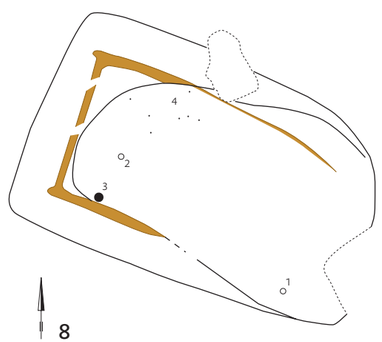
1-11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12 Bead, glass
Find number: 7-12
Blue transparent long twisted glass bead.
Find depth: 39.52
Complete: yes
Type: BT29 / Siegmund Per47.7
Kombinationsgruppen F-I
Rhineland date: 555-705

13 Bone, human
Find number: 7-13
Cremated remains.

14 Bone, human
Find number: 7-14
Molar fragments (burned).

15 Pottery fragment
Find number: 7-15
One rim and six wall fragments of Roman or Merovingian coarse ware.
Find depth: 39.52
Complete: no
Type: indeterminate

8
GRAVE

Trench	HVR trench
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,60
Grave pit width	1,68

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. Traces of a wooden container were found in the western half of the grave. The remaining part of the grave was disturbed by a large reopening pit. The grave was also cut by a recent pit.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Posterholt phases II-III, FAG phases 6-8, 580/90-640/50

FINDS
1 Belt part, copper alloy
Find number: 8-1
Square copper alloy plate with 4 small copper alloy rivets and leather remains attached.
Find depth: 39.16
Complete: yes
Plate length: 22 mm

2 Bead, glass
Find number: 8-2
Two green opaque multiple segmented glass beads. One of them is broken.
Find depth: 38.54
Complete: yes
Type: GO24 / Siegmund Per36.4
Kombinationsgruppe G-I
Rhineland date: 570-705

3 Spindle whorl, ceramic
Find number: 8-3
Ceramic spindle whorl made of a black paste. Its shape is uneven biconical with a rounded off carination.
Find depth: 38.65
Complete: yes

4 Pottery fragment
Find number: 8-4
Two rim fragments of Merovingian pottery (probably biconical) made of a fine tempered fabric. One of the fragments has two grooves. The fragments do not belong to the same pot.
Find depth: unknown
Complete: no

5 Bead, amber
Find number: 8-5.1
Amber bead, droplet shaped.
Find depth: 38.54
Complete: yes
Type: A22

Bead, amber
Find number: 8-5.2
Amber bead, amorphous.
Find depth: 38.54
Complete: yes

Bead, amber
Find number: 8-5.3
Amber bead with triangular section.
Find depth: 38.54
Complete: yes

Bead, amber
Find number: 8-5.4
Amber bead, droplet shaped.
Find depth: 38.54
Complete: yes
Type: A22

6 Stone, sandstone
Find number: 8-6.1
Sandstone fragment, Nivelsteiner sandstone.
Find depth: unknown
Weight: 12 grams
Complete: no

Stone, flint
Find number: 8-6.2
Flint fragment.
Find depth: unknown
Weight: 1 gram
Complete: no

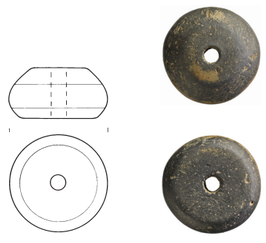
7 Nail, iron
Find number: 8-7
Six fragments of small iron nails.
Find depth: unknown
Complete: no
Length: 20 mm

8 Sample, organic
Find number: 8-8
Charcoal fragment.
Find depth: unknown
Length: 17 mm
Remark: not analysed

9 Pottery fragment
Find number: 8-9.1
Two rim fragments of reduced coarse ware pottery, probably Merovingian.
Find depth: unknown
Complete: no


1

2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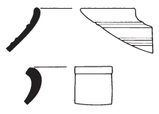
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5

Pottery fragment
Find number: 8-9.2
Two wall fragments of colour-coated ware, one rim, three base and twelve wall fragments coarse ware pottery and ten wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

Pottery fragment
Find number: 8-9.3
Three wall and one base fragment of a Roman coarse ware plate. The coarse ware fragments probably belong to grave 1. Similar fragments are also found in grave 2.
Find depth: unknown
Complete: no
Type: Stuart 216
Date: middle of the 2nd – 2nd half of the 3rd century

9
GRAVE

Trench	HVR trench
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,46
Grave pit width	2,16
Stratigraphic relation	context context 6

DESCRIPTION
Merovingian inhumation grave of a child. The orientation of the grave was probably west-east. The burial pit is rectangular with slightly rounded corners. A vague container outline was visible. The filling contained shattered cremation remains, Roman pottery fragments and several pig and cow molars. These remains probably belong to grave 6. The reason for this is that grave 6 is cut by the southeast corner of grave 9. The grave was possibly reopened. The lack of finds and human remains suggest the grave was disturbed, but no indication of a reopening pit was found.

PHYSICAL ANTHROPOLOGY
Inhumation: only several teeth and molars were recovered.
Age diagnosis: several fragments of the crowns of molars indicate an age of 10 years (± 30 months).
Pathology: one of the molar fragments shows caries on the occlusal side.
Conclusion: a child between 8 and 12 years.

Cremation: the cremated remains found in the filling of grave 9 probably belong to grave 6. The weight of cremated remains is 132 g and anatomical allocation is possible for 60 g (45,5%) of the remains. The burning degree was > 800° C and fragment size is between 3-5 cm. Iron shoe nails were present among the cremated remains.
Sex diagnosis could not be established because traits were absent. A minimum age of c. 20 years can be diagnosed based on the robustness of the skeleton.
Conclusion: adult, > 20 years.

DATE GRAVE
Posterholt phases II-III, FAG phases 6-8, 580/90-640/50

FINDS
1 Belt part, iron
Find number: 9-1
Fragment of an iron plate with copper alloy rivet with leather remains attached.
Find depth: 38.58
Complete: no
Length: 38 mm

2 Fragment, copper alloy
Find number: 9-2
Copper alloy sheet fragment.
Find depth: 38.58
Complete: no
Length: 18 mm

3 Coin plate, copper alloy
Find number: 9-3
Copper alloy coin plate with a suspension-loop, Hadrian (117-138). Remains of iron wire are preserved inside the hole.
Find depth: 38.58
Complete: yes
Type: Dupondius/AS
Date: 138-253

4 Bead, amber
Find number: 9-4
Fragmented amber bead.
Find depth: 38.58
Complete: no
Type: unknown

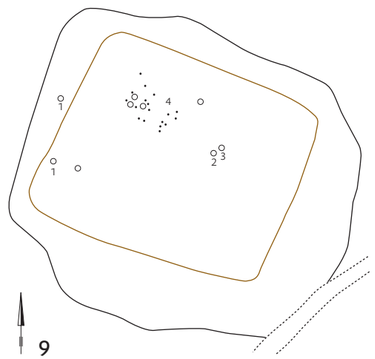
5 Bead, glass
Find number: 9-5
Two orange opaque biconical shaped glass beads with a very weathered surface.
Find depth: 38.58
Complete: yes
Type: OO20 / Siegmund Per34.1
Kombinationsgruppen G-I
Rhineland date: 570-705

6 Bead, glass
Find number: 9-6
Two green opaque small barrel shaped glass beads.
Find depth: 38.58
Complete: yes
Type: GO30.

7 Bead, glass
Find number: 9-7
Three green opaque double segmented glass beads.
Find depth: 38.58
Complete: yes
Type: GO25 / Siegmund Per36.4
Kombinationsgruppen G-I
Rhineland date: 570-705

8 Bead, glass
Find number: 9-8
Three blue transparent multi segmented glass beads.
Find depth: 38.58
Complete: yes
Type: BT24 / Siegmund Per47.7
Kombinationsgruppen G-H
Rhineland date: 570-705

9 Bead, glass
Find number: 9-9
Red opaque barrel shaped glass bead, decorated with a yellow braided band and yellow dots.
Find depth: 38.58
Complete: yes
Type: Koch 20.26
Kombinationsgruppe C
date: 555-620



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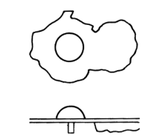
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1 & 2


3 (scale 1:1)


5

10 Bead, glass
Find number: 9-10
Red opaque glass bead with indeterminate decoration.
Find depth: 38.58
Complete: yes

11 Bead, glass
Find number: 9-11
Fragment of a blue, transparent glass bead. Probably multi segmented.
Find depth: 38.58
Complete: no

12 Bead, amber
Find number: 9-12
Two amber beads, droplet-shaped.
Find depth: 38.58
Complete: yes
Type: A22

13 Bead, glass
Find number: 9-13
Yellow opaque pentagonal shaped glass bead.
Find depth: 38.58
Complete: yes
Type: YO32.

14 Bead, amber
Find number: 9-14
Find depth: 38.58
Amber bead, long square shaped.
Complete: yes
Type: A41

15 Bead, glass
Find number: 9-15
Green opaque thick disc-shaped glass bead.
Find depth: 38.58
Complete: yes
Type: GO18

16 Bead, glass
Find number: 9-16
Red opaque barrel shaped glass bead, decorated with four big yellow dots.
Find depth: 38.58
Complete: yes
Type: Koch 1.27
Kombinationsgruppe E
Date: 620-670

17 Bead, glass
Find number: 9-17
Green opaque barrel shaped glass bead.
Find depth: 38.58
Complete: yes
Type: GO19.

18 Bead, glass
Find number: 9-18
Red opaque glass bead with an indeterminate decoration.
Find depth: 38.58
Complete: yes
Type: indeterminate

19 Bead, glass
Find number: 9-19
Green opaque multi segmented glass bead.
Find depth: 38.58
Complete: yes
Type: GO24 / Siegmund Per36.4
Kombinationsgruppe G-I
Rhineland date: 570-705

20 Bead, glass
Find number: 9-20
Disintegrated orange opaque glass bead. The inside of the bead is green. This could be an example of a green bead that turned orange due to chemical processes in the soil.
Find depth: 38.58
Complete: no
Type: possibly OO19

21 Bone, human
Find number: 9-21
Cremated remains.
Find depth: 38.58

22 Bone, human
Find number: 9-22
Molar fragments.
Find depth: 38.58

23 Bone, human
Find number: 9-23
Fragments, post cranial.
Find depth: 38.58

24 Bone, animal
Find number: 9-24
Molars (cow and pig).
Find depth: 38.58

25 Nail, iron
Find number: 9-25
Small iron nail, probably of a Roman shoe. Found during the analysis of the cremated remains.
Complete: yes
Find depth: 38.58

10
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,10
Grave pit width	1,01

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was irregular shaped with rounded corners. A vague container outline was visible. Grave 10 was discovered during the trial excavations of the HVR but excavated by the ROB.

PHYSICAL ANTHROPOLOGY
Inhumation: the cranial base and some fragments of the right pelvis (ilium) and right femur were recovered. The preservation of the remains is poor. Sex diagnosis: the mastoid process, the nuchal plane and the external protuberance are definitely feminine. Age diagnosis: the spheno-occipital synchondrosis (cranial base) is closed which indicates a minimum age of c. 18 years. Pathology: the attrition of two molars that are present is very slight (phase 2) and the sutures on the internal side are completely open (lambda).
Conclusion: a female between 20-30 years.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Bone, human
Find number: 10-1
Skull.
Find depth: 39.26

2 Pottery fragment
Find number: 10-2
One wall fragment of Roman colour-coated ware.
Find depth: 39.17
Complete: no
Type: indeterminate

3 Bone, human
Find number: 10-3
Bone fragments, post cranial.
Find depth: unknown

4 Pottery fragment
Find number: 10-4
Two wall fragments of Roman colour-coated ware and two wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

11
GRAVE

Trench	HVR trench
Grave type	cremation grave
Grave pit length	0,39

DESCRIPTION
Roman cremation grave. This was the first grave discovered by H. Schmitz in 1981. Because it was not officially documented and numbered in 1981, this was done again during the trial excavations by the HVR in 1983.

PHYSICAL ANTHROPOLOGY
The presence of cremated remains was documented by the excavators but they are currently missing. According to the excavators the weight of the cremated remains was 250 g.

DATE GRAVE
Middle of the 2nd – beginning of the 3rd century

FINDS
1 Pottery fragment
Find number: 11-1
Nineteen fragments of a Roman coarse ware jar.
Find depth: unknown
Complete: 60%
Type: Vanvinckenroye 1967.104
Date: middle 2nd – 3rd century

2 Pottery vessel
Find number: 11-2
Twenty fragments of a Roman Samian dish.
Find depth: unknown
Complete: 80%
Type: Dragendorff 31
Date: middle 2nd – 3rd century

3 Fragment, bone
Find number: 11-3
Fragmented bone object.
Find depth: unknown
Complete: no

12
GRAVE

Trench	1
Grave type	cremation grave
Grave pit length	0,51
Grave pit depth	39,05

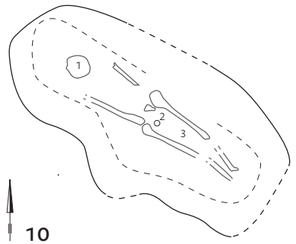
DESCRIPTION
Roman cremation grave. The grave was damaged by recent ploughing. Two complete pottery vessels were found in the grave, but they were found separated from the concentration of cremated remains.

PHYSICAL ANTHROPOLOGY
Cremation: two find numbers with cremated remains were analyzed separately but belong to the same individual. The total weight of cremated remains was 1155 g.

12-1.7: The weight of cremated remains is 479 g and anatomical allocation is possible for 139 g (29%) of the remains. The burning degree was > 800° C and fragment size is between 3-4 cm. Sex diagnosis is based on feminine traits of the skull (glabella). The age diagnosis of 20-40 years is based on the fused epiphyses and the open sutures.
Epigenetic feature: metopic suture
12-4: the weight of cremated remains is 676 g and anatomical allocation is possible for 336 g (49,7%) of the remains. The burning degree was > 800° C and fragment size is between 2-4 cm. Secondary green discolorations were found on a fragment of a diaphysis. This might indicate the presence of metal/copper alloy objects in the vicinity of the


6-19


20



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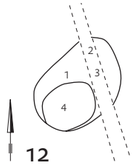


12


1


3


1.1

bones during the cremation process. Sex diagnosis is based on feminine traits of the pelvis (incisura ischiadica major). The age diagnosis of 20-40 years is based on the fused epiphyses and the open sutures. Conclusion: a female between 20-40 years, with a metopic suture.

DATE GRAVE
Last quarter of the 2nd – first quarter of the 3rd century

FINDS
1 Pottery vessel
Find number: 12-1.1
Small Roman Samian ware cup with an incised line just underneath the rim.
Find depth: 39.21
Complete: yes
Type: Dragendorff 40
Date: middle 2nd – 3rd century

Coin, copper alloy
Find number 12-1.2
Copper alloy coin, Marcus Aurelius (161-180).
Find depth: 39.21
Complete: yes
Type: Dupondius
Date: 163-180

Pottery vessel
Find number: 12-1.3
Four fragments of a Roman colour-coated plate.
Find depth: 39.21
Complete: >95 %
Type: Stuart 10
Date: 2nd – middle of the 3rd century

Pottery fragment
Find number: 12-1.4
Eight fragments of a Roman smooth ware flagon.
Find depth: 39.21
Complete: no
Type: unknown
Date: 2nd – 3rd century

Pottery fragment
Find number: 12-1.5
Twenty-six fragments of a Roman coarse ware bowl.
Find depth: 39.21
Complete: 50-75 %
Type: Oelmann 104
Date: 2nd – 2nd half of the 3rd century

Pottery fragment
Find number: 12-1.6
Ten fragments of Roman pottery, probably cooking ware.
Find depth: 39.21
Complete: no
Type: indeterminate

Bone, human
Find number: 12-1.7
Cremated remains
Find depth: 39.21

2 Pottery fragment
Find number: 12-2
Twenty-six fragments of a Roman black-slipped beaker.
Find depth: 39.21
Complete: 25-50 %
Type: Oelmann 31
Date: last quarter of the 2nd –2nd half of the 3rd century

3 Pottery fragment
Find number: 12-3
Twenty-three fragments of a Roman coarse ware jar.
Find depth: 39.21
Complete: 10-25 %
Type: Oelmann 89
Date: middle 2nd – 3rd century

4 Bone, human
Find number: 12-4
Cremation remains.
Find depth: 39.21-39.13

13
PIT

Trench	1
Context type	Pit

DESCRIPTION
Shallow, indeterminate pit. The filling of the pit contained Roman pottery fragments, stone fragments and an indeterminate iron fragment.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

Date context
Cannot be dated

FINDS
1 Pottery fragment
Find number: 13-1
Rim fragment of a Roman mortarium.
Find depth: 39.10
Complete: no
Type: Stuart 149
Date: middle of the 1st – 3rd century

2 Pottery fragment
Find number: 13-2
Wall fragment of Roman coarse ware.
Find depth: 39.13
Complete: no
Type: indeterminate

3 Stone
Find number: 13-3.1
Stone fragment.
Find depth: 39.11
Weight: 25 grams
Complete: no

Fragment, iron
Find number: 13-3.2
Four small indeterminate iron fragments.
Find depth: 39.11
Complete: no
Length: between 5-20 mm

4 Stone
Find number: 13-4
Stone fragment.
Find depth: 39.09
Complete: no

5 Pottery fragment
Find number: 13-5
Wall fragment of Roman fine oxidised ware.
Find depth: 39.07
Complete: no
Type: indeterminate

6 Pottery fragment
Find number: 13-6
Wall fragment of Roman coarse ware.
Find depth: 39.02
Complete: no
Type: indeterminate

7 Stone, sandstone
Find number: 13-7
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.05
Weight: 10 grams
Complete: no

8 Pottery fragment
Find number: 13-8
Wall fragment of Roman coarse ware.
Find depth: 39.05
Complete: no
Type: indeterminate

Pottery fragment
Find number: 1-I-18
Wall fragment of Roman fine oxidised ware.
Complete: no
Type: indeterminate

14
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,27
Grave pit width	2,16
Grave pit depth	38,82

DESCRIPTION
Merovingian inhumation grave with a double burial. Individual 1 is the most northern burial; individual 2 is the most southern burial. The orientation of both graves was west-east. The burial pit was rectangular with slightly rounded edges. Two container outlines were visible.

PHYSICAL ANTHROPOLOGY
Inhumation: articulated human remains of two individuals in extended posture were present. The remains from individual 1 contained parts of the skull, the left arm, the left leg, pelvis and right upper leg. The remains from individual 2 contained parts of the skull and vertebrae, teeth, the left and right arm, pelvis, the left and right legs. The preservation of the remains is poor.

Individual 1: sex diagnosis; female cranial features are present (crista supra, mastoidea, nuchal plane, external occipital protuberance). Age diagnosis: the sutures Coronas, sagittal and lambdoid are closed on the internal side. Externally, the sagittal suture is closed and the lambdoid suture (L1) is closing and partly open (L2). Based on these aspects the age estimation is roughly 40-80 years.
Conclusion: a female between 40-80 years.

Individual 2: sex diagnosis: not possible. Age diagnosis: the spheno-occipital synchondrosis is unfused and the dens axis is not ossified. The dentition indicates an age of 12 years (± 30 months).
Conclusion: a child between 10 and 14 years.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Stone, sandstone
Find number: 14-1
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.10
Weight: 75 grams
Complete: no

2 Nail, iron
Find number: 14-2
Small iron nail.
Find depth: 39.09
Complete: yes

3 Pottery, different
Find number: 14-3
Fragment of a Roman tile (tegula).
Find depth: 39.02
Complete: no

4 Bone, human
Find numbers: 14-4, 14-7, 14-9, 14-10, 14-11, 14-12, 14-13, 14-14, 14-15, 14-16
Bone fragments.
Find depth: 38.89-38.99

5 Bone, human
Find number: 14-5
Skull fragments.
Find depth: 39.08

6 Bone, human
Find number: 14-6
Skull fragments and several vertebrae fragments.
Find depth: 39.07

8 Bone, human
Find number: 14-8
Teeth.
Find depth: 39.02

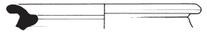
17 Stone, sandstone
Find number: 14-17
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.88
Weight: 87 grams
Complete: no


1.2 (scale 1:1)


1.5


2


1.3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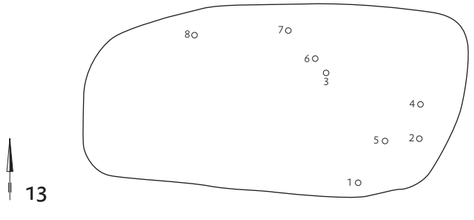

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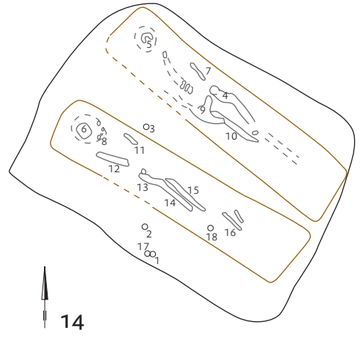

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18 Stone, sandstone
Find number: 14-18
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.85
Weight: 22 grams
Complete: no

15
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,53
Grave pit width	1,53
Grave pit depth	38,86

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Traces of the wooden container were visible in the eastern part of the grave while in the western part only a vague outline was present. The filling contained shattered pottery and sandstone fragments.

PHYSICAL ANTHROPOLOGY
Inhumation: only some enamel crowns were recovered. The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: several crowns (numbers 17, 18 and 27) of molars show slight attrition. Based on this feature the age estimate is c. 17-25 years.
Conclusion: a juvenile between 17-25 years.

DATE GRAVE
Cannot be dated

FINDS
1 Pottery fragment
Find number: 15-1
Wall fragment of Iron Age handmade pottery.
Find depth: 39.24
Complete: no
Type: indeterminate

2 Stone
Find number: 15-2
Stone fragment (possibly basalt-lava).
Find depth: 39.38
Weight: 32 grams
Complete: no

3 Pottery fragment
Find number: 15-3
Wall fragment of Roman colour-coated ware.
Find depth: 39.37
Complete: no
Type: indeterminate

4 Pottery fragment
Find number: 15-4
Wall fragment of Roman fine oxidised ware.
Find depth: 39.30
Complete: no
Type: indeterminate

5 Pottery fragment
Find number: 15-5
Wall fragment of Roman fine oxidised ware.
Find depth: 39.35
Complete: no
Type: indeterminate

6 Pottery fragment
Find number: 15-6
Wall fragment of Roman fine oxidised ware.
Find depth: 39.25
Complete: no
Type: indeterminate

7 Stone
Find number: 15-7
Stone fragment.
Find depth: 39.20
Weight: 17 grams
Complete: no

8 Stone
Find number: 15-8
Stone fragment.
Find depth: 39.27
Weight: 6 grams
Complete: no

9 Pottery fragment
Find number: 15-9
Wall fragment of Roman pottery.
Find depth: 39.26
Complete: no
Type: indeterminate

10 Pottery fragment
Find number: 15-10
Wall fragment of Roman coarse ware.
Find depth: 39.21
Complete: no
Type: indeterminate

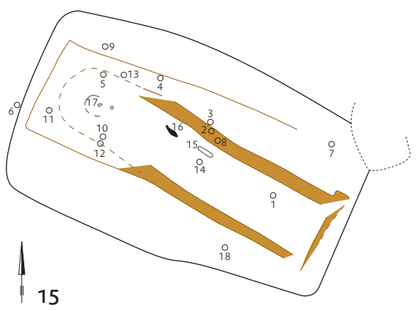
11 Pottery fragment
Find number: 15-11
Wall fragment of Roman fine oxidised ware.
Find depth: 39.19
Complete: no
Type: indeterminate

12 Pottery fragment
Find number: 15-12
Rim fragment of a Roman colour-coated beaker.
Find depth: 39.17
Complete: no
Type: Oelmann 30
Date: middle of the 2nd – middle of the 3rd century

13 Pottery fragment
Find number: 15-13
Wall fragment of Roman colour-coated ware.
Find depth: 39.19
Complete: no
Type: indeterminate

14 Stone, flint
Find number: 15-14
Flint fragment.
Find depth: 39.01
Weight: 1 gram
Complete: no

15 Bone, human
Find number: 15-15
Bone fragments.
Find depth: 38.94



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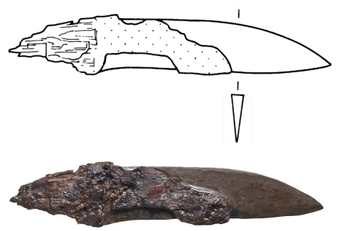
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16 Knife, iron
Find number: 15-16
Iron knife with wood and leather remains attached.
The point is located near the cutting edge.
Find depth: 38.96
Complete: yes
Blade width: 19 mm
Blade length: 77 mm
Type: Böhner type C
Date: 600-700 (stufe IV)

17 Bone, human
Find number: 15-17
Skull fragments.
Find depth: 39.04

18 Pottery fragment
Find number: 15-18
Wall fragment of a Roman mortarium.
Find depth: 38.90
Complete: no
Type: indeterminate

16
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,41
Grave pit width	1,12
Grave pit depth	38,88

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit is rectangular with slightly rounded corners. A vague container outline was present, but only partly visible.

PHYSICAL ANTHROPOLOGY
Inhumation: some fragments of the cranium were present (left and right parietal and part of the cranial base) together with the proximal part of a femur and acetabulum (upper leg and pelvis). The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: the present sutures are closed internally and externally (sagittal 2,3,4 and lambdoid 1). Based on this feature the age estimate is c. 55-80 years. Pathology: the fragment of the femur and acetabulum show extensive erosion and marginal osteophytosis, which indicates peripheral osteoarthritis of the joint of the hip.
Conclusion: an adult individual between 55-80 years, with osteoarthritis of the hip.

DATE GRAVE
Cannot be dated

FINDS
1 Pottery fragment
Find number: 16-1
Wall fragment of Roman colour-coated ware.
Find depth: 39.00
Complete: no
Type: indeterminate

2 Pottery fragment
Find number: 16-2
Wall fragment of Roman fine oxidised ware.
Find depth: 38.99
Complete: no
Type: indeterminate

3 Stone
Find number: 16-3
Stone fragment.
Find depth: 38.98
Weight: 6 grams
Complete: no

4 Pottery fragment
Find number: 16-4
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.93
Complete: no
Type: indeterminate

5 Pottery fragment
Find number: 16-5
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.98
Complete: no
Type: indeterminate

6 Belt part, iron
Find number: 16-6
Simple small buckle with an oval loop.
Find depth: 38.98
Loop length: 29 mm
Complete: yes

7 Bone, human
Find number: 16-7
Skull.
Find depth: 39.02

8 Bone, human
Find number: 16-8
Bone fragments.
Find depth: 38.98

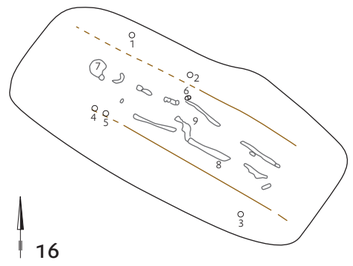
9 Bone, human
Find number: 16-9
Bone fragments.
Find depth: 38.94-38.99

17
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,27
Grave pit width	1,03
Grave pit depth	38,94

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was irregular shaped with rounded corners. A vague container outline was visible. The grave was cut by a small pit of which the date and function are unknown.

PHYSICAL ANTHROPOLOGY
Inhumation: fragments of the skull, teeth, vertebrae, pelvis and femur were recovered. The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: the present suture sagittalis (S2) is closed internally and open externally. The age estimate is 35-52 years.
Conclusion: an adult individual between 35-52 years old.



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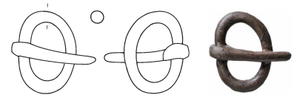
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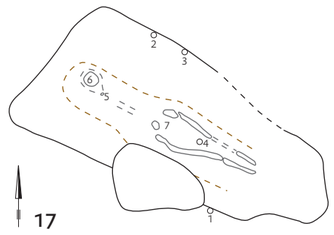


17

DATE GRAVE
No finds, cannot be dated

FINDS
1 Pottery, different
Find number: 17-1
Fragment of a Roman tile (tegula).
Find depth: 38.99
Complete: no

2 Pottery fragment
Find number: 17-2
Wall fragment of Roman coarse ware.
Find depth: 39.07
Complete: no
Type: indeterminate

3 Pottery fragment
Find number: 17-3
Wall fragment of Roman coarse ware.
Find depth: 39.05
Complete: no
Type: indeterminate

4 Pottery fragment
Find number: 17-4
Wall fragment of Iron Age handmade pottery.
Find depth: 39.05
Complete: no
Type: indeterminate

5 Bone, human
Find number: 17-5
Teeth.
Find depth: 39.04

6 Bone, human
Find number: 17-6
Skull and vertebrae fragments.
Find depth: 38.91

7 Bone, human
Find number: 17-7
Bone fragments
Find depth: 39.00-39.02

18
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	1,61
Grave pit width	0,86
Grave pit depth	39,00

DESCRIPTION
Merovingian inhumation grave of a child. The orientation of the grave was west-east. The burial pit is small and rectangular and has slightly rounded corners. Only a vague container outline was visible.

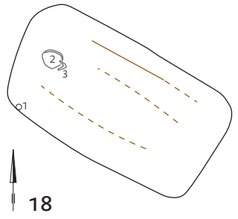
PHYSICAL ANTHROPOLOGY
Inhumation: parts of the cranium, mandible, teeth and two vertebrae are present. The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: based on the deciduous and permanent dentition (mineralisation and eruption) the age estimate is 8-9 years (± 24 months).
Conclusion: a child between 6-11 years.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Pottery fragment
Find number: 18-1
Base fragment of black pottery with a coarse fabric, probably Merovingian.
Find depth: 39.15
Complete: no

2 Bone, human
Find number 18-2
Skull and upper jaw (maxilla).
Find depth: 39.15

3 Bone, human
Find number 18-3
Lower jaw (mandible).
Find depth: 39.09



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19
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	1,59
Grave pit width	0,96
Grave pit depth	38,95

DESCRIPTION
Merovingian inhumation grave of a child. The orientation of the grave was west-east. The burial pit is small and rectangular and has slightly rounded corners. Only the northern part of a container outline was visible.

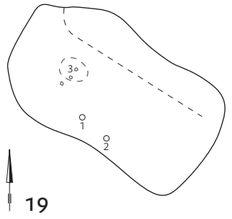
PHYSICAL ANTHROPOLOGY
Inhumation: several fragments of the petrous bones were recovered as well as several enamel crowns (one molar and one pre molar). The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: the dentition indicates an age of c. 4-10 years.
Conclusion: a child between 4-10 years.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Stone, sandstone
Find number: 19-1
Fragment of possible sandstone.
Find depth: 39.12
Weight: 4 grams
Complete: no

2 Stone, sandstone
Find number: 19-2
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.05
Weight: 3 grams
Complete: no

3 Bone, human
Find number: 19-3
Bone fragments and teeth.
Find depth: 39.04



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20
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,51
Grave pit width	0,99
Grave pit depth	38,85

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Traces of the wooden container were present, but in the north and west only a vague container outline was visible.

PHYSICAL ANTHROPOLOGY
Inhumation: parts of the cranium, some teeth, two vertebrae and proximal femur and a small fragment of the ilium were recovered. The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: the dentition, especially the mineralisation of the third molar indicates an age of 12-18 years.
Conclusion: a juvenile between 12-18 years.

DATE GRAVE
No finds, cannot be dated

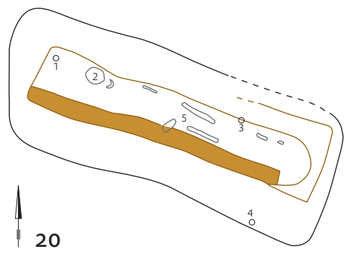
FINDS
1 Sample, organic
Find number: 20-1
Charcoal fragment.
Find depth: 39.05
Length: 50mm
Remark: not analysed.

2 Bone, human
Find number: 20-2
Skull and jaw.
Find depth: 39.02

3 Pottery fragment
Find number: 20-3
Wall fragment of Roman coarse ware.
Find depth: 39.03
Complete: no
Type: indeterminate

4 Pottery fragment
Find number: 20-4
Wall fragment of Roman colour-coated ware.
Find depth: 39.30
Complete: no
Type: indeterminate

5 Bone, human
Find number: 20-5
Fragments.
Find depth: 39.05



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21
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,65
Grave pit width	1,54
Grave pit depth	38,61
Stratigraphic relation	context context 22

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit is rectangular with rounded corners but the western end is disturbed. On this side, the grave is cut by grave 22. The grave was not reopened. The presence of shattered Roman finds suggest the grave was disturbed, but no indication of a reopening pit was found and the human remains and Merovingian finds were still found in articulation. Traces of a wooden container were present.

PHYSICAL ANTHROPOLOGY
Inhumation: the occipital part of the cranium and a molar were recovered. The preservation of the remains is poor. Sex diagnosis: The cranial features indicate a female individual (nuchal plane; external occipital protuberance)
Age diagnosis: The only present suture (lambda) is internally open. The age estimate is based on the completeness of the molar and the open suture and is c. 12-40 years.
Conclusion: based on the combination of silhouette length and physical anthropological data this is probably a juvenile or adult individual between 14-40 years.

DATE GRAVE
Cannot be dated

FINDS
1 Pottery fragment
Find number: 21-1
Rim fragment of a Roman coarse ware jar.
Find depth: 39.13
Complete: no
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

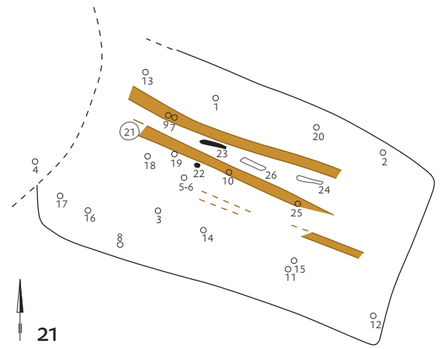
2 Pottery fragment
Find number: 21-2
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 39.14
Complete: no
Type: indeterminate

3 Pottery fragment
Find number: 21-3
Base fragment of Roman colour-coated beaker.
Find depth: 39.14
Complete: no
Type: indeterminate

4 Stone, sandstone
Find number: 21-4
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.08
Weight: 8 grams
Complete: no

5 Stone, sandstone
Find number: 21-5
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.05
Weight: 9 grams
Complete: no

6 Pottery fragment
Find number: 21-6
Wall fragment of Roman coarse ware.
Find depth: 39.05
Complete: no
Type: indeterminate



21

7 Stone, sandstone
Find number: 21-7
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.04
Weight: 7 grams
Complete: no

8 Stone, sandstone
Find number: 21-8
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.01
Weight: 3 grams
Complete: no

9 Stone, sandstone
Find number: 21-9
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.90
Weight: 7 grams
Complete: no

10 Fragment, iron
Find number: 21-10
Two indeterminate iron fragments.
Find depth: 38.93
Complete: no
Length: 22 mm

11 Pottery fragment
Find number: 21-11
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.92
Complete: no
Type: indeterminate

12 Pottery fragment
Find number: 21-12
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.92
Complete: no
Type: indeterminate

13 Pottery fragment
Find number: 21-13
Wall fragment of Roman colour-coated ware.
Find depth: 38.86
Complete: no
Type: indeterminate

14 Stone, sandstone
Find number: 21-14
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.84
Weight: 4 grams
Complete: no

15 Belt part, iron
Find number: 21-15
Simple small iron buckle with a rectangular loop and leather and textile remains attached.
Find depth: 38.78
Complete: yes
Loop length: 29 mm

16 Nail, iron
Find number: 21-16
Indeterminate iron fragment, possibly a nail.
Find depth: 38.79
Complete: no
Length: 17 mm

17 Pottery fragment
Find number: 21-17
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.77
Complete: no
Type: indeterminate

18 Fragment, iron
Find number: 21-18
Indeterminate hollow iron fragment.
Find depth: 38.73
Complete: no
Length: 19 mm

19 Stone, sandstone
Find number: 21-19
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.72
Weight: 10 grams
Complete: no

20 Pottery fragment
Find number: 21-20
Wall fragment of Roman coarse ware.
Find depth: 38.70
Complete: no
Type: indeterminate

21 Bone, human
Find number: 21-21
Skull.
Find depth: 38.74

22 Belt part, iron
Find number: 21-22
Simple iron buckle with a band-shaped oval loop.
Find depth: 38.70
Complete: yes
Loop length: 42 mm
Type: indeterminate

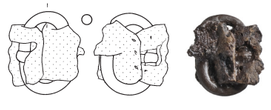
23 Knife, iron
Find number: 21-23
Iron knife with leather, wood and textile remains attached. The point is located on the axis of the blade.
Find depth: 38.75-38.71
Complete: yes
Blade width: 23 mm
Blade length: 128 mm
Type: Böhner type A
Date: 450-700 (Stufe II – IV)

24 Bone, human
Find number: 21-24
Bone fragments.
Find depth: 38.69

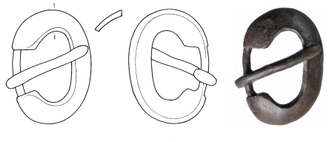
25 Bone, human
Find number: 21-25
Bone fragments.
Find depth: 38.69

26 Bone, human
Find number: 21-26
Bone fragments.
Find depth: 38.67

Pottery fragment
Find number: 1-I-15
Wall fragment of Roman colour-coated ware.
Complete: no
Type: indeterminate



21



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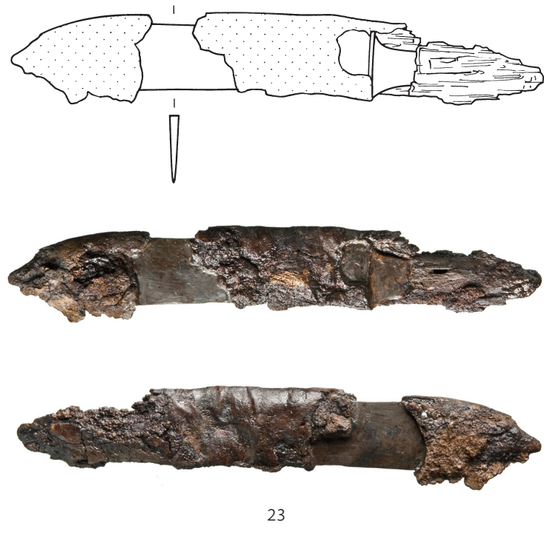


23

22
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,52
Grave pit width	2,10
Grave pit depth	38,31
Stratigraphic relation	context context 21

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. Two outlines of burial pits were visible. The larger one was observed at a higher level and cuts grave 21. It was rectangular with rounded corners. The smaller one was observed at level IV. It was rectangular with slightly rounded corners. The grave was possibly reopened.

The large amount of shattered cremation remains, pottery fragments (some of which are burned) and pieces of sandstone in the grave and container filling suggest the grave was disturbed. However, because these shattered finds are mostly Roman, it could also be that the grave just cuts a Roman cremation grave. Still, the presence of two displaced long bones in a vertical position support the possibility that the grave was reopened. Traces of a wooden container that was possibly placed on wooden beams were present. Only in the western part of the grave the container traces were vague. Here, a possible reopening pit could have been present. The grey dots on the individual grave plan are sandstone fragments.

PHYSICAL ANTHROPOLOGY
Inhumation: only some fragments of the femora were recovered. No information on the sex and age of this individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

Cremation: the weight of the cremated remains is 2 g and anatomical allocation is possible for 2 g (100%) of the remains. The burning degree is > 800° C and fragment size is 1 cm.
Sex an age diagnosis: no traits present.
Conclusion: sex and age unknown.

DATE GRAVE
Posterholt phases II-III, FAG phases 6-8, 580/90-640/50

FINDS
1 Fragment, iron
Hollow iron fragment with wood remains attached.
Find depth: 39.17
Complete: no
Length: 38 mm

2 Pottery fragment
Find number: 22-2
Rim fragment of a Roman colour-coated plate.
Find depth: 39.19
Complete: no
Type: 2nd century – middle of the 3rd century

3 Stone, sandstone
Find number: 22-3
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.17
Weight: 20 grams
Complete: no

4 Pottery fragment
Find number: 22-4
Wall fragment of Iron Age handmade pottery.
Find depth: 39.11
Complete: no
Type: indeterminate

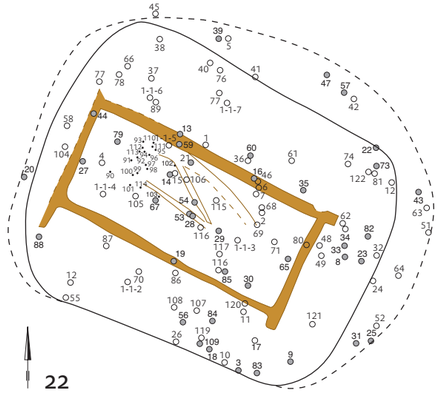
5 Pottery fragment
Find number: 22-5
Wall fragment of Roman coarse ware.
Find depth: 39.12
Complete: no
Type: indeterminate

6 Pottery fragment
Find number: 22-6
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 39.17
Complete: no
Type: indeterminate

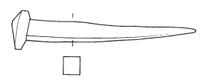
7 Pottery fragment
Find number: 22-7
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 39.10
Complete: no
Type: indeterminate

8 Stone, sandstone
Find number: 22-8
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.09
Weight: 10 grams
Complete: no

9 Stone, sandstone
Find number: 22-9
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.09
Weight: 7 grams
Complete: no



22



32

90 91 92 93 94 95 96 97 98 99 100 101 102 110 111 112 113 114

10 Pottery fragment
Find number: 22-10
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 39.15
Complete: no
Type: indeterminate

11 Pottery fragment
Find number: 22-11
Rim fragment of Roman Samian dish (burned).
Find depth: 39.11
Complete: no
Type: Dragendorff 31
Date: second quarter of the 2nd – 3rd century

12 Pottery fragment
Find number: 22-12
Small wall fragment of Roman Samian ware.
Find depth: 39.12
Complete: no
Type: indeterminate

13 Stone, sandstone
Find number: 22-13
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.10
Weight: 8 grams
Complete: no

14 Stone, sandstone
Find number: 22-14
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.11
Weight: 31 grams
Complete: no

15 Pottery fragment
Find number: 22-15
Wall fragment of Iron Age handmade pottery.
Find depth: 39.11
Complete: no
Type: indeterminate

16 Stone, sandstone
Find number: 22-16
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.09
Weight: 5 grams
Complete: no

17 Pottery fragment
Find number: 22-17
Wall fragment of Iron Age handmade pottery.
Find depth: 39.08
Complete: no
Type: indeterminate

18 Stone, sandstone
Find number: 22-18
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.08
Weight: 9 grams
Complete: no

19 Stone, sandstone
Find number: 22-19
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.08
Weight: 8 grams
Complete: no

20 Stone, sandstone
Find number: 22-20
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.08
Weight: 4 grams
Complete: no

21 Stone, sandstone
Find number: 22-21
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.14
Weight: 7 grams
Complete: no

22 Stone, sandstone
Find number: 22-22
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.05
Weight: 15 grams
Complete: no

23 Stone, sandstone
Find number: 22-23
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.04
Weight: 7 grams
Complete: no

24 Pottery fragment
Find number: 22-24
Wall fragment of Roman coarse ware.
Find depth: 39.03
Complete: no
Type: indeterminate

25 Stone, sandstone
Find number: 22-25
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.02
Weight: 3 grams
Complete: no

26 Pottery fragment
Find number: 22-26
Wall fragment of Roman Samian ware.
Find depth: 39.05
Complete: no
Type: indeterminate

27 Stone, sandstone
Find number: 22-27
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.02
Weight: 13 grams
Complete: no

28 Stone, sandstone
Find number: 22-28
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.00
Weight: 40 grams
Complete: no

29 Stone
Find number: 22-29
Stone fragment.
Find depth: 38.98
Weight: 26 grams
Complete: no

30 Stone, sandstone
Find number: 22-30
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.98
Weight: 20 grams
Complete: no

31 Stone, sandstone
Find number: 22-31
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.90
Weight: 27 grams
Complete: no

32 Nail, iron
Find number: 22-32
Small iron nail.
Find depth: 39.00
Complete: yes

33 Stone, sandstone
Find number: 22-33
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.95
Weight: 10 grams
Complete: no

34 Pottery fragment
Find number: 22-34
Wall fragment of Roman colour-coated ware.
Find depth: 38.91
Complete: no
Type: indeterminate

35 Stone, sandstone
Find number: 22-35
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.00
Weight: 4 grams
Complete: no

36 Pottery fragment
Find number: 22-36
Wall fragment of Roman coarse ware.
Find depth: 38.94
Complete: no
Type: indeterminate

37 Pottery fragment
Find number: 22-37
Wall fragment of a Roman handmade dolium.
Find depth: 38.99
Complete: no
Type: indeterminate

38 Stone, flint
Find number: 22-38
Flint fragment.
Find depth: 38.98
Complete: no

39 Stone, sandstone
Find number: 22-39
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.00
Weight: 8 grams
Complete: no

40 Stone
Find number: 22-40
Stone fragment (quartz).
Find depth: 39.02
Weight: 4 grams
Complete: no

41 Fragment, iron
Find number: 22-41
Four indeterminate iron fragments.
Find depth: 38.92
Complete: no
Length: 24 mm

42 Pottery fragment
Find number: 22-42
Wall fragment of Roman coarse ware.
Find depth: 38.99
Complete: no
Type: indeterminate

43 Stone, sandstone
Find number: 22-43
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.93
Weight: 12 grams
Complete: no

44 Stone, sandstone
Find number: 22-44
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.92
Weight: 10 grams
Complete: no

45 Nail, iron
Find number: 22-45
Indeterminate iron fragment, possibly a nail.
Find depth: 38.92
Complete: no
Length: 15 mm

46 Stone, sandstone
Find number: 22-46
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.89
Weight: 8 grams
Complete: no

47 Stone, sandstone
Find number: 22-47
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.90
Weight: 13 grams
Complete: no

48 Pottery fragment
Find number: 22-48
Wall fragment of a Roman handmade dolium.
Find depth: 38.89
Complete: no
Type: indeterminate

49 Pottery fragment
Find number: 22-49
Base fragment of Roman colour-coated plate.
Find depth: 38.90
Complete: no
Type: indeterminate

50 Stone, sandstone
Find number: 22-50
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.87
Weight: 9 grams
Complete: no

51 Pottery fragment
Find number: 22-51
Base fragment of Roman colour-coated plate.
Find depth: 38.88
Complete: no
Type: indeterminate

52 Pottery fragment
Find number: 22-52
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.87
Complete: no
Type: indeterminate

53 Stone, sandstone
Find number: 22-53
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.88
Weight: 6 grams
Complete: no

54 Stone, sandstone
Find number: 22-54
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.89
Weight: 20 grams
Complete: no

55 Pottery fragment
Find number: 22-55
Wall fragment of Roman coarse ware.
Find depth: 38.90
Complete: no
Type: indeterminate

56 Stone, sandstone
Find number: 22-56
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.89
Complete: no

57 Stone, sandstone
Find number: 22-57
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.89
Weight: 15 grams
Complete: no

58 Fragment, iron
Find number: 22-58
Indeterminate iron fragments.
Find depth: 38.87
Complete: no
Length: 15 mm

59 Stone, sandstone
Find number: 22-59
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.79
Weight: 20 grams
Complete: no

60 Stone, sandstone
Find number: 22-60
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.84
Weight: 15 grams
Complete: no

61 Pottery fragment
Find number: 22-61
Wall fragment of Roman coarse ware.
Find depth: 38.86
Complete: no
Type: indeterminate

62 Pottery fragment
Find number: 22-62
Two wall fragments of Roman fine oxidised ware.
Find depth: 38.80
Complete: no
Type: indeterminate

63 Pottery fragment
Find number: 22-63
Wall fragment of Roman coarse ware.
Find depth: 38.78
Complete: no
Type: indeterminate

64 Pottery fragment
Find number: 22-64
Wall fragment of a Roman handmade dolium with ridge.
Find depth: 38.79
Complete: no
Type: indeterminate

65 Stone, sandstone
Find number: 22-65
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.79
Weight: 95 grams
Complete: no

66 Pottery fragment
Find number: 22-66
Rim fragment of a Roman coarse ware jar.
Find depth: 38.78
Complete: no
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

67 Stone, sandstone
Find number: 22-67
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.78
Weight: 10 grams
Complete: no

68 Pottery fragment
Find number: 22-68
Wall fragment of Roman coarse ware.
Find depth: 38.77
Complete: no
Type: indeterminate

69 Pottery fragment
Find number: 22-69
Rim fragment of Roman a coarse ware jar.
Find depth: 38.77
Complete: no
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

70 Bone, human
Find number: 22-70
Cremated remains.
Find depth: 38.71

71 Pottery fragment
Find number: 22-71
Wall fragment of Roman coarse ware.
Find depth: 38.71
Complete: no
Type: indeterminate

72 Pottery fragment
Find number: 22-72
Rim fragment of Roman coarse ware.
Find depth: 38.71
Complete: no
Type: indeterminate

73 Stone, sandstone
Find number: 22-73
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.70
Weight: 8 grams
Complete: no

74 Stone
Find number: 22-74
Stone fragment.
Find depth: 38.71
Weight: 7 grams
Complete: no

75 Fragment, burned loam
Find number: 22-75
Fragment of burned loam.
Find depth: 38.71
Complete: no
Length: 25 mm

76 Pottery fragment
Find number: 22-76
Wall fragment of Roman Samian ware.
Find depth: 38.75
Complete: no
Type: indeterminate

77 Pottery fragment
Find number: 22-77
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.65
Complete: no
Type: indeterminate

78 Pottery fragment
Find number: 22-78
Wall fragment of Roman coarse ware.
Find depth: 38.61
Complete: no
Type: indeterminate

79 Stone, sandstone
Find number: 22-79
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.62
Weight: 9 grams
Complete: no

80 Pottery fragment
Find number: 22-80
Rim fragment of Roman a coarse ware jar.
Find depth: 38.66
Complete: no
Type: Stuart 201b
Date: middle of the 2nd – middle of the 3rd century

81 Pottery fragment
Find number: 22-81
Rim fragment of Roman coarse ware.
Find depth: 38.66
Complete: no
Type: indeterminate

82 Stone, sandstone
Find number: 22-82
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.61
Weight: 15 grams
Complete: no

83 Stone, sandstone
Find number: 22-83
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.62
Weight: 48 grams
Complete: no

84 Stone, sandstone
Find number: 22-84
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.65
Weight: 22 grams
Complete: no

85 Stone, sandstone
Find number: 22-85
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.60
Weight: 14 grams
Complete: no

86 Pottery fragment
Find number: 22-86
Wall fragment of Roman colour-coated ware.
Find depth: 38.59
Complete: no
Type: indeterminate

87 Pottery fragment
Find number: 22-87
Base fragment of Roman colour-coated plate.
Find depth: 38.62
Complete: no
Type: indeterminate

88 Stone, sandstone
Find number: 22-88
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.63
Weight: 5 grams
Complete: no

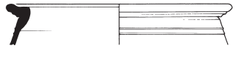
89 Nail, iron
Find number: 22-89
Small iron nail.
Find depth: 38.59
Complete: yes

90 Bead, glass
Find number: 22-90
Blue transparent barrel-shaped glass bead.
Find depth: 38.40
Complete: yes
Type: BT19.

91 Bead, glass
Find number: 22-91
Blue transparent barrel-shaped bead.
Find depth: 38.41
Complete: yes
Type: BT19

92 Bead, glass
Find number: 22-92
Blue transparent barrel-shaped glass bead.
Find depth: 38.41
Complete: yes
Type: BT19

93 Bead, glass
Find number: 22-93
Orange opaque barrel-shaped glass bead.
Find depth: 38.39
Complete: yes
Type: OO19



69

115

94 Bead, glass
Find number: 22-94
Red opaque cylindrical-shaped glass bead decorated with three yellow dots.
Find depth: 38.39
Complete: yes
Type: Koch 1.33 (Pleidelsheim)
Kombinationsgruppe E
Date: 620-670

95 Bead, glass
Find number: 22-95
Orange opaque barrel-shaped glass bead.
Find depth: 38.37
Complete: yes
Type: OO19

96 Bead, glass
Find number: 22-96
Fragment of an opaque glass bead decorated with *millefiori* decoration. The shape of the bead resembles that of half a *millefiori* bead. The question is if the shape is original or if the bead is broken in half. In the latter is true, the fragment probably fits together with find number 22-103. The bead mostly resembles Koch M39.
Find depth: 38.38
Complete: no
Type: Siegmund Per2.13 / Koch M39 (Schretzheim)
Kombinationsgruppe: not specified
Date: probably seventh century

97 Bead, glass
Find number: 22-97
White opaque rounded disc-shaped glass barrel.
Find depth: 38.37
Complete: yes
Type: WO18

98 Bead, amber
Find number: 22-98
Amber cube-shaped bead.
Find depth: 38.39
Complete: yes
Type: A9

99 Bead, glass
Find number: 22-99
Blue opaque barrel-shaped glass bead decorated with green, yellow, white and red dots. The bead resembles Koch type 11.14, but also contains green dots.
Find depth: 38.40
Complete: yes
Type: Siegmund Per2.15 / Koch 11.14 (Pleidelsheim)
Kombinationsgruppen H-I
Rhineland date: 610-705

100 Bead, glass
Find number: 22-100
Orange opaque barrel-shaped glass bead.
Find depth: 38.43
Complete: yes
Type: OO19

101 Bead, glass
Find number: 22-101
Black opaque barrel-shaped glass bead.
Find depth: 38.40
Complete: yes
Type: BO19

102 Bead, glass
Find number: 22-102
Orange opaque barrel-shaped glass bead.
Find depth: 38.48
Complete: yes
Type: OO19

103 Bead, glass
Find number: 22-103
Small fragment of an opaque glass bead, decorated with *millefiori*-decoration. The fragment probably fits together with find number 22-96. The fragment mostly resembles Koch M39.
Find depth: 38.49
Complete: no
Type: Siegmund Per2.13 / Koch M39 (Schretzheim)
Kombinationsgruppe: not specified
Date: probably seventh century

104 Pottery fragment
Find number: 22-104
Wall fragment of Roman coarse ware.
Find depth: 38.55
Complete: no
Type: indeterminate

105 Nail, iron
Find number: 22-105
The pin of a small iron nail or rivet.
Find depth: 38.53
Complete: no

106 Fragment, iron
Find number: 22-106
Indeterminate iron fragment.
Find depth: 38.48
Complete: no
Length: 12 mm

107 Stone, flint
Find number: 22-107
Flint fragment.
Find depth: 38.48
Complete: no

108 Pottery fragment
Find number: 22-108
Wall fragment of Roman Samian dish (burned).
Find depth: 38.53
Complete: no
Type: Dragendorff 31
Date: middle of the 2nd – 3rd century

109 Stone, sandstone
Find number: 22-109
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.48
Weight: 18 grams.
Complete: no

110 Bead, glass
Find number: 22-110
Blue transparent rounded disc-shaped glass bead.
Find depth: 38.36
Complete: yes
Type: BO18

111 Bead, glass
Find number: 22-111
Blue opaque barrel-shaped glass bead decorated with green, yellow, white and red dots.
Find depth: 38.37
Complete: yes
Type: Siegmund Per2.15
Kombinationsgruppen H-I
Rhineland date: 610-705

112 Bead, glass
Find number: 22-112
White opaque barrel-shaped glass bead.
Find depth: 38.39
Complete: yes
Type: WO19

113 Bead, glass
Find number: 22-113
Blue transparent small barrel-shaped glass bead.
Find depth: 38.37
Complete: yes
Type: BT30

114 Bead, glass
Find number: 22-114
Red opaque barrel-shaped glass bead decorated with a white braided band.
Find depth: 38.37
Complete: yes
Type: Siegmund Per35.8
Kombinationsgruppe F-H
Rhineland date: 555-705
Alternative type: Koch 34.47
Kombinationsgruppe D
Alternative date: 600-650

115 Ring, iron
Find number: 22-115
Fragment of an iron ring with a D-shaped section and leather remains attached. Possibly a finger ring.
Find depth: 38.43
Complete: no

116 Pottery fragment
Find number: 22-116
Rim fragment of a Roman colour-coated plate.
Find depth: 38.37
Complete: no
Type: Stuart 10
Date: 2nd – middle of the 3rd century

117 Bone, human
Find number 22-117
Bone fragments.
Find depth: 38.57

118 Bone, human
Find number 22-118 Bone fragments.
Find depth: 38.58

119 Pottery fragment
Find number: 22-119
Wall fragment of Roman Samian ware.
Find depth: 38.42
Complete: no
Type: indeterminate

120 Pottery fragment
Find number: 22-120
Rim fragment of Roman a coarse ware jar.
Find depth: 38.42
Complete: no
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

121 Pottery fragment
Find number: 22-121
Find depth: 38.41
Rim fragment of Roman coarse ware.
Complete: no
Type: indeterminate

122 Pottery fragment
Find number: 22-122
Indeterminate iron fragment with iron rivet.
Find depth: 38.59
Complete: no
Length: 22 mm

123 Bead, amber
Find number: 22-123
Fragmented amber bead.
Find depth: 38.35
Complete: no

Pottery fragment
Find number: 1-I-1
Wall fragment of Roman coarse ware.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 1-I-2
Rim fragment of a Roman colour-coated plate.
Complete: no
Type: Stuart 10
Date: 2nd – middle of the 3rd century

Pottery fragment
Find number: 1-I-3
Wall fragment of Roman colour-coated ware.
Complete: no
Type: indeterminate

Stone
Find number: 1-I-4
Stone fragment.
Weight: 29 grams
Complete: no

Fragment, iron
Find number: 1-I-5
Flat iron fragment with a straight angle and wood remains attached. Probably used as fitting on a wooden box.
Complete: no
Length: 39 mm

Fragment, iron
Find number: 1-I-6
Two indeterminate iron fragments.
Complete: no
Length: 22 mm

Pottery fragment
Find number: 1-I-7
Wall fragment of Roman colour-coated ware (rouletted).
Complete: no
Type: indeterminate

23
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	tree trunk grave
Grave pit length	2,62
Grave pit width	0,93
Grave pit depth	38,56

DESCRIPTION
Merovingian inhumation grave, possibly with a double burial pit. The orientation of the grave was west-east. Two outlines of possible burial pits are visible. Both of them were rectangular with slightly rounded corners. The double outline could indicate that the tree trunk burial was dug in an older burial pit. However, the second outline is only visible at a higher level and remains of an additional burial were never found. It could also be possible that the second outline represents a wooden chamber instead. Inside this possible chamber, traces of a wooden container were visible. This container was a tree trunk coffin.

PHYSICAL ANTHROPOLOGY
Inhumation: one fragment of a femur and several fragments of the crowns of several teeth and molars (three molars, two pre-molars, one incisor and one canine) were recovered. Sex diagnoses: not possible. Age diagnoses: the attrition is very slight, which indicates a rough age interval of 10-20 years.
Conclusion: a juvenile between 10-20 years.

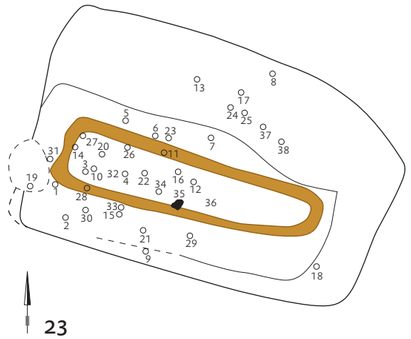
Cremation: the cremation remains found in the filling of grave 23 probably belong to grave 12. The weight of the cremated remains is 21 g and anatomical allocation is possible for 19 g (90,1%) of the remains. The burning degree was > 800° C and fragment size is 2 cm. Sex and age diagnosis: no traits present
Conclusion: sex and age unknown.

DATE GRAVE
Cannot be dated

FINDS
1 Stone, sandstone
Find number: 23-1
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.06
Weight: 6 grams
Complete: no

2 Pottery fragment
Find number: 23-2
Small indeterminate pottery fragment.
Find depth: 39.09
Complete: no
Type: indeterminate

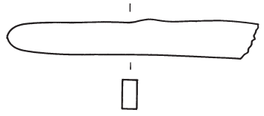
3 Pottery fragment
Find number: 23-3
Wall fragment of Roman fine oxidised ware.
Find depth: 39.09
Complete: no
Type: indeterminate



23


11


34


35

4 Pottery fragment
Find number: 23-4
Wall fragment of Roman fine oxidised ware.
Find depth: 39.08
Complete: no
Type: indeterminate

5 Pottery fragment
Find number: 23-5
Wall fragment of Roman fine oxidised ware.
Find depth: 39.10
Complete: no
Type: indeterminate

6 Pottery fragment
Find number: 23-6
Wall fragment of Roman fine oxidised ware.
Find depth: 39.08
Complete: no
Type: indeterminate

7 Pottery fragment
Find number: 23-7
Wall fragment of Roman fine oxidised ware.
Find depth: 39.08
Complete: no
Type: indeterminate

8 Pottery fragment
Find number: 23-8
Two wall fragments of brown pottery with a coarse fabric, probably Merovingian.
Find depth: 38.94
Complete: no
Type: indeterminate

9 Nail, iron
Find number: 23-9
Small iron nail.
Find depth: 39.05
Complete: yes

10 Nail, iron
Find number: 23-10
Small iron nail.
Find depth: 39.02
Complete: yes

11 Pottery fragment
Find number: 23-11
Rim fragment of Roman black-slipped beaker, decorated with two hatched lines.
Find depth: 38.98
Complete: no
Type: Oelmann 31
Date: end of the 2nd – 2nd half of the 3rd century

12 Pottery fragment
Find number: 23-12
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 39.04
Complete: no
Type: indeterminate

13 Stone, sandstone
Find number: 23-13
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.98
Weight: 5 grams
Complete: no

14 Bone, human
Find number: 23-14
Cremation remains.
Find depth: 38.96

15 Bone, human
Find number: 23-15
Cremation remains.
Find depth: 38.97

16 Nail, iron
Find number: 23-16
Small iron nail.
Find depth: 38.96
Complete: yes

17 Pottery fragment
Find number: 23-17
Wall fragment of Roman coarse ware.
Find depth: 38.96
Complete: no
Type: indeterminate

18 Nail, iron
Find number: 23-18
Small iron nail.
Find depth: 38.83
Complete: yes

19 Pottery fragment
Find number: 23-19
Base fragment of Roman fine oxidised ware.
Find depth: 38.90
Complete: no
Type: indeterminate

20 Pottery fragment
Find number: 23-20
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.91
Complete: no
Type: indeterminate

21 Pottery fragment
Find number: 23-21
Wall fragment of Roman fine oxidised ware.
Find depth: 38.88
Complete: no
Type: indeterminate

22 Pottery fragment
Find number: 23-22
Wall fragment of Roman coarse ware.
Find depth: 38.89
Complete: no
Type: indeterminate

23 Pottery fragment
Find number: 23-23
Wall fragment of Roman black-slipped ware.
Find depth: 38.89
Complete: no
Type: indeterminate

24 Nail, iron
Find number: 23-24
Small iron nail, possibly of a Roman shoe.
Find depth: 38.89
Complete: yes

25 Nail, iron
Find number: 23-25
Small iron nail, possibly of a Roman shoe.
Find depth: 38.72
Complete: yes

26 Pottery fragment
Find number: 23-26
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.76
Complete: no
Type: indeterminate

27 Stone, sandstone
Find number: 23-27
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.82
Weight: 10 grams
Complete: no

28 Pottery fragment
Find number: 23-28
Pottery fragment: missing.
Find depth: 38.85
Complete: no

29 Pottery fragment
Find number: 23-29
Wall fragment of Roman colour-coated ware.
Find depth: 38.83
Complete: no
Type: indeterminate

30 Pottery fragment
Find number: 23-30
Small pottery fragment with a coarse fabric.
Find depth: 38.83
Complete: no
Type: indeterminate

31 Stone, sandstone
Find number: 23-31
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.77
Weight: 4 grams
Complete: no

32 Bone, Human
Find number: 23-32
Jawbone fragments.
Find depth: 38.72

33 Pottery fragment
Find number: 23-33
Wall fragment of Roman colour-coated ware.
Find depth: 38.72
Complete: no
Type: indeterminate

34 Belt part, iron
Find number: 23-34
Fragment of a simple small iron buckle with a rectangular loop and leather remains attached.
Find depth: 38.69
Loop length: 29 mm
Complete: no

35 Knife, iron
Find number: 23-35
Long iron fragment possibly the tang of a knife.
Find depth: 38.69
Complete: no
Length: 88 mm

36 Bone, human
Find number: 23-36
Bone fragments.
Find depth: 38.68

37 Nail, iron
Find number: 23-37
Two small iron nails.
Find depth: 38.73
Complete: yes

38 Pottery fragment
Find number: 23-38
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.73
Complete: no
Type: indeterminate

Pottery fragment
Find number: 1-I-10
Two wall fragments of Roman fine oxidised ware.
Complete: no
Type: indeterminate

Stone, sandstone
Find number: 1-I-11.1
Sandstone fragment, Nivelsteiner sandstone.
Weight: 5 grams
Complete: no

Pottery fragment
Find number: 1-I-11.2
Wall fragment of Roman black-slipped ware.
Complete: no
Type: indeterminate

24
GRAVE

Trench	1
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,11
Grave pit width	1,40
Grave pit depth	38,51
Stratigraphic relation	context context 28, relation is unclear

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was probably rectangular with rounded corners, but the north and east side are disturbed by a reopening pit. Traces of the north-east corner of a wooden container were still visible. The filling contained shattered cremation remains and Roman pottery fragments. The grave was reopened and possibly cut by context 28.

PHYSICAL ANTHROPOLOGY
Inhumation: parts of the cranium, the femora and a vertebra were recovered. The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: the robustness of the skeletal remains indicates an adult individual
Conclusion: an adult individual.

Cremation: the cremated remains found in the filling of grave 24 possibly belong to grave 12. The weight of the cremated remains is 106 g and anatomical allocation is possible for 97 g (91,5%) of the remains. The burning degree was > 800° C and fragment size is between 1-4 cm. Sex diagnosis: feminine trait of the skull; orbital fragment. Age diagnosis: a minimum age of c. 20 years can be diagnosed based on the robustness of the skeleton. Epigenetic feature: metopic suture.
Conclusion: a probable female of > 20 years, with a metopic suture (probably the same individual as grave 12).

DATE GRAVE
Posterholt phase IV, FAG phase 10, 710->750

FINDS
1 Pottery fragment
Find number: 24-1
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.89
Complete: no
Type: indeterminate

2 Pottery fragment
Find number: 24-2
Wall fragment of Roman coarse ware.
Find depth: 38.93
Complete: no
Type: indeterminate

3 Stone, sandstone
Find number: 24-3
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.00
Weight: 22 grams
Complete: no

4 Pottery fragment
Find number: 24-4
Wall fragment of Roman coarse ware.
Find depth: 38.95
Complete: no
Type: indeterminate

5 Pottery fragment
Find number: 24-5
Wall fragment of Roman colour-coated ware.
Find depth: 38.87
Complete: no
Type: indeterminate

6 Stone, sandstone
Find number: 24-6
Small fragment of sandstone.
Find depth: unknown
Complete: no

7 Pottery fragment
Find number: 24-7
Wall fragment of Roman colour-coated ware.
Find depth: 38.96
Complete: no
Type: indeterminate

8 Pottery fragment
Find number: 24-8
Wall fragment of Roman coarse ware.
Find depth: 38.84
Complete: no
Type: indeterminate

9 Pottery fragment
Find number: 24-9
Wall fragment of Iron Age handmade pottery.
Find depth: 38.77
Complete: no
Type: indeterminate

10 Pottery fragment
Find number: 24-10
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.80
Complete: no
Type: indeterminate

11 Pottery fragment
Find number: 24-11
Wall fragment of a Roman medium-sized amphora.
Find depth: 38.84
Complete: no
Type: indeterminate

12 Pottery fragment
Find number: 24-12
Wall fragment of Roman coarse ware.
Find depth: 38.94
Complete: no
Type: indeterminate

13 Stone, sandstone
Find number: 24-13
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.77
Weight: 6 grams
Complete: no

14 Pottery fragment
Find number: 24-14
Rim fragment of a Roman mortarium.
Find depth: 38.83
Complete: no
Type: Brunsting 37
Date: middle of the 2nd – 3rd century

15 Nail, iron
Find number: 24-15
Fragment of a small iron nail.
Find depth: 38.77
Complete: no

16 Pottery fragment
Find number: 24-16
Rim fragment of Roman coarse ware.
Find depth: 38.81
Complete: no
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

17 Pottery fragment
Find number: 24-17
Wall fragment of Roman coarse ware.
Find depth: 38.77
Complete: no
Type: indeterminate

18 Pottery fragment
Find number: 24-18
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.81
Complete: no
Type: indeterminate

19 Stone, sandstone
Find number: 24-19
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.75
Weight: 14 grams
Complete: no

20 Bone, human
Find number: 24-20
Bone fragment.
Find depth: 38.75

21 Pottery fragment
Find number: 24-21
Base fragment of Roman coarse ware.
Find depth: 38.67
Complete: no
Type: indeterminate

22 Pottery fragment
Find number: 24-22
Wall fragment of Roman colour-coated ware.
Find depth: 38.66
Complete: no
Type: indeterminate

23 Pottery fragment
Find number: 24-23
Base fragment of Roman coarse ware.
Find depth: 38.73
Complete: no
Type: indeterminate

24 Pottery fragment
Find number: 24-24
Rim fragment of Roman a coarse ware bowl.
Find depth: 38.62
Complete: no
Type: Oelmann 103
Date: middle of the 2nd – 3rd century

25 Nail, iron
Find number: 24-25
Fragment of a small iron nail.
Find depth: 38.61
Complete: no

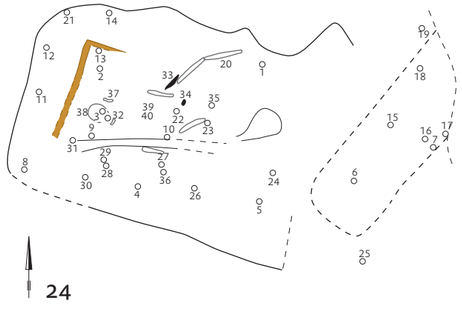
26 Stone, sandstone
Find number: 24-26
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.66
Weight: 16 grams
Complete: no

27 Pottery fragment
Find number: 24-27
Base fragment of Roman coarse ware.
Find depth: 38.64
Complete: no
Type: indeterminate

28 Pottery fragment
Find number: 24-28
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.71
Complete: no
Type: indeterminate

29 Pottery fragment
Find number: 24-29
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.68
Complete: no
Type: indeterminate

30 Nail, iron
Find number: 24-30
Iron nail, square in section.
Find depth: 38.70
Complete: yes
Length: 65 mm

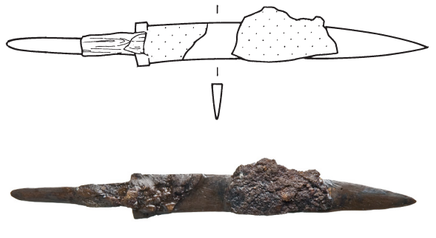


24


24


30


32 (scale 2:1)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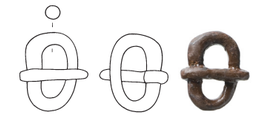

34

31 Pottery fragment
Find number: 24-31
Wall fragment of Roman colour-coated ware (rouletted).
Find depth: 38.62
Complete: no
Type: indeterminate

32 Coin, silver
Find number: 24-32
Silver sceatta, *Maastricht* type.
Find depth: 38.58
Weight: 0.953 grams
Complete: yes
Type: *Maastricht* type/ Belfort type 5993-5999
Date: ca. 720 AD

33 Knife, iron
Find number: 24-33
Small iron knife with wood remains and possible leather remains attached. The point is located near the cutting edge.
Find depth: 38.58-38.65
Complete: yes
Blade width: 14 mm
Blade length: 103 mm
Type: Böhner type C
Date: 600-700 (Stufe IV)

34 Belt part, iron
Find number: 24-34
Simple small iron buckle with an oval loop.
Find depth: 38.57
Complete: yes
Loop length: 28 mm

35 Stone, sandstone
Find number: 24-35
Two sandstone fragments, Nivelsteiner sandstone.
Find depth: 38.63
Weight: 30 grams
Complete: no

36 Pottery fragment
Find number: 24-36
Wall fragment of Roman coarse ware.
Find depth: 38.61
Complete: no
Type: indeterminate

37 Bone, human
Find number: 24-37
Cremated remains.
Find depth: 38.58

38 Bone, human
Find number: 24-38
Skull.
Find depth: 38.58

39 Bone, human
Find number: 24-39
Bone fragments.
Find depth: 38.50-38.58

40 Bone, human
Find number: 24-40
Cremated remains.
Find depth: unknown

Pottery fragment
Find number: 1-I-12
Wall fragment of Roman colour-coated ware (rouletted).
Complete: no
Type: indeterminate

Stone, sandstone
Find number: 1-I-24.1
Sandstone fragment, Nivelsteiner sandstone.
Weight: 50 grams
Complete: no

Fragment, glass
Find number: 1-I-24.2
Droplet of glass, probably deriving from a Roman cremation grave.
Complete: yes

Nail, iron
Find number: 1-I-24.3
Two small iron nails.
Complete: yes

Stone, flint
Find number: 1-I-24.4
Flint fragment.
Weight: unknown
Complete: no

Pottery fragment
Find number: 1-I-24.5
One wall fragment of Roman colour-coated ware (rouletted), one wall fragment of Roman fine oxidised ware, two wall fragments of Roman coarse ware and two wall fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

25
GRAVE

Trench	4
Grave type	cremation grave
Grave pit length	0,50

DESCRIPTION
Merovingian cremation grave. The grave consisted of a round pit with a diameter of ca. 0,5 m. Around it, a vague circular area of slightly more reddish soil was visible. Within this area, dispersed pottery fragments and cremated remains were found. A concentration of small charcoal fragments was located northeast of the round pit.

PHYSICAL ANTHROPOLOGY
Cremation: the weight of the cremated remains is 25 g and anatomical allocation is possible for 20 g (80%). The burning degree was > 800° C and fragment size is between 1-3 cm. Sex diagnosis: traits are absent but the skeleton is gracile and therefore possibly female. Age diagnosis: 20-40 years based on closed epiphyses and open sutures.
Conclusion: female??, between 20-40 years old.

DATE GRAVE
Cannot be dated

FINDS
1 Pottery fragment
Find number: 25-1
Two fitting rim fragments of a black biconical pot, made of a fine tempered fabric.
Find depth: 40.60
Complete: no

2 Fragment, iron
Find number: 25-2.1
Indeterminate iron fragment with textile remains attached.
Find depth: 40.75
Complete: no
Length: 31 mm

Pottery vessel
Find number: 25-2.2
Eight fragments of a grey, steep-walled pot made of coarse fabric. The pot has an outward folded rim.
Find depth: 40.75
Complete: no

Bone, human
Find number: 25-2.3
Cremated remains.
Find depth: 40.75

26
GRAVE

Trench	4
Grave type	cremation grave
Grave pit length	0,80

DESCRIPTION
Merovingian cremation grave. The grave consisted of a ca. 0,8 m long, oval pit. Charcoal fragments, cremated human remains and pottery fragments were found dispersed throughout the entire pit, but not around it. The excavators noted on the find list that the pottery vessel may have been used as an urn. However, since the pottery fragments are burned, it is likelier that the vessel was placed with the deceased on the pyre during cremation.

PHYSICAL ANTHROPOLOGY
Cremation: the weight of cremated remains is 93 g and anatomical allocation is possible for 38 g (40,9%) of the remains. The burning degree was > 800° C and fragment size is between 2-4 cm. Sex diagnosis: traits absent. Age diagnosis: 20-40 years based on the open sutures
Conclusion: adult, between 20-40 years old.

DATE GRAVE
Posterholt phase I, FAG phases 4-5, 510/20-580/90

FINDS
1 Nail, iron
Find number: 26-1.1
Four indeterminate iron fragments, probably nails.
Complete: no
Find depth: unknown
Length: 33 mm

Pottery vessel
Find number: 26-1.2
Six rim fragments, six base fragments, thirty seven wall fragments and six wall fragments of a grey biconical pot, made of a fine tempered fabric. The fragments are decorated with single rosette-stamp impressions. All of the fragments are burned.
Complete: no
Find depth: unknown
Type: Siegmund Kwt2.21
Rhineland phase: 3-4
Date: 530-555
Alternative type: FAG Kwt 2A
Alternative date: 510/20-580/90 (FAG phase 4-5)

Pottery fragment
Find number: 26-1.3
One rim and one wall fragment of a Roman coarse ware jar.
Complete: no
Find depth: unknown
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

Bone, human
Find number: 26-1.4
Cremated remains.
Find depth: unknown

Pottery fragment
Find number: 26-1.5
One wall fragment of Iron Age handmade pottery and one wall fragment of Medieval pottery (proto-steengoed).
Complete: no
Find depth: unknown
Type: indeterminate

27
GRAVE

Trench	5
Grave type	cremation grave
Grave pit length	0,50

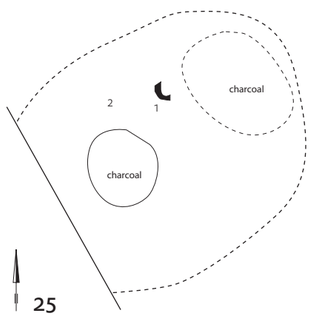
DESCRIPTION
Merovingian cremation grave. The grave consisted of a round but slightly irregular pit with a diameter of ca. 0,5 m. In the middle of the pit, the bottom of an urn bearing some cremated remains was found. Most of the urn was disturbed by recent ploughing. Ploughing marks were still visible and loose urn fragments, cremated remains, and a small bronze rivet were found scattered throughout the small pit.

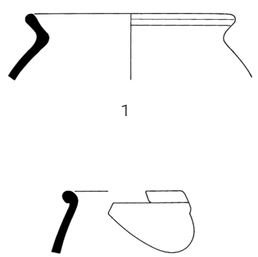
PHYSICAL ANTHROPOLOGY
Cremation: the weight of cremated remains is 170 g and anatomical allocation is possible for 104 g (61,2%) of the remains. The burning degree was > 800° C and fragment size is between 1-4 cm. Sex diagnosis: traits absent. Age diagnosis: 30-60 based on the obliteration of the sutures of the skull.
Conclusion: adult, between 30-60 years old.

DATE GRAVE
Cannot be dated

FINDS
1 Rivet, copper alloy
Find number: 27-1.1
Small copper alloy rivet.
Find depth: 41.43
Complete: yes
Length: 3 mm

Pottery vessel
Find number: 27-1.2
One rim fragment, six base fragments and thirty-six wall fragments of a brown Merovingian urn made of a coarse fabric. Its shape is difficult to determine, but it was possibly egg-shaped with a hollow rim.
Find depth: 41.43 (bottom of the urn)
Complete: no





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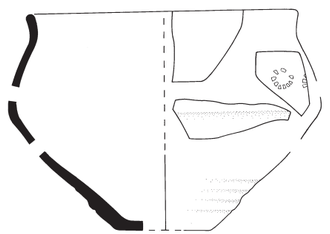
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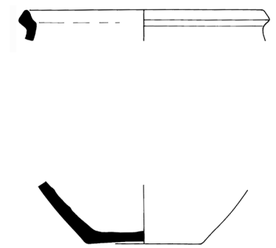
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Bone, human
Find number: 27-1.3
Cremated remains.
Find depth: 41.43

28
PIT

Trench	1
Context type	pit

DESCRIPTION
Indeterminate context, possibly a recent pit. The context did not contain any finds, except for an iron nail.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

Date pit
No finds, cannot be dated

FINDS
1 Nail, iron
Find number: 28-1
Fragment of an iron nail.
Find depth: 38.72
Complete: no

29
GRAVE

Trench	3
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,74
Grave pit width	1,96
Find depth	38,85

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit is rectangular with slightly rounded corners. Traces of the north-east corner of a wooden container were visible. In the south only a vague container outline was present. The grave was possibly reopened. A possible reopening pit is visible on the drawing of level II. However, the occurrence of this feature could also have been caused by slumping of the soil above the grave after the container collapsed. Still, the presence of a fragment of a biconical pot in the filling of the possible reopening pit suggests the first explanation is more probable. This is further supported by the shattered iron fragments in the fill of the grave.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Cannot be dated

FINDS
1 Pottery vessel
Find number: 29-1
Fragment of a grey biconical pot, made of a fine tempered fabric. The fragment is decorated with single rosette stamps and single rectangle stamps. This last type of stamp consists of a row of small rectangles and a row of small triangles. Between and below the stamps, at least five shallow grooved lines are visible.
Find depth: 39.92
Complete: no

2 Pottery fragment
Find number: 29-2
Wall fragment of possible Roman coarse ware.
Find depth: 39.86
Complete: no
Type: indeterminate

3 Fragment, iron
Find number: 29-3
Indeterminate iron fragment.
Find depth: 39.40
Complete: no
Length: 37 mm

4 Fragment, iron
Find number: 29-4
Indeterminate iron fragment.
Find depth: 39.40
Complete: no
Length: 34 mm

5 Belt part, iron
Find number: 29-5
Iron buckle: missing.
Find depth: 39.06
Complete: no

6 Fragment, iron
Find number: 29-6
Indeterminate iron fragment with a hole.
Find depth: 39.18
Complete: no
Length: 47 mm

7 Fragment, iron
Find number: 29-7
Four indeterminate iron fragments.
Find depth: 39.12
Complete: no
Length: 16 mm

8 Fragment, iron
Find number: 29-8
Small indeterminate iron fragment.
Find depth: 39.12
Complete: no
Length: 8 mm

9 Fragment, iron
Find number: 29-9
Indeterminate iron fragments.
Find depth: 39.08
Complete: no
Length: 18 mm

10 Rivet, iron
Find number: 29-10
Iron rivet: missing.
Find depth: 39.00
Complete: no

11 Belt part, iron
Find number: 29-11
Fragment of a rectangular iron plate with two copper alloy rivets. Leather remains are attached to the backside of the plate. The plate is either part of a strap-end or of a rectangular piece of mount with four rivets.
Find depth: 38.95
Complete: no
Plate length: 34 mm

12 Rivet, iron
Find number: 29-12
Large iron rivet, possibly part of a shield boss.
Find depth: 38.91
Complete: yes
Diameter: 22 mm

13 Fragment, iron
Find number: 29-13
Indeterminate iron fragments.
Find depth: 38.94
Complete: no
Length: 22 mm

14 Fragment, iron
Find number: 29-14
Indeterminate iron fragment.
Find depth: 38.93
Complete: no
Length: 25 mm

15 Fragment, iron
Find number: 29-15
Small indeterminate iron fragment.
Find depth: 38.89
Complete: no
Length: 5 mm

16 Fragment, iron
Find number: 29-16
Indeterminate iron fragment.
Find depth: 38.91
Complete: no
Length: 41 mm

17 Fragment, iron
Find number: 29-17
Indeterminate iron fragment.
Find depth: 38.90
Complete: no
Length: 20 mm

18 Fragment, iron
Find number: 29-18
Four indeterminate iron fragments.
Find depth: 38.85
Complete: no
Length: 27 mm

19 Rivet, iron
Find number: 29-19
Large iron rivet, covered with a copper alloy sheet.
Possibly part of a shield boss.
Find depth: 38.89
Complete: yes
Diameter: 22 mm

20 Fragment, iron
Find number: 29-20
Seven small indeterminate iron fragments.
Find depth: 38.90
Complete: no
Length: 11 mm

21 Rivet, iron
Find number: 29-21.1
Large iron rivet with wood remains attached.
Possibly part of a shield boss.
Find depth: 38.87
Complete: yes
Diameter: 22 mm

Rivet, iron
Find number: 29-21.2
Large iron rivet, covered with a copper alloy sheet.
Possibly part of a shield boss.
Find depth: 38.87
Complete: yes
Diameter: 22 mm

22 Fragment, iron
Find number: 29-22
Indeterminate iron fragment, missing.
Find depth: 38.87
Complete: no

30
GRAVE

Trench	3
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,75
Grave pit width	1,71
Grave pit depth	39,15

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. The north and west sides of a wooden container were present. Traces of the south and east sides are missing due to the presence of a large reopening pit. The grave was reopened.

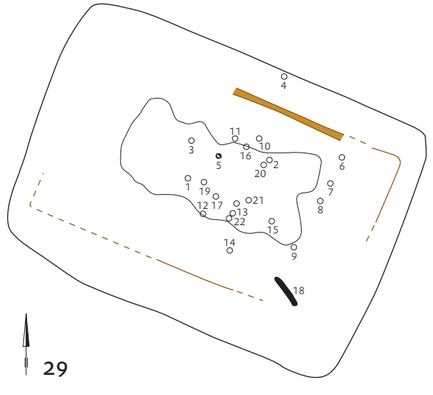
PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Posterholt phase II and possibly III, FAG phases 6-7 and possibly 8, 580/90-610/20(-640/50)

FINDS
1 Pottery fragment
Find number: 30-1
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 39.79
Complete: no
Type: indeterminate

2 Pottery fragment
Find number: 30-2
Rim fragment of Iron Age handmade pottery.
Find depth: 39.78
Complete: no
Type: indeterminate

3 Pottery vessel
Find numbers: 30-3, 30-4, 30-7, 30-8, 30-9, 30-10, 30-11, 30-15, 30-16, 30-20, 30-21, 30-24, 30-25, 30-26, 30-27, 30-29, 30-30, 30-34, 30-35, 30-36, 3-I-1, 3-III-47.1



29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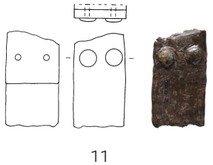
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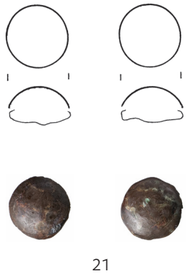
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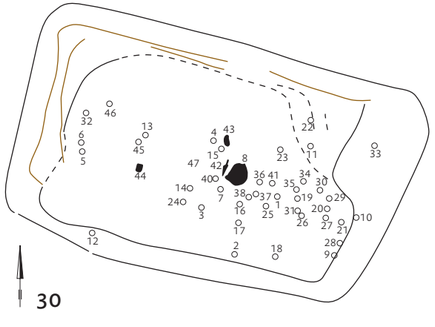


30

Wall and base fragments of a black biconical pot, made of a fine tempered fabric. The upper wall is decorated with three zones of four lines of rectangular roulette impressions. The fragments all belong to the same pot.
Find depth: 39.85 – 39.26
Complete: no
Type: FAG Kwt 5B
Phase: FAG phase 5-7
Date: 565-640/50

5 Pottery fragment
Find number: 30-5
Wall fragment of Iron Age handmade pottery.
Find depth: 39.85
Complete: no
Type: indeterminate

6 Fragment, iron
Find number: 30-6
Fragment of an iron shield handle, with wood remains attached.
Find depth: 39.83
Complete: no

12 Pottery fragment
Find number: 30-12
Wall fragment of Roman coarse ware.
Complete: no
Find depth: 39.61
Type: indeterminate

13 Rivet, iron
Find number: 30-13
Pin of a small iron rivet.
Find depth: 39.46
Complete: yes
Length: 4 mm

14 Pottery fragment
Find number: 30-14
Indeterminate pottery fragment.
Find depth: 39.55
Complete: no
Type: indeterminate

17 Glass vessel
Find numbers: 30-17, 30-38, 30-39, 30-40, 30-47
Small wall and rim fragments of a green bell beaker made of glass. The fragments do not all fit together, but they still belong to the same bell beaker.
Find depth: 39.46 – 39.24
Complete: no
Type: Bell beaker
Date: ca. 530-625

18 Pottery fragment
Find number: 30-18
Wall fragment of Iron Age handmade pottery.
Find depth: 39.46
Complete: no
Type: indeterminate

19 Pottery fragment
Find number: 30-19
Rim fragment of Iron Age (or possible Merovingian) handmade pottery.
Find depth: 39.45
Complete: no
Type: indeterminate

22 Pottery fragment
Find number: 30-22
Indeterminate pottery fragment.
Find depth: 39.65
Complete: no
Type: indeterminate

23 Pottery fragment
Find number: 30-23
Wall fragment of Iron Age handmade pottery.
Find depth: 39.47
Complete: no
Type: indeterminate

28 Fragment, iron
Find number: 30-28
Indeterminate iron fragment.
Find depth: 39.46
Complete: no
Length: 32 mm

31 Rivet, iron
Find number: 30-31
Fragment of a small iron rivet.
Find depth: 39.34
Complete: yes
Diameter: 4 mm

32 Pin, Iron
Find number: 30-32
Fragment of an iron pin or needle.
Find depth: 39.39
Complete: no
Length: 19 mm

33 Pottery fragment
Find number: 30-33
Two small wall fragments of grey pottery with a coarse fabric.
Find depth: 39.30
Complete: no

37 Rivet, iron
Find number: 30-37
Fragment of a small iron rivet.
Find depth: 39.25
Complete: yes
Diameter: 4 mm

41 Fragment, iron
Find number: 30-41
Three indeterminate iron fragments.
Find depth: 39.23
Complete: no
Length: 12 mm

42 Arrowhead, iron
Find number: 30-42
Iron arrowhead with probably closed socket. Remains of the wooden shaft are preserved inside the socket.
Find depth: 39.21
Complete: yes
Type: LPV type 26
Phase: MA1-MR1
Date: 470/80-630/40
Alternative type: Böhner type B,
Alternative date: 525-700 (Stufe III - IV)

43 Belt part, iron
Find number: 30-43
Rectangular iron plate with four copper alloy rivets and leather remains attached on the backside. Possibly part of a sword belt.
Find depth: 39.22
Complete: yes
Plate length: 47 mm
Type: LPV type 153
Phase: MR1 - MR3
Date: 600/10-700/10

44 Belt part, iron
Find number: 30-44
Triangular iron counter plate with profiled edges and three copper alloy rivets of which one is missing. On the back an iron loop and an iron strip are attached with help of the copper alloy rivet. The plate possibly belonged to a sword scabbard.
Find depth: 39.24
Complete: yes
Plate length: 47 mm
Type: LPV type 153
Phase: MR1 - MR3
Date: 600/10-700/10

45 Fragment, iron
Find number: 30-45
Three indeterminate iron fragments.
Find depth: 39.22
Complete: no
Length: 20 mm

46 Fragment, iron
Find number: 30-46
Indeterminate iron fragments.
Find depth: 39.25
Complete: no
Length: 21 mm

Pottery vessel
Find number: 3-III-47.1
See find number 30-3.

Fragment, iron
Find number: 3-III-47.2
Small indeterminate iron fragment,
Complete: no
Length: 4 mm

31
GRAVE

Trench	3
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,38
Grave pit width	1,74
Grave pit depth	38,98

DESCRIPTION

Merovingian inhumation grave. The orientation of the grave was probably west-east, but only a few fragments of disarticulated human remains were present. The burial pit was rectangular with slightly rounded corners. The vague outline of a wooden container was visible in the south side of the grave. To the north the outline is disturbed by a reopening pit. The feature could also have been caused by slumping of the soil above the grave after the container collapsed. Still, the lack of finds and disturbed character of the grave indicate it was a reopening pit instead.

PHYSICAL ANTHROPOLOGY

Inhumation: several fragments of disarticulated human remains were recovered by the excavators, but later they were discarded due to their poor conservation.
Conclusion: sex and age unknown.

DATE GRAVE

Cannot be dated

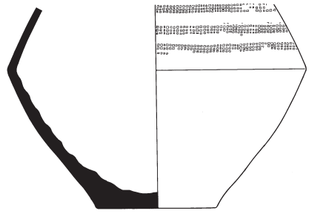
1 Stone, sandstone
Find number: 31-1
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.91
Weight: 135 grams
Complete: no

2 Pottery fragment
Find number: 31-2
Base fragment of a Roman or Late Roman Samian beaker (burned).
Find depth: 39.77
Complete: no
Type: possibly Chenet-type
Date: possibly 3rd – first half of the 4th century

3 Bone, human
Find number: 31-3
Bone fragment, post cranial.
Find depth: 39.46

4 Rivet, copper alloy
Find number: 31-4
Flat copper alloy head of a rivet decorated with punched-in points along the edge.
Find depth: 39.28


3-I-1 (scale 1:1)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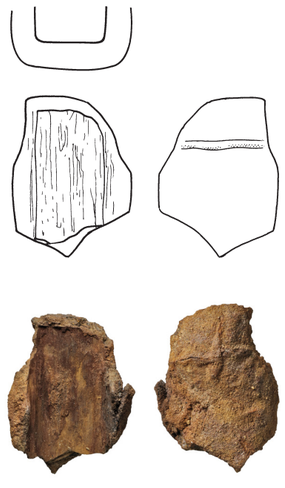
3 (scale 1:4)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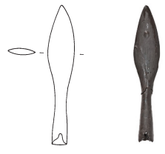
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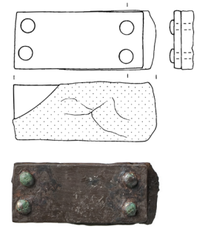
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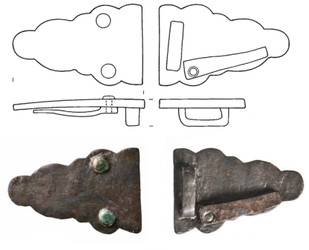
17, 38-40, 47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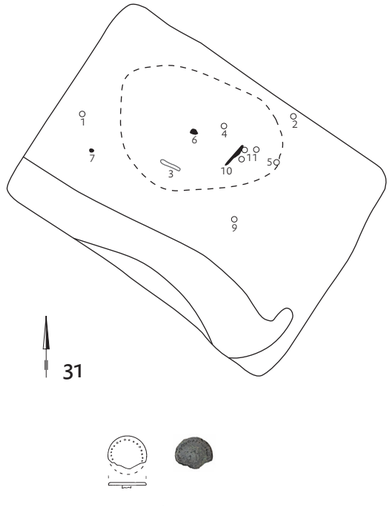


4

Complete: yes
Diameter: 14 mm

5 Fragment, iron
Find number: 31-5
Indeterminate iron fragment.
Find depth: 39.97
Complete: no

6 Belt part, iron
Find number: 31-6
Fragment of a simple iron buckle with an oval loop.
Find depth: 39.00
Complete: no
Loop length: 40 mm

7 Spindle whorl, ceramic
Find number: 31-7
Find depth: 39.06
Ceramic spindle whorl of a biconical shape. Made of a light grey paste tempered with quarts fragments.
Complete: yes

8 Bead, glass
Find number: 31-8
Green transparent rounded disc-shaped glass bead.
Find depth: unknown
Complete: yes
Type: GT30

9 Glass vessel
Find number: 31-9
Yellowish green rim fragment, probably of a conical beaker, decorated with spiral thread.
Find depth: 38.98
Length: 3.5 cm
Thickness: 0.15-0.3 cm
Complete: no
Type: Koch type IIIH
Date: second half of the 5th – first quarter of the 6th century

10 Knife, iron
Find number: 31-10
Iron knife with wood remains and possible leather remains attached. The point is located on the axis of the blade.
Complete: yes
Find depth: 38.99-39.00
Blade width: 19 mm
Blade length: 106 mm
Type: Böhner type A
Date: 450-700 (Stufe II – IV)

11 Fragment, iron
Find number: 31-11
Three indeterminate iron fragments.
Find depth: 38.98
Complete: no
Length: 13 mm

12 Sample, organic
Find number: 31-12
Phosphate sample: missing.
Complete: no

13 Pottery fragment
Find number: 31-13
Seven fragments of Iron Age handmade pottery
Complete: no
Type: indeterminate

32
GRAVE

Trench	6
Grave type	inhumation grave
Grave structure	tree trunk grave
Grave pit length	2,83
Grave pit width	1,08
Grave pit depth	38,89

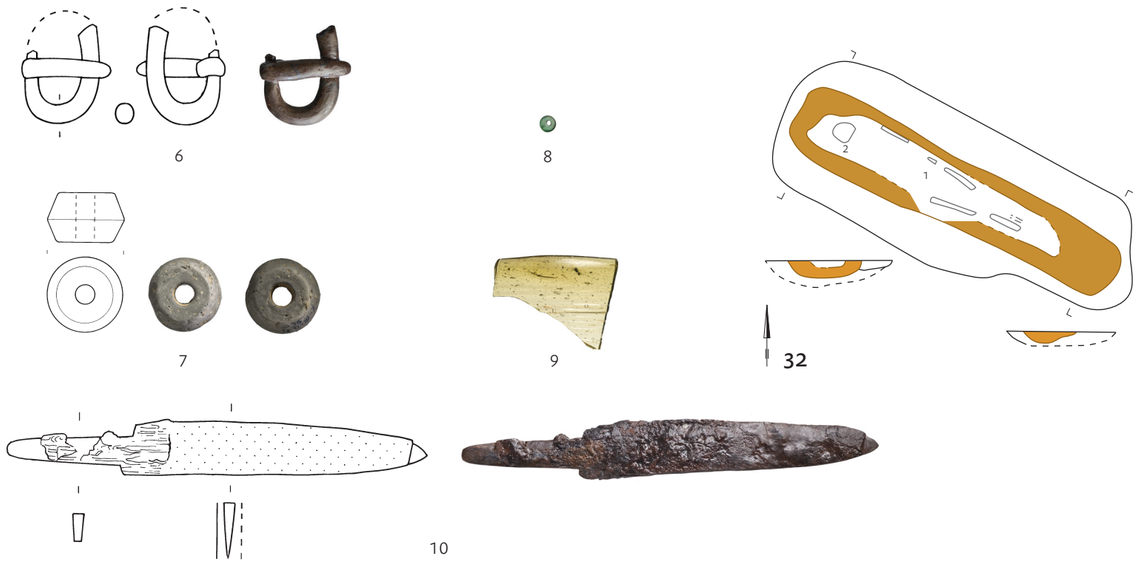
DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was irregular shaped with rounded corners. Traces of a wooden container were visible. This container was a tree trunk coffin.

PHYSICAL ANTHROPOLOGY
Inhumation: some fragments of the occipital and basal part of the cranium, a femur and two vertebrae were recovered. The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: the spheno-occipital synchondrosis is closed which indicates a minimum age of c. 18 years.
Conclusion: an adult individual.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Bone, human
Find number: 32-1
Bone fragments.
Find depth: 38.95

2 Bone, human
Find number: 32-2
Skull.
Find depth: 38.98



33
GRAVE

Trench	3
Grave type	inhumation grave
Grave structure	unknown
Grave pit length	2,98
Grave pit width	2,40
Grave pit depth	39,05
Stratigraphic relation	context context 34

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. The grave was reopened and no traces of a wooden container were present. A small pit with burned loam and charcoal fragments cuts through the grave at the western end and the burial pit was cut by grave 34 at the eastern end. A spearhead was found on the boundary between the two graves. The object was registered as collected finds from level II.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Cannot be dated

FINDS
1 Pottery fragment
Find number: 33-1
Find depth: 39.37
Pottery fragment: missing.
Complete: no

2 Pottery fragment
Find number: 33-2
Wall fragment of grey Merovingian pot (probably biconical), made of a fine tempered fabric.
Find depth: 39.26
Complete: no

3 Pottery fragment
Find number: 33-3
Base fragment of a grey Merovingian pot (probably biconical), made of a fine tempered fabric.
Find depth: 39.18
Complete: no

4 Fragment, iron
Find number: 33-4
Indeterminate iron fragment.
Find depth: 39.21
Complete: no
Length: 25 mm

5 Fragment, iron
Find number: 33-5
Indeterminate iron fragment.
Find depth: 39.20
Complete: no
Length: 21 mm

6 Ring, copper alloy
Find number: 33-6
Find depth: 39.18
Small copper alloy ring.
Complete: Yes
Diameter: 17 mm

7 Fragment, iron
Find number: 33-7
Indeterminate iron fragment.
Find depth: 39.08
Complete: no
Length: 13 mm

8 Fragment, iron
Find number: 33-8
Indeterminate iron fragment.
Find depth: 39.11
Complete: no
Length: 17 mm

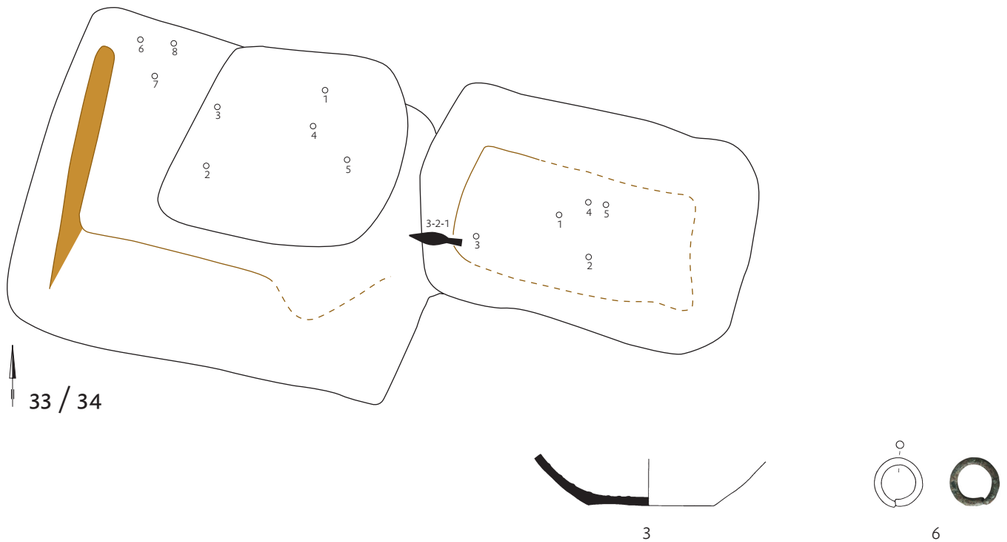
34
GRAVE

Trench	3
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,42
Grave pit width	1,64
Grave pit depth	39,19
Stratigraphic relation	context context 33

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners and a container outline was visible. The grave is probably reopened together with grave 33. A clear reopening pit is only visible in grave 33, but the disturbance probably affected grave 34 as well. A spearhead was found on the boundary between graves 33 and 34. The object was registered as collected finds from level II.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Cannot be dated



FINDS

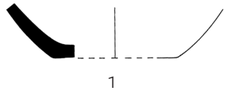
1 Pottery fragment
Find number: 34-1
Fragment of the bottom and lower wall of a possible grey/black biconical pot. Possibly burnished.
Find depth: 39.41
Complete: no

2 Fragment, iron
Find number: 34-2
Five small iron fragments.
Find depth: 39.29
Complete: no
Length: 7 mm

3 Fragment, iron
Find number: 34-3
Indeterminate iron fragment with wood remains attached.
Find depth: 39.28
Complete: no
Length: 24 mm

4 Nail, iron
Find number: 34-4
Indeterminate iron fragment, possibly part of a nail.
Find depth: 39.28
Complete: no
Length: 30 mm

5 Fragment, iron
Find number: 34-5
Three indeterminate iron fragments with textile remains attached.
Find depth: 39.27
Complete: no



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5 (scale 1:1)

35
GRAVE

Trench	6
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	2,03
Grave pit width	1,89
Grave pit depth	38,73

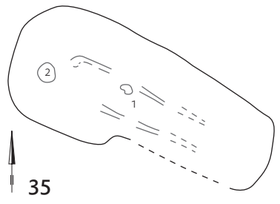
DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was irregular shaped with rounded corners. No traces or outlines of a wooden container were found.

PHYSICAL ANTHROPOLOGY
Inhumation: a few parts of the cranium, including the basal section, were recovered together with several diaphyseal fragments of long bones. The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: the spheno-occipital synchondrosis is closed which indicates a minimum age of c. 18 years.
Conclusion: an adult individual.

DATE GRAVE
No finds, cannot be dated

FINDS

1 Bone, human
Find number: 35-1.1
Skull
Find depth: 38.94



35

36
GRAVE

Trench	6
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,08
Grave pit width	0,84
Grave pit depth	38,72

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with a small broadening on the north side and has rounded corners. Traces of the outline of a wooden container were found on both sides of the body.

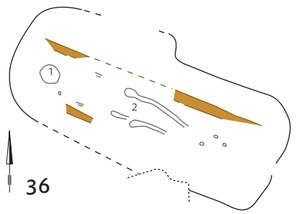
PHYSICAL ANTHROPOLOGY
Inhumation: articulated human remains of the cranium and long bones were recovered. The preservation of the remains was poor. Sex diagnosis: based on the preserved bone this individual was probably a female. Age diagnosis: based on closure of the cranial sutures the age was 20-40 years. Pathology: in the molars one case of occlusal caries and one case of interproximal caries was observed.
Conclusion: a probable female between 20 and 40 years.

DATE GRAVE
No finds, cannot be dated

FINDS

1 Bone, human
Find number 36-1
Skull.
Find depth: 38.90

2 Bone, human
Find number 36-2
Bone fragments.
Find depth: unknown



36

37
GRAVE

Trench	6
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,19
Grave pit width	0,83
Grave pit depth	38,82

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with rounded corners. A vague outline of a wooden container was visible.

PHYSICAL ANTHROPOLOGY
Inhumation: a few parts of the cranium, including the occipital part, and some teeth were recovered. From the post cranial skeleton only part of the sacrum and the caput of the left and right femur were present. The preservation of the remains is poor. Sex diagnosis: the present features on the cranium are feminine (nuchal plane; external occipital protuberance; crista supra mastoidea). Age diagnosis: the lambdoid suture is internally and externally closed (L2, L3). Some of the teeth show extreme attrition (phase 5). The spongious bone of the femoral caput however shows a dense structure. Considering the fact that only a few features can be observed and also the incompleteness of these bones and the conflicting phases of degeneration, the age estimate is very conservative, namely adult (> 20 years). Pathology: caries (dental decay) in three elements.
Conclusion: a female of > 20 years, with dental decay.

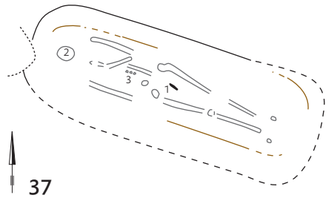
DATE GRAVE
Cannot be dated

FINDS

1 Fragment, iron
Find number: 37-1
Nine indeterminate iron fragments.
Find depth: 38.88
Complete: no
Length: 40 mm

2 Bone, human
Find number 37-2
Skull.
Find depth: 38.99

3 Bone, human
Find number 37-3
Bone fragments.
Find depth: unknown



37

38
GRAVE

Trench	6
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	2,52
Grave pit width	0,92
Grave pit depth	38,60

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The outline of the western half of the burial pit is unclear, but it was probably rectangular with rounded corners. No traces or outlines of a wooden container were found.

PHYSICAL ANTHROPOLOGY
Inhumation: some fragment of the occipital part of the cranium is present. The preservation of the remains is poor. Sex diagnosis: the present features on the cranium are feminine (nuchal plane; external occipital protuberance). Age diagnosis: the lambdoid suture is open internally and indicates an age interval of c. 20-40 years.
Conclusion: a female between 20-40 years.

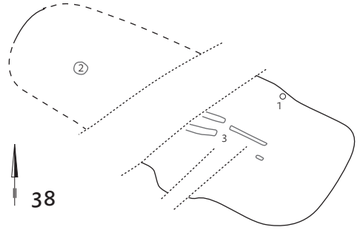
DATE GRAVE
No finds, cannot be dated

FINDS

1 Fragment, iron
Find number: 38-1
Indeterminate iron fragment.
Find depth: 38.77
Complete: no
Length: 20 mm

2 Bone, human
Find number 38-2
Skull.
Find depth: 38.76

3 Bone, human
Find number 38-3
Bone fragments.
Find depth: unknown

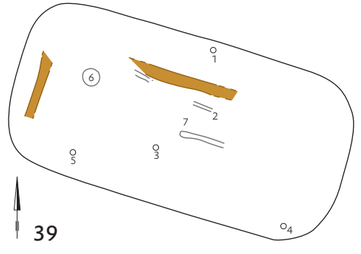


38

39
GRAVE

Trench	6
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,50
Grave pit width	1,29
Grave pit depth	38,83

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Traces of the north and west sides of a wooden container were visible.



39

PHYSICAL ANTHROPOLOGY
Inhumation: cranial parts from the parietal, frontal and left temporal region were recovered. Also a small fragment of the right mandible and some teeth from the right maxilla and mandible are recovered. The preservation of the remains is poor. Sex diagnosis: no cranial features are present but the dental elements are very small which is rather feminine than masculine. Age diagnosis: the spheno-occipital synchondroisi is closed which indicates a minimum age of c. 18 years. The attrition of the teeth is slight. These two features indicate an adult, possibly between 20-30 years.
Conclusion: a possible female between 20-30 years.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Pottery fragment
Find number: 39-1.1
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.85
Complete: no
Type: indeterminate

2 Pottery fragment
Find number: 39-2
Rim fragment of Roman coarse ware.
Find depth: 38.84
Complete: no
Type: indeterminate

3 Pottery fragment
Find number: 39-3
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 38.85
Complete: no
Type: indeterminate

4 Pottery fragment
Find number: 39-4
Rim fragment of medieval pottery, possibly of Carolingian date (tempered with stone grid).
Find depth: 38.75
Complete: no
Type: globular pot (*kogelpot*)

5 Pottery fragment
Find number: 39-5
Base fragment of Roman or Merovingian coarse ware.
Find depth: 38.68
Complete: no
Type: indeterminate

6 Bone, human
Find number 39-6
Skull.
Find depth: 38.76

7 Bone, human
Find number 39-7
Bone fragments.
Find depth: unknown

40
GRAVE

Trench	6
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,02
Grave pit width	1,13
Grave pit depth	38,52

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Vague traces of the north side of a wooden coffin were visible.

PHYSICAL ANTHROPOLOGY
Inhumation: The presence of human remains was documented by the excavators, but they could not be collected due to their bad preservation. Based on the body silhouette the age of the individual was estimated between 7 and 12 years.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Nail, iron
Find number: 40-1
Small iron nail.
Find depth: 38.84
Complete: yes

2 Nail, iron
Find number: 40-2.1
Small iron nail.
Find depth: 38.79
Complete: yes

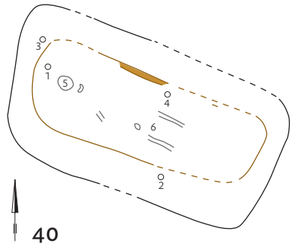
Fragment, iron
Find number: 40-2.2
Three indeterminate small iron fragments.
Find depth: 38.79
Complete: no
Length: 8 mm

3 Pottery fragment, different
Find number: 40-3
Fragment of a Roman tile (tegula).
Find depth: 38.72
Complete: no

4 Stone
Find number: 40-4
Stone fragment.
Find depth: 38.73
Complete: no

5 Bone, human
Find number 40-5
Skull.
Find depth: 38.58

6 Bone, human
Find number 40-6
Bone fragments.
Find depth: unknown



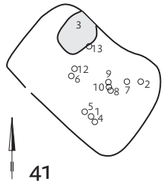
40

41
GRAVE

Trench	9
Grave type	cremation grave
Grave pit length	1,26
Grave pit width	0,76

DESCRIPTION
Roman cremation grave. The cremated remains were deposited in a rectangular pit with slightly rounded corners. The pit is small and its orientation differs from that of the Merovingian inhumation graves.

PHYSICAL ANTHROPOLOGY
Cremation: the weight of cremated remains is 908 g and anatomical allocation is possible for 268 g (29,5%) of the remains. The burning degree was > 800° C and fragment size is between 3-5 cm. Sex diagnosis: feminine traits of the skull; orbita, arcus superciliaris. Age diagnosis: 20-40 years based the open sutures.
Conclusion: a probable female between 20-40 years.



41

DATE GRAVE
Second half of the 3rd - first half of the 4th century

FINDS
1 Pottery vessel
Find number: 41-1, 41-2, 41-5, 41-6, 41-7, 41-8, 41-9, 41-11, 41-12, 41-14.3
Seventeen fragments of a East-Gaulish Samian ware bowl (burned) with two roulette lines.
Find depth: unknown
Complete: ca. 50 %
Type: Oelmann19 / Chenet 325
Date: second half of the 3rd - first half of the 4th century

3 Bone, human
Find number: 41-3
Cremated remains.
Find depth: unknown

4 Fragment, iron
Find number: 41-4
Indeterminate iron fragment with possible copper alloy rivet attached.
Find depth: unknown
Complete: no
Length: 19 mm

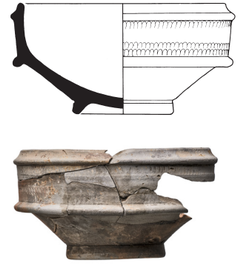
10 Nail, iron
Find number: 41-10
Two small iron nails, probably of a Roman shoe.
Find depth: unknown
Complete: yes

13 Fragment, copper alloy
Find number: 41-13
Two fragments of small copper alloy rivets or copper alloy wire.
Find depth: unknown
Complete: yes
Length: unknown

14 Sample, organic
Find number: 41-14.1
Charcoal fragment.
Find depth: unknown
Complete: no
Remark: Not analysed.

Pottery fragment
Find number: 41-14.2
One wall fragment of Roman or Merovingian coarse ware and wall fragment of Iron Age handmade pottery (burned).
Find depth: unknown
Complete: no
Type: indeterminate

Pottery, vessel
Find number: 41-14.3
See find number 41-1.
Find depth: unknown
Complete: no

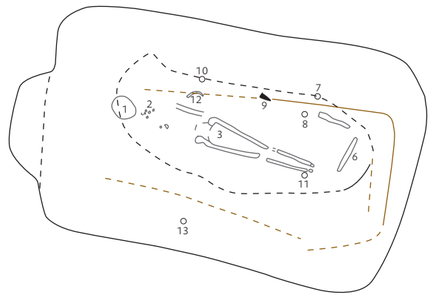

1

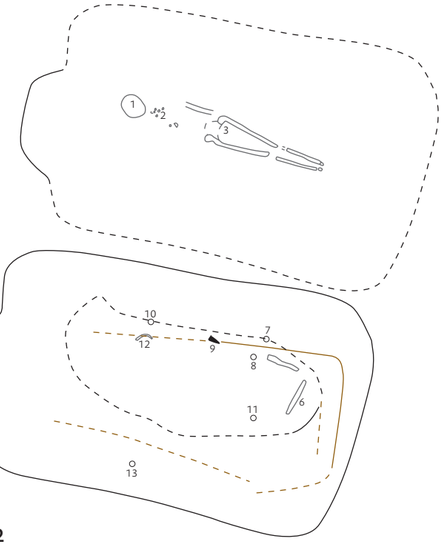
42
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,74
Grave pit width	1,78
Grave pit depth	38,94

DESCRIPTION
Merovingian inhumation grave (grave 42B) with an additional burial (grave 42A). The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Grave 42A is the additional burial that was placed on top of grave 42B, which was the first burial deposited in the grave. A container outline was visible for grave 42B. This grave was reopened when grave 42A was placed in the grave. During this disturbance, some human remains were possibly taken from the grave while others were moved to the western end of the wooden container. The human remains that were recovered from grave 42B were not complete. Grave 42A remained undisturbed. No container outline or traces of a wooden container were visible for grave 42A.

PHYSICAL ANTHROPOLOGY
Inhumation: human remains of two individuals were recovered from the grave but the bone material is too badly preserved to distinguish two separate individuals. Several fragments of the cranium and mandible were present, including some teeth. The post-cranial skeleton includes only the proximal parts of both femora. Moreover all the bones that are present (cranium, dentition and postcranial elements) indicate a juvenile age. In case these bones





42

belong to two individuals both are juvenile. Sex diagnosis: not possible. Age diagnosis: the epiphyses are open and the dentition indicates an age of 15 years (± 36 months).
Conclusion: two juvenile individuals between 12-18 years old.

DATE GRAVE
Cannot be dated

FINDS
1 Bone, human
Find number: 42-1.1
Skull.
Find depth: 39.58

Pottery fragment
Find number: 42-1.2
Three fragments of Iron Age handmade pottery
Complete: no
Type: indeterminate

2 Bone, human
Find number 42-2
Jaw and molars.
Find depth: 39.57

3 Bone, human
Bone fragments.
Find depth: unknown

4 Stone, flint
Find number: 42-4.1
Burned flint fragment.
Find depth: unknown
Complete: no

Stone
Find number: 42-4.2
Stone fragment.
Find depth: unknown
Complete: no

Pottery fragment
Find number: 42-4.3
Two fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

5 Pottery fragment
Find number: 42-5
Five wall fragments of Iron Age, roughened coarse ware handmade pottery.
Find depth: 39.08
Complete: no
Type: indeterminate

6 Bone, human
Find number: 42-6
Bone fragments.
Find depth: 39.04

7 Pottery fragment
Find number: 42-7
Rim fragment of Roman coarse ware.
Find depth: 39.08
Complete: no
Type: indeterminate

8 Pottery fragment
Find number: 42-8
Wall fragment of Roman or Merovingian coarse ware.
Find depth: 39.08
Complete: no
Type: indeterminate

9 Knife, iron
Find number: 42-9
Fragment of a knife with possible leather remains attached. Part of the grip and the blade are preserved.
Find depth: 39.03
Complete: no
Blade length: 27 mm
Grip length: 45 mm

10 Pottery fragment
Find number: 42-10
Wall fragment of Iron Age handmade pottery.
Find depth: 39.03
Complete: no
Type: indeterminate

11 Fragment, iron
Find number: 42-11
Indeterminate iron fragment.
Find depth: 39.07
Complete: no
Length: 13 mm

12 Bone, human
Find number: 42-12
Skull fragment.
Find depth: 39.07

13 Stone, flint
Find number: 42-13
Flint fragment.
Find depth: 38.99
Complete: no

43
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	tree trunk grave
Grave pit length	2,59
Grave pit width	1,03
Grave pit depth	39,23
Orientation angle	353

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Traces of a wooden container were visible. This container was a tree trunk coffin.

PHYSICAL ANTHROPOLOGY
Inhumation: the occipital and right and left temporal regions of the cranial vault were recovered. Furthermore some small parts of the left and right pelvis, left and right femur and three vertebrae were present. The preservation of the remains is poor. Sex diagnosis: several cranial features are not conclusive, but based on the absence of a Houghtons groove next to the auricular surface on the pelvis these bones might possibly belong to a male individual. Age diagnosis: the suture closure (sagittal 3, 4 and lambda 1, 2, 30 are closed on the internal side. The bone structure of the proximal femur is dense, but offers an incomplete image. The age estimate is ca. 40-60 years. Pathology: marginal osteophytosis on the dens axis (the second cervical vertebra)
Conclusion: a possible male between 40-60 years, with degeneration in the cervical region of the vertebral column.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Pottery fragment
Find number: 43-1
Five wall fragment of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Fragment, iron
Find number: 43-2
Iron fragment: missing.
Find depth: 39.48
Complete: no

3 Bone, human
Find number 43-3
Skull and jaw fragments.
Find depth: 39.47

4 Bone, human
Find number 43-4
Bone fragments.
Find depth: 39.37

44
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,04
Grave pit width	1,39
Grave pit depth	38,87

DESCRIPTION
Merovingian inhumation grave of a child. The orientation of the grave was west-east. The burial pit was small and rectangular with slightly rounded corners. Traces of a wooden container were visible. The grave was not reopened, but the wooden container was too small to hold the intact body of the child. Moreover, the skull was probably dislocated which implies the grave contained a secondary burial.

PHYSICAL ANTHROPOLOGY
Inhumation: several cranial fragments (frontal, parietals and basal part), maxilla, mandible and some teeth are present. The preservation of the remains is poor. Sex diagnosis: not possible. Age diagnosis: based on the dentition the age estimation is 7 years (±24 months).
Conclusion: a child between 5-9 years.

DATE GRAVE
Posterholt phase IV, FAG phase 10, 710-<750

FINDS
1 Stone, flint
Find number: 44-1.1
Two flint fragments.
Find depth: unknown
Complete: no

Stone, sandstone
Find number: 44-1.2
Six sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 132 grams
Complete: no

Pottery fragment
Find number: 44-1.3
Rim and 5 wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Stone, flint
Find number: 44-2.1
Flint fragment.
Find depth: unknown
Complete: no

Pottery fragment
Find number: 44-2.2
Three wall fragments of Iron Age handmade pottery, with combed decoration.
Find depth: unknown
Complete: no
Type: indeterminate

3 Stone, sandstone
Find number: 44-3.1
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.05
Weight: 56 grams.
Complete: no

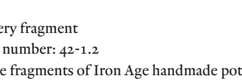
Pottery fragment
Find number: 44-3.2
Three wall fragments of Iron Age handmade pottery.
Find depth: 39.05
Complete: no
Type: indeterminate

4 Coin, silver
Find number: 44-4
Silver coin plate, possibly of a sceatta. The diameter is smaller, but the plate is thicker and has the same weight as a sceatta. The coin plate is probably a semi manufactured product.
Find depth: 38.93
Weight: 1.181 grams
Complete: yes
Type: unknown
Date: late 7th - early 8th century

5 Knife, iron
Find number: 44-5
Iron knife with wood remains attached. The point is located near the cutting edge.
Find depth: 38.94
Complete: yes
Blade width: 18 mm
Blade length: 124 mm
Alternative type: Böhner type C
Alternative date: 600-700 (stufe IV)

6 Bone, human
Find number 44-6
Skull.
Find depth: 38.96

7 Bone, human
Find number 44-7
Lower jaw bone (mandible).
Find depth: 38.90



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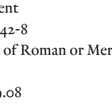

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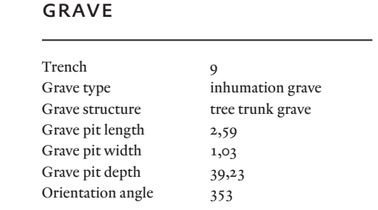
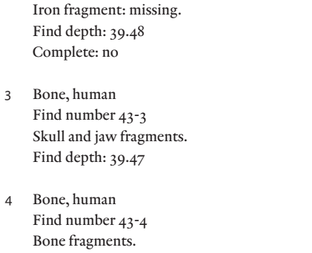


43



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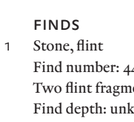
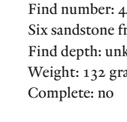


3.1



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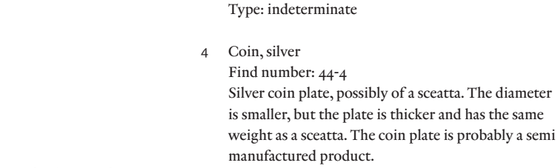
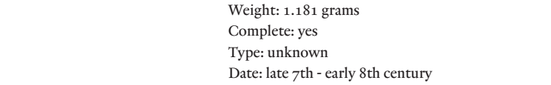




5

45
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,33
Grave pit width	1,85
Grave pit depth	38,79

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A vague container outline was visible. The grave was reopened. A large reopening pit was present.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Nail, iron
Find number: 45-1
Five fragments of small iron nails.
Find depth: 39.37
Complete: no

2 Nail, iron
Find number: 45-2
Large iron nail.
Find depth: 39.36
Complete: yes

3 Nail, iron
Find number: 45-3.1
Five small iron nails.
Find depth: unknown
Complete: yes

Pottery fragment
Find number: 45-3.2
Wall fragment of black Merovingian pottery with a coarse fabric, probably of a biconical pot. The fragment is decorated with a groove.
Find depth: unknown
Complete: no

Pottery fragment
Find number: 45-4
One wall fragment of Roman Samian ware, one wall fragment of colour-coated ware (rouletted), one wall fragment of Roman fine oxidised ware, one base and twenty-seven wall fragments of Iron Age handmade pottery and one fragment of a Roman tile (tegula).
Find depth: unknown
Complete: no
Type: indeterminate

46
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,70
Grave pit width	2,14
Grave pit depth	38,80

DESCRIPTION
Merovingian inhumation grave with a possible double or additional burial (individual 2). The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Traces of the north and east side of a wooden container were visible in combination with an outline of a possible wooden chamber. The grave was reopened and a second skull (individual 2) and some loose human remains were found in the reopening pit together with a silver coin and 13 beads. This could indicate that the grave contained a double or later additional burial. Several scenarios are possible. The grave could be a reopened double burial of which some remains were left in the grave while others ended up in the reopening pit. Or the grave could be reopened twice, once for depositing an additional burial and once to disturb this additional burial. Or, finally, the grave is only reopened once, but during the disturbance human remains from another burial ended up in the reopening pit (either by accident or on purpose).

PHYSICAL ANTHROPOLOGY
Inhumation: the excavators documented the presence of two individuals. However, the remains that belong to individual 2 are currently missing (find number 46-20). The results presented here therefore represent individual 1. Several fragments of the cranium and long bones, including fragments of enamel and dentition were recovered. Sex diagnosis: possibly female. Age diagnosis: based on the closure of the sutures the age estimate is c. 40-80 years.
Conclusion: a probable female between 40-80 years.

DATE GRAVE
Finds from reopening pit: Posterholt phases II-III, FAG phases 7-8, 610/20-670/80
Finds from grave: Posterholt phases II-IV, FAG phases 7-9, 610/20-710

FINDS
1 Coin, copper alloy
Find number: 46-1
Copper alloy coin, M. Porcius Cato.
Find depth: 39.45
Complete: yes
Type: quinarius
Date: 89 BC

2 Bone, human
Find number: 46-2
Bone fragments.
Find depth: 39.26

3 Stone
Find number: 46-3.1
Stone fragment.
Find depth: unknown
Complete: no

Stone, sandstone
Find number: 46-3.2
Sandstone fragment, Nivelsteiner sandstone.
Find depth: unknown
Weight: 10 grams
Complete: no

Pottery fragment
Find number: 46-3.3
Three wall fragments of Roman coarse ware and twenty-two wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

4 Nail, iron
Find number: 46-4
Small iron nail.
Find depth: 39.02
Complete: yes
Diameter: 6 mm

5 Bead, glass
Find number: 46-5
Yellow opaque twisted glass bead.
Find depth: 39.01
Complete: yes
Type: YO29

6 Fragment, iron
Find number: 46-6
Six indeterminate iron fragments.
Find depth: 39.03
Complete: no
Length: 45 mm

7 Fragment, iron
Find number: 46-7
Three small indeterminate iron fragments.
Find depth: 38.93
Complete: no
Length: 10 mm

8 Belt part, iron
Find number: 46-8
Fragment of an iron plate with textile remains attached.
Find depth: 38.91
Complete: no
Plate length: 28 mm

9 Belt part, iron
Find number: 46-9.1
Iron *Ösenbeschlag* with triangular plate with a rectangular hole and two folded rivets. Leather remains are attached to the backside of the plate with help of the rivets.
Find depth: 38.90
Complete: yes
Plate length: 39 mm

Belt part, iron
Find number: 46-9.2
Fragment of a rectangular iron plate.
Find depth: 38.90
Complete: no
Plate length: 30 mm

10 Bone, human
Find number: 46-10
Bone fragments.
Find depth: 38.98

11 Nail, iron
Find number: 46-11
Fragment of a small iron nail.
Find depth: 38.95
Complete: yes
Diameter: 4 mm

12 Bead, glass
Find number: 46-12
White opaque barrel-shaped glass bead.
Find depth: 38.93
Complete: yes
Type: WO19 / Siegmund Per2.5
Kombinationsgruppen H-I
Rhineland date: 610-705
Alternative type: Koch type 4.8
Kombinationsgruppe E
Alternative ate: 620-670

13 Bead, glass
Find number: 46-13
Yellow opaque small barrel-shaped glass bead.
Find depth: 38.93
Complete: yes
Type: YO30

14 Bead, glass
Find number: 46-14
Green opaque double segmented glass bead.
Find depth: 38.98
Complete: yes
Type: GO25 / Siegmund Per36.4
Kombinationsgruppen G-I
Rhineland date: 570-705

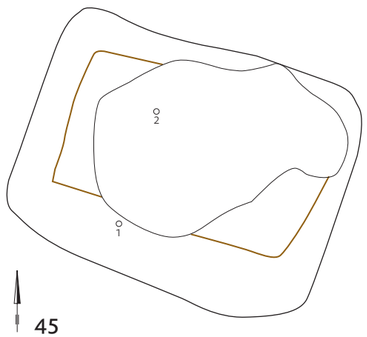
15 Bead, glass
Find number: 46-15
Red opaque cylinder-shaped glass bead.
Find depth: 38.96
Complete: yes
Type: RO35 / Siegmund Per35.2
Kombinationsgruppen C-F
Rhineland date: 485-640

16 Belt part, iron
Find number: 46-16
Fragment of an iron counter plate with profiled edges.
Find depth: 38.94
Complete: no
Plate length: 54 mm

17 Belt part, iron
Find number: 46-17
Iron *Ösenbeschlag* with triangular plate with a rectangular hole and two rivets. One of the rivets could also be an eye. Textile and leather remains attached.
Find depth: 38.94
Complete: yes
Plate length: 42 mm

18 Fragment, indeterminate
Find number: 46-18
Indeterminate white material, possibly silver or copper alloy.
Find depth: 38.94
Complete: no

19 Bone, human
Find number 46-19
Skull fragments.
Find depth: 38.97



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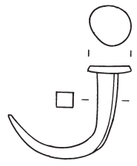
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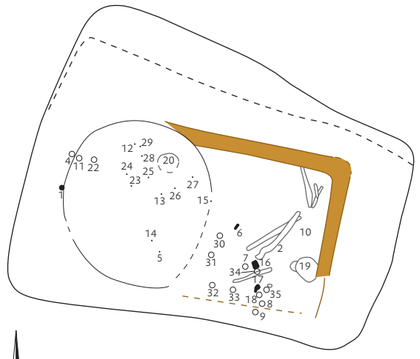
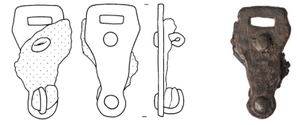


46


1 (scale 1:1)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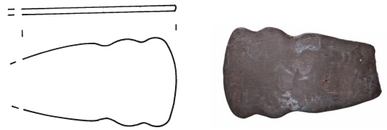
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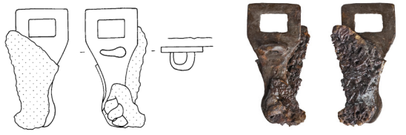
8 (scale 1:1)


9.2


17

20 Bone, human
Find number 46-20
Skull and jaw fragments: missing.
Find depth: 38.89

21 Bead, glass
Find number: 46-21
Orange opaque barrel shaped glass bead.
Find depth: unknown
Complete: yes
Type: OO19

22 Nail, iron
Find number: 46-22
Two small iron nails.
Find depth: 38.93
Complete: yes
Diameter: 7 mm

23 Bead, glass
Find number: 46-23
White opaque small barrel-shaped glass bead.
Find depth: 38.81
Complete: yes
Type: WO30

24 Bead, glass
Find number: 46-24
Green transparent twisted-shaped glass bead.
Find depth: 38.85
Complete: yes
Type: GT29 / Siegmund Per46.5
Kombinationsgruppe H-I
Rhineland date: 610-705

25 Bead, glass
Find number: 46-25
Green opaque double segmented glass bead.
Find depth: 38.85
Complete: yes
Type: GO25/ Siegmund Per36.4
Kombinationsgruppen G-I
Rhineland date: 570-705

26 Bead, glass
Find number: 46-26
Red opaque multiple segmented glass bead.
Find depth: 38.91
Complete: yes
Type: RO24 / Siegmund Per35.7
Kombinationsgruppe H
Rhineland date: 570-640

27 Bead, glass
Find number: 46-27
Red opaque cube-shaped glass bead decorated with yellow dots.
Find depth: 38.87
Complete: yes
Type: Siegmund Per2.5
Kombinationsgruppe H-I
Rhineland date: 610-705
Alternative type: Koch 4.8 (Pleidelsheim)
Kombinationsgruppe E
Alternative date: 620-670

28 Bead, glass
Find number: 46-28
Green opaque almond-shaped glass bead.
Find depth: 38.90
Complete: yes
Type: GO15 / Siegmund Per1.8
Kombinationsgruppe H-I
Rhineland date: 610-705

29 Bead, glass
Find number: 46-29
Orange opaque barrel-shaped glass bead.
Find depth: 38.88
Complete: yes
Type: OO19

30 Fragment, iron
Find number: 46-30.1
Four indeterminate iron fragments.
Find depth: 38.86
Complete: no
Length: 17 mm

Nail, iron
Find number: 46-30.2
Small iron nail.
Find depth: 38.86
Complete: yes
Diameter: 4 mm

31 Pottery fragment
Find number: 46-31
Wall fragment of black pottery with a coarse fabric, probably Merovingian.
Find depth: 38.87
Complete: no

32 Fragment, iron
Find number: 46-32
Indeterminate iron fragment.
Find depth: 38.90
Complete: no
Length: 26 mm

33 Rivet, copper alloy
Find number: 46-33.1
Large flat copper alloy rivet decorated with a tripartite (or *dreiwirbel)* motive. The rivet has leather remains attached.
Find depth: 38.90
Complete: no
Diameter: 17 mm
Type: Siegmund 4.1
Rhineland phase: 8-9
Rhineland date: 610-670
Alternative type: FAG type 4.1
Alternative date: 610/20-670/80 (phase 7-8)

Fragment, organic
Find number: 46-33.2
Two leather fragments of a seax scabbard. One of the fragments contains a small copper alloy rivet and two additional holes to hold similar types of rivets.
Find depth: 38.90
Complete: no

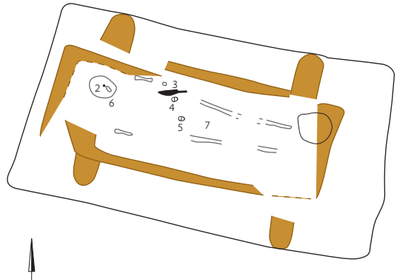
34 Stone, flint
Find number: 46-34
Flint fragment.
Find depth: 38.82
Complete: no

35 Fragment, iron
Find number: 46-35
Two indeterminate iron fragments.
Find depth: 38.87 Complete: no
Length: 25 mm

33.1

34

5 12 13 14 15 21 23 24 25 26 27 28 29



47

47
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,54
Grave pit width	1,38
Grave pit depth	38,76

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Traces of a wooden container were visible. The container was placed on wooden beams.

PHYSICAL ANTHROPOLOGY
Inhumation: one fragment of a femur and the right mandible and several fractured dental elements were recovered. The preservation of the remains was poor. Sex diagnosis: not possible. Age diagnosis: the robustness indicates an adult individual and the attrition of the teeth (some of the enamel of the crowns show varying degrees of attrition) a rough estimate of a minimal age of c. 30 years.
Conclusion: an adult individual.

DATE GRAVE
Posterholt phase IV, FAG phase 9 and possibly phase 10, 670/680-710(-<750)

FINDS
1 Nail, iron
Find number: 47-1.1
Large iron nail, probably recent.
Find depth: unknown
Complete: yes

Fragment, iron
Find number: 47-1.2
Small iron clamp and small indeterminate iron fragment.
Find depth: unknown
Complete: no
Length: 60 mm

Pottery fragment
Find number: 47-1.3
One rim and nineteen wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Coin, silver
Find number: 47-2
Silver coin, sceatta. The front displays a head and some runes. The backside displays a standard.
Find depth: 38.79
Weight: 1.121 grams
Complete: yes
Type: BMC type 2b
Date: ca. 700

3 Knife, iron
Find number: 47-3.1
Iron knife with wood, textile and possibly leather remains attached. The point is located on the axis of the blade.
Find depth: 38.83
Complete: yes
Blade width: 21 mm
Blade length: 126 mm
Type: Böhner type A
Date: 450-700 (Stufe II - IV)

Fragment, burned loam
Find number: 47-3.3
Fragment of burned loam.
Find depth: 38.83
Complete: no
Length: 20 mm

4 Belt part, iron
Find number: 47-4
Simple iron buckle with an oval loop and leather remains attached.
Find depth: 38.81
Complete: yes
Loop length: 39 mm

5 Belt part, iron
Find number: 47-5
Simple iron buckle with an oval loop, with leather remains attached. Part of the tongue is missing.
Find depth: 38.81
Complete: no
Loop length: 32 mm

6 Bone, human
Find number 47-6
Skull.
Find depth: 38.80

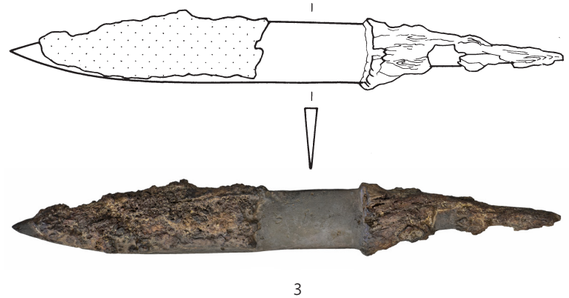
7 Bone, human
Find number 47-7
Bone fragments.
Find depth: unknown

8 Stone
Find number: 47-8.1
Stone fragment. Possibly part of a grinding stone.
Find depth: unknown
Weight: 30 grams
Complete: no

Pottery fragment
Find number: 47-8.2
One rim and twenty-three wall fragments of Iron Age handmade pottery with combed decoration.
Find depth: unknown
Complete: no
Type: indeterminate

Stone
Find number: 47-3.2
Stone fragment.
Find depth: 38.83
Complete: no

2 (scale 2:1)



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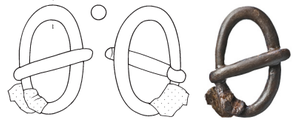


4

5

48
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,45
Grave pit width	1,83
Grave pit depth	39,09

DESCRIPTION
Merovingian inhumation grave (grave 48B) with an additional burial (grave 48A). The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners, but the north side is shaped somewhat irregular. The outline of two wooden containers were visible. At first it seems that two scenario's are in order; either grave 48 contained a single burial with two containers (a wooden coffin in a wooden chamber), or grave 48 was reopened to place an additional burial. This latter scenario seems true because the wooden container of grave 48A seems to cut the container of grave 48B. The outline of the north wall of the container from grave 48B is only visible at level IV. It is located almost underneath the axis of the container from grave 48A. This latter container must therefore have been deposited in the grave at a later period, disturbing the original burial. No human remains were recovered from grave 48B. The remains were probably disturbed during the reopening of the grave for additional burial. Articulated human remains were found in the wooden container of grave 48A. The orientation of this container also differed slightly from that of grave 48B.

PHYSICAL ANTHROPOLOGY
Inhumation: grave 48A: skeletal remains were only recovered from grave 48A. The spheno-occipital section of the cranium, some teeth, two cervical vertebrae, parts of the pelvis and left femur were recovered. The preservation of the remains is poor. Sex diagnosis: the pelvis features available for study are feminine (greater sciatic notch; arc compose; ischial body). Age diagnosis: the spheno-occipital synchondrosis is closed and the attrition of the teeth is slight. The age estimation is c. 20-30 years.
Pathology: the superior facets of the atlas (first cervical vertebra) show porosity, which points to degeneration of the cervical vertebrae.
Conclusion: a female between 20-30 years, with possible degeneration of the cervical vertebrae.

Grave 48B: no human remains. No information on the sex and age of the individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Cannot be dated

FINDS
1 Bone, human
Find number: 48-1.1
Skull and jaw fragments.
Find depth: 39.50

Pottery fragment
Find number: 48-1.2
Six wall fragments of Iron Age handmade pottery
Find depth: 39.50
Complete: no
Type: indeterminate

2 Bone, human
Find number: 48-2
Bone fragments.
Find depth: unknown

3 Belt part, iron
Find number: 48-3
Part of a simple iron buckle with a rectangular loop.
Find depth: 39.48
Complete: no
Loop width: 26 mm

4 Stone, tephrite
Find number: 48-4
Fragment of tephrite, probably part of a grinding stone.
Find depth: 39.42
Complete: no

5 Bone, human
Find number: 48-5
Bone fragments.
Find depth: 39.52-39.46

6 Stone, tephrite
Find number: 48-6
Fragment of tephrite, probably part of a grinding stone.
Find depth: 39.27
Complete: no

7 Stone, flint
Find number: 48-7.1
Flint fragment, possibly worked.
Find depth: unknown
Complete: no

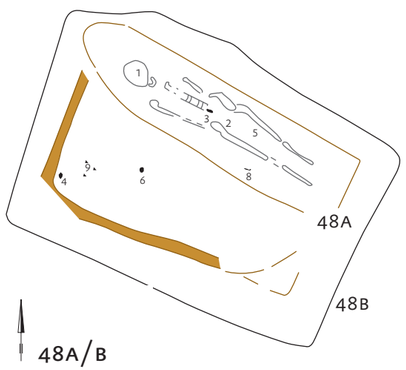
Pottery fragment
Find number: 48-7.2
Two rim and two wall fragments of Roman coarse ware, one rim and twelve wall fragments of Iron Age handmade pottery and one fragment of a Roman tile (tegula).
Find depth: unknown
Complete: no
Type: indeterminate

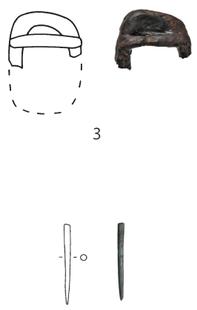
8 Needle, copper alloy
Find number: 48-8
Fragment of a copper alloy needle.
Find depth: 39.23
Complete: no
Length: 28 mm

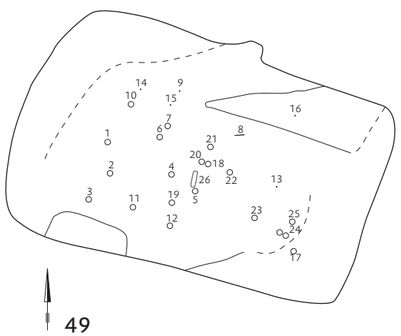
9 Nail, iron
Find number: 48-9
Two small iron nails.
Find depth: 39.12
Complete: yes
Diameter: 5 mm

Pottery fragment
Find number: 9-I-7
Wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Stone
Find number: 9-I-8
Small stone fragment.
Complete: no







49
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	unknown
Grave pit length	2,59
Grave pit width	1,70
Grave pit depth	39,00

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. The grave was reopened and a vague reopening pit was visible. No traces or outlines of a wooden container were found.

PHYSICAL ANTHROPOLOGY
Inhumation: Only one fragment of long bone was found by the excavators, but it could not be collected due to its bad preservation. No information on the sex and age of the individual can be obtained.

DATE GRAVE
Cannot be dated

FINDS
1 Nail, iron
Find number: 49-1.1
Two fragments of an iron nail with textile remains attached.
Find depth: 39.29
Complete: no

Nail, iron
Find number: 49-1.2
Three small iron nails.
Find depth: 39.29
Complete: no

Stone, sandstone
Find number: 49-1.3
Four sandstone fragments, Nivelsteiner sandstone.
Find depth: 39.29
Weight: 105 grams
Complete: no

Pottery fragment
Find number: 49-1.4
One wall fragment of Roman colour-coated ware and one rim and ten wall fragments of Iron Age handmade pottery.
Find depth: 39.29
Complete: no
Type: indeterminate

2 Nail, iron
Find number: 49-2
Small iron nail.
Find depth: 39.36
Complete: yes

3 Nail, iron
Find number: 49-3
Small iron nail.
Find depth: 39.23
Complete: yes

4 Nail, iron
Find number: 49-4
Small iron nail.
Find depth: 39.41
Complete: yes

5 Fragment, iron
Find number: 49-5
Indeterminate iron fragment.
Find depth: 39.29
Complete: no
Length: 12 mm

6 Nail, iron
Find number: 49-6
Iron nail.
Find depth: 39.36
Complete: yes

7 Nail, iron
Find number: 49-7
Large iron nail. Square in section.
Find depth: 39.30
Complete: yes

8 Nail, iron
Find number: 49-8
Large iron nail. Square in section.
Find depth: 39.33
Complete: yes

9 Bead, glass
Find number: 49-9
Blue transparent barrel-shaped glass bead.
Find depth: 39.13
Complete: yes
Type: BT19

10 Stone, sandstone
Find number: 49-10
Twelve sandstone fragments, Nivelsteiner sandstone.
Find depth: 39.27
Weight: 150 grams
Complete: no

11 Nail, iron
Find number: 49-11
Small iron nail.
Find depth: 39.16
Complete: no

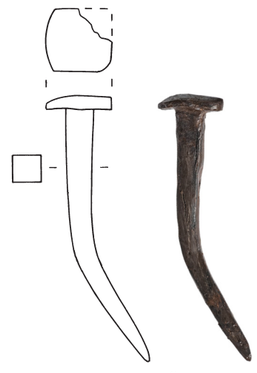
12 Nail, iron
Find number: 49-12
Small iron nail.
Find depth: 39.12
Complete: no

13 Bead, amber
Find number: 49-13
Amber bead, amorphous.
Find depth: 39.16
Complete: yes

14 Bead, glass
Find number: 49-14
White opaque double segmented glass bead.
Find depth: 39.07
Complete: yes
Type: WO25 / Siegmund Per32.2
Kombinationsgruppen H-I
Rhineland date: 610-705

15 Bead, glass
Find number: 49-15
Disintegrated yellow glass bead, probably small barrel shaped.
Find depth: 39.04
Complete: no
Type: YO30


7


8


9 13 14

16 Fragment, iron
Find number: 49-16
Small indeterminate iron fragment.
Find depth: 39.08
Complete: no
Length: 6 mm

17 Fragment, iron
Find number: 49-17
Small indeterminate iron fragments.
Find depth: 39.04
Complete: no
Length: 7 mm

18 Fragment, iron
Find number: 49-18
Small indeterminate iron fragments.
Find depth: 39.06
Complete: no
Length: 17 mm

19 Nail, iron
Find number: 49-19
Small iron nail.
Find depth: 39.02
Complete: no

20 Fragment, iron
Find number: 49-20
Indeterminate iron fragment.
Find depth: 39.11
Complete: no
Length: 18 mm

21 Rivet, copper alloy
Find number: 49-21
Dome-shaped head of a copper alloy rivet, probably of a belt fitting.
Find depth: 39.01
Complete: yes
Diameter: 11 mm

22 Nail, iron
Find number: 49-22
Small iron nail.
Find depth: 39.01
Complete: yes

23 Nail, iron
Find number: 49-23
Small iron nail.
Find depth: 39.03
Complete: yes

24 Fragment, iron
Find number: 49-24
Seven small indeterminate iron fragments.
Find depth: 39.04
Complete: no
Length: 12 mm

25 Fragment, iron
Find number: 49-25
Four small indeterminate iron fragments.
Find depth: 39.05
Complete: no
Length: 12 mm

26 Bone, human
Find number: 49-26
Bone fragments.
Find depth: 39.10

27 Pottery fragment
Find number: 40-27
Fourteen wall fragments of Iron Age handmade pottery
Find depth: unknown
Complete: no
Type: indeterminate

50
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,15
Grave pit width	1,32
Grave pit depth	39,21

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. The grave was reopened. Only a small trace of the wooden container was visible in the northwest and traces of a possible reopening pit were present in the eastern part of the grave. No skeletal remains were found and only several dispersed beads and one copper alloy earring were recovered from the grave.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Posterholt phases II-III, FAG phases 7-8, 610/20-670/80

FINDS
1 Bead, glass
Find number: 50-1.1
Fragment of a white transparent glass bead, shape unknown.
Find depth: 39.40
Complete: no
Type: Unknown

Bead, glass
Find number: 50-1.2
Red opaque barrel-shaped glass bead.
Find depth: 39.40
Complete: yes
Type: RO19

2 Earring, copper alloy
Find number: 50-2
Fragment of a copper alloy earring with polyhedron end.
Find depth: 39.40
Complete: no
Type: LPV type 302
Date: 470/80-560/70 (MA1-MA2) or 600-670/80

3 Bead, glass
Find number: 50-3
Green opaque cylinder-shaped glass bead.
Find depth: 39.40
Complete: yes
Type: GO11 / Siegmund Per36.2
Kombinationsgruppen F-I
Rhineland date: 555-705

4 Fragment, iron
Find number: 50-4
Small indeterminate iron fragment.
Find depth: 39.35
Complete: no
Length: 14 mm

5 Fragment, iron
Find number: 50-5
Small indeterminate iron fragment.
Find depth: 39.33
Complete: no
Length: 17 mm

6 Bead, glass
Find number: 50-6
Red opaque barrel-shaped glass bead.
Find depth: 39.35
Complete: yes
Type: RO19

7 Nail, iron
Find number: 50-7
Small iron nail, possibly part of a Roman shoe.
Find depth: 39.29
Complete: yes

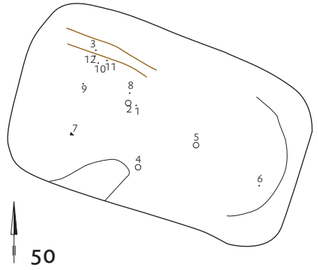
8 Bead, glass
Find number: 50-8
Green opaque cylinder-shaped glass bead.
Find depth: 39.29
Complete: yes
Type: GO11 / Siegmund Per36.2
Kombinationsgruppen F-I
Rhineland date: 555-705

9 Bead, glass
Find number: 50-9
Orange opaque barrel-shaped glass bead.
Find depth: 39.28
Complete: yes
Type: OO19

10 Bead, glass
Find number: 50-10
Green opaque cylinder-shaped glass bead.
Complete: yes
Find depth: 39.28
Type: GO11 / Siegmund Per36.2
Kombinationsgruppen F-I
Rhineland date: 555-705

11 Bead, glass
Find number: 50-11
Green opaque cylinder-shaped glass bead.
Complete: yes
Find depth: 39.28
Type: GO11 / Siegmund Per36.2
Kombinationsgruppen F-I
Rhineland date: 555-705

12 Bead, glass
Find number: 50-12
Green opaque cylinder-shaped glass bead.
Complete: yes
Find depth: 39.28
Type: GO11 / Siegmund Per36.2
Kombinationsgruppen F-I
Rhineland date: 555-705



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2


1.1 3 6 8 9 10 11 12

51
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	2,46
Grave pit width	1,35
Grave pit depth	39,25

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. No traces or outlines of a wooden container were found. The grave was reopened.

PHYSICAL ANTHROPOLOGY
Inhumation: Some cranial fragments are present (frontal, parietal, temporal and occipital regions) and the diaphyseal part of the left humerus. The preservation of the remains was poor. Sex diagnosis: the available cranial traits are feminine (nuchal plane, external occipital protuberance), the humerus is gracile. Age diagnosis: the lambdoid suture (L 2,3) is internally open.
Conclusion: a female between 20-40 years.

DATE GRAVE
Cannot be dated

FINDS
1 Bone, human
Find number 51-1
Skull.
Find depth: 39.48

2 Bone, human
Find number 51-2
Bone fragments.
Find depth: unknown

3 Nail, iron
Find number: 51-3
Three small iron nails.
Find depth: 39.31
Complete: yes

4 Bone, human
Find number: 51-4
Bone fragments, long bones.
Find depth: unknown

5 Fragment, iron
Find number: 51-5
Indeterminate iron fragment.
Find depth: 39.33
Complete: no
Length: 16 mm

6 Fragment, iron
Find number: 51-6
Two indeterminate iron fragments.
Find depth: 39.32
Complete: no
Length: 36 mm

7 Fragment, iron
Find number: 51-7
Two indeterminate iron fragments.
Find depth: 39.35
Complete: no
Length: 31 mm

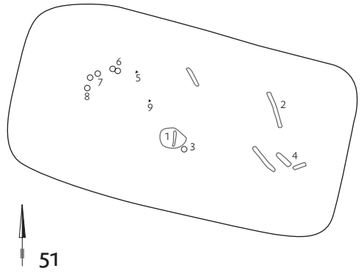
8 Fragment, iron
Find number: 51-8
Indeterminate iron fragment.
Find depth: 39.33
Complete: no
Length: 33 mm

9 Fragment, iron
Find number: 51-9
Small indeterminate iron fragment.
Find depth: 39.35
Complete: no
Length: 16 mm

10 Pottery fragment
Find number: 51-10
Eleven wall fragments of Iron Age handmade pottery and one fragment of a Roman tile (tegula)
Find depth: unknown
Complete: no
Type: indeterminate

Pottery fragment
Find number: 9-I-5
Wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Stone, flint
Find number: 9-II/III.1
Two flint fragments.
Complete: no



51

Stone, tephrite
Find number: 9-II/III.2
Fragment of tephrite, probably part of a grinding stone.
Complete: no

52
GRAVE

Trench	9
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,37
Grave pit width	1,41
Grave pit depth	38,54

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was possibly rectangular with slightly rounded corners. The grave was reopened. The southwest corner was disturbed by a reopening pit. A vague container outline was present.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Posterholt phases II-III, FAG phases 7-8, 610/20-670/80

FINDS
1 Pottery fragment
Find number: 52-1
Small fragment of a black biconical pot, made of a fine tempered fabric.
Find depth: 39.48
Complete: no
Type: indeterminate

2 Belt part, iron
Find number: 52-2
Indeterminate iron fragment with copper alloy, leather and textile remains attached.
Find depth: 39.45
Complete: no
Length: 27 mm

3 Nail, iron
Find number: 52-3
Large iron nail.
Find depth: 39.41
Complete: yes

4 Nail, iron
Find number: 52-4
Indeterminate iron fragment, possibly a nail.
Find depth: 39.21
Complete: no
Length: 18 mm

5 Nail, iron
Find number: 52-5
Indeterminate iron fragment, possibly a nail.
Find depth: 39.25
Complete: no
Length: 18 mm

6 Coin, gold
Find number: 52-6
Gold coin, tremissis.
Find depth: 39.26
Complete: yes
Type: Belfort type 3033
Date: ca. 620

7 Nail, iron
Find number: 52-7
Small iron nail.
Find depth: 39.22
Complete: yes

8 Pottery fragment
Find number: 52-8
Large fragment of the wall and base of a black biconical pot, made of fine tempered fabric. The upper wall is decorated with rectangular roulette impressions. The decoration pattern probably consisted of zones of two lines of roulette impressions of which only one zone is visible.
Find depth: 39.08
Complete: no

9 Pottery fragment
Find number: 52-9
Wall fragment of Roman fine oxidised ware.
Find depth: 38.93
Complete: no
Type: indeterminate

10 Fragment, indeterminate
Find number: 52-10
Sintered material.
Find depth: 38.59
Complete: no
Length: 28 mm

11 Bead, unknown
Find number: 52-11
Find depth: 38.58
Fragment of a bead: missing.
Complete: unknown

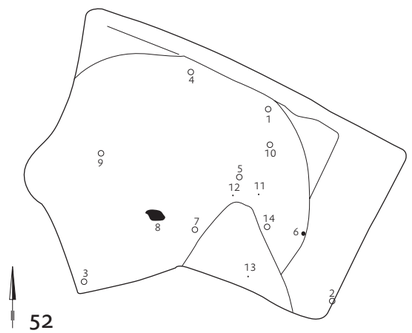
12 Fragment, iron
Find number: 52-12
Two indeterminate iron fragments with a copper alloy rivet and leather remains attached.
Find depth: 38.65
Complete: no
Length: 29 mm

13 Bead, unknown
Find number: 52-13
Find depth: 38.89
Bead: missing.
Complete: unknown

14 Belt part, buckle
Find number: 52-14
Iron buckle: missing.
Find depth: 38.51
Complete: unknown

Pottery fragment
Find number: 9-I-3
Wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 9-I-4
Wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate



52


2 (scale 1:1)


6 (scale 2:1)

53
POSSIBLE GRAVE

Trench	10
Context type	possible inhumation grave
Context structure	possible trench grave
Pit length	2,12
Pit width	0,94
Pit depth	38,02
Stratigraphic relation	context context 54

DESCRIPTION
Possible Merovingian inhumation grave. The orientation of the grave was possibly west-east, but no human remains were present. The burial pit was rectangular with almost perpendicular corners. No traces of a wooden container, a container outline, or grave finds were found. The possible grave could have been reopened, but a reopening pit is not visible either. It thus seems possible that grave 53 was not a grave, but a pit that cuts grave 54.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Only some shattered cremation remains were found. Cremation: the weight of cremated remains is 1 g and anatomical allocation is possible for 0 g (0%) of the remains. The burning degree was > 800° C and fragment size is 1 cm. Sex and age diagnosis: traits absent.
Conclusion: sex and age unknown.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Pottery fragment
Find number: 53-1
Wall fragment of Roman coarse ware.
Find depth: 38.38
Complete: no
Type: indeterminate

2 Pottery fragment
Find number: 53-2
One wall fragment of Roman colour-coated ware, three wall fragments of Roman coarse ware and two wall fragments of a Roman dolium.
Find depth: 38.34
Complete: no
Type: indeterminate

3 Nail, iron
Find number: 53-3
Fragment of an iron nail.
Find depth: 38.31
Complete: no

54
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,07
Grave pit width	1,05
Grave pit depth	38,22
Stratigraphic relation	context context 53

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was west-east. Human remains were documented but could not be recovered except for some teeth. The burial pit was rectangular with a possible alcove on the southwest side and slightly rounded corners. The function of this possible alcove remains unclear. A vague container outline was present. Grave 54 is cut by (possible) grave 53. The grave was possibly reopened. The lack of finds suggest the grave was reopened, but a reopening pit was not found.

PHYSICAL ANTHROPOLOGY
Inhumation: only some fragments of enamel from the teeth are present. The preservation of the remains is poor. No information on the sex and age of this individual can be obtained. Based on the length of the body silhouette this was probably a juvenile or adult individual.

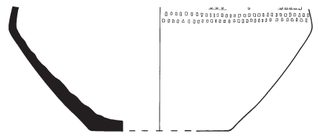
DATE GRAVE
Cannot be dated

FINDS
1 Bone, human
Find number: 54-1
Teeth.
Find depth: 38.38

2 Belt part, copper alloy
Find number: 54-2
Copper alloy strap end with curved edges. A hole is present at the straight end.
Find depth: 38.41
Complete: yes
Plate length: 50 mm
Type: LPV type 199
Phase: MA1-MR1
Date: 470/80-630/40

3 Bone, human
Find number: 54-3
Bone fragments.
Find depth: unknown

4 Bone, human
Find number: 54-4
Jaw bone (mandible).
Find depth: 38.37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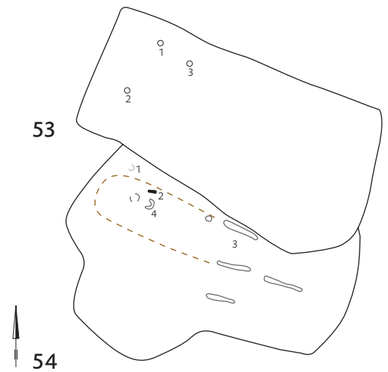
12



54


2

55
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,47
Grave pit width	1,80
Grave pit depth	37,86

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but only disarticulated human remains were present. The burial pit was rectangular with slightly rounded corners. The grave was possibly reopened. A possible reopening pit was found, but this could also be caused by slumping of the soil after the container collapse. The presence of beads in the upper layer of the grave fill however, suggest the grave was reopened.

PHYSICAL ANTHROPOLOGY
Inhumation: only one fragment of the diaphysis of the femur was recovered. The preservation of the remains was poor. Sex diagnosis: not possible. Age diagnosis: the robustness of the femur indicates an adult individual.
Conclusion: adult, age unknown.

DATE GRAVE
Cannot be dated

FINDS
1 Bone, human
Find number: 55-1
Bone fragments.
Find depth: 38.70

2 Nail, iron
Find number: 55-2
Small iron nail.
Find depth: 38.41
Complete: yes
Diameter: 8 mm

3 Fragment, iron
Find number: 55-3
Fourteen small indeterminate iron fragments.
Find depth: 38.44
Complete: no
Length: 26 mm

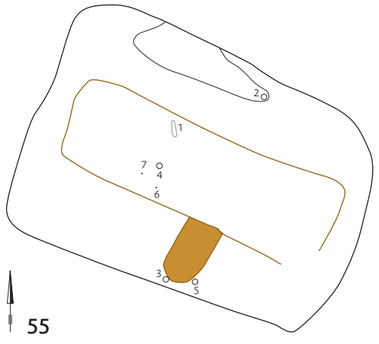
4 Fragment, iron
Find number: 55-4
Iron fragment: missing.
Find depth: 38.34
Complete: no

5 Fragment, iron
Find number: 55-5
Iron fragment: missing.
Find depth: 38.26
Complete: no

6 Bead, glass
Find number: 55-6
Blue transparent barrel-shaped glass bead.
Find depth: 37.90
Complete: yes
Type: BT19

7 Bead, glass
Find number: 55-7
Red opaque barrel-shaped glass bead.
Find depth: 37.84
Complete: yes
Type: RO19

8 Fragment, different
Find number: 55-8
Stray finds from level 2: missing.
Find depth: unknown
Complete: no



55


6 7

56
GRAVE

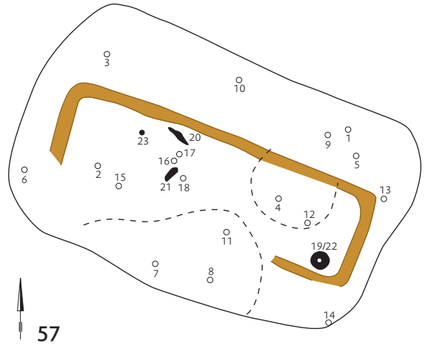
Trench	10
Grave type	cremation grave
Grave pit length	0,84

DESCRIPTION
Roman cremation grave. A vague and irregular outline of a cremation pit was visible, but most of the human remains were found inside a mole pipe. Grave 56 is possibly cut by grave 60. Because the outlines were vague, an individual grave drawing could not be provided.

PHYSICAL ANTHROPOLOGY
Cremation: the weight of the cremated remains is 1471 g and anatomical allocation is possible for 276 g (18,8%) or the remains. The burning degree was > 800° C and fragment size is between 3-5 cm. Sex diagnosis could not be established since traits were absent. The age diagnosis is 20-40 based on the pubic symphysis. Pathology; In the roof of the orbits so called cribra orbitalia can be observed. This associated with anaemia, which in turn is associated with a variety of diseases.
Conclusion: an adult individual between 20-40 years, with cribra orbitalia.

DATE GRAVE
No finds, cannot be dated.

FINDS
Nail, iron
Find number: 10-I-1
Three fragments of iron nails.
Find depth: unknown
Complete: no



57

57
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,80
Grave pit width	1,72
Grave pit depth	37,90

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. Traces of the wooden container were visible except for the south side. Most finds seem to be found in situ.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Cannot be dated

FINDS
1 Fragment, iron
Find number: 57-1
Indeterminate iron fragments.
Find depth: 38.53
Complete: no
Length: 12 mm

2 Fragment, iron
Find number: 57-2
Indeterminate iron fragment.
Find depth: 38.59
Complete: no
Length: 12 mm

3 Nail, iron
Find number: 57-3
Fourteen small indeterminate iron fragments, possibly nails.
Find depth: 38.41
Complete: no

4 Nail, iron
Find number: 57-4
Small iron nail.
Find depth: 38.40
Complete: yes

5 Nail, iron
Find number: 57-5
Small iron nail.
Find depth: 38.40
Complete: yes

6 Fragment, iron
Find number: 57-6
Indeterminate iron fragment.
Find depth: 38.27
Complete: no
Length: 18 mm

7 Nail, iron
Find number: 57-7
Iron nail.
Find depth: 38.31
Complete: Yes

8 Nail, iron
Find number: 57-8
Small iron nail.
Find depth: 38.28
Complete: yes

9 Nail, iron
Find number: 57-9
Small iron nail.
Find depth: 38.26
Complete: yes

10 Nail, iron
Find number: 57-10
Small iron nail.
Find depth: 38.05
Complete: yes

11 Nail, iron
Find number: 57-11
Small iron nail.
Find depth: 38.13
Complete: yes
Diameter: 4 mm

12 Fragment, iron
Find number: 57-12
Indeterminate iron fragment.
Find depth: 38.12
Complete: no
Length: 15 mm

13 Fragment, iron
Find number: 57-13
Indeterminate iron fragment with small iron rivet.
Find depth: 38.06
Complete: yes
Length: 24 mm

14 Nail, iron
Find number: 57-14
Small iron nail.
Find depth: 38.11
Complete: yes

15 Nail, iron
Find number: 57-15
Iron nail.
Find depth: 38.06
Complete: yes

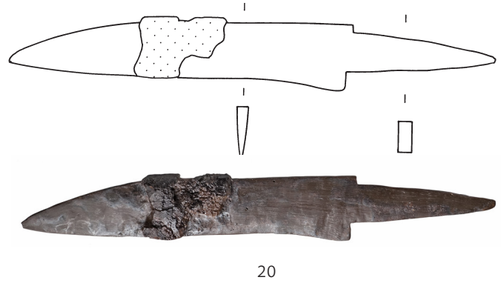
16 Belt part, iron
Find number: 57-16
Simple iron buckle with an rectangular loop.
Find depth: 38.05
Complete: yes
Loop length: 37 mm

17 Belt part, iron
Find number: 57-17
Simple iron buckle with an rectangular loop. Part of the leather belt is still attached to the buckle with help of two rivets, though one of these rivets is missing.


16

17


19


20

Find depth: 38.03
Complete: no
Loop length: 30 mm

18 Fragment, iron
Find number: 57-18
Indeterminate iron fragment with textile remains attached.
Find depth: 38.01
Complete: no
Length: 24 mm

19 Pottery vessel
Find number: 57-19
Complete Roman Samian cup Dragendorff 33 decorated with a horizontal groove and in scribed with sgraffito. One side displays an 'x', the sgraffito on the other side is indeterminate but contains an 'A' and some other letters or signs.
Find depth: 38.06-38.01
Complete: yes
Type: Dragendorff 33
Date: middle of the 2nd – 3rd century

20 Knife, iron
Find number: 57-20
Iron knife with leather remains attached. The point is located near the cutting edge.
Find depth: 37.98
Complete: yes
Blade width: 22 mm
Blade length: 119 mm
Type: Böhner type C
Date: 600-700 (Stufe IV)

21 Fragment, iron
Find number: 57-21
Iron fragment with rounded end.
Find depth: 38.00
Complete: no
Length: 114 mm

22 Sample, organic
Find number: 57-22
Sieving sample: contents of a Samian cup (find number 57-19).
Find depth: 38.06-38.01
Remark: not analysed

23 *Agrave*, copper alloy
Find number: 57-23
Copper alloy *agrave* decorated with three round garnets (or glass roundels) of which the central one is missing. Underneath the garnets a gold foil, decorated with a rectangular pattern, is present. The fitting has two fasteners of which one is missing.
Find depth: 37.94
Complete: no
Type: LPV type 295
Date: 660/70-700/710 (MR3)

24 Stone, sandstone
Find number: 57-24
Two sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 6 grams
Complete: no

25 Pottery fragment
Find number: 57-25
Three wall fragments of Roman coarse ware and six wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

58
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,65
Grave pit width	1,60
Grave pit depth	38,07

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. Traces of a wooden container and wooden beams were present. The grave was reopened and a vague reopening pit was visible. Still, a complete belt set with seax and seax scabbard were recovered from the grave. This group of finds was probably moved during the reopening of the grave. The rest of the grave still had a disturbed character. Cremation remains, Roman pottery fragments and a Roman coin were found as well. This indicates that the grave probably disturbed a Roman cremation grave.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

Cremation: the weight of the cremated remains is 60 g and anatomical allocation is possible for 48 g (80 %) of the remains. The burning degree > 800° C and fragment size is between 1-4 cm. Sex diagnosis: no traits are present, but the skeleton is gracile and therefore might be of a female individual. Age diagnosis: probably 20 years or older, based on the robustness of the bones
Conclusion: a possible adult female.

DATE GRAVE
Posterholt phase II, FAG phase 7, 610/20-640/50

FINDS
1 Nail, iron
Find number: 58-1.1
Two small iron nails.
Find depth: unknown
Complete: yes

Stone, sandstone
Find number: 58-1.2
Five sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 68 grams
Complete: no

Pottery fragment
Find number: 58-1.3
Wall fragment of reddish brown pottery with a coarse fabric, probably Merovingian.
Find depth: unknown
Complete: no

Pottery fragment
Find number: 58-1.4
One wall fragment of Roman colour-coated ware, one wall fragment of a Roman dolium and one base and sixteen wall fragments of Roman coarse ware.
Find depth: unknown
Complete: no
Type: indeterminate

Pottery fragment
Find number: 58-1.5
One rim fragment of a Roman Samian cup.
Find depth: unknown
Complete: no
Type: Dragendorff 33
Date: middle of the 2nd – 3rd century

Pottery fragment
Find number: 58-1.6
One rim fragment of a Roman coarse ware pot. The fragments of the coarse ware pot could belong to the specimen found in grave 1.
Find depth: unknown
Complete: no
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

2 Coin, copper alloy
Find number: 58-2
Copper alloy coin. Antoninus Pius (138-161)
Complete: yes
Find depth: 38.77
Type: Dupondius/As
Date: 147-148

3 Knife, iron
Find number: 58-3
Fragment of the blade of an iron knife.
Find depth: 38.33
Complete: no
Length: 31 mm

4 Nail, iron
Find number: 58-4
Fragment of a small iron nail.
Find depth: 38.32
Complete: no

5 Nail, iron
Find number: 58-5
Fragment of a small iron nail.
Find depth: 38.31
Complete: no

6 Bone, animal
Find number: 58-6
Jaw of a dog.
Find depth: 38.34
Complete: yes

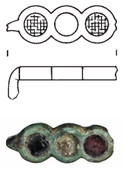
7 Belt part, copper alloy
Find number: 58-7.1
Copper alloy buckle with a band-shaped oval loop and shielded tongue. The buckle has leather and grass remains attached. The buckle belongs to the plate buckle of find number 58-8.
Find depth: 38.24
Complete: yes
Loop length: 50 mm
Type: Siegmund Gür3.3
Rhineland phase: 8-9
Rhineland date: 610-640
Alternative type 1: FAG Gür3B
Alternative date 1: 565-610/20 (FAG phase 5-6)
Alternative type 2: LPV type 172
Alternative date 2: 600/610-660/670 (MR1-MR2)

Organic remains
Find number: 58-7.2
Organic remains: probably textile and grass. The remains were attached to find number 58-7.1 (belt buckle).
Find depth: 38.24

Organic remains
Find number: 58-7.3
Grass remains. The remains were attached to find number 58-7.1 (belt buckle).
Find depth: 38.24

8 Belt part, copper alloy
Find number: 58-8
Elongated triangular copper alloy plate buckle with hollow backside, to which the buckle is no longer attached. The plate has three fake rivets on the front and three eyes on the back, one of which is invisible due to the presence of leather and grass remains. In the leather remains, three small copper alloy rivets are present comparable to those of a seax scabbard and two small leather straps are also attached to the front of the plate.
Find depth: 38.20
Complete: yes
Plate length: 84 mm
Type: Siegmund Gür3.3


21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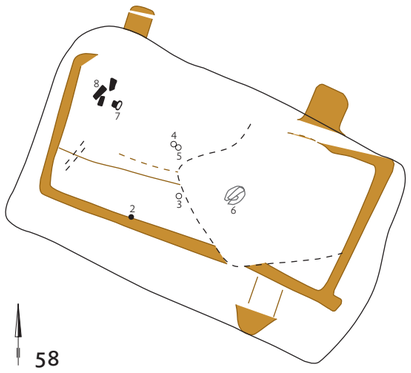

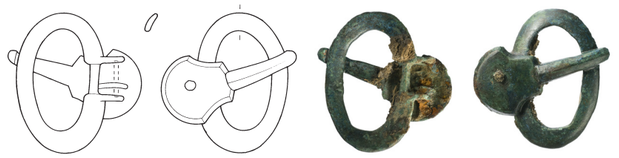
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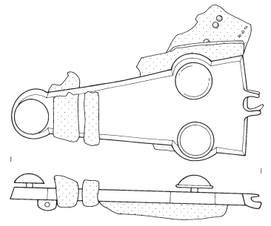
10.1

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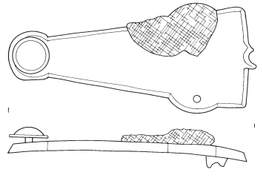
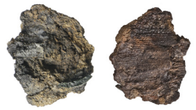



11

2 (scale 1:1)



10.2

9a

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9b

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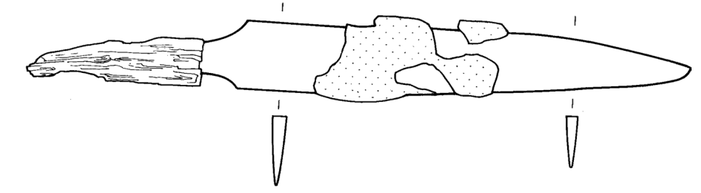

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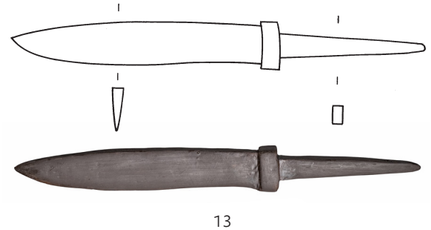


13

Rhineland phase: 8-9
Rhineland date: 610-640
Alternative type 1: FAG Gür3B
Alternative date 1: 565-610/20 (FAG phase 5-6)
Alternative type 2: LPV type 172
Alternative date 2: 600/610-660/670 (MR1-MR2)

9 Mount, copper alloy
Find number: 58-9.1
Four large copper alloy flat rivets of a seax scabbard with leather remains attached. The rivets are decorated with 'Dreiwirbel' motives and a groove is running along the edges of the rivets.
Find depth: 38.20
Complete: yes
Diameter: 18 mm
Type: Siegmund 4.1
Rhineland phase: 8-9
Rhineland date: 610-670
Alternative type: FAG 4.1
Alternative date: 610/20-670/80 (FAG phase 7-8)

Organic remains
Find number: 58-9.2
Organic remains associated with find number 58-9.1 (seax scabbard).
Find depth: 38.20
Remark: not analysed.

10 Belt part, copper alloy
Find number: 58-10.1
Triangular copper alloy belt plate and 3 fake rivets with flat rims on the front, 3 eyes on the backside and leather remains attached. The backside of the plate is hollow.
Find depth: unknown
Complete: yes
Plate length: 47 mm
Type: Siegmund Gür3.3
Rhineland phase: 8-9
Rhineland date: 610-640
Alternative type 1: FAG Gür3B
Alternative date 1: 565-610/20 (FAG phase 5-6)
Alternative type 2: LPV type 172
Alternative date 2: 600/610-660/670 (MR1-MR2)

Organic remains
Find number: 58-10.2
Organic remains: probably wood and grass. The remains are associated with find number 58-10.1 (belt plate).
Find depth: unknown
Remark: not analysed.

11 Belt part, copper alloy
Find number: 58-11
Elongated triangular copper alloy plate with 3 fake rivets on the front and 3 eyes on the backside. The plate has leather and textile remains attached. One rivet and one eye are missing. The plate is slightly curved and has a hollow backside. The plate probably functioned as back-plate to find number 58-8.
Find depth: unknown
Complete: yes
Plate length: 85 mm
Type: Siegmund Gür3.3
Rhineland phase: 8-9
Rhineland date: 610-640
Alternative type 1: FAG Gür3B
Alternative date 1: 565-610/20 (FAG phase 5-6)
Alternative type 2: LPV type 172
Alternative date 2: 600/610-660/670 (MR1-MR2)

12 Seax, iron
Find number: 58-12
Iron seax with wood and leather remains attached. The point of the blade is located on the axis of the blade. The size of the seax is small and it could be a knife as well.
Find depth: unknown
Complete: yes
Blade length: 174 mm

13 Knife, iron
Find number: 58-13
Small iron knife. The point is located near the back of the knife. The width of the blade is 16 mm.
Find depth: unknown
Complete: yes
Blade length: 94 mm
Type: Böhner type B

14 Organic remains
Find number: 58-14.1
Remains of wood with leather and textile remains attached. The remains are contain imprints of copper alloy rivets and are associated with find number 58-11 (belt plate).
Find depth: unknown
Remark: not analysed

Organic remains
Find number: 58-14.2
Organic remains: leather remains with small copper alloy rivets and wood remains with textile and possibly grass. The remains are associated with find number 58-11 (belt plate)
Find depth: unknown
Remark not analysed

Organic remains
Find number: 58-14.3
Wood fragment, associated with find number 58-11 (belt plate).
Find depth: unknown
Remark: not analysed

15 Stone, flint
Find number: 58-15
Elongated piece of worked flint, probably part of the equipment of the man buried in the grave. Not prehistoric.
Find depth: unknown
Complete: yes
Length: 49 mm

16 Organic remains
Find number: 58-16
Wood remains with textile remains attached. The remains contain two imprints of copper alloy rivets and are probably associated with the seax scabbard.
Find depth: unknown
Remark: Not analysed.

15

16 (scale 1:1)

59
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,34
Grave pit width	1,53
Grave pit depth	38,64

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but only some disarticulated human remains were present. The burial pit was rectangular with slightly rounded corners. A container outline was visible. The grave was possibly reopened. The disarticulated human remains and shattered finds suggest the grave was disturbed, but no indication of a reopening pit was found.

PHYSICAL ANTHROPOLOGY
Inhumation: a fragment of a disarticulated femur was found together with some shattered cremation remains. The preservation of the remains is poor. No information on the sex and age of this individual can be obtained. Based on the length of the body silhouette this was probably a juvenile or adult individual.

Cremation: the cremated remains found in grave 59 probably belong to grave 56. The weight of the cremated remains is 5 g and anatomical allocation is possible for 0 g (0 %) of the remains. The burning degree was > 800° C and fragment size is 1 cm. Sex and age diagnosis: traits absent
Conclusion: sex and age unknown.

DATE GRAVE
Cannot be dated

FINDS
1 Stone, sandstone
Find number: 59-1.1
Fifteen sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 320 grams
Complete: no

Pottery fragment
Find number: 59-1.2
One rim and three wall fragments of Roman Samian ware, one wall fragment of Roman colour-coated ware, one wall fragment of Roman fine oxidised fragment, one wall fragment of a Roman dolium and five wall fragments of Roman coarse ware.
Find depth: unknown
Complete: no
Type: indeterminate

2 Stone, sandstone
Find number: 59-2
Large sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.98
Weight: 1310 grams
Complete: no

3 Nail, iron
Find number: 59-3
Eleven fragments of iron nails.
Find depth: 39.07
Complete: no

4 Stone, sandstone
Find number: 59-4
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.92
Weight: 40 grams
Complete: no

5 Pottery fragment
Find number: 59-5
Base fragment of a Roman fine oxidised flagon.
Find depth: 38.98
Complete: no
Type: probably Oelmann 61/62
Date: middle of the 2nd – 3rd century

6 Bead, glass
Find number: 59-6
Blue opaque cylinder-shaped glass bead.
Find depth: 38.68
Complete: yes
Type: BO6 / Siegmund Per1.2
Kombinationsgruppen B-C
Rhineland date: 440-555

7 Bead, glass
Find number: 59-7
Red opaque cylinder-shaped glass bead.
Find depth: 38.68
Complete: yes
Type: RO6 / Siegmund Per35.1
Kombinationsgruppen B-F
Rhineland date: 440-640

8 Fragment, iron
Find number: 59-8
Three indeterminate iron fragments.
Find depth: 38.72
Complete: no
Length: 28 mm

9 Bone, human
Find number 59-9
Skull.
Find depth: 38.73

10 Bone, human
Find number 59-10
Bone fragments.
Find depth: unknown

11 Bead, glass
Find number: 59-11
Blue transparent rounded disc-shaped glass bead.
Find depth: 38.68
Complete: yes
Type: BT18

12 Stone, sandstone
Find number: 59-12.1
Four sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 159 grams
Complete: no

Pottery fragment
Find number: 59-12.2
Two wall fragments of Roman colour-coated ware, four wall fragments of Roman fine oxidised ware and five wall fragments of Roman coarse ware.
Find depth: unknown
Complete: no
Type: indeterminate

Stone, sandstone
Find number: 10-I-2.1
Nine sandstone fragments, Nivelsteiner sandstone.
Weight: 377 grams
Complete: no

Stone, sandstone
Find number: 10-I-2.2
Large sandstone fragment, Nivelsteiner sandstone.
Weight: >5 kilograms
Complete: no

60
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,15
Grave pit width	1,89
Grave pit depth	38,71

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A vague container outline was visible. It seems that the container was placed directly against the western wall of the burial pit. The grave was possibly reopened. The lack of finds and human remains suggest the grave was disturbed, but no indication of a reopening pit was found.

PHYSICAL ANTHROPOLOGY
Inhumation: no human remains or silhouette present but some enamel fragments were recovered. The preservation of the remains is poor. No information on the sex and age of the individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
No finds, cannot be dated

FINDS
1 Nail, iron
Find number: 60-1.1
Two small iron nails.
Find depth: unknown
Complete: yes

Pottery fragment
Find number: 60-1.2
One wall fragment of Roman colour-coated ware (rouletted), two wall fragments Roman fine oxidised ware and five wall fragments of Roman coarse ware.
Find depth: unknown
Complete: no
Type: indeterminate

Pottery fragment
Find number: 60-1.3
Two rim fragments of a Roman coarse ware jar or bowl. The coarse ware jar or bowl probably belongs to grave 1.
Find depth: unknown
Complete: no
Type: Oelmann 89 or Oelmann 103
Date: middle 2nd – 3rd century

2 Bone, human
Find number: 60-2
Molars.
Find depth: 38.62-38.67

61
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,18
Grave pit width	1,40
Grave pit depth	38,40

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. The grave was reopened in the early medieval period and disturbed in recent times. No traces of a wooden container or container outline were present.

DATE GRAVE
Cannot be dated

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

FINDS
1 Nail, iron
Find number: 61-1
Small iron nail.
Find depth: 38.57
Complete: yes

2 Fragment, iron
Find number: 61-2
Five indeterminate iron fragments.
Find depth: 38.49
Complete: no

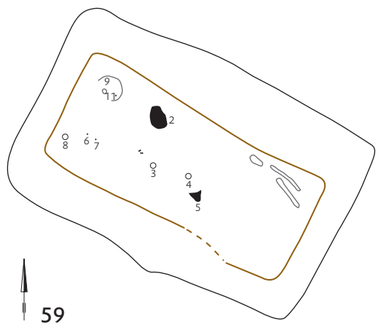
3 Belt part, iron
Find number: 61-3
Fragment of an iron *Riemenöse* with rectangular hole and copper alloy rivet.
Find depth: 38.56
Complete: no
Plate length: 26 mm

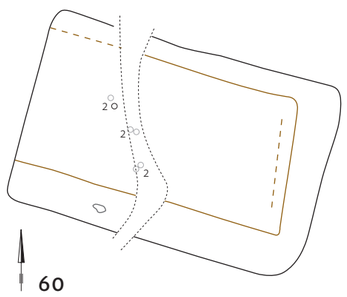
4 Belt part, iron
Find number: 61-4
Rectangular copper alloy belt plate with four small rivets and leather remains attached.
Find depth: 38.54
Complete: yes
Plate length: 23 mm

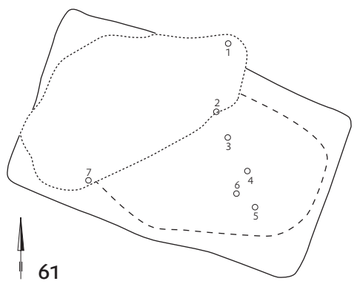
5 Nail, iron
Find number: 61-5
Three indeterminate iron fragments, possibly nails.
Find depth: 38.48
Complete: no
Length: 13 mm

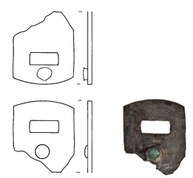
6 Nail, iron
Find number: 61-6
Two indeterminate iron fragments, possibly nails.
Find depth: 38.45
Complete: no
Length: 14 mm

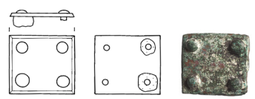
7 Fragment, iron
Find number: 61-7
Indeterminate iron fragment copper alloy and textile remains attached.
Find depth: 38.41
Complete: no
Length: 32 mm











8 Stone, sandstone
Find number: 61-8.1
Thirteen sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 430 grams

Pottery fragment
Find number: 61-8.2
Small fragment of handmade pottery, probably prehistoric.
Find depth: unknown
Complete: no
Type: indeterminate

9 Pottery fragment
Find number: 61-9.1
One rim fragment of a Roman coarse ware plate. The coarse ware plate probably belongs to grave 1.
Find depth: unknown
Complete: no
Type: Stuart 218
Date: 2nd – 2nd half of the 3rd century

Pottery fragment
Find number: 61-9.2
One wall fragments of Roman colour-coated ware and four wall fragments of Roman coarse ware.
Find depth: unknown
Complete: no
Type: indeterminate

62
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,27
Grave pit width	1,89
Grave pit depth	38,37

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. The grave was reopened. Only a vague container outline was present and the fill of the burial pit only contained shattered finds.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Posterholt phase III-IV, FAG phases 8-10, 640/50-<750

FINDS
1 Pottery vessel
Find number: 62-1, 62-2, 62-3, 62-4
Three base fragments and one rim fragment of a grey, egg-shaped pot, made of a coarse fabric. The base fragments fit together and probably belong to the same pot as the rim fragment with the outward bended rim (find number 62-4).
Find depth: 39.01-38.81
Complete: no

5 Nail, iron
Find number: 62-5
Fragment of a large iron nail with a square section with wood remains attached. The nail could indicate the presence of a wooden container.
Find depth: 38.95
Complete: no

6 Nail, iron
Find number: 62-6
Nine fragments of small iron nails.
Find depth: 38.80
Complete: no

7 Stone, sandstone
Find number: 62-7.1
Four sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 110 grams
Complete: no

Pottery fragment
Find number: 62-7.2
One wall fragment of Roman colour-coated ware, two wall fragments of Roman coarse ware and two wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

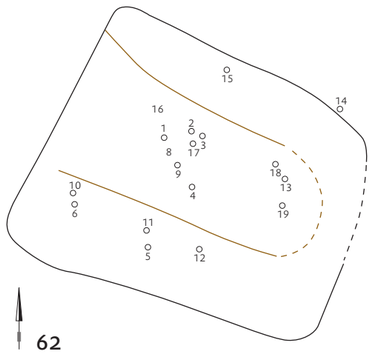
8 Bead, glass
Find number: 62-8
Blue elongated cylinder-shaped glass bead decorated with yellow dots.
Find depth: 38.80
Complete: yes
Type: Koch 3.42 (Pleidelsheim)
Kombinationsgruppe: not specified

9 Nail, iron
Find number: 62-9
Five fragments of small iron nails.
Find depth: 38.73
Complete: no

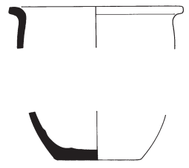
10 Needle, bone
Find number: 62-10
Knob of a bone needle.
Find depth: 38.55
Complete: no
Length: 17 mm

11 Pottery fragment
Find number: 62-11
Rim fragment of a Roman coarse ware jar.
Find depth: 38.55
Complete: 10-25%
Type: Oelmann 89
Date: middle of the 2nd – 3rd century

12 Pottery fragment
Find number: 62-12
Base fragment of a Roman fine oxidised ware flagon (burned).
Find depth: 38.69
Complete: no
Type: indeterminate

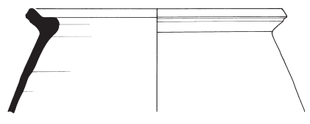


62


1-4


8 16


10 (scale 1:1)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13 Belt part, iron
Find number: 62-13
Iron strap-end with copper alloy and silver inlay and textile remains attached. The decoration pattern is difficult to establish but it has elements of animal style decoration. Fragments of a striped band (*Leiterband*) can be recognised.
Find depth: 38.45
Complete: no
Plate length: 63 mm
Type: '*Ophoven*' type
Date: seventy century

14 Nail, iron
Find number: 62-14.1
Small iron nail.
Find depth: 38.56
Complete: yes

15 Pottery fragment
Find number: 62-15
Rim fragment of a Roman coarse ware jar or bowl.
Find depth: 38.52
Complete: no
Type: Oelmann 89 or Oelmann 103
Date: middle of the 2nd – 3rd century

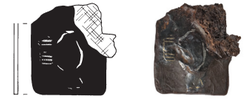
16 Bead, amber
Find number: 62-16
Amber bead, amorphous.
Find depth: 38.50
Complete: no

17 Fragment, iron
Find number: 62-17
Two indeterminate iron fragments.
Find depth: 38.47
Complete: no
Length: 18 mm

18 Belt part, iron
Find number: 62-18
Rectangular iron plate inlayed with copper alloy and silver inlay and textile remains attached. The decoration pattern is difficult to establish.
Find depth: 38.45
Complete: no
Plate length: 32 mm
Type: '*Ophoven*' type
Date: seventy century

19 Fragment, iron
Find number: 62-19
Indeterminate iron fragment.
Find depth: 38.45
Complete: no
Length: 16 mm


13


18

63
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,62
Grave pit width	2,01
Grave pit depth	37,99

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. According to the excavators, a wooden container with a partition wall was found. However, this possible partition wall is only visible at level III. Since it was not visible at a higher level, it may not have been part of the wooden container as such. Instead, it seems to have been a beam that was part of a construction of beams underneath a single wooden container. The degree of disturbance of the grave is unknown. If we are dealing with a container with a partition the finds seem to be displaced. If the other explanation is true, some of the finds thought to be dislocated are actually found in situ.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Cannot be dated

FINDS
1 Bead, glass
Find number: 63-1
White opaque wide cylinder-shaped glass bead.
Find depth: 38.36
Complete: yes
Type: WO11

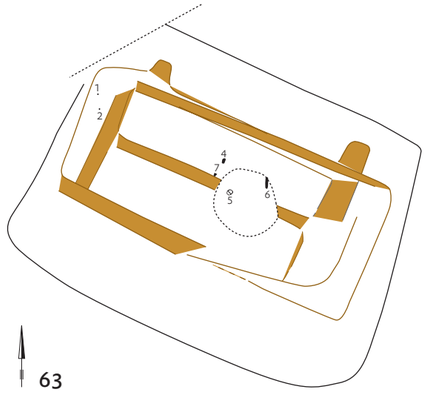
2 Bead, glass
Find number: 63-2
White opaque rounded dis-shaped glass bead.
Find depth: 38.38
Complete: yes
Type: WO18

3 Stone, sandstone
Find number: 63-3.1
Nine sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 235 grams
Complete: no

Pottery fragment
Find number: 63-3.2
Nine wall fragments of Roman fine oxidised ware, four wall fragments of Roman coarse ware, two wall fragments of Roman or Merovingian coarse ware, and one wall fragment of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

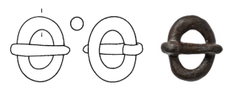
4 Belt part, iron
Find number: 63-4
Simple small iron buckle with an oval loop.
Find depth: 38.17
Complete: yes
Loop length: 23 mm

5 Fragment, iron
Find number: 63-5
Three indeterminate iron fragments.
Find depth: 38.14



63


1 2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Complete: no
Length: 21 mm

6 Object, iron
Find number: 63-6
Iron bended clasp with flat ends. The strip was probably attached with the help of two rivets, but these rivets are no longer present.
Find depth: 38.17
Complete: no
Length: 75 mm

7 Object, iron
Find number: 63-7
Iron bended clasp with flat ends and two rivets.
Find depth: 38.01
Complete: yes
Length: 79 mm

64
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,31
Grave pit width	1,55
Grave pit depth	38,01

DESCRIPTION
Merovingian inhumation grave (grave 64B) with an additional burial (grave 64A). The burials were placed on top of each other. The orientation of the grave was west-east. The burial pit was rectangular with slightly rounded corners. Grave 64B was the first burial deposited in grave 64. It contained a vague container outline. The burial was reopened and disturbed when burial 64A was deposited in the grave. During this disturbance, all human remains except the skull were moved to the eastern end of the wooden container. Grave 64A remained undisturbed. No traces or outlines of a wooden container were visible for this grave.

PHYSICAL ANTHROPOLOGY
Inhumation: human remains of two individuals were present according to the drawing of the grave. Recovered are parts of two different craniums (one of which was very eroded), and a fragment of the femur (diaphysis).

Grave 64A: sex diagnosis: the nuchal plane and the external occipital protuberance are feminine. Age diagnosis: on the internal table of the cranium the sagittal suture (S2, 3 and 4) is closed and the lambdoid suture (L1, 2 and 3) on the left and right side is open.
Conclusion: a female between 30-60 years.

Grade 64B: only a very eroded fragment of the cranial vault of an adult individual was present. Information on the sex of this individual could not be obtained.
Conclusion: an adult individual

DATE GRAVE
Cannot be dated

FINDS
1 Bone, human
Find number 64-1
Skull.
Find depth: 38.51

2 Bone, human
Find number 64-2
Bone fragments.
Find depth: unknown

3 Belt part, iron
Find number: 64-3
Simple small iron buckle with an rectangular loop.
Find depth: 38.33
Complete: yes
Loop length: 25 mm

4 Pottery fragment
Find number: 64-4
Two wall fragments of Roman colour-coated ware (rouletted).
Find depth: unknown
Complete: no
Type: indeterminate

5 Bone, human
Find number: 64-5
Skull fragments.
Find depth: 38.19

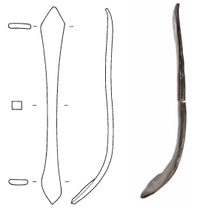
6 Belt part, iron
Find number: 64-6
Simple small iron buckle with an oval loop.
Find depth: 38.17
Complete: yes
Loop length: 24 mm

7 Knife, iron
Find number: 64-7
Small iron knife with wood remains attached. The point is located near the cutting edge.
Find depth: 38.21-38.18
Complete: yes
Blade length: 77 mm
Type: Böhner type C
Date: 600-700 (Stufe IV)

8 Bone, human
Find number: 64-8
Bone fragments.
Find depth: unknown

9 Fragment, iron
Find number: 64-9
Indeterminate iron fragment.
Find depth: 38.10
Complete: no
Length: 28 mm

10 Fragment, iron
Find number: 64-10
Indeterminate iron fragment.
Find depth: 38.12
Complete: no
Length: 31 mm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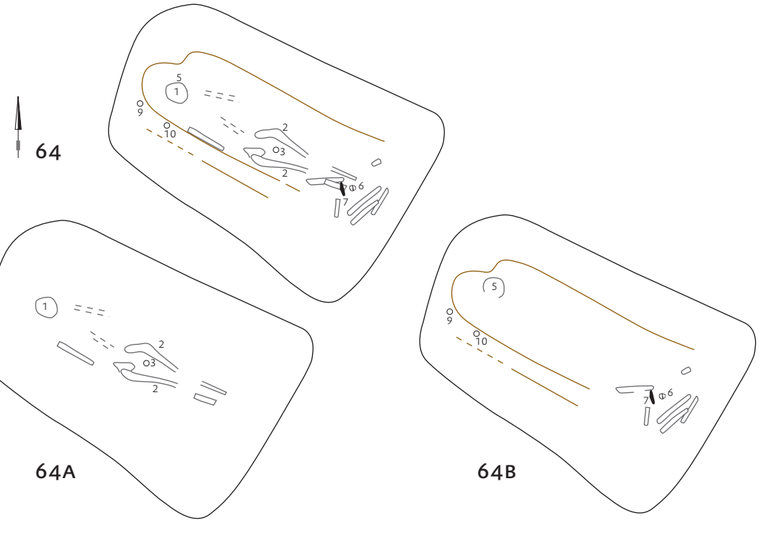

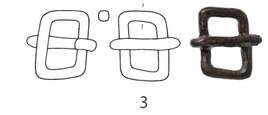
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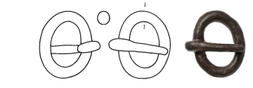
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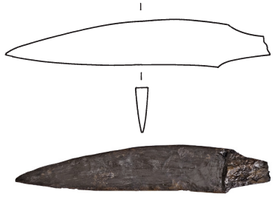
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65
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,99
Grave pit width	1,96
Grave pit depth	37,74

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was probably rectangular with slightly rounded corners, though its shape is a somewhat irregular. A container outline was present together with traces of the wooden beams on which the container was originally placed. A vague outline of a second wooden container was visible at level II. Even though no human remains were found, the location of the finds suggest it remained undisturbed.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Cannot be dated

FINDS
1 Nail, iron
Find number: 65-1
Iron nail.
Find depth: 38.23
Complete: yes

2 Nail, iron
Find number: 65-2
Iron nail.
Find depth: 38.32
Complete: no

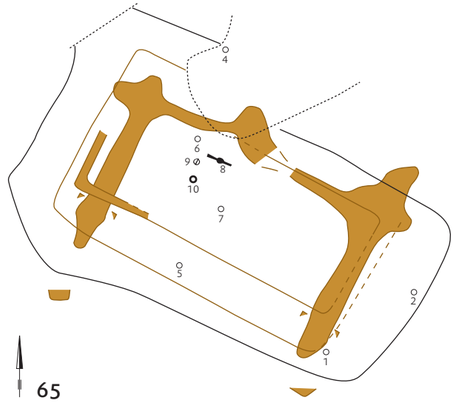
3 Pottery fragment
Find number: 65-3
One wall fragment of Roman colour-coated ware (rouletted), three wall fragments of Roman fine oxidised ware, and six fragments of Roman coarse ware.
Find depth: unknown
Complete: no
Type: indeterminate

4 Fragment, iron
Find number: 65-4
Small indeterminate iron fragment.
Find depth: 38.07
Complete: no
Length: 15 mm

5 Fragment, iron
Find number: 65-5
Indeterminate iron fragment.
Find depth: 38.01
Complete: no
Length: 31 mm

6 Stone, flint
Find number: 65-6
Flint fragment.
Find depth: 37.84
Complete: no

7 Nail, iron
Find number: 65-7
Two iron nails, joint together.
Find depth: 37.84
Complete: yes
Diameter: 10 mm


65


6

8 Knife, iron
Find number: 65-8
Iron knife. The point is located near the cutting edge.
Find depth: 37.83
Complete: yes
Blade width: 25 mm
Blade length: 132 mm
Type: Böhner type C
Date: 600-700 (Stufe IV)

9 Belt part, iron
Find number: 65-9
Simple iron buckle with a rectangular loop.
Find depth: 37.82
Complete: yes
Loop length: 32 mm

10 Belt part, iron
Find number: 65-10
Simple iron buckle with a rectangular loop. With possible leather remains attached.
Find depth: 37.82
Complete: no
Loop length: 27 mm

66
GRAVE

Trench	10
Grave type	inhumation grave
Grave structure	unknown
Grave pit length	unknown
Grave pit width	1,08
Remark	not examined

DESCRIPTION
The grave was not examined.

DATE GRAVE
No finds, cannot be dated

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

FINDS
None

67
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,28
Grave pit width	1,38
Grave pit depth	38,96

DESCRIPTION
Merovingian inhumation grave of a child. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was small and rectangular with slightly rounded corners. A container outline with straight corners was present.

PHYSICAL ANTHROPOLOGY
Inhumation: some parts of the mandible and maxilla and some teeth were recovered. Sex diagnosis: not possible. Age diagnosis: the dentition indicates an age of (9 years ± 24 months)
Conclusion: a child between 7-11 years old.

DATE GRAVE
Cannot be dated

FINDS
1 Pottery fragment
Find number: 67-1
One base and sixteen wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Bone, human
Find number: 67-2,1
Skull and jaw bone (mandible).
Find depth: 38.96

Bead, glass
Find number: 67-2.2
Green opaque barrel shaped glass bead.
Find depth: 38.96
Complete: yes
Type: GO19

68
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,44
Grave pit width	1,71
Grave pit depth	38,86

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was probably rectangular with slightly rounded corners. The grave was reopened. The northeast corner was disturbed by a reopening pit. Traces of the south and west wall of a wooden container were present. The container was possibly placed on wooden beams.

PHYSICAL ANTHROPOLOGY
Inhumation: the presence of one long bone fragment was documented by the excavators, but it is not collected due to its poor preservation. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Cannot be dated

FINDS
1 Stone, flint
Find number: 68-1.1
Fragment of burned flint.
Find depth: unknown
Complete: no

Stone, sandstone
Find number: 68-1.2
Sandstone fragment, Nivelsteiner sandstone.
Find depth: unknown
Weight: 10 grams
Complete: no

Pottery fragment
Find number: 68-1.3
One wall fragment of Roman coarse ware, one wall fragment of Roman or Merovingian coarse ware, and one rim, one base and nineteen wall fragments Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Belt part, iron
Find number: 68-2
Simple iron buckle with an oval loop. Part of the tongue is missing.
Find depth: 39.46
Complete: no
Loop length: 35 mm

3 Pottery fragment
Find number: 68-3
Very small rim fragment of a black Merovingian pot, made of a fine tempered fabric.
Find depth: 39.46
Complete: no

4 Pottery fragment
Find number: 68-4
Large fragment of the base and lower wall of a black biconical pot.
Find depth: 39.17
Complete: no

5 Arrowhead, iron
Find number: 68-5.1
Iron arrowhead with closed socket and an oval blade. Remains of the wooden shaft are preserved inside the socket.
Find depth: 39.10
Complete: yes
Type: LPV type 26
Phase: MA1-MR1
Date: 470/80-630/40
Alternative type: Böhner type B
Alternative date: 525-700 (Stufe III - IV)

Arrowhead, iron
Find number: 68-5.2
Iron arrowhead with closed socket. The blade is square in section. Remains of the wooden shaft are possibly preserved in the socket.
Find depth: 38.97
Complete: yes
Type: Unknown

6 Pottery fragment
Find number: 68-6
Seven wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

Pottery fragment
Find number: 9-1-9
Rim fragment of a biconical pot, made of fine tempered fabric.
Find depth: unknown
Complete: no
Type: indeterminate

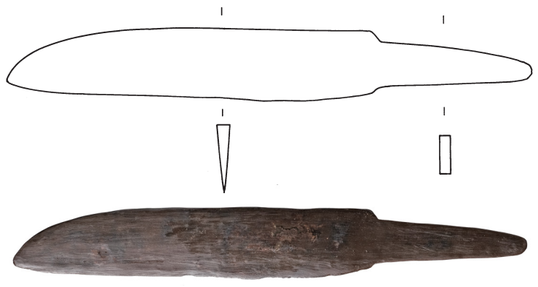
69
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	1,55
Grave pit width	1,02
Grave pit depth	39,39

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. No traces or outlines of a wooden container were visible. The degree of disturbance of the grave is unknown.

PHYSICAL ANTHROPOLOGY
Inhumation: only some fragments of enamel from the teeth were recovered. No information on the sex and age of the individual can be obtained. Based on the length of the burial pit this was probably an infans II, juvenile or adult individual.

DATE GRAVE
No finds, cannot be dated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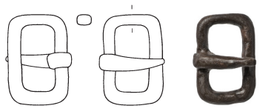
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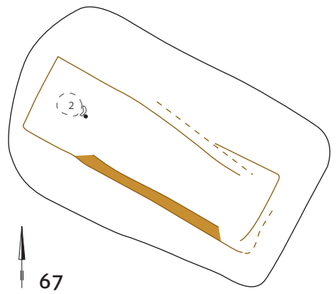
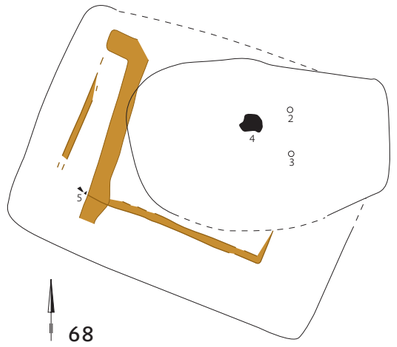


67


2.2



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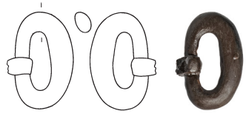
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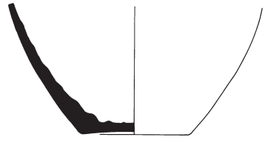
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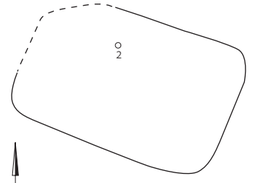


69

FINDS

1 Stone, sandstone
Find number: 69-1.1
Sandstone fragment, Nivelsteiner sandstone.
Weight: 45 grams
Complete: no

Pottery fragment
Find number: 69-1.2
One wall fragment of Roman colour-coated ware, three wall fragments of Roman fine oxidised ware and nine wall fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

2 Bone, human
Find number: 69-2
Molars.
Find depth: 39.59-39.50

70
GRAVE

Trench	
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,84
Grave pit width	1,96
Grave pit depth	38,73

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A vague container or chamber outline was visible. The grave was reopened.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Posterholt phases II-IV, FAG phases 7-9, 610/20-710

FINDS

1 Pottery fragment
Find number: 70-1.1
Fragment of red Merovingian pottery made of fine fabric, decorated with six incised lines.
Find depth: unknown
Complete: no

Pottery fragment
Find number: 70-1.2
Eight wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Pottery vessel
Find number: 70-2
Large fragment of the upper wall and rim with a spout of a black biconical spouted pot. The pot is made of a fine fabric tempered with pottery grit. The upper wall is decorated with seven lines of rectangular roulette impressions and the fabric is fine-tempered. Most likely identical with find number 78-2.
Find depth: 39.35
Complete: no
Type: FAG Kwt5A
Phase: FAG 5-6
Date: 565-610/20

3 Knife, iron
Find number: 70-3
Two fragments of an iron knife. One fragment is the point of the knife, the other the grip and part of the blade. Both fragments have wood and leather remains attached.
Find depth: 38.94
Complete: no
Grip length: 56 mm

4 Fragment, iron
Find number: 70-4.1
Indeterminate iron fragment with leather and wood remains attached.
Find depth: 38.85
Complete: no
Length: 36 mm

Mount, leather
Find number: 70-4.2
Leather fragment with eight small copper alloy rivets attached, part of a seax scabbard.
Find depth: 38.85
Complete: no

5 Fragment, textile
Find number: 70-5
Four indeterminate textile fragments.
Find depth: 38.87
Complete: no
Length: 26 mm

6 Pottery vessel
Find number: 70-6
Light brown grey biconical pot with weathered surface. The fabric is tempered with brown inclusions.
Complete: yes
Find depth: 38.92
Type: Siegmund Kwt2.43
Rhineland phase: 8-9
Rhineland date: 610-670
Alternative type: FAG Kwt2.43
Alternative date: 580/90-710 (FAG phase 6-9)

7 Lance head, iron
Find number: 70-7
Iron lance head with diamond shaped blade and closed socket. Remains of the wooden shaft are preserved inside the socket.
Find depth: 38.82-38.78
Complete: yes
Type: Siegmund Lan2.5
Rhineland phase: 8B-9
Rhineland date: 610-670
Alternative type: FAG S-Lan2.5
Alternative date: 610/20-710 (FAG phase 7-9)

8 Sample, organic
Find number: 70-8
Sieving sample; contents of find number 70-6 (Biconical pot)
Find depth: 38.92
Remark: not analysed

71
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,59
Grave pit width	1,68
Grave pit depth	38,92

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A vague container outline was present, but it is probably disturbed by a reopening pit. The grave was reopened.

PHYSICAL ANTHROPOLOGY
Inhumation: only one fragment of the diaphysis of a long bone was recovered. The preservation of the remains was poor. Sex diagnosis: not possible. Age diagnosis: not possible.
Conclusion: sex and age unknown.

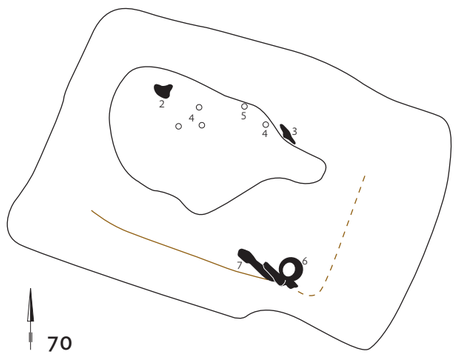
DATE GRAVE
Cannot be dated

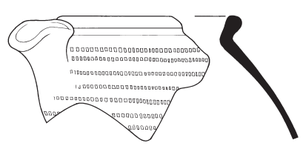
FINDS

1 Pottery fragment
Find number: 71-1
Wall fragment of a black Merovingian pot with raised bosses (*Bulturn*) made of a fine-tempered fabric. The fragment is decorated with a single rosette stamp.
Find depth: 39.73
Complete: no
Type: FAG Kwt2A
Phase: 4-5
Date: 510/25-580/90

2 Pottery fragment
Find number: 71-2
Two fitting fragments of black Merovingian pottery made of fine-tempered fabric. The fragments are decorated with a single rosette stamp, a groove and a raised boss.
Find depth: 39.52
Complete: no
Type: FAG Kwt2A
Phase: 4-5
Date: 510/25-580/90

3 Arrowhead, iron
Find number: 71-3.1
Part of the closed socket of an iron arrowhead. Part of the wooden shaft is preserved inside the socket.
Find depth: 39.36
Complete: no

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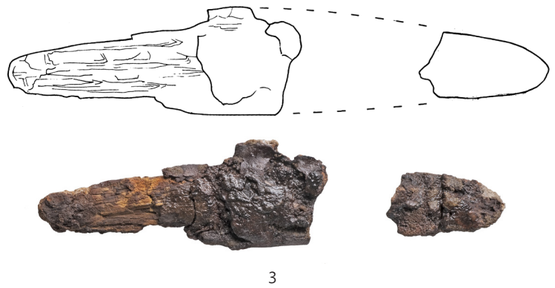
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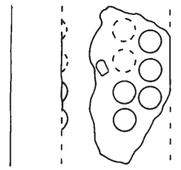
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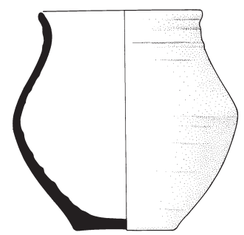
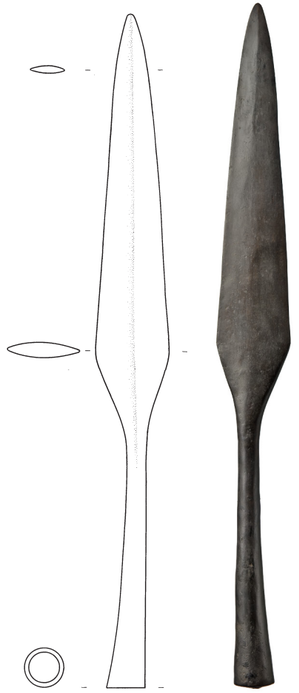



7

Stone, flint
Find number: 71-3.2
Flint fragment.
Find depth: 39.36
Complete: no

Stone, sandstone
Find number: 71-3.3
Two sandstone fragments, Nivelsteiner sandstone.
Find depth: 39.36
Weight: 83 grams
Complete: no

Pottery fragment
Find number: 71-3.4
Four wall fragments of Roman coarse ware, three wall fragments of Merovingian fine reduced ware, eight wall fragments of Iron Age handmade pottery and fragment of a Roman tile (tegula).
Find depth: 39.36
Complete: no
Type: indeterminate

4 Bone, human
Find number: 71-4
Bone fragments.
Find depth: 39.23

5 Fragment, iron
Find number: 71-5
Indeterminate iron fragment.
Find depth: 39.16
Complete: no
Length: 17 mm

6 Pottery fragment
Find number: 71-6
Small indeterminate red brown rim fragment of fine-tempered fabric probably of a biconical pot. The fragment is decorated with two grooves and a single rosette stamp.
Find depth: 39.20
Complete: no
Type: FAG Kwt2A
Phase: 4-5
Date: 510/25-580/90

7 Bone, human
Find number: 71-7
Bone fragments.
Find depth: 39.12

8 Pottery fragment
Find number: 71-8
Fragment of Merovingian pottery (probably biconical) made of a fine-tempered fabric.
Find depth: 39.08
Complete: no

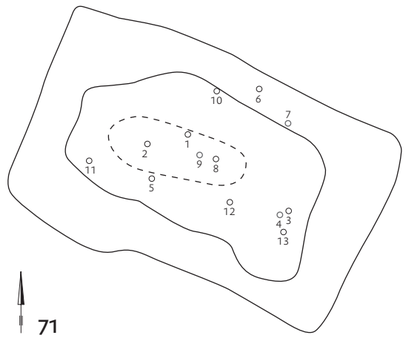
9 Bone, human
Find number: 71-9
Bone fragments.
Find depth: 39.12

10 Fragment, iron
Find number: 71-10
Indeterminate iron fragment.
Find depth: 39.03
Complete: no
Length: 15 mm

11 Belt part, iron
Find number: 71-11
Three iron fragments, possibly part of the loop of a buckle.
Find depth: 39.03
Complete: no
Length: 15 mm

12 Nail, iron
Find number: 71-12
Small iron nail.
Find depth: 39.03
Complete: yes
Diameter: 5 mm

13 Nail, iron
Find number: 71-13
Two small iron nails.
Find depth: 39.10
Complete: yes
Diameter: 5 mm



71


1 1 (scale 1:2)


3 (scale 1:2)

72
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,71
Grave pit width	1,73
Grave pit depth	38,74

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A container outline and some traces of the north and east wall of the wooden chamber were visible. The grave was reopened.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Posterholt phase II and possibly I, FAG phases 6-7 and possibly 5, (565-)580/90-640/50

FINDS
1 Stone, sandstone
Find number: 72-1.1
Nine sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 405 grams
Complete: no

Stone, flint
Find number: 72-1.2
Flint fragment.
Find depth: unknown
Complete: no


2


2


6


11

Pottery fragment
Find number: 72-1.3
One wall fragment of Roman Samian ware (burned), one base fragment of a Roman mortarium, four wall fragments of Roman coarse ware, and one rim and six wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

Pottery fragment
Find number: 72-1.4
One rim fragment of a Roman Samian dish.
Find depth: unknown
Complete: no
Type: Dragendorff 31
Date: middle of the 2nd – 3rd century

2 Pottery vessel
Find number: 72-2, 72-3, 72-4, 72-5, 72-6, 72-7, 72-9, 72-10, 72-11, 72-13, 72-14, 72-15, 72-18, 72-19, 72-20, 72-21, 72-24, 72-33, 72-35, 72-36, 72-37, 72-39
Two base fragments (72-2, 72-7), three rim fragments (72-3, 72-5, 72-13) and twenty-five wall fragments of a grey biconical pot with spout. The handle - which would be expected opposite the spout - was not found, but a complete profile is present. The upper wall is decorated with thirteen lines of rectangular roulette impressions. The interior of the rim is decorated with a single line of triangular roulette impressions and an irregular line of rectangular roulette impressions.
Find depth: 39.57 – 38.77
Complete: no
Type: Kwt3.21
Rhineland phase: 7-8
Rhineland date: 585-640
Alternative type: FAG Kwt5B
Alternative date: 565-640/50 (phase 5-7)

6 Pottery vessel
Find number: 72-6.1
See find number 72-2.
Find depth: unknown
Complete: no

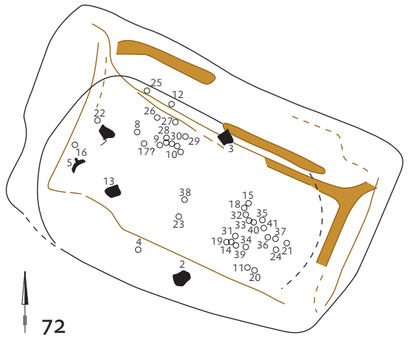
Stone, sandstone
Find number: 72-6.2
Nine sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 440 grams
Complete: no

Pottery fragment
Find number: 72-6.3
One wall fragment of Roman Samian ware (burned), three wall fragments of Roman coarse ware, one wall fragment of Roman of Merovingian coarse ware, ten wall fragments of Iron Age handmade pottery and one fragment of a Roman tile (tegula).
Find depth: unknown
Complete: no
Type: indeterminate

8 Pottery fragment
Find number: 72-8
Pottery fragment: missing.
Find depth: 39.08
Complete: no

12 Object, iron
Find number: 72-12
Iron object with wood remains attached, possibly part of an awl.
Find depth: 39.11
Complete: yes

16 Stone, sandstone
Find number: 72-16
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 38.98
Weight: 100 grams
Complete: no



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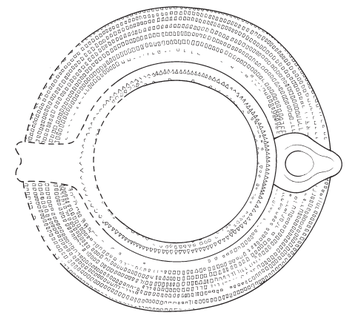
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2 (scale 1:4)

17 Fragment, iron
Find number: 72-17
Indeterminate iron fragment.
Find depth: 38.94
Complete: no

22 Fragment, iron
Find number: 72-22
Indeterminate iron fragment.
Find depth: 38.88
Complete: no
Length: 19 mm

23 Pottery fragment
Find number: 72-23
Pottery fragment: missing.
Find depth: 38.88
Complete: no

25 Fragment, iron
Find number: 72-25
Indeterminate iron fragment.
Find depth: 38.81
Complete: no
Length: 19 mm

26 Fragment, iron
Find number: 72-26
Small narrow iron strip or small iron plate.
Find depth: 38.78
Complete: no
Length: 36 mm

27 Fragment, iron
Find number: 72-27
Indeterminate iron fragment.
Find depth: 38.76
Complete: no
Length: 17 mm

28 Fragment, indeterminate
Find number: 72-28
Indeterminate fragment, possibly glass.
Find depth: 38.77
Complete: no

29 Fragment, iron
Find number: 72-29
Three indeterminate iron fragments.
Find depth: 38.78
Complete: no
Length: 30 mm

30 Fragment, iron
Find number: 72-30
Indeterminate iron fragment with leather remains attached.
Find depth: 38.78
Complete: no
Length: 37 mm

31 Nail, iron
Find number: 72-31
Six fragments of small iron nails.
Find depth: 38.81
Complete: no
Diameter: 7 mm

32 Fragment, iron
Find number: 72-32
Indeterminate iron fragment.
Find depth: 38.81
Complete: no
Length: 14 mm

34 Pottery fragment
Find number: 72-34
Pottery fragment: missing.
Find depth: 38.80
Complete: no

38 Fragment, iron
Find number: 72-38
Indeterminate bended iron fragment.
Find depth: 38.77
Complete: no
Length: 30 mm

40 Pottery fragment
Find number: 72-40
Pottery fragment: missing.
Find depth: 38.77
Complete: no

41 Nail, iron
Find number: 72-41
Small iron nail.
Find depth: 38.82
Complete: yes
Diameter: 6 mm

73
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,50
Grave pit width	1,64
Grave pit depth	38,94

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but only some disarticulated human remains were present. The burial pit was rectangular with slightly rounded corners. A vague container outline was present. The grave was reopened. The southwest corner of the container outline was disturbed by a reopening pit. The filling of the grave contained shattered cremation remains, shoe-nails and Roman pottery fragments. This suggests that the grave cuts through a Roman cremation grave.

PHYSICAL ANTHROPOLOGY
Inhumation: only some fragments of enamel from the teeth, a small part of the cranial vault and a fragment of the diaphysis of a long bone were recovered, together with some shattered cremation remains. The preservation of the remains was poor. No information on the sex and age of the individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

Cremation: the weight of the cremated remains is 3 g and anatomical allocation is possible for 3 g (100%) of the remains. The burning degree was > 800° C and fragment size is 2 cm. Sex diagnosis: traits absent. Age diagnosis: only one part of the skull vault is present, on this fragment an open suture (Lambda) can be observed. This suture is open. The aged estimation is therefore 20-40 years. Conclusion: an adult individual between 20 and 40 years.

DATE GRAVE
Posterholt phase I, FAG phases 4-5, 510/20-580/90

FINDS
1 Nail, iron
Find number: 73-1.1
Three large iron nails.
Find depth: unknown
Complete: yes

Nail, iron
Find number: 73-1.2
Thirteen small iron nails. Probably of a Roman shoe.
Find depth: unknown
Complete: yes

Nail, iron
Find number: 73-1.3
Thirty five fragments of small iron nails. Probably of a Roman shoe.
Find depth: unknown
Complete: no

Stone
Find number: 73-1.4
Stone fragment.
Find depth: unknown
Complete: no
Diameter: 15 mm

Stone, sandstone
Find number: 73-1.5
Eight sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 518 grams
Complete: no

Pottery fragment
Find number: 73-1.6
Two base and thirteen wall fragments of Roman Samian ware (burned), one wall fragment of Roman colour-coated ware (rouletted), three wall fragments of Roman fine oxidised ware, two wall fragments of Roman coarse ware, and six wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

Pottery fragment
Find number: 73-1.7
One wall fragment of Roman Samian ware (burned) and one wall fragment of Roman colour-coated ware (rouletted).
Find depth: unknown
Complete: no
Type: indeterminate

2 Pottery fragment
Find number: 73-2.1
Rim fragment of a biconical pot made with a fine-tempered fabric, of which the outside is (brownish) red and the inside is black. The fragment is decorated with single stamps of three rows of rectangles and rounded off rectangles in a zigzag order. Above and below this zone, a single grooved line is present.
Find depth: 39.17
Complete: no
Type: FAG Kwt2B
Phase: 4-5(-6)
Date: 510/25-580/90(-610/20)

Stone, sandstone
Find number: 73-2.2
Sandstone fragment, Nivelsteiner sandstone.
Weight: 50 grams
Find depth: 39.17
Complete: no

3 Mount, iron
Find number: 73-3
Iron fitting with U-shaped section, possibly used to reinforce the edges of a scabbard.
Find depth: 39.11
Complete: no

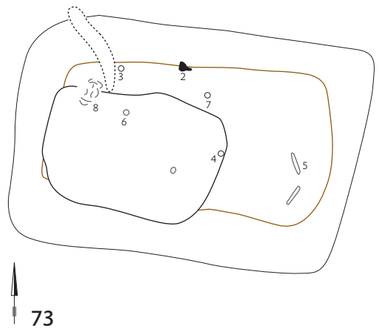
4 Belt part, copper alloy
Find number: 73-4
Copper alloy belt stud (*Gürtelattasche*) with eye on the backside.
Find depth: 39.14
Complete: yes
Type: FAG Gür2.10B
Phase: 4
Date: 510/25-565
Alternative type: LPV type 193
Alternative date: 470/80-600/10 (MA1-MA3)

5 Bone, human
Find number: 73-5
Bone fragments.
Find depth: 39.05

6 Bone, human
Find number: 73-6
Molars.
Find depth: 38.93


12

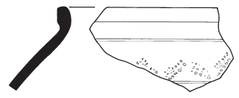

26



73


1.1


1.3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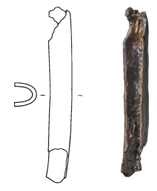
2.1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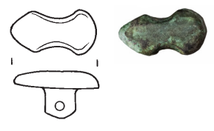

4 (scale 1:1)

7 Fragment, iron
Find number: 73-7
Iron pointed fragment with textile and leather remains attached, possibly used to reinforce the point of a scabbard.
Find depth: 39.03
Complete: no

8 Bone, human
Find number: 73-8
Skull fragments.
Find depth: 39.01

Pottery vessel
Find number: 11-I-4
One large and two small fragments of a Merovingian biconical pot, made with a fine-tempered fabric. The large fragment has one raised boss and is decorated with a band of rosette stamps and a band of single stamps of three rows of rectangles in a zigzag order. The latter stamp is probably identical to the one found on find no 73-2. The bands are separated from each other by three grooved lines. An extra grooved line is present above the rosette-stamps.
Complete: no
Type: FAG Kwt2A
Phase: 4-5
Date: 510/25-580/90

Pottery fragment
Find number: 11-I-5
Wall fragment of a black Merovingian pot (probably biconical), made of fine-tempered fabric.
Complete: no

74
GRAVE

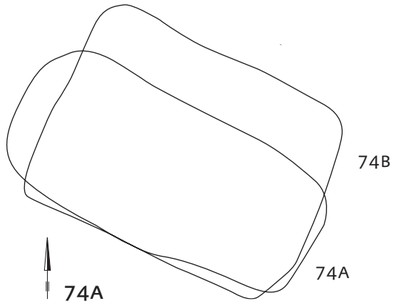
Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,35
Grave pit width	1,10
Grave pit depth	39,00

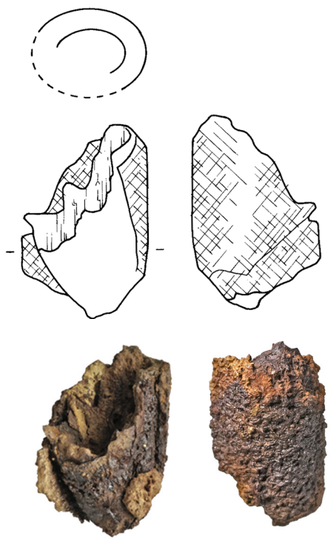
DESCRIPTION
Merovingian inhumation grave (grave 74B) with an additional burial (grave 74A). The burials are placed on top of each other. However, grave 74A was not dug in the burial pit of grave 75B. Instead, two overlapping burial pits are visible. The orientation of both graves was west-east. Both burial pits were rectangular with slightly rounded corners, but the corners of the burial pit of grave 74A were more rounded. Grave 74B contained traces of the north and east wall of a wooden container. The grave was possibly reopened and disturbed during the digging of grave 74A, but this disturbance is not certain because grave 74A was buried at a higher level. Grave 74A only contained a vague container outline. It remained undisturbed.

PHYSICAL ANTHROPOLOGY
Inhumation: grave 74A: skeletal remains were only recovered from grave 74A. Fragments of the cranial vault (basilar, occipital part) and fragments of the mandible and some teeth were found together with six cervical vertebrae, a fragment of the diaphysis of the right femur and a fragment of the right ilium (pelvis). Sex diagnosis: the cranial features are feminine (nuchal plane; the mentum and inferior margin of the mandible). Age diagnosis: the spheno-occipital synchondrosis is closed which indicates an adult individual. Pathology: ante mortem tooth loss (number 41 and 46); on the cervical vertebrae marginal osteophytes and porosity indicate degeneration of the cervical vertebrae.
Conclusion: an adult female > 20 years (but possibly older in view of the pathological features).

Grave 74B: no human remains or silhouette was present. Based on the length of the wooden container this was probably an infans II or juvenile individual.

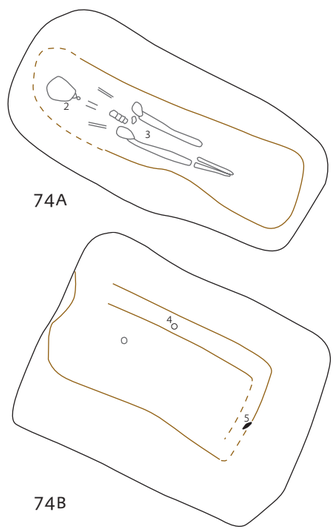
DATE GRAVE
Cannot be dated





7 (scale 1:1)

11-I-4



FINDS
1 Stone, flint
Find number: 74-1.1
Fragment of burned flint.
Find depth: unknown
Complete: no

Pottery fragment
Find number: 74-1.2
Two wall fragments of Roman coarse ware, five wall fragments of Roman or Merovingian coarse ware, one rim and eleven wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Bone, human
Find number: 74-2
Skull.
Find depth: 39.46

3 Bone, human
Find number: 74-3
Bone fragments.
Find depth: 39.37

4 Fragment, iron
Find number: 74-4
Indeterminate iron fragment with wood remains attached.
Find depth: 39.04
Complete: no

5 Nail, iron
Find number: 74-5
Fragment of an large iron nail.
Find depth: 39.07
Complete: no
Length: 42 mm

75
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	1,74
Grave pit width	1,23
Grave pit depth	39,41

DESCRIPTION
Merovingian inhumation grave, possibly of a child. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. No container outline or traces of a wooden container were visible. The lack of finds and human remains suggests the grave was reopened. However, because the grave was possibly that of a child, the remains were probably not preserved. The degree of the disturbance thus remains unknown.

PHYSICAL ANTHROPOLOGY
Inhumation: no human remains or silhouette was present but some fragments of enamel from the teeth were recovered. Sex diagnosis: not possible.
Age diagnosis: not possible.
Conclusion: sex and age unknown.

DATE GRAVE
Cannot be dated

FINDS
1 Bead, glass
Find number: 75-1
White opaque small barrel-shaped glass bead.
Find depth: 39.63
Complete: yes
Type: WO30

2 Bone, human
Find number: 75-2
Molar.
Find depth: 39.44

3 Pottery fragment
Find number: 75-3
One wall fragment of Iron Age handmade pottery.
Complete: no
Find depth: unknown
Type: indeterminate

76
GRAVE

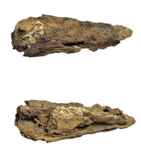
Trench	11
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	2,40
Grave pit width	1,91
Grave pit depth	39,00

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. No traces of a wooden container were visible. The grave was reopened. A possible container outline is visible in the west part of the grave, but this could also be part of the large reopening pit.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Cannot be dated

FINDS
1 Stone, sandstone
Find number: 76-1.1
Three sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 60 grams
Complete: no



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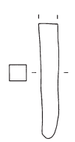

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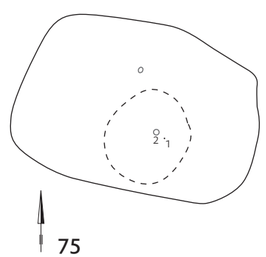
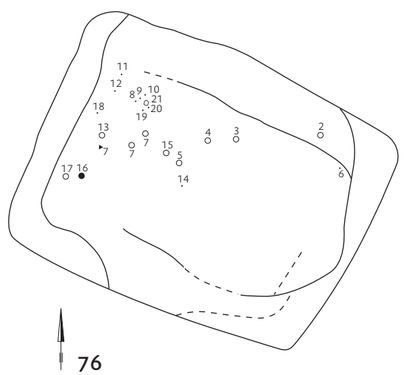


75

1



76

Stone
Find number: 76-1.2
Stone fragment.
Find depth: unknown
Weight: 3 grams
Complete: no

Pottery fragment
Find number: 76-1.3
One wall fragment of Roman coarse ware, and ten wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Nail, iron
Find number: 76-2
Two fragments of large iron nails.
Find depth: 39.79
Complete: no

3 Glass vessel
Find number: 76-3
Indeterminate rim fragment of yellowish brown glass with a vertical rib.
Find depth: 39.61
Complete: no

4 Glass vessel
Find number: 76-4
Indeterminate wall fragment of yellowish brown glass.
Find depth: 39.70
Complete: no

5 Nail, iron
Find number: 76-5
Iron nail.
Find depth: 39.72
Complete: yes

6 Bead, glass
Find number: 76-6
Disintegrated yellow glass bead.
Find depth: 39.13
Complete: no
Type: YO30

7 Nail, iron
Find number: 76-7
Three small iron nails.
Find depth: 39.10
Complete: yes

8 Bead, glass
Find number: 76-8
Disintegrated yellow glass bead.
Find depth: 39.09
Complete: no
Type: YO30

9 Bead, glass
Find number: 76-9
Disintegrated yellow glass bead.
Find depth: 39.09
Complete: no
Type: YO30

10 Bead, glass
Find number: 76-10
Disintegrated yellow glass bead.
Find depth: 39.09
Complete: no
Type: YO30

11 Bead, glass
Find number: 76-11
Disintegrated yellow glass bead.
Find depth: 39.08
Complete: no
Type: YO30

12 Bead, glass
Find number: 76-12
Disintegrated yellow glass bead.
Find depth: 39.09
Complete: no
Type: YO30

13 Fragment, iron
Find number: 76-13
Indeterminate iron fragment.
Find depth: 39.08
Complete: no
Length: 19 mm

14 Bead, glass
Find number: 76-14
Disintegrated yellow glass bead.
Find depth: 39.07
Complete: no
Type: YO30

15 Nail, iron
Find number: 76-15
Small iron nail.
Find depth: 39.06
Complete: yes

16 Spindle whorl, ceramic
Find number: 76-16
Greyish brown (uneven) biconical shaped ceramic spindle whorl, made of a fine-tempered fabric.
Find depth: 39.08
Complete: yes

17 Fragment, iron
Find number: 76-17
Indeterminate iron fragment.
Find depth: 39.07
Complete: yes
Length: 28 mm

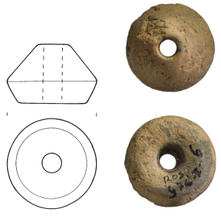
18 Bead, glass
Find number: 76-18
One disintegrated yellow glass bead and one yellow opaque small barrel-shaped glass bead.
Find depth: 39.08
Complete: no
Type: YO30

19 Bead, glass
Find number: 76-19
Disintegrated yellow glass bead.
Find depth: 39.07
Complete: no
Type: YO30

20 Bead, glass
Find number: 76-20
Disintegrated yellow glass bead.
Find depth: 39.06
Complete: no
Type: YO30

21 Pottery fragment
Find number: 76-21
Wall fragment of Roman, orange painted coarse ware.
Find depth: 39.05
Complete: no
Type: indeterminate

3 (scale 1:1)



16

77
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	1,90
Grave pit width	1,46
Grave pit depth	38,94

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was irregularly shaped. Looking at the outline of the burial pit at level II, it seems that grave 77 consisted of two burial pits with slightly different orientations. Both burial pits were probably rectangular with slightly rounded corners. The grave was reopened. A large reopening pit covers the centre of the grave and the area where the possible burial pits overlap. A relation between the two possible burial pits could thus not be established. The second, western burial pit is only visible at level II. Traces of a wooden coffin or coffin outline were not found. It thus seems more likely that this pit is not a grave. It could be the reopening pit, though its rectangular shape suggests it looks more like a grave. The reopening of grave 77 is connected with the reopening of grave 84 because pottery fragments of the same pot were found in both graves.

PHYSICAL ANTHROPOLOGY
Inhumation: no human remains or silhouette was present but some fragments of enamel from the teeth were recovered. Sex diagnosis: not possible.
Age diagnosis: not possible
Conclusion: sex and age unknown.

DATE GRAVE
Possibly Posterholt phase II, FAG phase 7, (610/20-640/50)

FINDS
1 Stone, sandstone
Find number: 77-1.1
Two sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 50 grams
Complete: no

Nail, iron
Find number: 77-1.2
Fragment of a large iron nail.
Find depth: unknown
Complete: yes
Length: 43 mm

Stone, flint
Find number: 77-1.3
Fragment of burned flint.
Find depth: unknown
Complete: no

Pottery fragment
Find number: 77-1.4
One wall fragment of Roman fine oxidised ware, two wall fragments of Roman coarse ware, two rim and fifteen wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Bead, glass
Find number: 77-2
Orange opaque biconical glass bead.
Find depth: 39.65
Complete: yes
Type: OO20 / Siegmund Per34.1
Kombinationsgruppen G-I
Rhineland date: 570-705

3 Pottery vessel
Find number: 77-3
Fragment of a black biconical pot, decorated with 4 lines of rectangular roulette impressions and two grooves. The fragment belongs to the same pot as that of find number 84-6.
Find depth: 39.70
Complete: no
Type: FAG Kwt5B
Phase: 5-7
Date: 565-640/50

4 Pottery vessel
Find number: 77-4
Wall fragment of a red biconical jug with handle and spout made of a fine-tempered fabric. The fragment is of the same jug as the fragments of find number 86-2 to 8 and find number 11-1-7.
Find depth: 39.70
Complete: no
Date: late 6th – early 7th century

5 Bone, human
Find number: 77-5
Molar.
Find depth: 39.23

6 Bead, glass
Find number: 77-6
Eight fragments of at least one disintegrated yellow glass bead.
Find depth: 39.22
Complete: no
Type: YO30

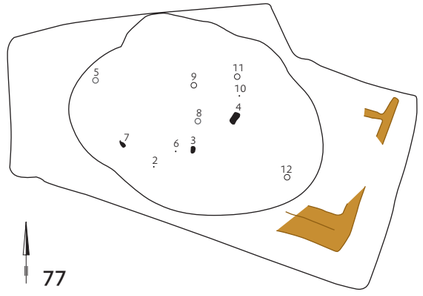
7 Belt part, copper alloy
Find number: 77-7
Triangular copper alloy belt plate with three fake rivets on the front and three eyes on the backside. One of the rivets is missing and iron wire is still present in the holes of the eyes. The edges of the hollow plate are decorated with incised lines. With leather remains attached.
Find depth: 39.13
Complete: no
Plate length: 36 mm
Type: Siegmund Gür3.3
Rhineland phase: 8
Rhineland date: 610-640
Alternative type: FAG Gür3D
Alternative date: 610/20-640/50 (FAG phase 7)

8 Bone, human
Find number: 77-8
Molar.
Find depth: 39.11

9 Rivet, iron
Find number: 77-9
Iron rivet.
Find depth: 39.04
Complete: yes
Diameter: 12 mm

10 Bead, amber
Find number: 77-10
Amber bead, amorphous.
Find depth: 39.02
Complete: yes

11 Rivet, iron
Find number: 77-11
Pin of an iron rivet. The rivet is heavily corroded.
Find depth: 38.99
Complete: no
Diameter: 9 mm



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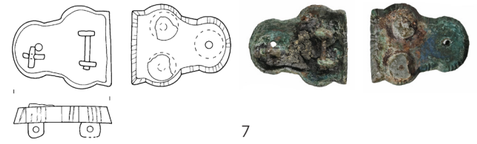

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9

12 Fragment, copper alloy
Find number: 77-12
Two indeterminate copper alloy fragments.
Find depth: 39.07
Complete: no
Length: 10 mm

78
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,50
Grave pit width	1,67
Grave pit depth	38,91

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A vague container outline was present together with the traces of two wooden beams. The grave was reopened.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Posterholt phases III-IV and possibly phase II, FAG phases 7-9, 610/20-710

FINDS
1 Pottery fragment
Find number: 78-1
Two small wall fragments of Roman colour-coated ware, one wall fragment of Roman or Merovingian coarse ware (burned), two wall fragments of Merovingian reduced fine ware (rouletted), two rim and one base fragment of Merovingian coarse ware, and five wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Pottery vessel
Find number: 78-2
Large fragment of the rim and upper wall of a black biconical pot with band-shaped handle. The upper wall is decorated with 7 singular lines of rectangular roulette impressions. The fragment most likely matches find number 70-2.
Find depth: 39.64
Complete: no
Type: FAG Kwt5A
Phase: FAG 5-6
Date: 565-610/20

3 Bead, glass
Find number: 78-3
White opaque biconical glass bead.
Find depth: 38.97
Complete: yes
Type: WO20 / Siegmund Per32.2
Kombinationsgruppen H-I
Rhineland date: 610-705

4 Bead, glass
Find number: 78-4
Red opaque cylinder-shaped glass bead decorated with yellow bands. Decorated as Koch 50.20 (Schretzheim).
Find depth: 38.99
Complete: yes
Type: Siegmund Per35.19
Kombinationsgruppe F-H
Rhineland date: 555-705

5 Bead, glass
Find number: 78-5
Yellow opaque small barrel-shaped glass bead.
Find depth: 39.09
Complete: yes
Type: YO30

6 Bead, glass
Find number: 78-6
Orange opaque barrel-shaped glass bead.
Find depth: 39.05
Complete: yes
Type: OO19

7 Bead, glass
Find number: 78-7
Red opaque double segmented glass bead decorated with two white braided bands. Decorated as Koch 34.48 and Siegmund Per35.8, but double segmented.
Find depth: 39.12
Complete: yes
Type: Siegmund Per35.8 (but double segmented)
Kombinationsgruppe F-H
Rhineland date: 555-705
Alternative type: Koch 34.48 (Pleidelsheim)
Kombinationsgruppe D
Alternative date: 600-650

8 Bead, glass
Find number: 78-8
Fragment of a red opaque double segmented glass bead decorated with a white braided band. Decorated as Koch 34.48 and Siegmund Per35.8, but double segmented. One of the segments is missing, but the breakoff notch is clearly visible.
Find depth: 39.02
Complete: yes
Type: Siegmund Per35.8 (but double segmented)
Kombinationsgruppe F-H
Rhineland date: 555-705
Alternative type: Koch 34.48 (Pleidelsheim)
Kombinationsgruppe D
Alternative date: 600-650

9 Bead, glass
Find number: 78-9
Red opaque short cylinder-shaped glass bead.
Find depth: 38.96
Complete: yes
Type: RO35 / Siegmund Per35.2
Kombinationsgruppen C-F
Rhineland date: 485-640

10 Rivet, iron
Find number: 78-10
Small iron rivet.
Find depth: 39.04
Complete: yes
Diameter: 3 mm

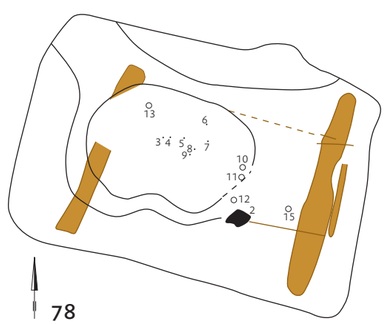
11 Rivet, iron
Find number: 78-11
Small iron rivet.
Find depth: 38.97
Complete: Yes
Diameter: 3 mm

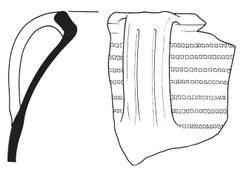
12 Rivet, iron
Find number: 78-12
Small iron rivet.
Find depth: 38.96
Complete: yes
Diameter: 3 mm

13 Bead, glass
Find number: 78-13
Orange opaque barrel-shaped glass bead.
Complete: yes
Type: OO19

14 Pottery fragment
Find number: 78-14
Four wall fragments of a black biconical pot. Two of them are decorated with two lines of triangular of rectangular roulette impressions.
Find depth: 38.90
Complete: no

15 Pottery fragment
Find number: 78-15
Seven fragments of thin coarse ware pottery. Probably Merovingian.
Find depth: 38.92
Complete: no
Type: indeterminate

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3 4 5 6 7 8 9 13


2

79
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	unknown
Grave pit width	1,15
Grave pit depth	39,29
Stratigraphic relation	context context 80

DESCRIPTION
Merovingian inhumation grave of a child. The grave was cut by grave 80. The relation between graves 79 and 80 remains unclear, but looking at the original field drawing it seems that grave 80 was dug at a later period. The orientation of grave 79 was west-east. The grave was probably rectangular with slightly rounded corners. The exact shape and length of the pit however could not be established because the grave was reopened and disturbed by grave 80. The presence of an articulated skull suggests that at least the western part of the grave remained undisturbed.

PHYSICAL ANTHROPOLOGY
Inhumation: an articulated skull was documented by the excavators but only some teeth were recovered.
Sex diagnosis: not possible. Age diagnosis: the dentition indicates an age of 7 years (± 24 months).
Conclusion: a child between 5 and 9 years old.

DATE GRAVE
Cannot be dated

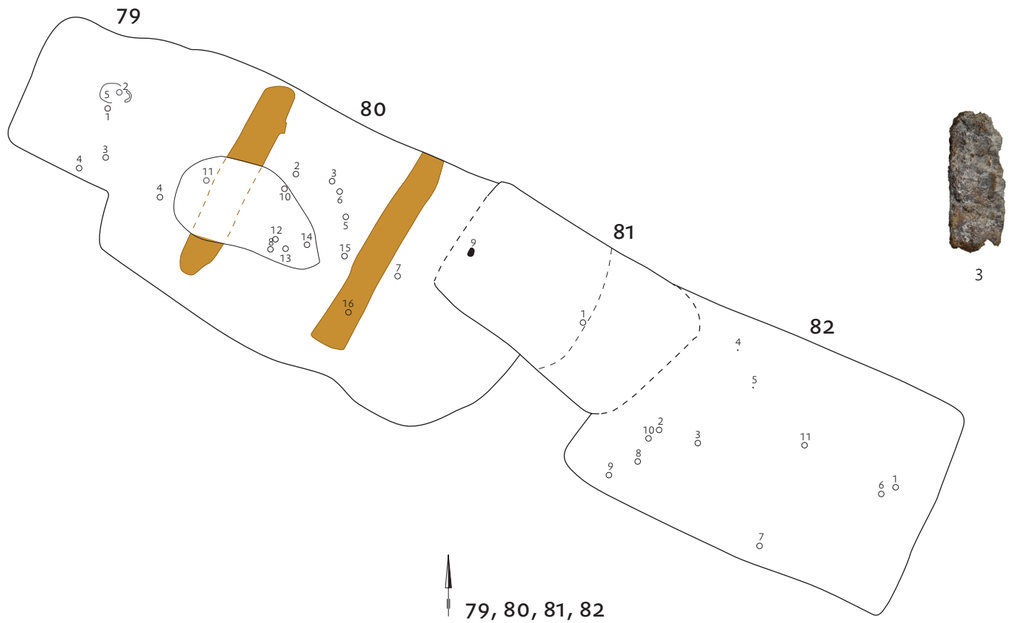
FINDS
1 Stone, sandstone
Find number: 79-1
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.74
Weight: 80 grams
Complete: no

2 Bone, human
Find number: 79-2
Molar.
Find depth: 39.50

3 Fragment, iron
Find number: 79-3
Indeterminate iron fragment.
Find depth: 39.48
Complete: no
Length: 51 mm

4 Pottery fragment
Find number: 79-4
One wall fragment of Roman terra nigra (rouletted)
Find depth: 39.48
Complete: no
Type: indeterminate

5 Bone, human
Find number: 79-5
Skull and jaw.
Find depth: 39.45



3

80
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	possible wooden container grave
Grave pit length	3,12
Grave pit width	1,75
Find depth	39,00
Stratigraphic relation	context context 81, above context 79

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was probably rectangular with slightly rounded corners. Its shape however, remains unclear because the grave possibly was cut by (possible) grave 81. Grave 80 cuts through grave 79 and was dug in a later period. No traces or outlines of a wooden container were visible, but traces of two wooden beams were present. The grave was reopened. The lack of human remains and shattered finds suggest the grave was disturbed and the outline of a possible reopening pit was visible.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. One tooth was recovered but it is not preserved.

DATE GRAVE
Cannot be dated

FINDS
1 Fragment, iron
Find number: 80-1.1
Indeterminate iron fragment.
Find depth: unknown
Complete: no

Stone, sandstone
Find number: 80-1.2
Two sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 35 grams
Complete: no

2 Pottery fragment
Find number: 80-2
One wall fragment of a Roman dolium (ribbed)
Find depth: 39.34
Complete: no
Type: indeterminate

3 Fragment, iron
Find number: 80-3
Indeterminate iron fragment with wood remains attached.
Find depth: 39.36
Complete: no
Length: 55 mm

4 Fragment, indeterminate
Find number: 80-4
Small fragment of indeterminate white material, possibly silver.
Find depth: 39.32
Complete: no

5 Nail, iron
Find number: 80-5.1
Small iron nail.
Find depth: 39.21
Complete: yes

Bead, glass
Find number: 80-5.2
Two yellow opaque small barrel-shaped glass beads.
Find depth: 39.21
Complete: yes
Type: YO30

6 Fragment, iron
Find number: 80-6
Indeterminate iron fragment.
Find depth: 39.21
Complete: no
Length: 19 mm

7 Rivet, iron
Find number: 80-7
Large iron rivet covered with a copper alloy foil, possibly of a shield boss.
Find depth: 39.10
Complete: yes
Diameter: 22 mm

8 Rivet, iron
Find number: 80-8
Large iron rivet covered with a copper alloy foil, with wood remains attached. Possibly of a shield boss.
Find depth: 39.07
Complete: yes
Diameter: 22 mm

9 Stone, sandstone
Find number: 80-9
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.20
Weight: 243 grams
Complete: no

10 Stone, flint
Find number: 80-10
Flint fragment with fire steel.
Find depth: 39.08
Complete: no

11 Bone, human
Find number: 80-11
Teeth.
Find depth: 39.05

12 Fragment, iron
Find number: 80-12
Indeterminate iron fragment.
Find depth: 39.03
Complete: no
Length: 32 mm

13 Fragment, iron
Find number: 80-13
Indeterminate iron fragment.
Find depth: 39.03
Complete: no
Length: 30 mm

14 Rivet, iron
Find number: 80-14
Large dome shaped iron rivet, covered with a copper alloy foil, possibly of a shield boss.
Find depth: 39.03
Complete: yes
Diameter: 22 mm

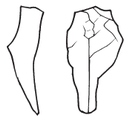
15 Rivet, iron
Find number: 80-15
Large iron rivet with a copper alloy foil, possibly of a shield boss.
Find depth: 39.02
Complete: yes
Diameter: 22 mm

16 Object, iron
Find number: 80-16
Fragment of a flat iron strip.
Find depth: 39.00
Complete: no
Length: 49 mm

Fragment, iron
Find number: 11-I-11
Indeterminate bended iron fragment.
Complete: no
Length: 27 mm


7


8


10


11-I-11


13


14


15


16

81
POSSIBLE GRAVE

Trench	0,95
Context type	possible inhumation grave
Context structure	possible trench grave
Pit length	1,75
Pit width	0,95
Pit depth	39,20
Stratigraphic relation	context context 82, above context 80

DESCRIPTION
Possible Merovingian inhumation grave. This possible grave only contained a fragment of an iron back plate of which the other part was found in grave 82. The lack of other finds, human remains or traces of a wooden container suggest grave 81 was probably not a grave. Its shape is still rectangular with slightly rounded corners, but it is much smaller than most burial pits. It could have been a reopening pit instead, though its rectangular shape seems unusual for that purpose. Context 81 cuts through graves 80 and 82 and must therefore be a later feature.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Cannot be dated

FINDS
1 Belt part, iron
Find number: 81-1
Small fragment of a rectangular iron back plate with 1 copper alloy rivet. The back plate is decorated with monochrome geometric inlay and has textile remains attached. The central field consists of a braided band with dots surrounded by zigzagged lines and horizontal and vertical stripes. The fragment is part of the same back plate that was found in grave 82 (82-6). Both fragments are fitted together during restoration.
Find depth: 39.72
Complete: no
Type: Bülach type / FAG Gür4.6
Rhineland phase: phase 7
Rhineland date: 610/20-640/50
Alternative type: LPV type 185
Alternative date: 600/10-660/70 (MR1-MR2)

82
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	2,55
Grave pit width	1,63
Grave pit depth	39,02
Stratigraphic relation	context context 81

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. No container outline or traces of a wooden container were visible. The grave was reopened. The lack of human remains and shattered finds suggest the grave was reopened, and context 81 could be a reopening pit.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Possibly Posterholt phase II, FAG phase 7, (610/20-640/50)

FINDS
1 Stone, sandstone
Find number: 82-1
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.68
Weight: 65 grams.
Complete: no

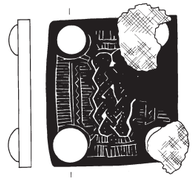
2 Fragment, iron
Find number: 82-2
Iron fragment: missing.
Find depth: 39.68
Complete: no

3 Stone, sandstone
Find number: 82-3
Sandstone fragment, Nivelsteiner sandstone.
Find depth: 39.43
Weight: 88 grams
Complete: no

4 Bead, glass
Find number: 82-4
Yellow opaque small barrel-shaped glass bead.
Find depth: 39.30
Complete: yes
Type: YO30

5 Bead, glass
Find number: 82-5
Glass bead: missing.
Find depth: 39.22
Complete: unknown

6 Belt part, iron
Find number: 82-6
Large fragment of a rectangular iron back plate with 3 copper alloy rivets. The back plate is decorated with monochrome geometric inlay and has textile remains attached to one of the copper alloy rivets. The central field consists of a braided band with dots surrounded by zigzagged lines and horizontal and vertical stripes. Part of the back plate was


81-1


82-6

4

found in grave 81 (81-1). Both fragments are fitted together during restoration.
Find depth: 39.30
Complete: no
Plate length: 55 mm
Type: Bülach type / FAG Gür4.6
Rhineland phase: phase 7
Rhineland date: 610/20-640/50
Alternative type: LPV type 185
Alternative date: 600/10-660/70 (MR1-MR2)

7 Fragment, indeterminate
Find number: 82-7
Two small fragments of indeterminate white material, possibly silver.
Find depth: 39.26
Complete: no

8 Belt part, iron
Find number: 82-8
Iron plate with copper alloy rivet: missing.
Find depth: 39.26
Complete: unknown

9 Fragment, iron
Find number: 82-9
Iron fragment.
Find depth: 39.24
Complete: no
Length: 33 mm

10 Nail, iron
Find number: 82-10
Large iron nail.
Find depth: 39.13
Complete: yes

11 Ring, copper alloy
Find number: 82-11.1
Small copper alloy oval ring with leather remains attached.
Find depth: 39.11
Complete: yes

Pottery fragment
Find number: 82-11.2
Two wall fragments of Iron Age handmade pottery.
Find depth: 39.11
Complete: no
Type: indeterminate

83
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,44
Grave pit width	1,93
Grave pit depth	38,77

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners, though the northwest corner is somewhat irregular shaped. This irregularity was probably the product of the disturbance of the grave. Traces of the eastern end of a wooden container were present. The grave was reopened.

PHYSICAL ANTHROPOLOGY
Inhumation: no human remains or silhouette was present but some fragments of enamel from the teeth were recovered. Sex diagnosis: not possible.
Age diagnosis: not possible
Conclusion: sex and age unknown.

DATE GRAVE
Posterholt phases II-IV, FAG phases 6-10, 580/90-<750

FINDS
1 Stone, sandstone
Find number: 83-1.1
Sandstone fragment, Nivelsteiner sandstone.
Find depth: unknown
Weight: 60 grams
Complete: no

Pottery fragment
Find number: 83-1.2
One wall fragment of Roman Samian ware (burned), one rim and two wall fragments of Roman coarse ware, one rim and two wall fragments of reduced (biconical) fine ware, one base fragment of Merovingian coarse ware, and one base and six wall fragments of Iron Age handmade pottery (combed).
Find depth: unknown
Complete: no
Type: indeterminate

2 Bone, human
Find number: 83-2
Molar.
Find depth: 39.10

3 Belt part, copper alloy
Find number: 83-3
Square copper alloy plate with 4 small copper alloy rivets and leather remains attached.
Find depth: 38.92
Complete: yes
Plate length: 24 mm

4 Bone, human
Find number: 83-4
Molar.
Find depth: 38.90

5 Fragment, iron
Find number: 83-5
Indeterminate iron fragment.
Complete: no
Length: 25 mm

6 Bone, human
Find number: 83-6
Molar.
Find depth: 38.91

7 Bone, human
Find number: 83-7
Molar.
Find depth: 38.91

8 Bone, human
Find number: 83-8
Molar and bone fragment.
Find depth: 38.96

9 Belt part, copper alloy
Find number: 83-9
Square copper alloy plate with 4 small rivets and leather remains attached.
Find depth: 38.88
Complete: yes
Plate length: 24 mm

10 Bead, glass
Find number: 83-10
Red opaque biconical glass bead.
Find depth: 38.94
Complete: yes
Type: RO20 / Siegmund Per35.6
Kombinationsgruppen G-I
Rhineland date: 570-705

11 Belt part, copper alloy
Find number: 83-11
Square copper alloy plate with 4 small copper alloy rivets and leather remains attached.
Find depth: 38.86
Complete: yes
Plate length: 25 mm

12 Bead, glass
Find number: 83-12
Blue opaque biconical glass bead.
Find depth: 38.85
Complete: yes
Type: BO20 / Siegmund Per37.1
Kombinationsgruppen H-I
Rhineland date: 610-705

13 Bead, glass
Find number: 83-13
Red opaque biconical glass bead.
Find depth: 38.85
Complete: yes
Type: RO20 / Siegmund Per35.6
Kombinationsgruppen G-I
Rhineland date: 570-705

14 Belt part, copper alloy
Find number: 83-14
Square copper alloy plate with 4 small copper alloy rivets and leather remains attached.
Find depth: 38.81
Complete: yes
Plate length: 25 mm

Pottery vessel
Find number: 11-I-7
Two rim and two wall fragments of a red biconical trefoil jug. The fragments can be joint together with find number 86-2 to 8 and 77-4.
Complete: no

84
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	unknown
Grave pit length	3,10
Grave pit width	2,15
Grave pit depth	39,00

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. No traces or outlines of a wooden container were visible. The grave was reopened. This reopening activity is connected with the reopening of grave 77 because pottery fragments of the same pot were found in both graves.

DATE GRAVE
Cannot be dated

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

FINDS
1 Pottery fragment
Find number: 84-1
One base and wall fragments of Roman coarse ware, six wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Belt part, iron
Find number: 84-2
Semi circular iron plate with one copper alloy rivet.
Find depth: unknown
Complete: no
Plate length: 9 mm

3 Rivet, iron
Find number: 84-3
Large iron rivet, probably part of a shield boss.
Find depth: unknown
Complete: no
Diameter: 26 mm

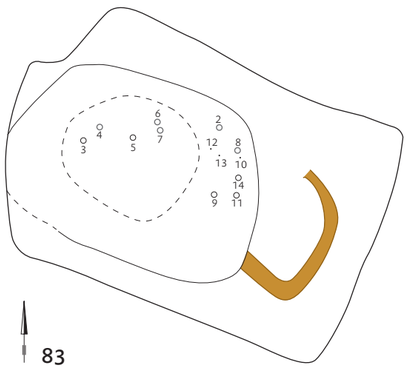
4 Rivet, copper alloy
Find number: 84-4
Small copper alloy rivet.
Find depth: unknown
Complete: yes
Diameter: 6 mm

5 Fragment, iron
Find number: 84-5
Indeterminate iron fragment.
Find depth: unknown
Complete: no
Length: 27 mm

6 Pottery fragment
Find number: 84-6
Fragment of a black biconical pot, decorated with 5 lines of rectangular roulette impressions and three grooves. The fragment belongs to the same


9

11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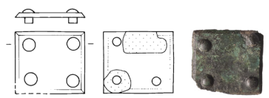
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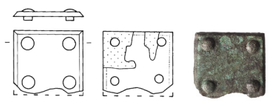
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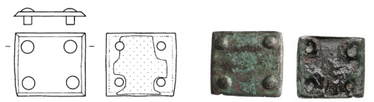
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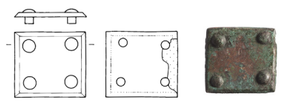
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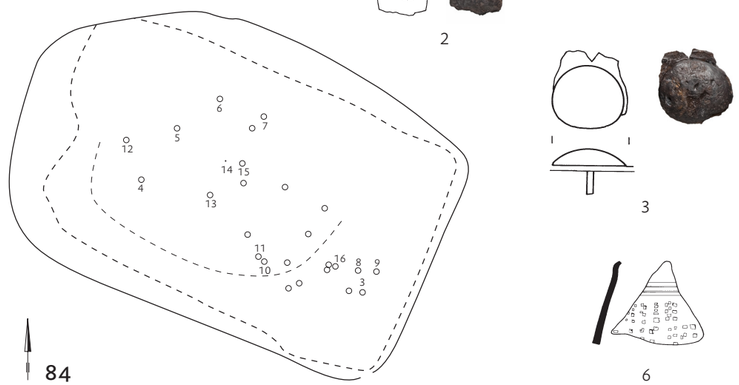
2


84

3

6

pot as find number 77-3. The type is similar to find number 1-I-1 and 1-0-0.1 but the fragments do not fit together.
Find depth: unknown
Complete: no
Type: FAG Kwt5B
Phase 5-7
Date: 656-640/50

7 Fragment, iron
Find number: 84-7
Two indeterminate iron fragments.
Find depth: unknown
Complete: no
Length: 24 mm

8 Knife, iron
Find number: 84-8
Iron fragment, possibly part of a knife.
Find depth: unknown
Complete: no
Length: 36 mm

9 Fragment, iron
Find number: 84-9
Two indeterminate iron fragments of which one has a copper alloy rivet attached.
Find depth: unknown
Complete: no
Length: 16 mm

10 Belt part, iron
Find number: 84-10
Fragment of an iron buckle with a band-shaped oval loop.
Find depth: unknown
Complete: no
Loop length: 56 mm

11 Belt part, iron
Find number: 84-11
Fragment of an iron *Ösenbeschlag* with one copper alloy rivet.
Find depth: unknown
Complete: no
Plate length: 30mm

12 Fragment, iron
Find number: 84-12
Indeterminate iron fragment.
Find depth: 39.09
Complete: no
Length: 27mm

13 Fragment, iron
Find number: 84-13
Two indeterminate iron fragments. One of them has a copper alloy rivet attached.
Find depth: 39.11
Complete: no
Length: 16 mm

14 Bead, amber
Find number: 84-14
Amber bead, amorphous.
Find depth: 39.09
Complete: yes

15 Fragment, iron
Find number: 84-15
Indeterminate iron fragment with textile remains attached.
Find depth: 39.09
Complete: no
Length: 29 mm

16 Fragment, iron
Find number: 84-16.1
Iron fragment, possibly part of a shield boss.
Find depth: 39.02
Complete: yes
Diameter: 45 mm

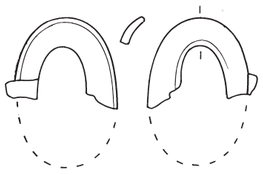
Fragment, iron
Find number: 84-16.2
Indeterminate iron fragment with an iron rivet.
Find depth: 39.02
Complete: no
Length: 30 mm

17 Fragment, iron
Find number: 84-17
Indeterminate iron fragment, with wood remains attached.
Find depth: 39.08-39.04
Complete: no
Length: 31 mm

Pottery vessel
Find number: 11-0-0.1
Four fitting fragments of the upper wall and one undecorated fragment of the lower wall of a biconical pot made of a fine fabric. The fragments are decorated with eleven lines of roulette-stamp impressions. The fragments fit together with the fragment from find number 11-I-1.
Complete: no
Type: FAG Kwt5B
Phase 5-7
Date: 656-640/50

Pottery fragment
Find number: 11-0-0.2
Fragment of a grey biconical pot decorated with 3 lines of roulette impressions.
Complete: no

Pottery fragment
Find number: 11-I-1
Fragment of the upper wall of a biconical pot with a fine fabric. The fragment is decorated with roulette-stamp impressions. The fragment fits together with the fragments from find number 11-0-0.1.
Complete: no
Type: FAG Kwt 5B
Phase 5-7
Date: 656-640/50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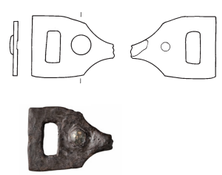
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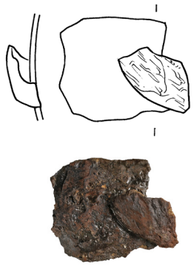
14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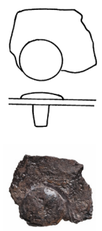
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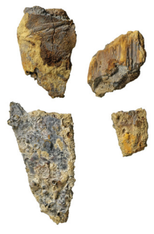
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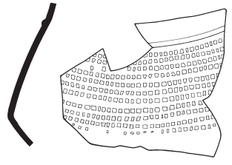

11-I-1


11-0-0.2


11-0-0.2

85
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,36
Grave pit width	1,48
Grave pit depth	39,18

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. Traces of the south wall of a wooden container and two wooden beams were visible. The grave was reopened. A reopening pit was present.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present. Only one molar was recovered but it is not preserved.

DATE GRAVE
Posterholt phases II-IV, FAG phases 6-10, 580/90-<750

FINDS
1 Bead, glass
Find number: 85-1
Blue transparent compressed biconical (droplet shaped) glass bead.
Find depth: unknown
Find depth: 39.45
Complete: yes
Type: BT22

2 Fragment, iron
Find number: 85-2
Indeterminate iron fragment.
Find depth: 39.42
Complete: no
Length: 33 mm

3 Fragment, iron
Find number: 85-3
Indeterminate iron fragment.
Find depth: 39.40
Complete: no
Length: 24 mm

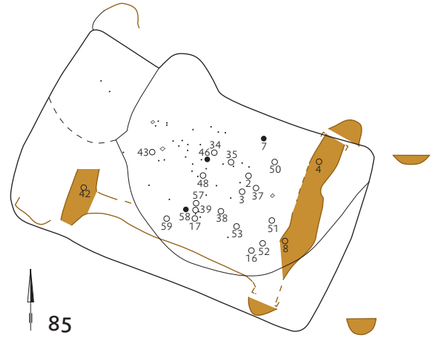
4 Fragment, iron
Find number: 85-4
Two indeterminate iron fragments.
Find depth: 39.37
Complete: no
Length: 24 mm

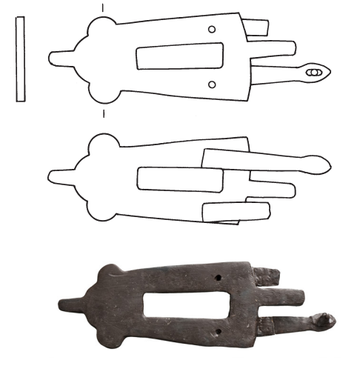
5 Bead, glass
Find number: 85-5
White opaque barrel-shaped glass bead.
Find depth: 39.35
Complete: yes
Type: WO19

6 Bead, glass
Find number: 85-6
Blue transparent double segmented glass bead.
Find depth: 39.36
Complete: yes
Type: BT25 / Siegmund Per47.7
Kombinationsgruppen G-H
Rhineland date: 570-705

7 Coin, copper alloy
Find number: 85-7
Small copper alloy coin with a small suspension hole, dynasty of Theodosius (379-455)
Find depth: 39.34
Complete: yes
Type: ½ centenionalis
Date: 383-402

8 Lock, iron
Find number: 85-8.1
Part of an iron lock. The central part of the plate is open. On one end three iron strips of which one is an extension of the plate are present. The other end is semi circular with two round extensions on the side and one point-like extension on the axis of the plate.
Find depth: 39.41
Complete: no
Length: 98 mm

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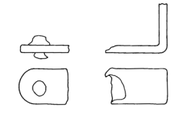

59


The distribution of the beads scale 1:20


48.1

Belt part, copper alloy
Find number: 85-8.2
Rectangular copper alloy belt plate with 4 small rivets and oblique edges. The centre of the plate is decorated with a dot in circle. At the back a small copper-alloy plate with two holes to fix the plate to a strap was present.
Find depth: 39.41
Complete: yes
Plate length: 21 mm

9 Bead, amber
Find number: 85-9
Amber bead, droplet-shaped.
Find depth: 39.36
Complete: yes
Type: A22

10 Bead, glass
Find number: 85-10
Yellow opaque small barrel-shaped glass bead.
Find depth: 39.32
Complete: yes
Type: YO30

11 Bead, glass
Find number: 85-11
Red opaque barrel-shaped glass bead, decorated with a yellow braided band and yellow dots.
Find depth: 39.32
Complete: yes
Type: Siegmund Per35.12
Kombinationsgruppen F-G
Rhineland date: 555-670
Alternative type: Koch 20.23 (Pleidelsheim)
Kombinationsgruppe C
Alternative date: 555-620

12 Bead, amber
Find number: 85-12
Amber bead, droplet-shaped.
Find depth: 39.31
Complete: yes
Type: A22

13 Bead, glass
Find number: 85-13
Fragment of a yellow opaque small barrel-shaped glass bead.
Find depth: 39.32
Complete: no
Type: YO30

14 Bead, glass
Find number: 85-14
White opaque small barrel-shaped glass bead.
Find depth: 39.33
Complete: yes
Type: WO30

15 Bead, amber
Find number: 85-15
Amber bead, droplet-shaped.
Find depth: 39.33
Complete: yes
Type: A22

16 Fragment, iron
Find number: 85-16
Two Indeterminate iron fragments.
Find depth: 39.29
Complete: no
Length: 16 mm

17 Fragment, iron
Find number: 85-17
Indeterminate iron fragment.
Find depth: 39.29
Complete: no
Length: 25 mm

18 Bead, glass
Find number: 85-18
Red opaque barrel-shaped glass bead.
Find depth: 39.30
Complete: yes
Type: RO19

19 Bead, glass
Find number: 85-19
White opaque barrel-shaped glass bead decorated with a light green braided band.
Find depth: 39.30
Complete: yes
Type: Siegmund Per32.6
Kombinationsgruppe F-H
Rhineland date: 555-705
Alternative type: Koch 34.34 (Pleidelsheim)
Kombinationsgruppe: not specified

20 Bead, glass
Find number: 85-20
White opaque barrel-shaped glass bead decorated with a dark green braided band.
Find depth: 39.29
Complete: yes
Type: Siegmund Per32.6
Kombinationsgruppe F-H
Rhineland date: 555-705
Alternative type: Koch 34.25 (Pleidelsheim)
Kombinationsgruppe D
Alternative date: 600-650

21 Bead, amber
Find number: 85-21
Amber bead with D-shaped section, decorated on both sides with two groups of three grooved lines.
Find depth: 39.28
Complete: yes

22 Bead, glass
Find number: 85-22
Red opaque short cylinder-shaped glass bead decorated with a yellow braided band and yellow dots. Resembles: Koch 20.30.
Find depth: 39.29
Complete: yes
Type: Koch 20.30 (Pleidelsheim)
Kombinationsgruppe: not specified

23 Bead, glass
Find number: 85-23
Red opaque double segmented glass bead.
Find depth: 39.27
Complete: yes
Type: RO25 / Siegmund Per35.7
Kombinationsgruppe H
Rhineland date: 570-640

24 Bead, glass
Find number: 85-24
White opaque long elongated cylinder-shaped glass bead decorated with a blue band twisting around the bead.
Find depth: 39.28
Complete: yes
Type: Koch 42.2 (Schretzheim)
Date: 590/600-620/30 (Stufe 4)

25 Bead, glass
Find number: 85-25
Disintegrated yellow glass bead.
Find depth: 39.30
Complete: no
Type: YO30

26 Bead, stone
Find number: 85-26
Fragment of an amethyst bead.
Find depth: 39.29
Complete: no

27 Bead, glass
Find number: 85-27
Yellow opaque small barrel-shaped glass bead.
Find depth: 39.30
Complete: yes
Type: YO30

28 Bead, glass
Find number: 85-28
Green opaque double-segmented glass bead. The bead is broken in two pieces.
Find depth: 39.26
Complete: yes
Type: GO25/ Siegmund Per36.4
Kombinationsgruppe G-I
Rhineland date: 570-705

29 Bead, glass
Find number: 85-29
Blue transparent rounded disc-shaped glass bead.
Find depth: 39.23
Complete: yes
Type: BT4

30 Bead, glass
Find number: 85-30
Red opaque small barrel-shaped decorated glass bead.
Find depth: 39.23
Complete: yes
Type: RO30.

31 Bead, amber
Find number: 85-31
Amber bead, long square-shaped and decorated with grooves.
Find depth: 39.28
Complete: yes
Type: A23

32 Bead, glass
Find number: 85-32
Red opaque barrel-shaped glass bead.
Find depth: 39.27
Complete: yes
Type: RO19

33 Bead, glass
Find number: 85-33
White opaque barrel-shaped glass bead, decorated with a green braided band. This band is placed on the surface of the bead.
Find depth: 39.25
Complete: yes
Type: Siegmund Per32.6
Kombinationsgruppe F-H
Rhineland date: 555-705
Alternative type: Koch 34.37 (Pleidelsheim)
Kombinationsgruppe: D
Alternative date: 600-650

34 Fragment, iron
Find number: 85-34
Two indeterminate iron fragments.
Find depth: 39.23
Complete: no
Length: 27 mm

35 Coin, copper alloy
Find number: 85-35
Small copper alloy fragment, identified by the excavators as a fragment of a late Roman coin.
Find depth: 39.23
Diameter: 4 mm
Complete: no
Type: aes 4
Date: after the coin reform of 348, possibly between 348-402

36 Bead, glass
Find number: 85-36
White opaque double segmented glass bead decorated with two green braided bands.
Decorated as Koch 34,34, but double segmented.
Find depth: 39.24
Complete: yes
Type: Siegmund Per32.6
Kombinationsgruppen F-H
Rhineland date: 555-705
Alternative type: Koch 34.34 (Pleidelsheim)
Kombinationsgruppe: not specified

37 Fragment, iron
Find number: 85-37
Indeterminate iron fragment.
Find depth: 39.25
Complete: no
Length: 16 mm

38 Nail, iron
Find number: 85-38
Small iron nail.
Find depth: 39.27
Complete: no

39 Fragment, iron
Find number: 85-39
Indeterminate iron fragment.
Find depth: 39.27
Complete: no
Length: 22 mm

40 Bead, glass
Find number: 85-40
Orange opaque barrel-shaped glass bead.
Find depth: 39.26
Complete: yes
Type: OO19

41 Bead, glass
Find number: 85-41
Disintegrated yellow glass bead.
Find depth: 39.29
Complete: no
Type: YO30

42 Nail, iron
Find number: 85-42
Two iron nails, of which one has wood remains attached.
Find depth: 39.25
Complete: yes

43 Nail, iron
Find number: 85-43
Two fragments of a large iron nail.
Find depth: 39.25
Complete: no

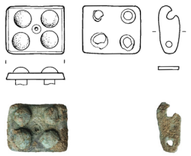
44 Bead, glass
Find number: 85-44
Fragmented yellow opaque, probably small barrel-shaped glass bead.
Find depth: 39.22
Complete: no
Type: YO30

45 Bead, glass
Find number: 85-45
Blue transparent barrel-shaped glass bead.
Find depth: 39.23
Complete: yes
Type: BT19

46 Coin, copper alloy
Find number: 85-46
Small copper alloy fragment, identified by the excavators as a fragment of a late Roman coin.
Diameter: 5 mm
Find depth: 39.23
Complete: no
Type: aes 4
Date: after the coin reform of 348, possibly between 348-402

47 Bead, glass
Find number: 85-47
Blue transparent barrel-shaped glass bead.
Find depth: 39.21
Complete: yes
Type: BT19

7 (scale 2:1)



8.2

1 5 6 9 11 12 14 15 18 19 20 21 22 23 24 26 27 28 29 30 31 32 33 36 40 45 47 54 55 56

48 Mount, iron
Find number: 85-48.1
Two iron mount fragments of the corner of a wooden box with two iron rivets and wood remains attached to the interior.
Find depth: 39.22
Complete: no
Length: 27 mm

Fragment, iron
Find number: 85-48.2
Indeterminate semi circular iron fragments with wood and textile remains attached.
Find depth: 39.22
Complete: no

49 Fragment, iron
Find number: 85-49
Indeterminate iron fragment.
Find depth: 39.25
Complete: no
Length: 20 mm

50 Fragment, iron
Find number: 85-50
Two indeterminate iron fragments.
Find depth: 39.20
Complete: no
Length: 26 mm

51 Fragment, iron
Find number: 85-51
Three indeterminate iron fragments.
Find depth: 39.20
Complete: no
Length: 13 mm

52 Fragment, iron
Find number: 85-52
Two indeterminate iron fragments.
Find depth: 39.21
Complete: no
Length: 13 mm

53 Fragment, iron
Find number: 85-53
Three indeterminate iron fragments
Find depth: 39.20
Complete: no
Length: 17 mm

54 Bead, glass
Find number: 85-54
Red opaque double segmented glass bead decorated with a yellow band twisting around the bead.
Decorated as Koch 42,35 but with a yellow line.
Find depth: 39.21
Complete: yes
Type: Koch 42.35 (Pleidelsheim)
Kombinationsgruppe D
Date: 600-650

55 Bead, glass
Find number: 85-55
Red opaque barrel-shaped glass bead decorated with a yellow braided band.
Find depth: 39.20
Complete: yes
Type: Siegmund Per35.11
Kombinationsgruppe D-H
Rhineland date: 485-705
Alternative type: Koch 34.59/34.60 (Pleidelsheim)
Kombinationsgruppe D
Alternative date: 600-650

56 Bead, glass
Find number: 85-56
White opaque double segmented glass bead decorated with two green braided bands.
Find depth: 39.22
Complete: yes
Type: Siegmund Per32.6
Kombinationsgruppe F-H
Rhineland date: 555-705
Alternative type: Koch type 34.37 (Pleidelsheim)
Kombinationsgruppe D
Alternative date: 600-650

57 Fragment, iron
Find number: 85-57
Two indeterminate iron fragments.
Find depth: 39.23
Complete: no

58 Spindle whorl, ceramic
Find number: 85-58
Uneven biconical ceramic spindle whorl of a grey paste.
Find depth: 39.18
Complete: yes

59 Mount, iron
Find number: 85-59
Two iron mount fragments of the corner of a wooden box with two rivets and wood remains attached to the interior.
Find depth: 39.17
Complete: no

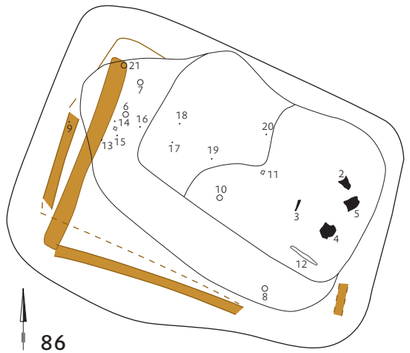
60 Bead, glass
Yellow opaque small barrel-shaped glass bead.
Find number: 85-60
Find depth: 39.20
Complete: yes
Type: YO30

86
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,63
Grave pit width	2,11
Grave pit depth	38,78

48.2 (scale 1:1)

58



86

DESCRIPTION
Merovingian inhumation grave, with a possible additional burial or reopening pit. The orientation of the grave was probably west-east, but only some disarticulated human remains were present. The burial pit was rectangular with slightly rounded corners. Grave 86 was reopened and seemed to contain two outlines of reopening pits. They are both visible at level II. The smallest one is rectangular with slightly rounded corners. A second, more irregular one is visible underneath it. Given its rectangular shape and the presence of human remains it seems possible that the smaller reopening pit could be an additional burial instead of a reopening pit. However, because the pit is very shallow and no longer visible at level III this latter possibility is not very likely.

PHYSICAL ANTHROPOLOGY
Inhumation: the presence of a fragment of long bone and one molar was documented by the excavators but the remains were not collected due to their bad preservation. No information on the sex and age of the individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Posterholt phase II, FAG phase 6-7, (580/90-640/50)

FINDS
1 Stone, sandstone
Find number: 86-1.1
Four sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 158
Complete: no

Stone, flint
Find number: 86-1.2
Flint fragment.
Find depth: unknown
Complete: no

Pottery fragment
Find number: 86-1.3
One wall fragment of Roman colour-coated ware, one wall fragment of Roman coarse ware, one wall fragment of Merovingian fine ware, one base and one wall fragment of Merovingian coarse ware, and one rim (quartz grid tempered) and eleven wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Pottery vessel
Find number: 86-2, 86-3, 86-4, 86-5, 86-6.1, 86-7, 86-8
Three rim fragments and four wall fragments of a red biconical trefoil jug with handle. The fragments can be joint together with find number 11-1-7 and 77-4.
Find depth: 39.46 -39.09
Complete: no

6 Pottery vessel
Find number: 86-6.1
See find number 86-2.
Find depth: 39.15
Complete: no

Pottery fragment
Find number: 86-6.2
One wall fragment of Iron Age handmade pottery.
Find depth: 39.15
Complete: no
Type: indeterminate

9 Bead, glass
Find number: 86-9
Black opaque mellon-shaped glass bead.
Find depth: 38.97
Complete: yes
Type: BO28

10 Fragment, iron
Find number: 86-10
Indeterminate iron fragment.
Complete: no
Length: 17 mm

11 Bone, human
Find number: 86-11
Molar.
Find depth: 38.91

12 Bone, human
Find number: 86-12
Bone fragments.
Find depth: 39.06

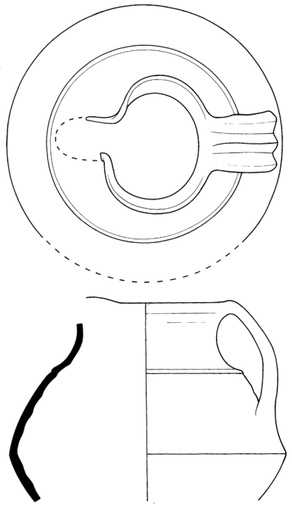
13 Bead, glass
Find number: 86-13
Green opaque small barrel-shaped glass bead.
Find depth: 38.90
Complete: yes
Type: GO30

14 Bead, glass
Find number: 86-14
Disintegrated yellow glass bead.
Find depth: 38.81
Complete: no
Type: YO30

15 Bead, glass
Find number: 86-15
Orange opaque barrel-shaped glass bead.
Find depth: 38.86
Complete: yes
Type: OO19

16 Bead, glass
Find number: 86-16
Green opaque multi-segmented glass bead.
Find depth: 38.83
Complete: yes

2-8



4

9 13 15 16 17 18 20

13

Type: GO24/ Siegmund Per36.4
Kombiantionsgruppen G-I
Rhineland date: 570-705

17 Bead, glass
Find number: 86-17
Black opaque double-segmented glass bead.
Find depth: 38.87
Complete: yes
Type: BO25 / Siegmund Per31.2
Kombinationsgruppen H-I
Rhineland date: 610-705

18 Bead, glass
Find number: 86-18
Green opaque small barrel-shaped glass bead.
Find depth: 38.87
Complete: yes
Type: GO30

19 Bead, glass
Find number: 86-19
Disintegrated yellow glass bead, probably small barrel shaped.
Find depth: 38.83
Complete: no
Type: YO30

20 Bead, glass
Find number: 86-20
Yellow opaque small barrel-shaped glass bead.
Find depth: 38.77
Complete: yes
Type: YO30

21 Belt part, copper alloy
Find number: 86-21
Fragment of a copper alloy plate with two small copper alloy rivets and leather remains attached.
Find depth: unknown
Complete: no
Plate length: 19 mm

Pottery fragment
Find number: 11-I-3
One base fragment of Iron Age handmade pottery (tempered with quartz grid).
Complete: no
Type: indeterminate
Date: (early) Bronze Age or Neolithic

87
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,70
Grave pit width	1,70
Grave pit depth	38,84

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit probably was rectangular with slightly rounded corners. The length was difficult to establish, because different outlines were documented by the excavators. It could either be 2,70 meters or 2,20 meters long. Only a vague outline of the northwest corner of a wooden container was visible. The grave was disturbed and traces of a reopening pit were visible.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Cannot be dated

FINDS
1 Pottery fragment
Find number: 87-1
One wall fragment of Roman colour-coated ware, and five wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Bead, amber
Find number: 87-2
Amber bead with a compressed biconical (droplet shaped) shape.
Find depth: 39.01
Complete: yes
Type: A22

3 Fragment, iron
Find number: 87-3
Indeterminate iron fragment.
Find depth: 39.08
Complete: no
Length: 28 mm

4 Bead, glass
Find number: 87-4
Red opaque biconical glass bead.
Find depth: 39.02
Complete: yes
Type: RO20 / Siegmund Per35.6
Kombinationsgruppen G-I
Rhineland date: 570-705

5 Fragment, iron
Find number: 87-5
Three indeterminate iron fragments with wood remains attached.
Find depth: 39.01
Complete: no
Length: 18 mm

6 Fragment, iron
Find number: 87-6
Two indeterminate iron fragments.
Find depth: 38.97
Complete: no
Length: 16 mm

7 Nail, iron
Find number: 87-7
Small iron nail.
Find depth: 38.95
Complete: yes

88
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,64
Grave pit width	2,03
Grave pit depth	38,88

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A container outline was visible together with traces of the east wall of a wooden container. The grave was reopened. A reopening pit was documented by the excavators at a higher level. Looking at the traces of the container however, this possible disturbance could have been caused by slumping of the soil above the grave after the container collapsed. Still, the lack of human remains and shattered finds suggest the grave was disturbed.

PHYSICAL ANTHROPOLOGY
Inhumation: no human remains or silhouette was present but some fragments of enamel from the teeth were recovered. No information on the sex and age of the individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE
Posterholt phases I-II, FAG phases 5-7 and possibly 4, (510/20-)565-640/50

FINDS
1 Fragment, iron
Find number: 88-1.1
Indeterminate flat iron fragment.
Find depth: unknown
Complete: no
Length: 36 mm

Pottery fragment
Find number: 88-1.2
One wall fragment of Roman colour-coated ware, one rim fragment of a Roman coarse ware lid and seven wall fragments of Iron Age handmade (party coarse walled).
Find depth: unknown
Complete: no
Type: indeterminate

2 Fragment, iron
Find number: 88-2
Two indeterminate iron fragments.
Find depth: 39.38
Complete: no
Length: 31 mm

3 Fragment, iron
Find number: 88-3
Large flat indeterminate iron fragment.
Find depth: 39.39
Complete: no
Length: 49 mm

4 Fragment, iron
Find number: 88-4
Indeterminate iron fragment.
Find depth: 39.44
Complete: no
Length: 22 mm

5 Nail, iron
Find number: 88-5
Large dome-shaped head of an iron nail. The head fits together with the fragment from find number 88-6.
Find depth: 39.06
Complete: yes (only together with 88-6)

6 Nail, iron
Find number: 88-6
Fragment of a large iron nail, fits together with find number 88-5.
Find depth: 39.06
Complete: yes (only together with 88-5)

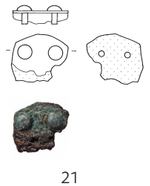
7 Nail, iron
Find number: 88-7
Two fragments of iron nails.
Find depth: 39.04
Complete: no

8 Lance head, iron
Find number: 88-8
Iron lance head with diamond shaped blade and closed socket. There is a small hole at the end of the socket which was used to fix the wooden shaft to the socket with a rivet. Remains of the wooden shaft are preserved inside the socket. The rivet is missing.
Find depth: 39.08
Complete: yes
Siegmund type: Lan2.2
Rhineland phase: 7-8A
Rhineland date: 585-640
Alternative type 1: FAG S-Lan2.2
Alternative date 1: 580/90-620/30 (FAG phase 6-7)
Alternative type 2: LPV type 35
Alternative date 2: 560/570-630/40 (MA3-MR1)

9 Pottery fragment
Find number: 88-9
Three fragments of Merovingian pottery made of a fine tempered fabric. Possibly associated with find number 11-2-3.
Find depth: 38.94
Complete: no

10 Arrowhead, iron
Find number: 88-10
Iron arrowhead with open socket. Remains of the wooden shaft are preserved inside the socket.
Find depth: 38.93
Complete: yes
Alternative type 1: LPV type 24
Alternative date 1: 440/50-600/10 (PM-MA3)
Alternative type 2: Böhner type A
Alternative date 2: 450-700 (Stufe II - IV)

11 Arrowhead, iron
Find number: 88-11
Iron arrowhead with closed socket and oval blade. Remains of the wooden shaft are preserved inside the socket.
Find depth: 38.94
Complete: yes
Alternative type: LPV type 26
Alternative date: 470/80-630/40 (MA1-MR1)
Alternative type: Böhner type B
Alternative date: 525-700 (Stufe III - IV)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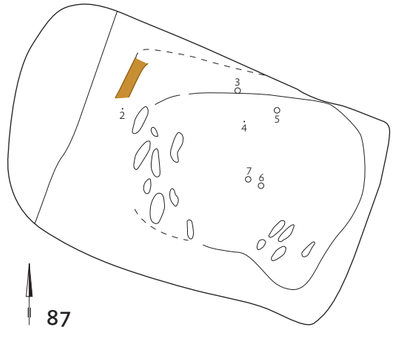
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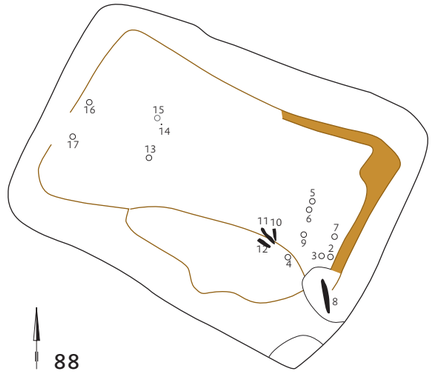
2 4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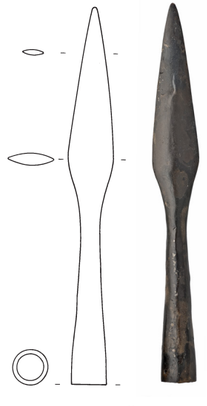
3


5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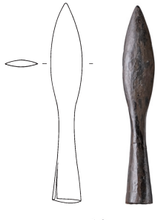
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11

12 Arrowhead, iron
Find number: 88-12
Iron arrowhead with closed socket and oval blade. Remains of the wooden shaft are preserved inside the socket.
Find depth: 38.93
Complete: yes
Alternative type: LPV type 26
Alternative date: 470/80-630/40 (MA1-MR1)
Alternative type: Böhner type B
Alternative date: 525-700 (Stufe III - IV)

13 Belt part, iron
Find number: 88-13
Fragment of an iron, t-shaped slotted mount with two bronze rivets. Part of the leather belt is still attached to the mount with help of the rivets.
Find depth: 38.94
Complete: no
Plate length: 31 mm

14 Bead, amber
Find number: 88-14
Amber bead, amorphous.
Find depth: 38.94
Complete: yes

15 Bone, human
Find number: 88-15
Molar.
Find depth: 38.95

16 Belt part, iron
Find number: 88-16
Fragment of an iron, t-shaped slotted mount with two copper alloy rivets. Leather remains are attached to the backside.
Find depth: 39.01
Complete: no
Plate length: 21 mm

17 Nail, iron
Find number: 88-17
Indeterminate iron fragment, possibly of a nail.
Find depth: 38.98
Complete: no

Pottery fragment
Find number: 11-II-3
Large fragment of the wall and rim of a black biconical pot of a fine tempered fabric, decorated with two undulating lines that partly overlap. The fragments are identical to the fragments found in grave 91 (find number 91-2).
Complete: no

89
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	trench grave
Grave pit length	2,82
Grave pit width	1,96
Grave pit depth	38,97

DESCRIPTION
Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. No container traces or outlines of a wooden container were visible. The grave was reopened. A large reopening pit is visible at level I. It disturbs grave 90 as well.

PHYSICAL ANTHROPOLOGY
No human remains or silhouette present.

DATE GRAVE
Possibly Posterholt phase I-II, FAG phases 4-6, (510/20-610/20)

FINDS
1 Fragment, iron
Find number: 89-1.1
Four indeterminate iron fragments.
Find depth: unknown
Complete: no
Length: 36 mm

Stone, flint
Find number: 89-1.2
Flint fragment.
Find depth: unknown
Complete: no

Glass vessel
Find number: 89-1.3, 89-3, 89-10, 89-17
Thickened rim fragment of a yellowish green bell beaker. The fragment probably belongs to the same bell beaker.
Find depth: unknown
Complete: no
Type: not specified

Stone, sandstone
Find number: 89-1.4
Sandstone fragment, Nivelsteiner sandstone.
Find depth: unknown
Weight: 3 grams.
Complete: no

Pottery fragment
Find number: 89-1.5
One wall fragment of Roman colour-coated ware, one wall fragment of Roman black-slipped ware and 12 wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Nail, iron
Find number: 89-2
Two heads of iron nails.
Find depth: 39.25
Complete: no
Diameter: 6 mm

4 Nail, iron
Find number: 89-4
Fragment of a large iron nail.
Find depth: 39.17
Complete: no

5 Fragment, iron
Find number: 89-5
Indeterminate iron fragment.
Find depth: 39.25
Complete: yes
Length: 47 mm

6 Fragment, iron
Find number: 89-6
Three indeterminate iron fragments.
Find depth: 39.20
Complete: no
Length: 19 mm

7 Belt part/Rivet, copper alloy
Find number: 89-7
Large hollow dome-shaped copper alloy rivet, probably part of a belt fitting.
Find depth: 39.21
Complete: yes
Diameter: 15 mm

8 Nail, iron
Find number: 89-8
Fragment of a large iron nail.
Find depth: 39.22
Complete: yes

9 Nail, iron
Find number: 89-9
Iron nail.
Find depth: 39.25
Complete: yes

10 Object, iron
Find number: 89-10.2
Bended flat iron strip.
Find depth: 39.16
Complete: yes
Length: 60 mm

11 Fragment, iron
Find number: 89-11
Four indeterminate iron fragments.
Find depth: 39.10
Complete: no
Length: 25 mm

12 Rivet, copper alloy
Find number: 89-12
Find depth: 39.13
Copper alloy rivet, with a flat head.
Complete: no
Diameter: 10 mm

13 Fragment, iron
Find number: 89-13
Two indeterminate iron fragments.
Find depth: 39.12
Complete: no
Length: 17 mm

14 Arrowhead, flint
Find number: 89-14
Flint arrow-head.
Find depth: 39.11
Complete: yes

15 Fragment, iron
Find number: 89-15
Indeterminate iron fragment.
Find depth: 39.11
Complete: no
Length: 27 mm

16 Fragment, iron
Find number: 89-16
Indeterminate iron fragment.
Find depth: 39.12
Complete: no
Length: 18 mm

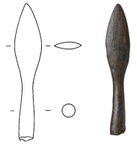
18 Nail, iron
Find number: 89-18
Two small iron nails.
Find depth: 39.12
Complete: yes
Diameter: 7 mm

19 Object, iron
Find number: 89-19
Two flat iron strips.
Find depth: 39.11
Complete: no
Length: 27 mm

20 Fragment, iron
Find number: 89-20
Indeterminate iron fragment.
Find depth: 39.13
Complete: no
Length: 25 mm

21 Fragment, iron
Find number: 89-21
Four indeterminate iron fragments.
Find depth: 39.05
Complete: no
Length: 27 mm

22 Fragment, iron
Find number: 89-22
Three indeterminate iron fragments.
Find depth: unknown
Complete: no
Length: 29 mm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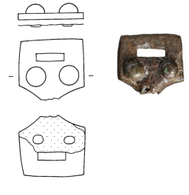
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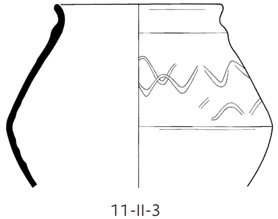
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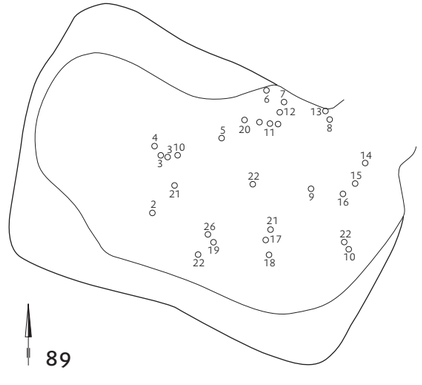
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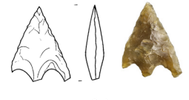
7


10


1.3, 3, 10.1, 17 (scale 1:2)


14

90
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,80
Grave pit width	2,00
Grave pit depth	38,80

DESCRIPTION

Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A vague container outline was present together with the traces of two wooden beams. The grave was reopened, but the reopening pit was only visible at a higher level. This reopening pit disturbs grave 89 as well.

PHYSICAL ANTHROPOLOGY

Inhumation: only some fragments of enamel from the teeth and some fragments of diaphysis of a long bone are present. Sex diagnosis: not possible. No information on the sex and age of the individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE

Posterholt phases II-III, FAG phases 7-8, 610/20-570/80

FINDS

1 Stone, tephrite
Find number: 90-1.1
Three fragments of tephrite, possibly part of a grinding stone.
Find depth: unknown
Complete: no

Fragment, iron
Find number: 90-1.2
Indeterminate iron fragment.
Find depth: unknown
Complete: no

Stone, sandstone
Find number: 90-1.3
Two sandstone fragments, Nivelsteiner sandstone.
Weight: 37 grams
Find depth: unknown
Complete: no

Pottery fragment
Find number: 90-1.4
One rim and one wall fragment of a Roman mortarium, and two base and thirteen wall fragments of Iron Age pottery.
Find depth: unknown
Complete: no
Type: Brunsting 37 (mortarium)
Date: middle of the 2nd – middle of 3rd century

2 Object, iron
Find number: 90-2
Iron strip with D-shaped section.
Find depth: 39.44
Complete: yes
Length: 72 mm

3 Fragment, iron
Find number: 90-3
Small indeterminate iron fragment, with a small copper alloy rivet.
Find depth: 39.54
Complete: no
Length: 10 mm

4 Fragment, iron
Find number: 90-4
Three indeterminate iron fragments with wood remains attached.
Find depth: 39.20
Complete: no
Length: 21 mm

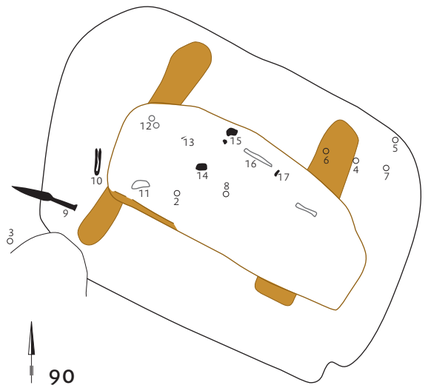
5 Fragment, iron
Find number: 90-5
Indeterminate iron fragment with wood remains attached.
Find depth: 39.19
Complete: no
Length: 41 mm

6 Fragment, iron
Find number: 90-6
Two small indeterminate iron fragments with wood remains attached.
Find depth: 39.15
Complete: no
Length: 26 mm

7 Fragment, iron
Find number: 90-7
Flat indeterminate iron fragment.
Find depth: 39.15
Complete: no
Length: 32 mm

8 Belt part, copper alloy
Find number: 90-8
Square copper alloy mount with slot with two rectangular holes en two eyes on the backside.
Find depth: 39.09
Complete: yes
Plate length: 20 mm
Type: possibly Siegmund Gur3.3
Rhineland phase: 8-8
Rhineland date: 610-640

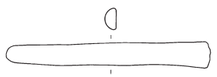
9 Lance head, iron
Find number: 90-9
Iron lance head with diamond shaped blade and closed socket. Wood remains are preserved inside socket.
Find depth: 38.98
Complete: yes
Type: Siegmund Lan2.5
Rhineland phase: 8B-9
Rhineland date: 610-670
Alternative type: FAG S-Lan2.5
Alternative date: 610/20-710 (FAG phase 7-9)



90


1.3


5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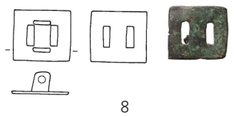
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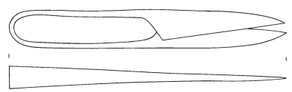



10 (scale 1:4)

10 Shears, iron
Find number: 90-10
Iron shears.
Find depth: 38.92
Complete: yes
Type: not specified
Phase: MA1-MR3
Date: 470/80-700/10

11 Bone, human
Find number: 90-11
Skull.
Find depth: 39.04

12 Bone, human
Find number: 90-12
Molars.
Find depth: 38.89

13 Belt part, copper alloy
Find number: 90-13
Fragment of a rectangular mount with slot with one big and two small rectangular holes and two eyes on the backside. Both eyes are broken and have leather and/ or textile remains attached.
Find depth: 38.89
Complete: no
Plate length: 25 mm
Type: possibly Siegmund Gür3.3
Rhineland phase: 8-8
Rhineland date: 610-640

14 Belt part, iron
Find number: 90-14
Iron triangular counter plate with profiled edges. The counter plate is decorated with silver and copper alloy inlay in animal style. Remains of the leather belt are preserved on the back of the plate. On the back of the counter plate two eyes or rivets are preserved but on the front no sign of rivets are present.
Find depth: 38.92
Complete: no
Plate length: 70 mm
Type: Gür4.7
Rhineland phase: 9
Rhineland date: 640-670
Alternative type 1: FAG Gür4.8A
Alternative date 1: 640/50-670/80 (FAG phase 8)
Alternative type 2: LPV type 188
Alternative date 2: 630/40-700/710 (MR2-MR3)

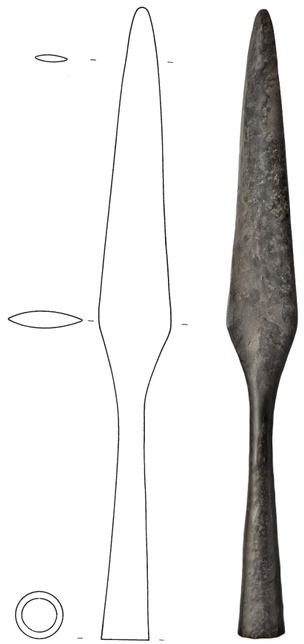
15 Belt part, copper alloy
Find number: 90-15.1
Rectangular mount with slot with one big and two small rectangular holes and two eyes on the backside. With leather and textile remains attached.
Find depth: 38.89
Complete: yes
Plate length: 26 mm
Type: possibly Siegmund Gür3.3
Rhineland phase: 8-8
Rhineland date: 610-640

Belt part, copper alloy
Find number: 90-15.2
Rectangular mount with slot with one big and two small holes and two eyes on the backside. With leather and textile remains attached.
Find depth: 38.89
Complete: yes
Plate length: 25 mm
Type: possibly Siegmund Gür3.3
Rhineland phase: 8-8
Rhineland date: 610-640

Fragment, leather
Find number: 90-15.3
Fragment of a leather belt.
Find depth: 38.89
Complete: no
Length: 40 mm

16 Bone, human
Find number: 90-16
Bone fragments.
Find depth: 38.90

17 Belt part, iron
Find number: 90-17
Iron shielded tongue, decorated with a silver line and a silver dot. The decoration pattern is impossible to establish.
Find depth: 38.99
Complete: no
Type: Siegmund Gür4.7
Rhineland phase: 9
Rhineland date: 640-670
Alternative type 1: FAG Gür4.8A
Alternative date 1: 640/50-670/80 (FAG phase 8)
Alternative type 2: LPV type 188
Alternative date 2: 630/40-700/710 (MR2-MR3)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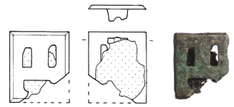
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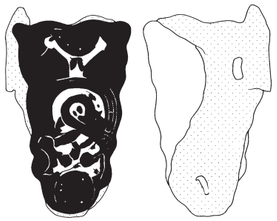
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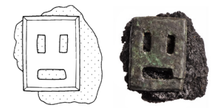
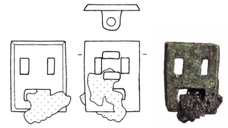
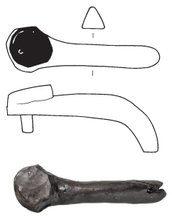

15.1


15.2


15.3


17

FINDS FROM THE REOPENING PIT OVER GRAVES 89 AND 90

Brooch, copper alloy
Find number: 11-I-8
Copper alloy bird-shaped fibula looking to the right. On the backside, remains of the iron needle is preserved. The fibula is bended, which may be a result of robbing activities (it was found in a reopening pit). The eye is a point in circle. This decoration technique is also used for decorating the tail. The brooch was found in the reopening pit over graves 89 and 90.
Complete: yes
Type: Westhoven
Date: ca. 500-550

Arrowhead, iron
Find number: 11-I-9
Barbed iron arrowhead with open socket. The arrowhead was found in the reopening pit over graves 89 and 90.
Complete: yes
Type: LPV type 27
Phase: MA1-MA3
Date: 470/80-600/10

Arrowhead, iron
Find number: 11-II-1.1
Iron arrowhead with possible open socket. Wood remains are preserved inside the socket. The arrowhead was found in the reopening pit over graves 89 and 90.
Complete: no
Type: indeterminate

Arrowhead, iron
Find number: 11-II-1.2
Iron arrowhead with closed socket. Wood remains are preserved inside the socket. The arrowhead was found in the reopening pit over graves 89 and 90.
Complete: yes
Alternative type 1: LPV type 26
Alternative date 1: 470/80-630/40 (MA1-MR1)
Alternative type 2: Böhner type B
Alternative date 2: 525-700 (stufe III - IV)

Knife, iron
Find number: 11-II-2
Fragment of the blade of an iron knife with leather remains attached. It was found in the reopening pit over graves 89 and 90.
Complete: no
Length: 61 mm

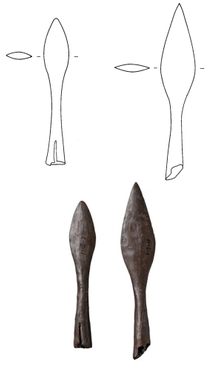
Belt part, iron
Find number: 11-II-4
Flat spoon-shaped iron plate with copper alloy rivet. A small square plate is attached together with two small copper alloy rings. The object was found in the reopening pit over graves 89 and 90.
Complete: yes

Indeterminate object
Find number: 11-II-5
Indeterminate object: missing. It was found in the reopening pit over graves 89 and 90.
Complete: unknown

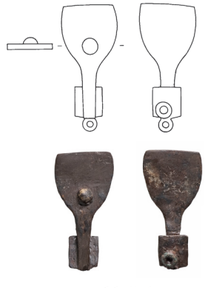
11-I-8 (scale 1:1)

11-I-9

11-II-2



11-II-1



11-II-4

91
GRAVE

Trench	11
Grave type	inhumation grave
Grave structure	wooden container grave
Grave pit length	2,87
Grave pit width	2,22
Grave pit depth	unknown

DESCRIPTION

Merovingian inhumation grave. The orientation of the grave was probably west-east, but no human remains were present. The burial pit was rectangular with slightly rounded corners. A vague container outline was present together with the traces of two wooden beams. The grave was reopened.

PHYSICAL ANTHROPOLOGY

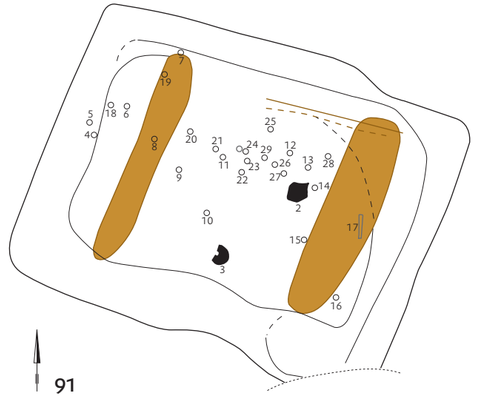
Inhumation: the presence of some very small bone fragments was documented by the excavators, but they could not be collected due to their bad preservation. No information on the sex and age of the individual can be obtained. Based on the length of the wooden container this was probably a juvenile or adult individual.

DATE GRAVE

Cannot be dated

FINDS

1 Nail, iron
Find number: 91-1.1
Seven indeterminate iron fragments, possibly of nails.
Find depth: unknown
Complete: no
Length: 47 mm



Stone, sandstone
Find number: 91-1.2
Three sandstone fragments, Nivelsteiner sandstone.
Find depth: unknown
Weight: 183 grams
Complete: no

Pottery fragment
Find number: 91-1.3
Three wall fragments of Roman coarse ware, one wall fragment of Merovingian reduced fine ware, and one rim, one base and nine wall fragments of Iron Age handmade pottery.
Find depth: unknown
Complete: no
Type: indeterminate

2 Pottery fragment
Find number: 91-2
Three fragments of the rim and upper wall of a biconical pot, decorated with two undulating lines. The fragments are identical to the fragment found in grave 88 (find number 88-3).
Find depth: 39.44
Complete: no
Type: FAG Kwt3B
Phase: 4-5
Date: 510/25-580/90

3 Pottery fragment
Find number: 91-3
Fragment of the upper wall of a pottery bottle made of a fine tempered fabric, decorated with a group of three grooved lines, and two groups of two grooved lines.
Find depth: 39.23
Complete: no

4 Belt part, copper alloy
Find number: 91-4
Fragment of a copper alloy plate with a rounded end and one rivet attached. Probably part of a belt fitting.
Find depth: 39.08
Complete: yes
Diameter: 10 mm

5 Rivet, iron
Find number: 91-5
Large iron rivet with wood remains attached, possibly part of a shield.
Find depth: 38.93
Complete: yes
Diameter: 27 mm

6 Fragment, iron
Find number: 91-6
Indeterminate iron fragment.
Find depth: unknown
Complete: no
Length: 28 mm

7 Fragment, iron
Find number: 91-7
Indeterminate iron fragment.
Find depth: unknown
Complete: no
Length: 32 mm

8 Fragment, iron
Find number: 91-8
Indeterminate iron fragment.
Find depth: unknown
Complete: no
Length: 21 mm

9 Belt dispenser, iron
Find number: 91-9
Belt dispenser, possibly of a sword belt or of horse gear. The belt dispenser consists of a small iron ring to which three rectangular plates with two copper alloy rivets each were attached. One of the plates is missing. Part of an iron strap-end is fixed to one of the plates as a consequence of erosion. Leather remains are attached to the back of the plates.
Find depth: 38.96
Complete: no

10 Nail, iron
Find number: 91-10
Small iron nail.
Find depth: 38.87
Complete: no

11 Fragment, iron
Find number: 91-11
Smal indeterminate iron fragment.
Complete: no
Length: 13 mm

12 Fragment, iron
Find number: 91-12.1
Iron fragment with two copper alloy rivets.
Complete: no
Length: 22 mm

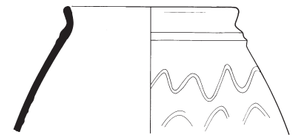
Fragment, iron
Find number: 91-12.2
Small indeterminate iron fragment.
Complete: no
Length: 16 mm

13 Rivet, copper alloy
Find number: 91-13
Small copper alloy rivet.
Find depth: 38.96
Complete: yes
Diameter: 6 mm

14 Ring, iron
Find number: 91-14
Iron ring with indeterminate remains attached.
Find depth: 38.91
Complete: no
Diameter: 25 mm

15 Fragment, iron
Find number: 91-15
Two indeterminate iron fragments.
Complete: no
Length: 20 mm

16 Bone, human
Find number: 91-16
Three very small bone fragments.
Complete: no
Length: 17 mm



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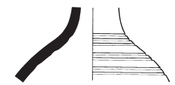

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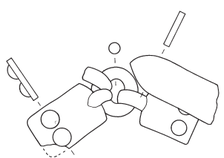

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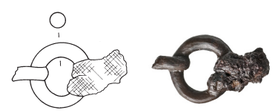


14

18 Rivet, iron
Find number: 91-18
Large iron rivet, possibly of a shield boss.
Find depth: 38.86
Complete: yes
Diameter: 26 mm

19 Nail, iron
Find number: 91-19
Large iron nail.
Find depth: 38.85
Complete: no

20 Fragment, iron
Find number: 91-20
Indeterminate iron fragment with copper alloy rivet.
Find depth: unknown
Complete: no
Length: 34 mm

21 Fragment, iron
Find number: 91-21
Indeterminate iron fragment with small copper alloy rivet attached.
Find depth: 38.77
Complete: no
Length: 25 mm

22 Fragment, iron
Find number: 91-22
Indeterminate iron fragment.
Find depth: unknown
Complete: no
Length: 24 mm

23 Rivet, copper alloy
Find number: 91-23
Small copper alloy rivet.
Find depth: 38.84
Complete: yes
Diameter: 6 mm

24 Rivet, copper alloy
Find number: 91-24
Small copper alloy rivet.
Find depth: 38.82
Complete: yes
Diameter: 6 mm

25 Fragment, iron
Find number: 91-25
Three indeterminate iron fragments.
Find depth: unknown
Complete: no
Length: 36 mm

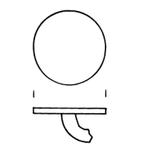
26 Rivet, copper alloy
Find number: 91-26
Five small indeterminate copper alloy fragments, probably rivets.
Find depth: unknown
Complete: no
Length: 10 mm

27 Rivet, copper alloy
Find number: 91-27
Small copper alloy rivet.
Find depth: 38.87
Complete: yes
Diameter: 6 mm

28 Fragment, iron
Find number: 91-28
Indeterminate iron fragment.
Find depth: unknown
Complete: no
Length: 23 mm

29 Rivet, copper alloy
Find number: 91-29
Small copper alloy rivet.
Find depth: 38.75
Complete: yes
Diameter: 6 mm

Nail, iron
Find number: 11-I-12
Small iron nail.
Complete: yes



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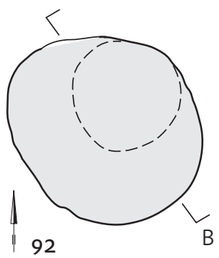

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9-O-3.1

92
GRAVE

Trench	9
Grave type	cremation grave
Remark	examined as a regular pit

DESCRIPTION
Late Iron Age cremation grave.

PHYSICAL ANTHROPOLOGY
The presence of cremated remains was documented on the drawing of trench 9, but they are currently missing.

DATE GRAVE
Middle of the 3rd – middle of the 2nd century BC

FINDS
Belt-hook, iron
Find number: 9-o-3.1
Iron belt-hook with an iron rivet.
Complete: yes
Type: unknown
Length: 30 mm
Date: 3rd – 2nd century BC

Brooch, copper alloy
Find number: 9-o-3.2
4 fragments of two copper alloy fibulae made out of simple copper alloy wire.
Complete: no
Type: Middle La Tène construction
Date: 3rd – 2nd century BC

Pottery vessel
Find number: 9-o-3.3
Late Iron Age handmade bowl, reduced and tempered with pottery grid. The bowl is reconstructed and several fragments are missing.
Complete: no
Type: unknown
Date: 3rd century BC – early 1st century AD

9-O-3.2

9-O-3.3

Stone, flint
Find number: 9-o-7.1
Fragment of burned flint.
Weight:
Complete: no

Pottery fragment
Find number: 9-o-7.2
Nine wall fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

93
GRAVE

Trench	8
Grave type	inhumation grave
Remark	not examined

DESCRIPTION
The grave was not examined.

DATE GRAVE
Cannot be dated

FINDS
Arrow head, iron
Find number: 8-II-1
Iron fragment, possibly part of an arrow-head.
Complete: no
Length: 45 mm

8-II-1

94
GRAVE

Trench	11
Grave type	inhumation grave
Remark	not examined

DESCRIPTION
The grave was not examined.

DATE GRAVE
Cannot be dated

FINDS
Pottery fragment
Find number: 11-I-6
Five wall fragments, one rim fragment and two base fragments of a black Merovingian pot (probably biconical).
Complete: no

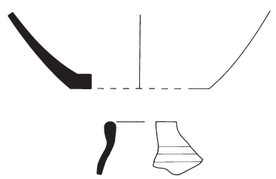
Pottery fragment
Find number: 11-I-13.1
Wall fragment of a biconical pot, decorated with a band of rosette stamps that is placed over thin grooves.
Complete: no

Pottery fragment
Find number: 11-I-13.2
Wall fragment of pottery tempered with quarts fragments.
Complete: no

Pottery fragment
Find number: 11-I-13.3
Small wall fragment of Merovingian pottery, probably of a biconical pot.
Complete: no

Nail, iron
Find number: 11-I-14.1
One large iron nail.
Complete: no

Fragment, iron
Find number: 11-I-14.2
Eight small indeterminate iron fragments.
Complete: no



11-I-6

FINDS WITHOUT CONTEXTS

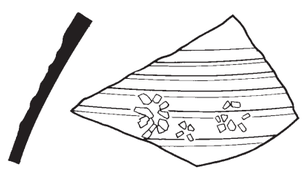
STRAY FINDS HVR
Pottery fragment
Find number: HVR trench 1 (1.1)
Six fitting fragments of the upper and lower wall of a red biconical pot. The upper wall is decorated with two groups of 4 lines. In between the lines is a zone with single cross-shaped stamps, consisting of two rows of small rectangles.
Complete: no
Alternative type: FAG Kwt2A
Alternative phase: 4-5
Alternative date: 510/25-580/90

Stone, sandstone
Find number: HVR trench 1 (1.2)
Two sandstone fragments, Nivelsteiner sandstone.
Weight: 30 grams
Complete: no

Stone, flint
Find number: HVR trench 1 (1.3)
Two flint fragments.
Complete: no

Pottery fragment
Find number: HVR trench 1 (1.4)
Two wall fragments of Roman colour-coated ware, one wall fragment of a Roman mortarium, two wall fragments of Roman Samian ware, one base and two wall fragments of Roman fine oxidised ware, seven wall fragments of Roman coarse ware, six wall fragments of Iron Age handmade pottery and one wall fragment of indeterminate pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: HVR trench 1 (1.5)
One rim fragment of a Roman colour-coated beaker.
Complete: no
Type: Oelmann 30
Date: middle of the 2nd century – middle of the 3rd century



11-I-13 (scale 1:2)

Pottery fragment
Find number: HVR trench 1 (1.6)
one rim fragment of a Roman coarse ware plate.
Complete: no
Type: Stuart 218
Date: 2nd century – 2nd half of the 3rd century

Pottery fragment
Find number: HVR trench 4 (4.1)
One wall fragment of a Roman dolium, one rim fragment of a Roman coarse ware lid, one base and three wall fragments of Roman coarse ware and three wall fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: HVR trench 4 (4.2)
One wall fragment of a Roman Samian dish.
Complete: no
Type: Dragendorff 31
Date: middle of the 2nd – 2nd half of the 3rd century

Pottery fragment
Find number: HVR trench 4 (4.3)
Three rim and four wall fragments of a Roman coarse ware jar.
Complete: no
Type: Oelmann 89
Date: middle of the 2nd – 2nd half of the 3rd century

Pottery fragment
Find number: HVR stray finds 1983.1
Seven wall fragments of a Roman dolium, one wall fragment of a Roman mortarium, two wall fragments of Roman colour-coated ware, one rim and two wall fragments of Roman coarse ware and one rim and one wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: HVR stray finds 1983.2
One rim, one base and three wall fragments of Merovingian pottery.
Complete: no
Type: indeterminate

Fragment, bronze
Find number: HVR stray finds 1983.3
Small bronze fragment.
Complete: no

Find number: HVR stray finds 1983.4
One rim fragments of a Roman coarse ware bowl.
Complete: no
Type: Stuart 210
Date: end of the 1st century – middle of the 3rd century

Find number: HVR stray finds 1983.5
One rim fragment of a Roman coarse ware jar or bowl.
Complete: no
Type: Oelmann 89 or Oelmann 103
Date: middle of the 2nd – 3rd century

Pottery vessel
Find number: stray find 1953
Red spouted pot of fine fabric. Discovered in 1953.
Complete: yes
Type: Kwt2.12
Rhineland phase: 4
Rhineland date: 530-555
Alternative type: FAG Kwt2A
Alternative date: 510/25-580/90 (phase 4-5)

STRAY FINDS ROB

Pottery fragment
Find number: 1-I-0.1
Five wall fragments of Roman colour-coated ware, one wall fragment of a South Spanish Baetica amphora, one wall fragment of Roman fine oxidised ware, one rim, one base and eighteen wall fragments of Roman or Early Medieval coarse ware, one wall fragment of Iron Age handmade pottery and two fragments of Roman tiles.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 1-I-0.2
One rim and two wall fragment of a Roman dolium.
Complete: no
Type: Stuart 147
Date: 1st – 3rd century

Bone, human
Find number: 1-I-8
Cremated remains.

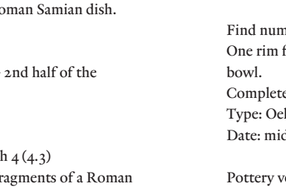
Pottery fragment
Find number: 1-I-13
One base fragment of Roman or Early Medieval coarse ware.
Complete: no
Type: indeterminate

Stone, sandstone
Find number: 1-I-14
Sandstone fragment, missing.
Complete: no

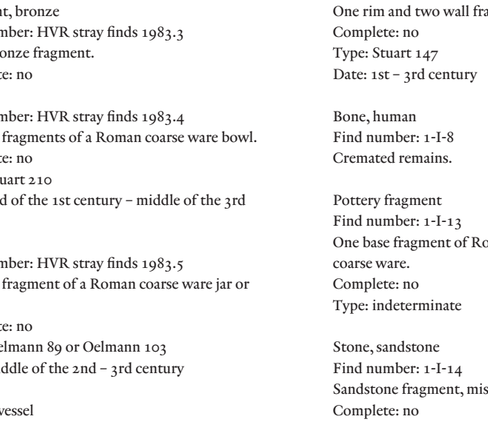
Stone, sandstone
Find number: 1-I-16
Sandstone fragment, Nivelsteiner sandstone.
Weight: 38 grams
Complete: no

Pottery fragment
Find number: 1-I-17
Pottery fragment: missing.
Complete: no

Pottery fragment
Find number: 1-I-19
One wall fragment of Roman Samian ware.
Complete: no
Type: indeterminate



1.1



1.1

Pottery fragment
Find number: 1-I-20
One wall fragment of a Roman dolium. The fragment belongs to the same vessel as find number 2-21.
Complete: no
Type: Stuart 147
Date: 1st – 3rd century

Pottery fragment
Find number: 1-I-21
One rim fragment of a Roman dolium. The fragment belongs to the same vessel as find number 2-20.
Complete: no
Type: Stuart 147
Date: 1st – 3rd century

Stone, sandstone
Find number: 1-I-22
Stone fragment.
Weight: 48 grams
Complete: no

Pottery fragment
Find number: 1-I-23
One wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Nail, iron
Find number: 2-I-0
Six fragments of large iron nails, probably recent.
Complete: no

Pottery fragment
Find number: 3-I-0.1
Two rim fragments of a Merovingian reduced fine ware pot, six wall fragments of Merovingian reduced fine ware and two wall fragments of Merovingian oxidised fine ware.
Complete: no

Pottery fragment
Find number: 3-I-0.2
One wall fragment of Roman coarse ware and three wall fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 3-I-2
One wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 3-I-3
Wall fragment of a grey pot made of a fine tempered fabric, decorated with three singular lines of roulette impressions. The fragment probably fits together with the fragments from find number 3-I-6.
Complete: no
Type: FAG Kwt5E
Phase: 5-6(-early 7)
Date: 565-610/10(-640/50)

Pottery fragment
Find number: 3-I-4
One wall fragment of Roman coarse ware.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 3-I-5
Wall fragment of Merovingian reduced fine ware.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 3-I-6
Wall fragment of a grey pot made of a fine tempered fabric, decorated with four singular lines of roulette impressions. The fragment probably fit together with the fragments from find number 3-I-3.
Complete: no
Type: FAG Kwt5E
Phase: 5-6(-early 7)
Date: 565-610/10(-640/50)

Stone, sandstone
Find number: 3-I-7
Two sandstone fragments, Nivelsteiner sandstone.
Weight: 185 grams
Complete: no

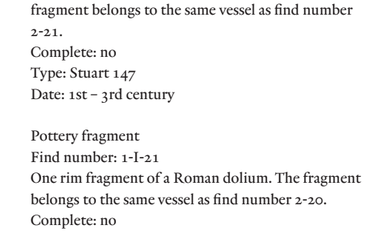
Sample, organic
Find number: 3-I-8
Charcoal fragment: missing.
Complete: no

Lance head, iron
Find number: 3-II-1
Iron lance head with oval blade, midrib and closed socket. Remains of the wooden shaft are preserved inside the socket.
Complete: yes
Type: S Lan2.1
Rhineland phase: 7-8A
Rhineland date: 585-640
Alternative type: FAG S-Lan2.1
Alternative date: 580/90-610/20 (phase 6)

Knife, iron
Find number: 3-II-2.1
Indeterminate iron fragment, possibly the point of a knife.
Complete: no
Length: 32 mm

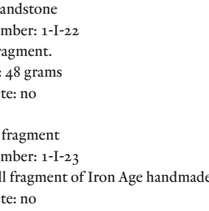
Pottery fragment
Find number: 3-II-2.2
Four wall fragments of greyish black pottery with a fine fabric. Probably of a biconical pot.
Complete: no

Belt part, iron
Find number: 3-II-5
Simple iron buckle with an oval loop.
Complete: yes
Loop length: 27 mm

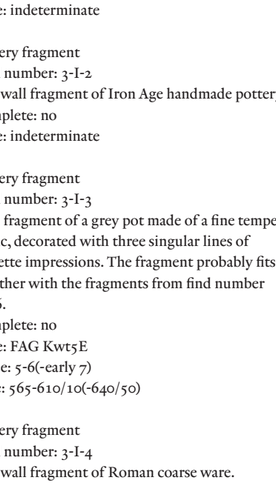


3-I-3

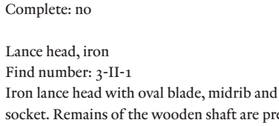
3-I-3 (scale 1:1)



3-I-6 (scale 1:1)



3-II-1



3-II-5

Rivet, iron
Find number: 3-II-10
Head of a large iron rivet with a copper-alloy foil.
Complete: no
Diameter: 21 mm

Fragment, iron
Find number: 3-II-11.1
Eleven indeterminate iron fragments some of which have wood remains attached.
Complete: no
Length: 32 mm

Nail, iron
Find number: 3-II-11.2
Small iron nail.
Complete: yes

Fragment, iron
Find number: 4-0.1
Indeterminate iron fragment found on spoil heap.
Complete: no
Length: 25 mm

Pottery fragment
Find number: 4-0.2
Two fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 4-I-0.1
Seven fragments of Merovingian pottery, probably biconical pots.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 4-I-0.2
Five wall fragments of Roman coarse ware and nine fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 4-I-1
Small rim fragment of Merovingian pottery, made of fine tempered fabric.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 4-I-2
One wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Glass vessel
Find number: 4-I-3
Wall fragment of green glass. The shape is indeterminate.
Complete: no

Pottery fragment
Find number: 4-I-4
One base fragment of Roman coarse ware.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 4-I-5
One wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery vessel
Find number: 4-I-6
Fifteen wall fragments, one rim fragment and two base fragments of a Roman coarse ware jar.
Complete: 25-50%
Type: Oelmann 89 (with ears)
Date: middle of the 2nd – 3rd century

Pottery fragment
Find number: 4-I-7
One wall fragment of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 4-II-1
Rim and wall fragment of a grey biconical pot with a fine fabric. The rim fragment is decorated with at least 2 single lines of rectangular roulette impressions.
Complete: no
Type: FAG Kwt5E
Phase: 5-6(-early 7)
Date: 565-610/10(-640/50)

Pottery fragment
Find number: 4-II-2
Wall fragment of Merovingian pottery, decorated with three lines of rectangular roulette impressions. The outer surface is baked oxidized while the inner surface is baked reduced.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 4-II-3
One wall fragment of indeterminate pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 4-II-4
Large rim fragment of a biconical pot with spout made of grey fine-tempered fabric. The flat rim is decorated with 4 undulating grooved lines and the upper wall is decorated with 4 lines of long rectangular roulette impressions.
Complete: no
Type: FAG Kwt5E
Phase: 5-6(-early 7)
Date: 565-610/10(-640/50)

Pottery fragment
Find number: 5-I-0
One wall fragment of a Roman dolium, one wall fragment of Roman fine oxidised ware, three wall fragments of Roman coarse ware and one rim and three wall fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 5-I-1
Two walls fragment of possible Iron Age handmade pottery (from section A).
Complete: no
Type: indeterminate

Sample, organic
Find number: 5-I-2
Charcoal sample (from section B).
Remark: not analysed

Pottery fragment
Find number: 6-I-1
One wall fragment of a Roman colour-coated beaker.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 6-I-2
One base fragment of a Roman coarse ware pot.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 6-I-3
One wall fragment of Roman coarse ware (from section B).
Complete: no
Type: indeterminate

Pottery fragment
Find number: 8-I-0.1
Large wall fragment of the lower part of a black biconical pot, made of a fine tempered fabric.
Complete: no
Type: indeterminate

Stone, flint
Find number: 8-I-0.2
Fragment of burned flint.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 8-I-0.3
Small wall fragment of Carolingian or High Medieval pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 8-I-0.4
One rim and two wall fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 8-I-1
Pottery fragment: missing.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 8-II-2
Base and wall fragments of two Merovingian oxidised coarse ware pots.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 9-0-1
Seven wall fragments of possible Iron Age handmade pottery (from section A).
Complete: no
Type: indeterminate

Pottery fragment
Find number: 9-0-2
Twelve wall fragments of possible Iron Age handmade pottery (from section A).
Complete: no
Type: indeterminate

Pottery fragment
Find number: 9-0-5
Five wall fragments of possible Iron Age handmade pottery (from section C).
Complete: no
Type: indeterminate

Stone
Find number: 9-0-6.1
Stone fragment (from section A).
Weight: 65 grams.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 9-0-6.2
One wall fragment of Roman coarse ware and five wall fragments of possible Iron Age handmade pottery (from section A).
Complete: no
Type: indeterminate

Sample, organic
Find number: 9-0-8
Botanical sample: missing (from lowest layer section A).
Remark: not analysed

Pottery fragment
Find number: 9-0-9
Three wall fragments of possible Iron Age handmade pottery (from section D).
Complete: no
Type: indeterminate

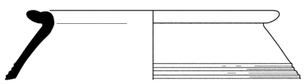
Bone, human
Find number: 9-0-10
Cremated remains.
Remark: not analysed

Stone, sandstone
Find number: 9-I-2
Sandstone fragment, Nivelsteiner sandstone.
Weight: 187 grams
Complete: no
Type: indeterminate

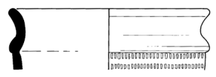
Pottery fragment
Find number: 9-I-6
One wall fragment of Roman pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 9-I-10
One wall fragment of possible Iron Age handmade pottery.
Complete: no
Type: indeterminate

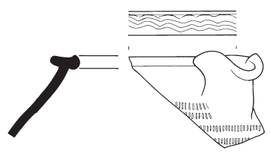
Pottery fragment
Find number: 10-I-0.1
One base fragment of a Roman fine oxidised flagon, one wall fragment of a Roman mortarium and one wall fragment of Merovingian reduced fine ware.
Complete: no
Type: indeterminate


4-I-6


4-II-2


4-II-1


4-II-1


4-II-4


4-II-4


8-I-0

Pottery fragment
Find number: 10-I-0.2
One base fragment of a Roman Samian dish with a stamp fragment.
Type: Dragendorff 31
Date: middle of the 2nd – 3rd century

Pottery fragment
Find number: 10-I-0.3
One rim fragment of a Roman colour-coated beaker.
Complete: no
Type: Oelmann 30
Date: middle of the 2nd – middle of the 3rd century

Pottery fragment
Find number: 10-I-0.4
One rim fragment of a Roman coarse ware jar.
Complete: no
Type: Stuart 201
Date: 2nd century

Pottery fragment
Find number: 10-I-0.5
One rim fragment of coarse ware bowl.
Complete: no
Type: Oelmann 104
Date: middle of the 2nd – 2nd half of the 3rd century

Stone, sandstone
Find number: 10-I-3
Sandstone fragment, Nivelsteiner sandstone.
Weight: 40 grams
Complete: no
Type: indeterminate

Stone, sandstone
Find number: 10-I-4
Sandstone fragment, Nivelsteiner sandstone.
Weight: 30 grams
Complete: no
Type: indeterminate

Pottery fragment
Find number: 10-I-6
Small fragment of medieval pottery made of fine fabric. Probably *Zuid-Limburg*-ware.
Complete: no
Type: *Zuid-Limburg*-ware

Arrowhead, iron
Find number: 10-I-7
Iron arrowhead with open socket and oval blade. Remains of the wooden shaft are preserved inside the socket.
Complete: yes
Type: LPV type 24
Phase: PM-MA3
Date: 440/50-600/10

Fragment, iron
Find number: 10-I-8
Three small indeterminate iron fragments.
Complete: no
Length: 17 mm

Pottery fragment
Find number: 11-0-1
Three wall fragments of Iron Age handmade pottery and one wall fragment of Iron Age of Merovingian smoothened handmade pottery (from section A).
Complete: no
Type: indeterminate

Nail, iron
Find number: 11-I-0.1
Seven small indeterminate iron fragments, probably nails.
Complete: no
Length: 17 mm

Pottery fragment
Find number: 11-I-0.2
Two fragments of a black Merovingian pot (probably biconical), made of a fine tempered fabric.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 11-I-0.3
Five rim fragments Iron Age handmade pottery.
Complete: no
Type: indeterminate

Stone, sandstone
Find number: 11-I-2
Sandstone fragment, Nivelsteiner sandstone.
Weight: 84 grams
Complete: no
Type: indeterminate

Object, iron
Find number: 11-I-10
Iron gaff-shaped object. Probably recent.
Complete: yes
Length: 62 mm

Pottery fragment
Find number: 12-I-0
Small wall fragment and one rim fragment of a black biconical pot, made of a fine tempered fabric.
Complete: no
Type: indeterminate

Stone, flint
Find number: 12-I-1.1
Large flint fragment.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 12-I-1.2
Rim fragment of a grey biconical pot, made of a fine tempered fabric.
Complete: no
Type: indeterminate

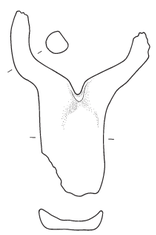
Pottery fragment
Find number: 12-I-1.3
One wall fragment of Roman or Early Medieval coarse ware and one rim and one wall fragments of Iron Age handmade pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 12-I-2
One base fragment of Roman or Early Medieval coarse ware, one rim and two wall fragments of Iron Age handmade pottery and three wall fragments of indeterminate pottery.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 12-I-3
One wall fragment of Iron Age handmade pottery and four wall fragments of indeterminate pottery.
Complete: no
Type: indeterminate

244-1

10-I-7



11-I-10

244-2

Pottery fragment
Find number: 13-I-1.1
Small rim fragment of Merovingian pottery made of a fine tempered fabric and one wall fragment of Merovingian reduced ware of a biconical pot.
Complete: no
Type: indeterminate

Pottery fragment
Find number: 13-I-1.2
One rim fragment of a Roman fine oxidised jar, three wall fragments of Roman coarse ware, three wall fragments of Iron Age handmade pottery and one rim fragment of Roman tile (tegula).
Complete: no
Type: indeterminate

STRAY FINDS HUUB SCHMITZ

Pottery fragment
Find number: 244-1
Wall fragment of a black biconical pot, decorated with six lines of rectangular roulette impressions.
Complete: no

Pottery fragment
Find number: 244-2
Wall fragment of a grey biconical pot, decorated with three lines of rectangular roulette impressions.
Complete: no

Pottery fragment
Find number: 244-3
Wall fragment of a black biconical pot with a fine fabric, decorated with six lines of rectangular roulette impressions.
Complete: no

Pottery fragment
Find number: 244-4
Wall fragment of the transition from wall to rim of a black biconical pot with a fine fabric.
Complete: no

Pottery fragment
Find number: 244-5
Wall fragment of a brown biconical pot with a fine fabric, decorated with single stamp impressions and five grooved lines.
Complete: no

Pottery fragment
Find number: 244-6
Two fitting wall fragments of a black biconical pot with a fine fabric and raised bosses. The fragment is decorated with a single rosette impression and 3 grooved lines.
Complete: no

Pottery fragment
Find number: 244-7
Wall fragment of the transition from wall to rim of a black biconical pot with a fine fabric.
Complete: no

Pottery fragment
Find number: 244-8
Rim fragment of a black biconical pot with a fine fabric.
Complete: no

Pottery fragment
Find number: 244-9
Rim fragment of a black biconical pot with a fine fabric.
Complete: no

Pottery fragment
Find number: 244-10
Rim fragment of a black biconical pot with a fine fabric.
Complete: no

Pottery fragment
Find number: 244-11
Wall and rim fragment of an egg-shaped pot with a fine fabric. The outside is black, the inside is yellowish brown.
Complete: no

Pottery fragment
Find number: 244-12
Wall and rim fragment of an yellowish brown egg-shaped pot with a fine fabric.
Complete: no

Pottery fragment
Find number: 244-13
Base fragment of a possible Mayen-type jar. The fragment is Carolingian and has a lenticular base.
Complete: no

Pottery fragment
Find number: 244-14
Rim fragment of Badorf pottery with one line of rectangular roulette impressions.
Complete: no

Pottery fragment
Find number: 244-15
Rim fragment of a black biconical pot with a fine fabric.
Complete: no

Pottery fragment
Find number: 244-16
Rim fragment of Carolingian pottery with a fine fabric.
Complete: no

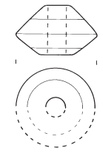
Pottery fragment
Find number: 244-17
Coarse-ware rim fragment, possibly of a biconical pot.
Complete: no

Pottery fragment
Find number: 244-18
Rim fragment of a coarse ware pot.
Complete: no

Pottery fragment
Find number: 244-19
Rim fragment of a black biconical pot with a fine fabric.
Complete: no

244-3

244-6



244-22

244-5

244-14

244-28

Pottery fragment
Find number: 244-20
Rim fragment of a coarse-ware Mayen jar.
Complete: no

Pottery fragment
Find number: 244-21
Fifty-one fragments of Merovingian pottery with a fine fabric. Most fragments are Merovingian, but some could possibly be Carolingian.
Complete: no

Spindle whorl, ceramic
Find number: 244-22
Fragment of a white ceramic spindle whorl.
Complete: no

Stone, whetstone
Find number: 244-23
Fragment of a whetstone. At one end, someone tried to drill a hole but it is not completed.
Complete: no

Nail, iron
Find number: 244-24
Large iron nail.
Complete: yes

Fragment, iron
Find number: 244-25
Indeterminate semi circular iron fragment.
Complete: no
Length: 36 mm

Brooch, iron
Find number: 244-26
Copper alloy equal armed brooch. The brooch is made out of four animal heads of which two are placed mouth to mouth. The eyes of the animals are inlayed with red glass or garnets.
Complete: yes
Type: described in chapter 1

Pin, iron
Find number: 244-27
Bended, iron hair-pin.
Complete: yes

Belt part, copper alloy
Find number: 244-28
Fragment of a copper alloy strap-end with two holes on one end.
Complete: no
Length: 56 mm
Type: LPV type 199
Date: 470/80-630/40 (MA1-MR1)

Pottery fragment
Find number: 244-29
Handle of a coarse-ware jar or jug.
Complete: no

Glass vessel
Find number: 244-30
Three indeterminate glass fragments.
Complete: no

Stone, sandstone
Find number: 244-31.1
Two sandstone fragments, Nivelsteiner sandstone.
Weight: 17 grams
Complete: no

Stone, flint
Find number: 244-31.2
Three flint fragments.
Weight: 20 grams.
Complete: no

Coin, copper alloy
Find number: 244-32
Copper alloy coin, Trajan (98-117)
Complete: yes
Type: AS
Date: 98-102

Brooch, copper alloy
Find number: 244-33
Copper alloy fibula with a weathered surface.
Part of the needle is missing.
Complete: no

Brooch, copper alloy
Find number: 244-34
Copper alloy fibula. The needle is missing.
Complete: no

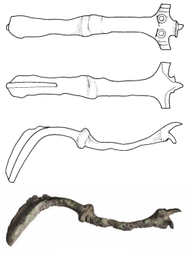
Pottery fragment
Find number: 244-35
Wall fragment of a grey biconical pot decorated with four lines of rectangular roulette impressions.
Complete: no

Brooch, copper alloy
Find number: 244-36
Copper alloy fibula with a weathered surface.
The needle is missing.
Complete: no

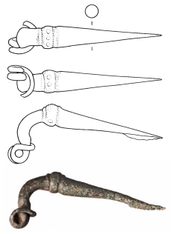
244-26

244-27

244-32 (scale 1:1)



244-33



244-34

244-35

244-36

Appendices

Appendix 4.1
Burial pit dimensions and container size.

Context	Max. length burial pit	Max. width burial pit	Calculated surface area burial pit (m^2)	Max. length container	Max. width container	Calculated surface area container (m^2)
91	2.87	2.22	6.37	2.25	0.90	2.03
65	2.99	1.96	5.86	2.06	0.81	1.67
29	2.74	1.96	5.37	2.30	1.37	3.15
88	2.64	2.03	5.36	2.20	1.33	2.93
9	2.46	2.16	5.31	1.72	1.46	2.51
22	2.52	2.10	5.29	1.84	0.85	1.56
63	2.62	2.01	5.27	2.28	1.04	2.37
14	2.27	2.16	4.90	1.97	0.46	0.91
4	2.54	1.91	4.85	1.92	1.13	2.17
57	2.80	1.72	4.82	2.40	0.76	1.82
72	2.71	1.73	4.69	2.07	0.93	1.93
48	2.45	1.83	4.48	2.17	0.54	1.17
55	2.47	1.80	4.45	2.08	0.67	1.39
45	2.33	1.85	4.31	1.90	0.99	1.88
58	2.65	1.60	4.24	2.30	1.14	2.62
73	2.50	1.64	4.10	1.96	1.10	2.16
34	2.42	1.64	3.97	1.73	0.81	1.40
15	2.53	1.53	3.87	2.30	0.58	1.33
59	2.34	1.53	3.58	1.93	0.87	1.68
47	2.54	1.38	3.51	2.08	0.76	1.58
67	2.28	1.38	3.15	1.91	0.63	1.20
32	2.83	1.08	3.06	2.58	0.58	1.50
44	2.04	1.39	2.84	1.09	0.58	0.63
43	2.59	1.03	2.67	2.12	0.52	1.10
74	2.35	1.10	2.59	2.14	0.60	1.28
20	2.51	0.99	2.48	2.18	0.52	1.13
23	2.62	0.93	2.44	1.90	0.51	0.97
40	2.02	1.13	2.28	1.69	0.62	1.05

Appendix 6.1
Relates to figure 6.13. The inventory of bird brooches of the Westhoven type.

Nr	Place	Tail	N	Literature
1	Dalsheim (Germany, Rheinland-Pflaz)	split	1	Thiry 1939, 97, Taf. 14, nr. 311. Werner 1961, 61, Fundliste 9, nr. 1
2	Westhoven (Germany, Rheinland-Pfalz)	straight	1	Thiry 1939, 97, Taf. 14, nr. 309. Werner 1961, 61, Fundliste 9, nr. 2
3	Mühlhofen-Bendorf (Germany, Rheinland-Pfalz)	straight	1	Thiry 1939, 97, Taf. 14, nr. 308. Werner 1961, 61, Fundliste 9, nr. 3
4	Andernach (Germany, Rheinland-Pfalz)	straight	1	Thiry 1939, 97, Taf. 14, nr. 310. Werner 1961, 61, Fundliste 9, nr. 4
5	Rhenen (Netherlands, prov. of Utrecht)	split	2	Glazema/Ypey 1956, afb. 10. Werner 1961, 61, Fundliste 9, nr. 5. Wagner/Ypey 2011, 362-363, Abb. 37
6	Liebenau grave N13/B (Germany, Niedersachsen)	split	2	Hässler 1990, Taf. 95
7	Salzgitter-Lobmachtersen (Germany, Niedersachsen)	split	1	Ludowici 1997
8	Posterholt (Netherlands, prov. of Limburg)	straight	1	This volume
9	Unknown	split	1	Thiry 1939, 97, Taf. 14, nr. 312
10	Unknown	split	1	Thiry 1939, 97, Taf. 14, nr. 313. Werner 1961, 46, nr. 244

Appendix 7.1
33 fragments of textile

Weave	Thread count	Spin	Pattern	Comments	Quality weave	Quality spinning	Measurements (cm)	TwistX	TwistY	Thread-thicknessX (mm)	Thread-thicknessY (mm)	N fragments
tabby	12×12	z/z		FE buckle with leather on back. Tx on front of buckle (on pin).	open	irregular	1×0.8	medium	low	0.3-0.5	0.5-0.75	1
tabby	13-14×11-12	z/s		Knife in leather and wooden scabbard. TX on leather of scabbard.	open	smoothly spun	2×0.8	medium	medium	0.2-0.5	0.2	1
tabby	10×9	z/z		TX folded around ring, thin threads, open weave.	open	regular	1×2	medium	medium	0.4-0.5	0.4-0.5	1
tabby	18×16	z/z		Buckle with leather on back side. Folded over front side is this fine, smooth tabby.	fine	smoothly spun	3×2	low	low	0.2-0.4	0.2-0.4	1
2/2 twill	8-9×6-7	z/z		Two fragments fe with fragments of same textile. Coarse, a bit open weave.			2×2; 1×1	medium	medium	1	1-1.25	2
tabby	12×11	z/z			fine weave, bit open	regular	0.5×0.5	medium	medium	0.3-0.5	0.5	1
2/1 twill	14×12-14	z/z		2x fe nail with tx on one side.	regular	regular	0.5×0.5	medium	medium	0.4-0.5	0.5	2
tabby	12×12	z/z		Very open weave with thin threads.	open	regular	2×2	medium	medium	0.2-0.3	0.2-0.3	1
tabby	6-8×5	z/z		Copper alloy plate buckle on leather belt with straw and tx. Same belt as 58-III-11, weave is probably same as 58-III-11. TX is covered in lacque, difficult to see weave and spin.	open, coarse		2.5×2; 0.5×0.5	medium	low	0.75-1	1	2
?		z/?		Buckle (belongs to plate buckle 58-8) with tx and straw on same side. Only few threads visible. Weave not visible.				medium		0.3-0.5		1
2/1 twill	ca 10×10	z/s		Wood/leather with straw and tx on same side.				medium	low	0.5	0.5	1
tabby	12-13×10	z/z		Fe pin (pin of fibula?) with 3 layers of same tx on both sides.	open		1×2	medium-high	low-medium	0.3-0.6	0.5	1
tabby	10×9	z/z				regular	1×1.5	medium	low	0.75-1	0.75-1	1
tabby	10×10	z&s/s	1z-2s-1z-2s	Four fragments of mineralized textile, not associated with metal object. Fibre could not be sampled.	open	smoothly spun	0.8×0.5	low	low	0.7	0.5-0.7	1
2/1 twill	10×8	z/s	prob-ably plain twill			regular	1×1; 0.5×0.5; 1×2.5	medium	medium	0.6-0.7	0.7-1	4
??	ca. 10×10	z/z		Very corroded, weave and fibre damaged.								
2/2 diamond twill	8×8	z/s	diamond twill	Textile was wrapped or folded around object.		regular	0.5×1	medium	medium	0.8	0.7-0.8	1
2/2 plain twill	10×6-7	z/z	plain twill		dense, regular	regular	3×3	medium	low-medium	0.6-0.7	1	1
2/1 twill	8×5-6	z/z&s			regular, bit open	regular	2.5×2; 1.5×1	medium-high	medium-high	0.75-1	1	2
tabby	9×11	s/s			coarse	irregular	0.8×1	medium	medium	0.4-0.75	1-1.2	1
?		z/z		Fragment fe with tx folded around. Badly preserved, weave and threadcount not visible.	dense	regular	1×2.5	low	low	0.5-0.75	0.75-1	1
		2s		TX wrapped around object. Badly preserved, weave and threadcount not visible.			1×1	medium		0.4		1
				Two fe plate (85-II-17 and 85-III-39. On both sides 2:S thread. No second threadsystem visible, therefore probably thread wrapped around object.						0.5		2
2/1 twill		s/z		Copper alloy plate on tx on leather on wood. Tx was only visible on edge, threadcount could not be ascertained. Coarse weave, thick threads.	coarse	regular		medium	medium	1	1	2
												33

Appendix 8.1
Lengths of the burial pits, containers and
body silhouettes and the resulting age estimates

Context	Length burial pit	Length wooden container	Length body silhouette	Information obtained by analysing field data and field drawings	Information obtained through physical anthropological analysis, burial pit or container length, and body silhouettes.
4	2.54	1.92	1.60	Inhumation grave with partially displaced bones at the foot end. The skull and left upper arm appear to be lying in anatomical position. Observable length top cranium to left lower tibia at least 1.60 cm.	An adult individual
5	2.49	2.11		Only one fragment of enamel remains of a molar was recovered.	Based on the length of the wooden container this was probably a juvenile or adult individual
7	1.82			Enamel remains of dentition of a juvenile individual.	Age between 6 and 12 years
8	2.60			No container length, no human remains.	No human remains
9	2.46	1.72		No human remains. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Age between 8 and 12 years
10	2.10		>= 1.49	The length of the silhouette is 1.49, but it does not include the feet. Therefore the original length of the skeleton will have been slightly larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded. A vague coffin outline was observed.	A female between 20 and 30 years
14.1	2.27	1.97	>= 1.50	Northern container grave. The silhouette is measured from the skull to the documented distal end of a tibia. Therefore the original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	A female between 40 and 80 years
14.2	2.27	1.97	>= 1.47	Southern container grave. The silhouette is measured from the skull to the documented distal end of a tibia. Therefore the original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	Age between 10 and 14 years
15	2.53	2.25		The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Age between 17 and 25 years
16	2.41		>= 1.55	Silhouette measured from the top of the skull to the distal end of the tibia. The original length is estimated at around 1.60 m. This length equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Age between 55 and 80 years
17	2.27		>= 1.41	Silhouette measured from the top of the skull to the distal two-third of the tibia. Therefore the original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	Age between 35 and 52 years
18	1.61			The skull was positioned 18 cm from the burial pit's wall. A reasonable estimate of the length of the body is circa 1.10 metre. This indicates the age would be between 5 and 7 years.	Age between 6 and 11 years
19	1.59			The skull was positioned 36 cm from the burial pit's wall. The maximum length of the body in this grave is circa 1.24 metres. This indicates the maximum age would be around 8 year.	Age between 4 and 10 years
20	2.51	2.18	1.50	The silhouette is measured from the top of the skull to the tarsal bones. The length of 1.50 metres indicates an age around 12 to 13 years.	Age between 12 and 18 years
21	2.65		≥1.53	Length from the top of the skull to the distal end of what is depicted from the legs is 1.53 m. Therefore the original length of the skeleton will have been slightly larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	Based on the physical anthropological examination and the length of the human remains in the grave this is a female between 14 and 40 years
22	2.52	1.77		Length measured from the middle of the outline representing the wooden coffin. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
23	2.62	1.77		Tree trunk coffin. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Age between 10 and 20 years
24	2.11			The grave is disturbed and bones were not all in situ. What might be the left leg was documented outside the contours of the wooden container. It was possibly displaced by later intervention in the grave. The fact that what seems to be the femur and tibia appear to be lying in articulation argues for a disturbance at a time that the ligaments around the knee joint had not yet decomposed. Assuming that the skull was lying in its original position we can measure the maximum possible length of the individual was between 154 cm (if we assume a distance of ten centimetres between the border of the burial pit and the wooden container) and 164 cm (to end burial pit). This length equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	An adult individual
29	2.74	2.30		No human remains observed.	Based on the length of the wooden container this was probably a juvenile or adult individual
30	2.75			No container length, no human remains.	No human remains
31	2.38			No coffin length, some human remains. The remains have not been preserved.	No human remains
32	2.83	1.99		Tree trunk coffin, length of the observable skeletal remains 155 cm. Not included are the feet.	An adult individual
33	2.98			Post-depositional intervention, no human remains.	No human remains
34	2.42	1.67		No human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
35	2.03		>= 1.30	Observed length form top of the skull to the distal part of the lower leg (does not seem to include the foot) 130 cm. This estimation is not accurate.	An adult individual
36	2.08		>= 1.49	Maximum remaining length of the body silhouette (it was not clear whether the feet are depicted and whether these were lying in situ) was 149 cm. The original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	A probable female between 20 and 40 years
37	2.19	1.98	1.68	A fairly complete body silhouette, left arm probably on the thorax. The length of the body silhouette was corrected for the displacement of the talsar bones. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	An adult female
38	2.52		>= 1.61	Incomplete body silhouette, length from the top of the skull to the most distal documented part of the legs was 161 cm. It cannot be determined if this was the complete length of the body silhouette. Still, the resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	A female between 20 and 40 years
39	2.50			Incomplete body silhouette, length could not be estimated.	A possible female between 20 and 30 years
40	2.02	1.69		Incomplete body silhouette. Estimated on the basis of the documented silhouette the probable length would be circa 125 cm. However, this estimation is not accurate.	Based on the body silhouette the age of the individual was estimated between 7 and 12 years
42A	2.74		>= 1.50	42A: second burial in this grave. Two bones of the first burial were observed at the foot end of the grave. The length of the body silhouette was measured from the top of the skull to the distal end of the bones of the lower legs. It seems plausible that the distal tibiae were not completely included and the talar bones appear to be missing. Therefore the length of the silhouette was incomplete. Still, the resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	Possibly a juvenile individual
42B				42B: first burial in this grave. Two bones were observed at the foot end of the grave.	Possibly a juvenile individual
43	2.59	2.12	>= 1.51	Possibly a tree trunk coffin. The observed body silhouette length is incomplete. Therefore the original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	A possible male between 40 and 60 years
44	2.04	1.01		No body silhouette could be observed since the skull is not in normal anatomical position: it is rotated in relation to the axis of the grave. The mandible was found lying on the surface and the skull was found lying with the superior surface on the bottom of the grave. The length of the wooden container was 1.01 metre. This is not sufficient to bury the body of a child of 7 years, since a child of that age has a length of circa 119 centimetres. Probably this was a secondary deposition.	Age between 5 and 9 years
45	2.33	1.90		Reopened grave, no human remains observed.	Based on the length of the wooden container this was probably a juvenile or adult individual
46.1	2.70			Individual 1: probably the first burial in this grave. The bones, including the skull, were placed at the foot end of the grave. The bones of this inhumation were displaced inside the space of a still existing wooden container. Observed length of what probably was a femur: 42 cm)	A probable female between 40 and 80 years
46.2	2.70			Individual 2: remains of a second inhumation, found in the reopening pit. The original location of this individual remains unknown. Possibly elements of the second skeleton are mixed with the bones of first burial.	Human remains missing
47	2.54	1.96		Length incomplete body silhouette from top skull to lower leg is 1.46 m, maximum possible length of the body silhouette 1.97 m. Probably adult.	An adult individual
48A	2.20		>=1.56	48A: second burial in this grave. Documented is a fairly complete burial consisting of bones and a body silhouette at the location of a large wooden container. The length of the body silhouette was not complete. Therefore the original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	A female between 20 and 30 years

Context	Length burial pit	Length wooden container	Length body silhouette	Information obtained by analysing field data and field drawings	Information obtained through physical anthropological analysis, burial pit or container length, and body silhouettes.
48B	2.45	1.88		48B: first burial at this location, no human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
49	2.59			A grave with post-depositional intervention, few human remains. The remains have not been preserved.	Indeterminate
50	2.15			A grave with post-depositional intervention, few human remains.	No human remains
51	2.46			A disturbed burial	A probable female between 20 and 40 years
52	2.37	1.94		No human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
53	2.12			Possible grave, no human remains.	No human remains
54	2.07		>1.41	Incomplete body silhouette 1.41 m or larger. The original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the body silhouette this was probably a juvenile or adult individual
55	2.47	2.03		Bones possibly displaced	An adult individual
57	2.80	2.28		Reopened grave, no human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
58	2.65	2.24		Reopened grave, no human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
59	2.34	1.93	≥1.71	Bones placed close to the northern wall of the wooden container. According to the excavators the bones were disarticulated. Still, the resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the body silhouette this was probably a juvenile or adult individual
60	2.15	1.85		Dentition was found displaced in a narrow disturbance over a length of 55 cm just west of the middle of the grave. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
61	2.18			Probably a grave with a post-depositional intervention. No human remains.	No human remains
62	2.27			Probably a grave with a post-depositional intervention. No human remains.	No human remains
63	2.62	2.14		Possible post-depositional intervention, no human remains. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
64A	2.31		>=1.51	64A: second burial at the location of an earlier grave, the first inhumation was displaced. The body silhouette length was based on an incomplete silhouette. Therefore the original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	A female between 30 and 60 years
64B	2.31			64B: first burial in this grave, almost completely displaced, the bones were deposited at the foot end (Eastern end) of the grave, except for the skull which seems to have stayed roughly in the area were it was originally deposited.	An adult individual
65	2.99	2.02		No human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
66				Not examined.	No human remains
67	2.28	1.85		Only a skull observed, length top of the skull to the foot end was 1.68, indicating individual had a maximum length of 1.68m, probably less. However, this estimation is not accurate.	Age between 7 and 11 years
68	2.44	1.65		No human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
69	1.55			A skull was found in the container close to the northern wall.	Based on the length of the burial pit this was probably an infans II, juvenile or adult individual
70	2.84			A disturbed grave, probably as a consequence of post-depositional intervention. No human remains.	No human remains
71	2.59			A few human remains dispersed in the intervention pit.	Indeterminate
72	2.71	2.04		A grave with post-depositional intervention, no human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
73	2.50	1.96		Skull and bones of the lower leg appear to have been displaced, probably due to a post-depositional intervention. The remains have not been preserved. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual

Context	Length burial pit	Length wooden container	Length body silhouette	Information obtained by analysing field data and field drawings	Information obtained through physical anthropological analysis, burial pit or container length, and body silhouettes.
74A	2.35	1.73	>= 1.50	74A: second burial in this grave. The contour of the coffin suggests this may have been a tree trunk coffin. The interior length of the coffin was 1.73 m. The incomplete length of the body silhouette was measured from the top of the skull to the distal end of what remained of the tibia was 1.50 m. Therefore the original length of the skeleton will have been larger. The resulting stature would fall in the range of an adult male or female. However, a juvenile age cannot be excluded.	An adult female
74B	2.06	1.55		74B: relatively short coffin, no human remains observed. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably an infans II or juvenile individual
75	1.74			Little information, only one molar preserved, probably post-depositional intervention	Indeterminate
76	2.40			Probably a grave with post-depositional intervention, no human remains recovered.	No human remains
77	1.90			Outline of a grave, no further observations regarding a container or body, orientation differs from the standard in this cemetery. Disturbed by an oval pit. A similar rectangular pit is also observed in grave 83. In that case the findings suggest the shorter rectangular pit was dug into an existing grave. It cannot be determined whether this was a rectangular grave reopening pit or a regular grave.	Indeterminate
78	2.50			No silhouette and no human remains recovered.	No human remains
79				Disturbed grave with fragments of a skull, probably below grave context 80.	Age between 5 and 9 years
80	3.12			A grave with a wooden container on beams. No human remains.	No human remains
81	1.75			A possible grave or reopening pit extending over grave context 80 and 82. No human remains.	No human remains
82	2.55			A large burial pit, with some displaced finds. No human remains.	No human remains
83	2.44			A grave with traces of a wooden container. Disturbed by an oval pit, probably a post-depositional intervention containing finds, among which some molars.	Indeterminate
84	3.10			Probably a grave with a post-depositional intervention. No human remains	No human remains
85	2.36			Probably a grave with a post-depositional intervention. No human remains	No human remains
86	2.63	2.22		The grave is composed of a large burial pit with a large wooden container. The rectangular pit above grave context 86 could be a possible additional grave, but it is probably a reopening pit. The remains have not been preserved. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
87	2.70			Difficult to determine what was the actual length of the burial pit. In the western part of the drawing of the grave a line was documented running parallel to the eastern border of the burial pit. The distance between these two elements was 2.20 m. A few dispersed finds, no human remains.	No human remains
88	2.64	2.20		Only one molar observed. There are no evident signs of post-depositional intervention. The remains have not been preserved. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
89	2.82			No container length, no human remains.	No human remains
90	2.80	1.98	≥1.27	The human remains seem displaced, but possibly as a result of bioturbation. However, the measured body silhouette is not accurate. Still, the length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
91	2.87	2.25		Wooden container on beams. A bone is documented at the foot end, by the size of the bone it seems to be a displaced long bone, perpendicular to the expected orientation of long bones. The remains have not been preserved. The length of the coffin equals the stature of an average adult male or female. However, a juvenile age cannot be excluded.	Based on the length of the wooden container this was probably a juvenile or adult individual
93				Not examined.	No human remains
94				Not examined.	No human remains

Appendix 9.1
An overview of all examined contexts found at Posterholt including information on date of the graves, gender, sex, age and post-depositional interventions.

Context	Type	P-phase	FAG-phase	Date	Gender	Sex	Age	Intervention
1	Cremation grave	x	x	150-200	x	x	30-50	x
2	Cremation grave	x	x	150-200/225	x	x	Adult	x
3	Cremation grave	x	x	ND	x	x	x	x
4	Inhumation grave	II-IV	6-9	580/90-710	x	x	Adult	possibly
5	Inhumation grave	ND	ND	ND	M	x	x	possibly
6	Cremation grave	x	x	150-200/225	x	M?	Adult	x
7	Inhumation grave	II-III	6-8	580/90-640/50	F	x	6-12	possibly
8	Inhumation grave	II-III	6-8	580/90-640/50	F	x	x	yes
9	Inhumation grave	II-III	6-8	580/90-640/50	F	x	8-12	possibly
10	Inhumation grave	NF	NF	NF	x	F	20-30	no
11	Cremation grave	x	x	150-200/225	x	x	x	x
12	Cremation grave	x	x	175-225	x	F?	20-40	x
13	Pit	x	x	ND	x	x	x	x
14-1	Inhumation grave	NF	NF	NF	x	F	40-80	no
14-2	Inhumation grave	NF	NF	NF	x	x	10-14	no
15	Inhumation grave	ND	ND	ND	x	x	17-25	no
16	Inhumation grave	ND	ND	ND	x	x	55-80	no
17	Inhumation grave	NF	NF	NF	x	x	35-52	no
18	Inhumation grave	NF	NF	NF	x	x	6-11	no
19	Inhumation grave	NF	NF	NF	x	x	4-10	no
20	Inhumation grave	NF	NF	NF	x	x	12-18	no
21	Inhumation grave	ND	ND	ND	x	F	14-40	no
22	Inhumation grave	II-III	6-8	580/90-640/50	F	x	x	possibly
23	Inhumation grave	ND	ND	ND	x	x	10-20	no
24	Inhumation grave	IV	10	710-<750	x	x	Adult	yes
25	Cremation grave	ND	ND	ND	x	F??	20-40	no
26	Cremation grave	I	4-5	510/20-580/90	x	x	20-40	no
27	Cremation grave	ND	ND	ND	x	x	30-60	no
28	Pit	x	x	NF	x	x	x	x
29	Inhumation grave	ND	ND	ND	x	x	x	possibly
30	Inhumation grave	II-(III)	6-7(-8)	580/90-610/20(-640/50)	M	x	x	yes
31	Inhumation grave	ND	ND	ND	F?	x	x	yes
32	Inhumation grave	NF	NF	NF	x	x	Adult	no
33	Inhumation grave	ND	ND	ND	x	x	x	yes
34	Inhumation grave	ND	ND	ND	x	x	x	yes
35	Inhumation grave	NF	NF	NF	x	x	Adult	no
36	Inhumation grave	NF	NF	NF	x	F?	20-40	no
37	Inhumation grave	ND	ND	ND	x	F	Adult	no
38	Inhumation grave	NF	NF	NF	x	F	20-40	no
39	Inhumation grave	NF	NF	NF	x	F??	20-30	no
40	Inhumation grave	NF	NF	NF	x	x	x	no
41	Cremation grave	x	x	250-350	x	F?	20-40	x
42A	Inhumation grave	NF	NF	NF	x	x	Juvenile	no
42B	Inhumation grave	ND	ND	ND	x	x	Juvenile	yes
43	Inhumation grave	NF	NF	NF	x	M??	40-60	no

Context	Type	P-phase	FAG-phase	Date	Gender	Sex	Age	Intervention
44	Inhumation grave	IV	10	710-<750	x	x	5-9	no
45	Inhumation grave	NF	NF	NF	x	x	x	yes
46-1	Inhumation grave	II-IV	7-9	610/20-710	M?	F?	40-80	yes
46-2	Inhumation grave	II-III	7-8	610/20-670/80	x	x	x	yes
47	Inhumation grave	IV	9-(10)	670/680-(<750)	x	x	Adult	no
48A	Inhumation grave	ND	ND	ND	x	F	20-30	no
48B	Inhumation grave	NF	NF	NF	x	x	x	yes
49	Inhumation grave	ND	ND	ND	F?	x	x	yes
50	Inhumation grave	II-III	7-8	610/20-670/80	F	x	x	yes
51	Inhumation grave	ND	ND	ND	x	F	20-40	yes
52	Inhumation grave	II-III	7-8	610/20-670/80	x	x	x	yes
53	Possible inhumation grave	NF	NF	NF	x	x	x	unknown
54	Inhumation grave	ND	ND	ND	x	x	x	possibly
55	Inhumation grave	ND	ND	ND	x	x	Adult	possibly
56	Cremation grave	x	x	ND	x	x	20-40	x
57	Inhumation grave	ND	ND	ND	x	x	x	no
58	Inhumation grave	II	7	610/20-640/50	M	x	x	yes
59	Inhumation grave	ND	ND	ND	F?	x	x	possibly
60	Inhumation grave	NF	NF	NF	x	x	x	possibly
61	Inhumation grave	ND	ND	ND	x	x	x	yes
62	Inhumation grave	III-IV	8-10	640/50-<750	M?	x	x	yes
63	Inhumation grave	ND	ND	ND	x	x	x	unknown
64A	Inhumation grave	ND	ND	ND	x	F	30-60	no
64B	Inhumation grave	ND	ND	ND	x	x	x	yes
65	Inhumation grave	ND	ND	ND	x	x	x	no
66	Inhumation grave	NF	NF	NF	x	x	x	unknown
67	Inhumation grave	ND	ND	ND	x	x	7-11	no
68	Inhumation grave	ND	ND	ND	M?	x	x	yes
69	Inhumation grave	NF	NF	NF	x	x	x	unknown
70	Inhumation grave	II-IV	7-9	610/20-710	M	x	x	yes
71	Inhumation grave	ND	ND	ND	x	x	x	yes
72	Inhumation grave	(I)-II	(5-)6-7	(565-)580/90-640/50	x	x	x	yes
73	Inhumation grave	I	4-5	510/20-580/90	M?	x	x	yes
74A	Inhumation grave	NF	NF	NF	x	F	>20	no
74B	Inhumation grave	ND	ND	ND	x	x	x	possibly
75	Inhumation grave	ND	ND	ND	x	x	x	unknown
76	Inhumation grave	ND	ND	ND	F	x	x	yes
77	Inhumation grave	(II)	(7)	(610/20-640/50)	x	x	x	yes
78	Inhumation grave	(II)-III-IV	7-9	610/20-710	F	x	x	yes
79	Inhumation grave	ND	ND	ND	x	x	5-9	yes
80	Inhumation grave	ND	ND	ND	x	x	x	yes
81	Possible inhumation grave	NF	NF	NF	x	x	x	unknown
82	Inhumation grave	(II)	(7)	(610/20-640/50)	x	x	x	yes
83	Inhumation grave	II-IV	6-10	580/90-<750	x	x	x	yes

Context	Type	P-phase	FAG-phase	Date	Gender	Sex	Age	Intervention
84	Inhumation grave	ND	ND	ND	x	x	x	yes
85	Inhumation grave	II-IV	6-10	580/90-<750	F	x	x	yes
86	Inhumation grave	II	6-7	580/90-640/50	F	x	x	yes
87	Inhumation grave	ND	ND	ND	x	x	x	yes
88	Inhumation grave	I-II	(4-)5-7	(510/20-)565-640/50	M	x	x	yes
89	Inhumation grave	(I-II)	(4-6)	(510/20-610/20)	x	x	x	yes
90	Inhumation grave	II-III	7-8	610/20-670/80	M	x	x	yes
91	Inhumation grave	ND	ND	ND	M?	x	x	yes
92	Cremation grave	x	x	250-150 BC	x	x	x	x
93	Inhumation grave	ND	ND	ND	x	x	x	unknown
94	Inhumation grave	ND	ND	ND	x	x	x	unknown

Appendix 12.1

Number	Name	Toponym	Reuse
1	Borsbeek		Prehistoric urnfield
2	Grobbendonk		Prehistoric urnfield
3	Beerse	Krommen Hof	Prehistoric burial mound
4	Casteren		Prehistoric burial mound
5	Hoogeloon	Broekeneind	Prehistoric burial mound
6	Bergeijk	Kattenberg	Prehistoric burial mound
7	Bergeijk	Fazantlaan	Prehistoric burial mound?
8	Gennep	Touwslagersgroes	Late Roman cremation cemetery
9	Swalmen	Houterveld Noord	Possible Late Roman habitation
10	Ophoven		Roman cremation cemetery
11	Posterholt	Achterste Voorst	Roman cremation cemetery and prehistoric occupation
12	Stein	De Grote Bongerd	Prehistoric and Roman habitation
13	Voerendaal	Steinweg	Roman villa complex
14	Borgharen	Op de steen	Roman villa complex
15	Maastricht	St. Servaas/Vrijthof	Roman and late Roman occupation
16	Rosmeer	Diepestraat	Roman villa complex
17	Erps-Kwerps		Roman villa complex
18	Anderlecht	Sint Annaveld	Roman villa complex
19	Engelmanshoven	Achter Engelmanshovenbos	None
20	Obbicht	De Oude Molen	None
21	Sittard	De Kemperkoul	None
22	Meerveldhoven	Cobbeek	None
23	Veldhoven	Oeienbosdijk	None
24	Alphen	Alphen	None
25	Gennep	Ven-Zelderheide	None
26	Broechem		Prehistoric habitation
27	Gilze	Verhoven	Prehistoric habitation
28	Lommel	Lutlommel	Unknown

Abbreviations

AAC	Amsterdams Archeologisch Centrum
BAMN	Bureau Archeologie en Monumenten Nijmegen
BMC	British Museum Catalogue
BROB	Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek
C	Celcius
g	gram
HVR	Heemkundige Vereniging Roerstreek
FAG	Franken ArbeitsGruppe: Mussemeier/Nieveler/Plum/Poppelmann 2003
LPV	Legoux/Périn/Vallet 2004
mm	millimeter
NAP	Normaal Amsterdams Peil (Normal Amsterdam Level)
RCE	Rijksdienst voor het Cultureel Erfgoed
ROB	Rijksdienst voor het Oudheidkundig Bodemonderzoek
s.l.	sine loco
TX	Textile
UvA	Universiteit van Amsterdam
WEA	Workshop of European Anthropologists

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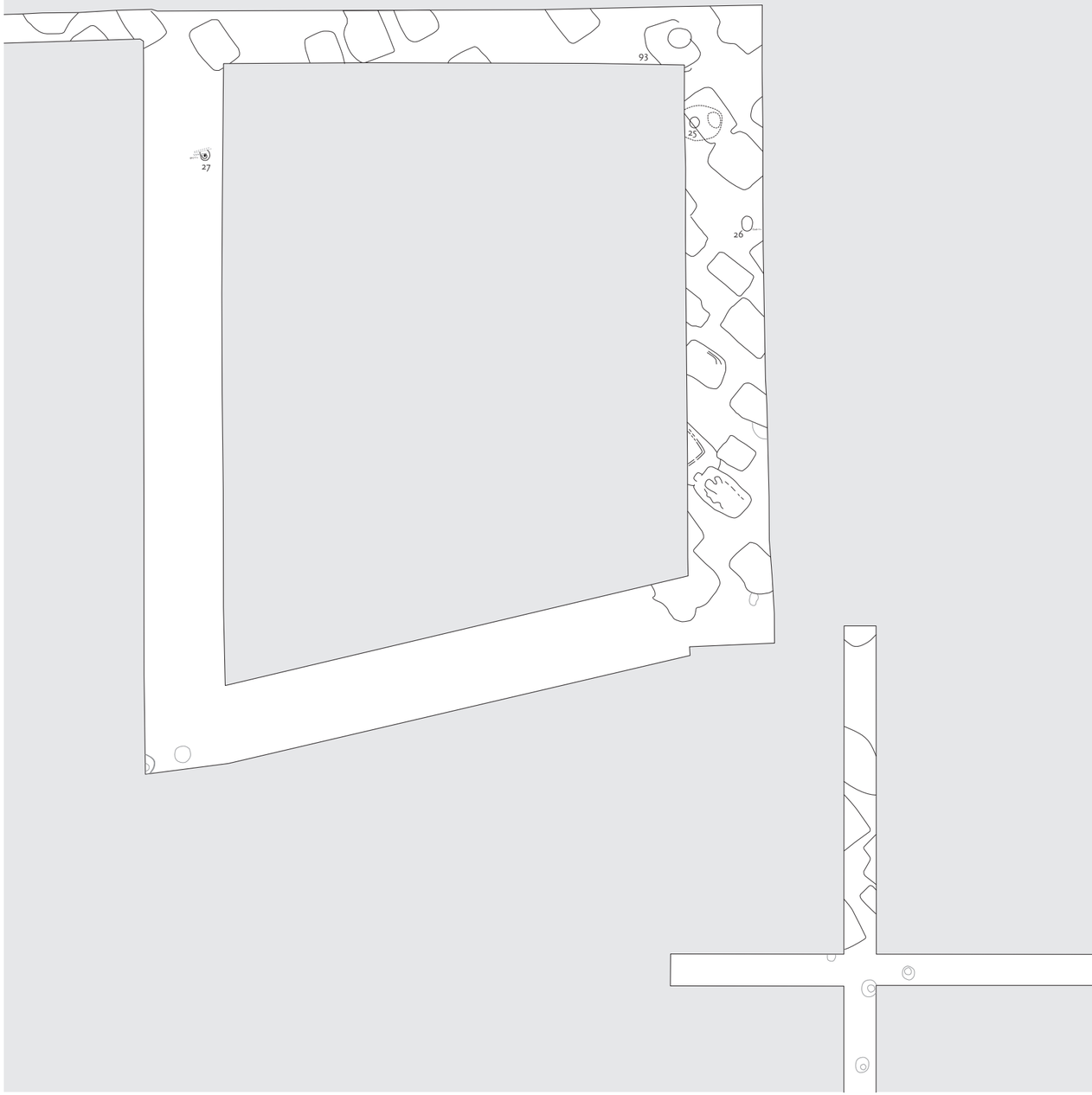
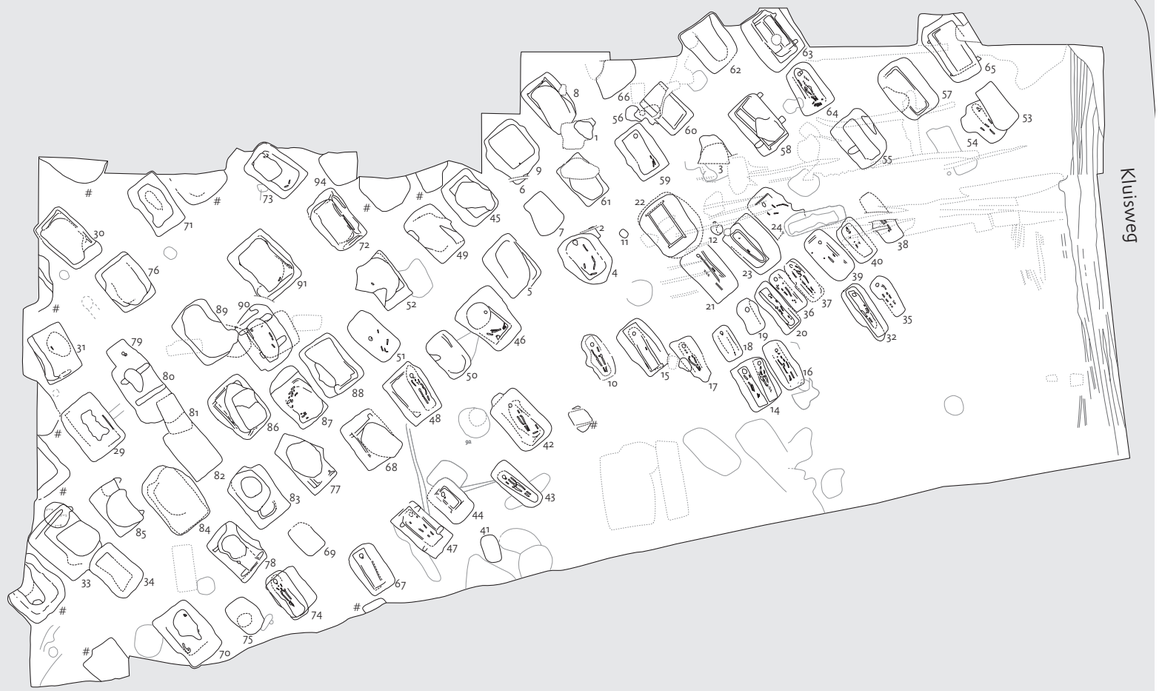
Fig 2.10
A plan of the excavation showing all discovered features. Scale 1:250. 1. inhumation grave with number, 2. other features, 3. recent disturbance, 4. features of a medieval track.

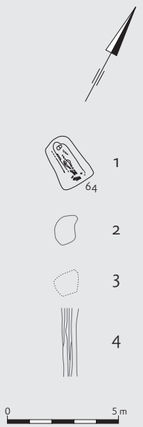
Tweede Heiweg

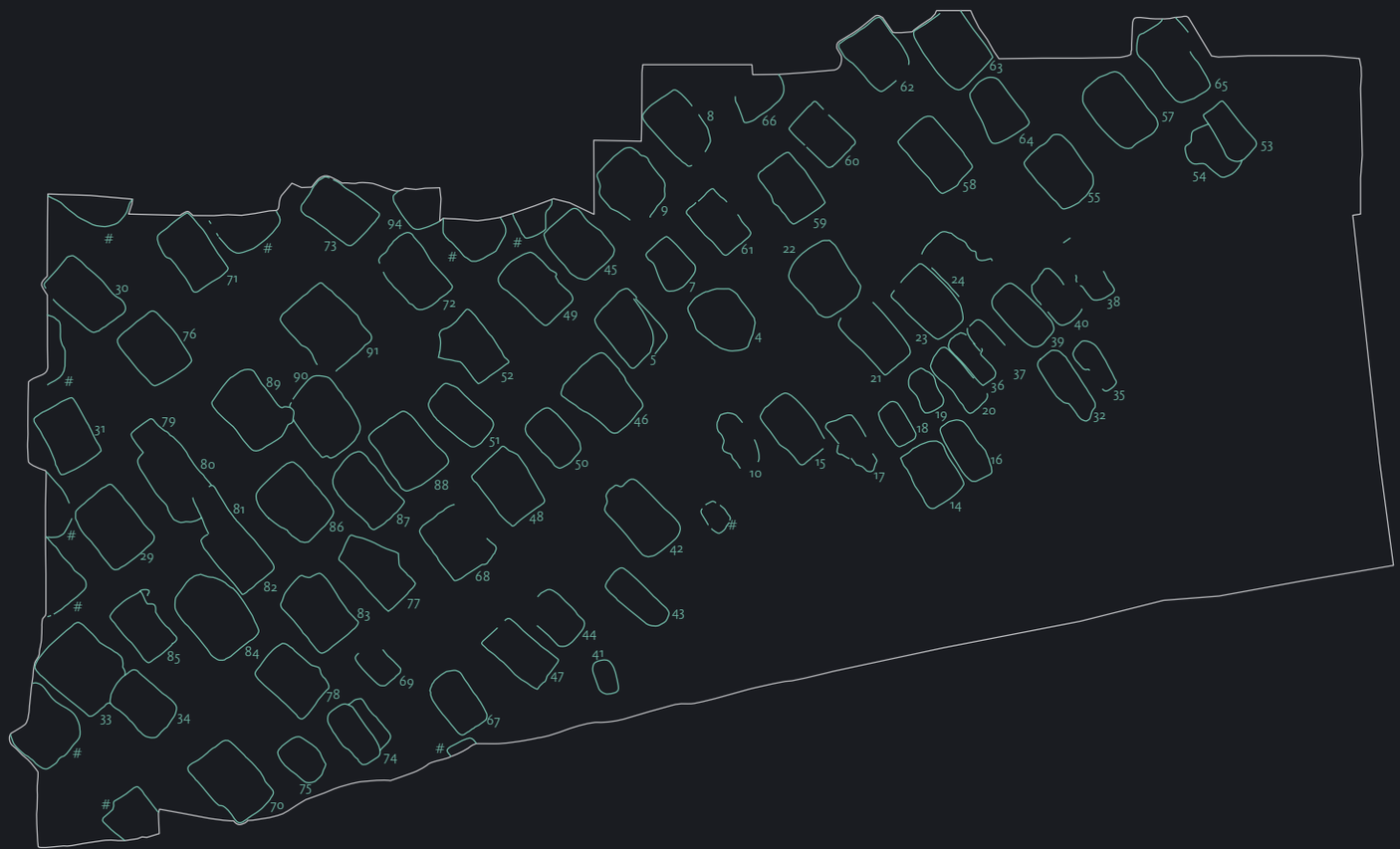
Posterholt 1984

Kluisweg









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