BEYOND URNFIELDS

New Perspectives on Late Bronze Age – Early Iron Age Funerary Practices in Northwest Europe

Edited by
Helene Agerskov Rose, Lisbeth Christensen
and Arjan Louwen

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Revisiting Aarupgaard urnfield in southern Jutland, Denmark

Helene Agerskov Rose and Anna Egelund Poulsen

Keywords: Research history, Danish archaeology, historic excavations, digitalisation, research potential

Abstract: Urnfields were archaeologically recognised in Denmark in the late 19th century and the definition of the Pre-Roman Iron Age was largely based on these. Aarupgaard urnfield in southern Jutland was first registered in the 1890s, but it was not until 1947 that the first small archaeological excavation of the site was carried out, and in 1970–1972 the majority of the 60,000 m² urnfield was excavated. The urnfield is orientated approximately north-south with a large Bronze Age mound as initiation point, and it contains up to 1,500 urn graves dating to the Pre-Roman Iron Age (c. 500–100 BC). Individual urn graves were covered by small barrows within a circular ditch with two to six interruptions. Well-preserved barrows were found to be further demarcated by kerbstones or wooden posts. Besides ceramic urns, approximately one third of the 1,200 recovered graves contained burial goods connected to the personal dress attire, mostly pins and belt equipment of iron. This paper reports on the research history of Aarupgaard and on a new initiative to register and digitalise the vast archaeological find material and excavation documentation. We conclude that Aarupgaard urnfield holds a great research potential and offers unique insights into the population of southern Jutland in the Pre-Roman Iron Age.

Introduction

The first urnfields were recognised in southern Jutland, Denmark, in the late 19th century, shortly after Johanna Mestorf had published similar material from Schleswig-Holstein (Mestorf 1886). Uldal urnfield, west of Vojens, was the first site to be investigated in 1871–1890 (Becker 1961, 181; Lewring/Jørgensen 1999, 28; see also Christensen, this volume) and in the 1890s several urnfields were investigated as part of the Parish Survey carried out by the National Museum of Denmark and the Antiquarian Collection (now Sydvestjyske Museer; Neergaard 1892; Madsen/Neergaard 1894). The survey investigated 11 urnfields and close to 500 graves in southwest Jutland at a time when the monuments were still visible in the heathland landscape. Special attention was paid to Aarre urnfield, southeast of Varde, where 273 graves were investigated by digging a vertical shaft into each barrow to retrieve the urn at its centre. The construction of the monument itself was not described in detail.

The results were published by Andreas Peter Madsen and Carl Neergaard in 1894 and they pointed out the similarities in burial practise and artefact types within Denmark and northern Germany (Madsen/Neergaard 1894). They concluded that the urnfield graves were so homogenous in character that future excavations were not likely to alter this picture and left the remaining graves intact. The excavations had however produced sufficient material for typo-chronological studies and in the

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following years, the definition of the Pre-Roman Iron Age came to be based on artefact assemblages from the urnfields (Neergaard 1892; Knorr 1910).

In recent years, the urnfields have come back into focus and new investigations of both old and new excavations have demonstrated they still hold a large research potential (Møller et al. 2020; Rose 2020; Rose/Meadows in review). One urnfield of particular interest is Aarupgaard urnfield that was among the early-discovered urnfields of the late 19th century and has since been excavated during more field campaigns in the 20th century (Fig. 1). Although largely unpublished, the site has the potential to become a cornerstone in Early Iron Age research and to advance our understanding of the population of southern Jutland in the 1st millennium BC. The aim of this paper is to present the research history of Aarupgaard urnfield and provide insights into ongoing efforts towards a comprehensive analysis and publication of the site.

Aarupgaard urnfield

Aarupgaard urnfield is situated in southern Jutland, 12 km east of Ribe and 8 km west of Gram, on the western point of a low hill. Two rivers border the hill island; Gels Å to the south and Flads Å to the north, before they meet at its western most point to become Ribe Å. Aarupgaard urnfield is situated along a north-south orientated landscape corridor, at a suitable crossing point of Gels Å and Flads Å and must have been clearly visible to travellers.



Fig. 1. The location of Aarupaard urnfield in southern Jutland, Denmark (© Museum Sønderjylland).

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Early investigations

Aarupgaard urnfield was not part of the Parish Survey, but it was instead first observed by the local reverend Hans Frederik Nissen (Gram parish, 1888–1899) who investigated several small mounds in the northern and best-preserved part of the urnfield. This part was heathland and because it was believed to be the full extent of the urnfield, only a 72 x 72 m area was put under heritage protection in 1931 in order to ensure the preservation of the visible mounds along with a larger burial mound. In the following years, it became clear that the urnfield was larger than expected when locals found artefacts on the fields south of the protected area, originating from mounds destroyed by agricultural activity, and a local teacher (Georg Andreassen, Sønderby Skole, Kegnæs) dug up two urns from the northern part of the cultivated area. There are no records of Andreassen's observations, but the mounds might be among the ones described later by Hans Neumann from Museum Haderslev (now Museum Sønderjylland; Jørgensen 1970–1984). In 1947, Neumann conducted the first archaeological excavation at Aarupgaard where he excavated 17 mounds just south of the protected area with the purpose to establish how many urns could be identified in the cultivated area and register their state of preservation following years of agricultural activity. If possible, the urns and their content were to be excavated. Neumann devised a strategy with a combination of small sections and trenches in a wide north-south orientated lane. Over the first 125 m more 2.5 x 5 m sections were excavated, followed by 50 cm wide trenches at angles to each other for every 5 m and the addition of smaller trenches when necessary (Fig. 2). Neumann concluded that the urnfield was much larger than the protected area and that, given that its southernmost point had not yet been identified, it must be very large (Neumann 1947, excavation documentation).

Excavation campaigns 1970–1972

By the late 1960s, agricultural technologies and deep ploughing had progressed so much as to be a real threat to the survival of archaeological settlements and burial sites from the Bronze and Iron Ages. The Danish research council (*det Arkæologiske Bopladsudvalg, Statens Humanistiske Forskningsråd*) was inspired by the German research council (*Deutsche Forschungsgemeinchaft [DFG]*) that provided funding for important and large archaeological excavation and research projects. One of the Danish projects granted funding was Aarupgaard urnfield (Jørgensen 1971a, 5). Erik Jørgensen from Haderslev Museum directed three field campaigns in 1970–1972, with the aim of finding the total extend of the urnfield and compiling an overview plan. The urnfield barrows were no longer visible in the field that had been cultivated up until the excavations, but Jørgensen was granted permission to investigate selected parts of the protected area to document the construction of the monuments (Jørgensen 1970–1984).

The excavation campaigns produced a large archaeological material, now archived at Museum Sønderjylland (Jørgensen 1970–1984). The artefacts went through conservation and were measured and described along with detailed drawings of metal artefacts and a large part of the ceramics. The descriptions do however vary with some urns being described thoroughly and others only cursorily. The urns were reconstructed if possible.

Jørgensen published four short popular articles during and shortly after the excavation campaigns (Jørgensen 1971a; b; 1972; 1975). He continued to work towards a full publication of the material until the early 2000s, but this considerable work remains mainly in the form of extensive notes archived at Museum Sønderjylland (Jørgensen 1970–1984; 1989). The following description is based on published data as well as excavation documentation and post-excavation notes.

Excavation methods

Jørgensen was influenced by Becker's investigations of Aarre urnfield in 1953–1954, where special attention was paid to circular ditches and other features in relation to the urnfield barrows (Becker

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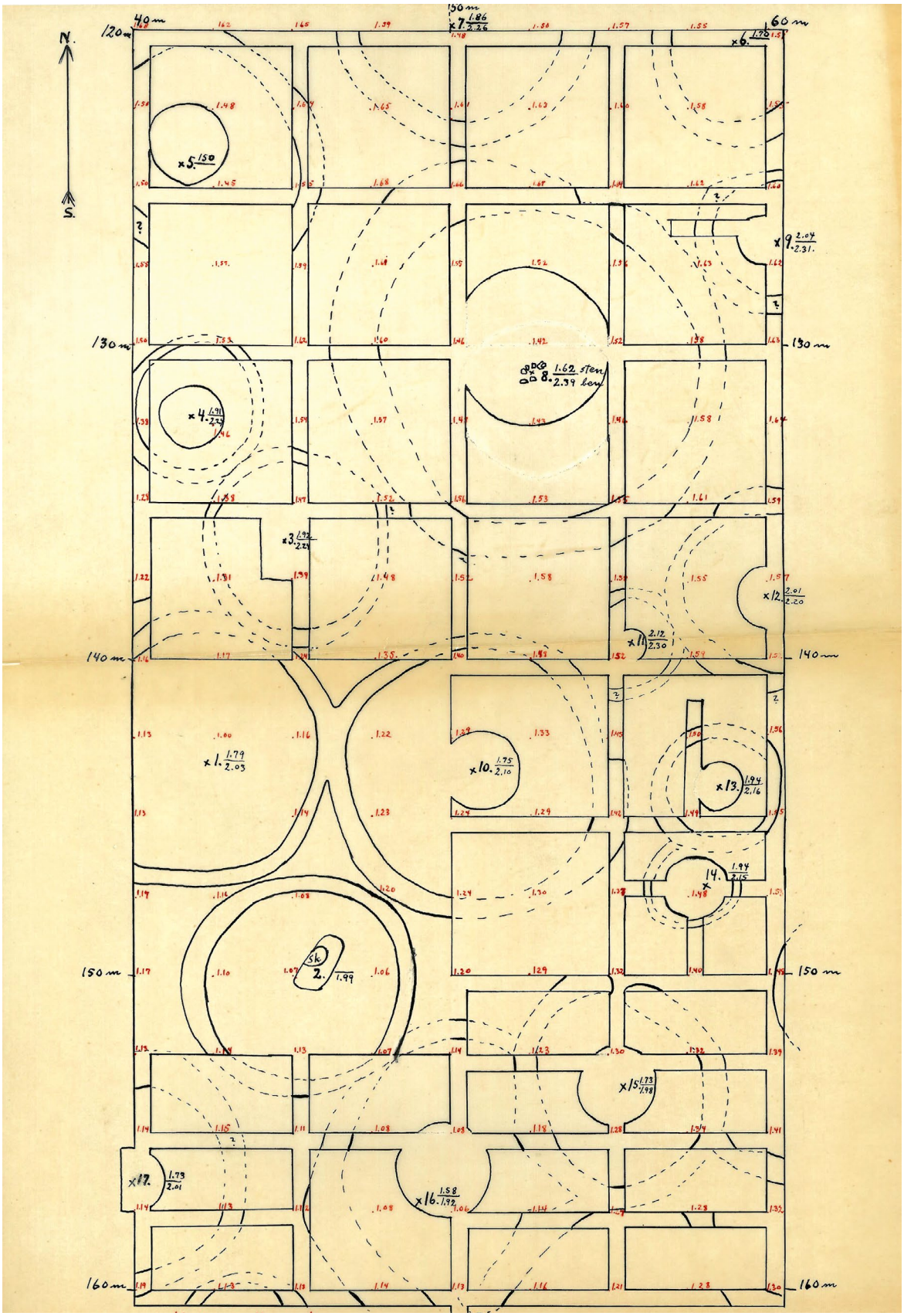


Fig. 2. Site plan of the 1947 excavation, conducted by Hans Neumann, Museum Haderslev (© Museum Sønderjylland).

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1961). Although a significant improvement to earlier excavations that focused only on the urns, Jørgensen's excavation methods and documentation cannot be compared to excavations carried out today. Removing large amounts of topsoil by machine was a new method at this time; it opened the possibility for large-scale archaeological excavations. At Aarupgaard, the topsoil was removed in 20 m wide sections, which revealed clearly distinguishable circular ditches that had been filled in by drift sand (Fig. 3). The surface was registered with drawings in scale 1:50 which were compiled to a large site plan. All urns were excavated and examined at the museum, although some were poorly preserved and were examined on-site. The circular ditches were emptied, but unfortunately, no cross sections were made in the cultivated area. In the protected area, all monuments within a 20 m wide section, plus a few selected ones outside of this, were comprehensively excavated and documented (Jørgensen 1970–1984).

Urnfield organisation

A large burial mound, presumably from the Bronze Age, served as initiation point of burials at Aarupgaard. This burial mound was largely destroyed before Jørgensen's excavations, but it contained three secondary urn graves that are typologically dated to the Bronze/Iron Age transition period (Jørgensen 1975, 3). These graves were probably among the first burials at the site, and from this point the urnfield expanded along a southbound trajectory over time. The urnfield mounds are placed in close proximity, but for the large majority without any intercutting, and their organisation can be described using horizontal stratigraphy (ibid., 4), which is supported by artefact typologies (cf. Becker 1961; Jensen 2005). The urnfield covers an area of *c.* 60,000 m^2, measuring *c.* 100 –200 m across (east-west) and *c.* 450 from north to south (Fig. 4). The graves can be divided into a large western group



Fig. 3. Photo from the 1971 excavation. The circular ditches are emptied up in the foreground and in the background they are visible as lighter circles against the underground (© Museum Sønderjylland).

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Fig. 4. Site plan of Aarupgaard urnfield based on the 1970–1972 excavations conducted by Erik Jørgensen, Museum Haderslev (now Museum Sønderjylland), with a modern ortho-map as background. The yellow circle marks the Bronze Age mound and initiation point of the burials; the western burial group is marked by red circles and the eastern burial group by blue circles (© Museum Sønderjylland).

(Fig. 4: red outlines) and a smaller eastern group (Fig. 4: blue outlines). Both burial groups start out from the Bronze Age mound (Fig. 4: yellow circle) and remain in use throughout the urnfield's use life, although with differing burial tempi as reflected by the different sizes of the groups (Jørgensen 1975, 4). The excavation campaign uncovered *c.* 1,200 graves, with 94 of these from the protected area. Counting the unknown number of graves still within the protected area, the urnfield is believed to have contained up to 1,500 burials originally, making Aarupgaard by far the largest urnfield in present-day Denmark.

Grave types

The majority of excavated graves are from the cultivated part of the urnfield, where only the central urns and the circular ditches were preserved, whereas the urnfield mounds from the protected area were considerably better preserved. The following description is largely based on the latter group of graves.

Jørgensen did not register any cremation graves without an urn, although he notes four small pits containing charcoal and a few over-ploughed structures that he interprets as destroyed urn graves, although no ceramic was registered. It would appear that all graves at Aarupgaard are urn graves, placed in a primary grave pit in the underground, which may be lined with stones. Most urns were then covered by a small mound and the majority of these again were enclosed by a circular ditch (Jørgensen 1975, 6). The ditch dimensions were not recorded, but Jørgensen notes that they correlated with the size of the barrow, i.e. larger barrows had wider and deeper ditches, whereas smaller barrows had more narrow and shallow ditches (Jørgensen 1970–1984). In the northern part of the

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urnfield, the circular ditches have up to six interruptions, whereas in the southern part the ditches only have two interruptions oriented north and south. The shift from more than two to only two interruptions coincides with the introduction of belt equipment as burial goods (Jørgensen 1975, 4).

All the investigated urnfield mounds in the protected area were demarcated by kerbstones or wooden posts, but the two phenomena never occur within the same monument. Both kerbstones and wooden posts were placed on the inner side of the circular ditch and respect the interruptions of the circular ditches, in some instances even demarcating these further. The wooden posts were pointed and measured *c.* 10 cm in diameter. They were rammed *c.* 1 m into the ground on the inner side of the circular ditch and placed 30–40 cm apart, reaching a total number of 50–60 posts per mound (Jørgensen 1975, 6).

The small urnfield mounds measure 1–10 m in diameter, with a mean of 4.2 m. The average mounds probably had an original height of 1–2 m, but with enough variation for Jørgensen to divide the mound construction into two types: flat mounds corresponding to the amount of soil removed from the circular ditches, and taller mounds where more soil than just that from the circular ditches had been added (Jørgensen 1975, 9).

Most of the graves contained cremated human remains (*c.* 70 %, with a mean of 640 g). Empty graves also occur regularly, but it is unclear whether they are cenotaphs or reflect poor preservation of more fragile bones, such as from children (Jørgensen 1975, 8). The pattern is not pronounced, but larger mounds tend to have larger amounts of human remains compared to smaller mounds. Three mounds measuring 9 m in diameter contained 1,450 g cremated human remains on average, whereas two mounds measuring 10 m in diameter contained 75 g and 2,600 g human remains, respectively.

An osteological analysis of a subset of the human remains (n = 58) has revealed that both cremations and subsequent handling of the cremated bone were carried out in a both rigorous and uniform manner, resulting in a very homogenous material (Harvig 2019). Although no remains of pyres have been located near Aarupgaard, the pyres must have been large and well-constructed to burn with a high intensity, fully cremating the bone. The analysis demonstrated the presence of women, men and children of all ages. A remarkable large number of children was identified (20 out of 58), which agrees with similar findings from Søhale urnfield near Esbjerg, southwest Jutland (Møller et al. 2020, 29).

The excavation documentation and later notes of Jørgensen pay little attention to the simpler urn graves placed in the empty areas in between the urnfield mounds. Even though agricultural activity can account for removing an original mound, this is unlikely because all graves with mounds also have circular ditches, which in turn were well preserved, even in the cultivated part of the urnfield. We expect these urn graves to be later in-fillings that for some reason never received a mound and circular ditch. Similar observations can be made in other parts of the urnfield, where large mounds are enclosed by smaller mounds and urn graves, forming grave groups. The internal dynamic of the graves awaits further investigation, but we refer to the stimulating research of Wenke Domscheit on grave groups from the Late Bronze Age-Early Iron Age at the grave field in Pinnow, Mecklenburg-Western Pomerania (Domscheit, this volume), in the expectation that similar results might be achieved for Aarupgaard.

Burial goods

All graves contained a ceramic vessel as funerary urn for the cremated human remains. Some graves also had secondary vessels placed either next to the primary urn or in the circular ditch, and a few of these contained a small amount of cremated bone. The full pottery repertoire found at settlement sites includes a range of vessels in different sizes, but at Aarupgaard, mainly large- to medium-sized storage vessels were used as urns, and small bowls and cups as secondary vessels. Some secondary miniature vessels have unusual shapes, such as the small partridge-shaped vessel from grave 13 (Fig. 5; Jørgensen 1971b).

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Fig. 5. Miniature vessel shaped as a partridge from grave 13 at Aarupgaard urnfield (© Museum Sønderjylland).

Approximately one third of the 1,200 recovered graves contained burial goods connected to the personal dress attire (Fig. 6). Artefacts were either mixed with the cremated bones or placed on top of them. Most of these are very fragmented because they have accompanied the dead on the pyre. The entire Pre-Roman Iron Age metal repertoire, as known from e.g. Aarre urnfield (Becker 1961), is represented at Aarupgaard and it is largely comparable to material from Schleswig-Holstein (e.g. Hingst 1980). The most frequent artefact category is dress pins made of iron (although bronze pins also occur), including: pin with coiled head (*krølhovednål*), pin with circular head (*ringhovednål*), pin with bomb-shaped head (*bombehovednål*), Holstein pin (*holstensk nål*), pin with grooved head (*rillehovednål*), winged-head pin (*vingehovednål*), and pin with rod-shaped head (*stavhovednål*). A grave can contain one to three pins, but pins often occur in pairs. The second most frequent find category is belt equipment of mostly iron, including: iron or bronze ring with eyelet (*øskenring*), tongue-shaped belt hook (*tungeformet bæltehage*), triangular belt hook (*trekantet bæltehage*), narrow belt hook (*smalt bæltehage*), iron ring with attached shank (*jernring med tvinge*) and O-rings. Rarer find categories include bronze neck rings, chains of bronze or iron connecting sets of pins, and twee-

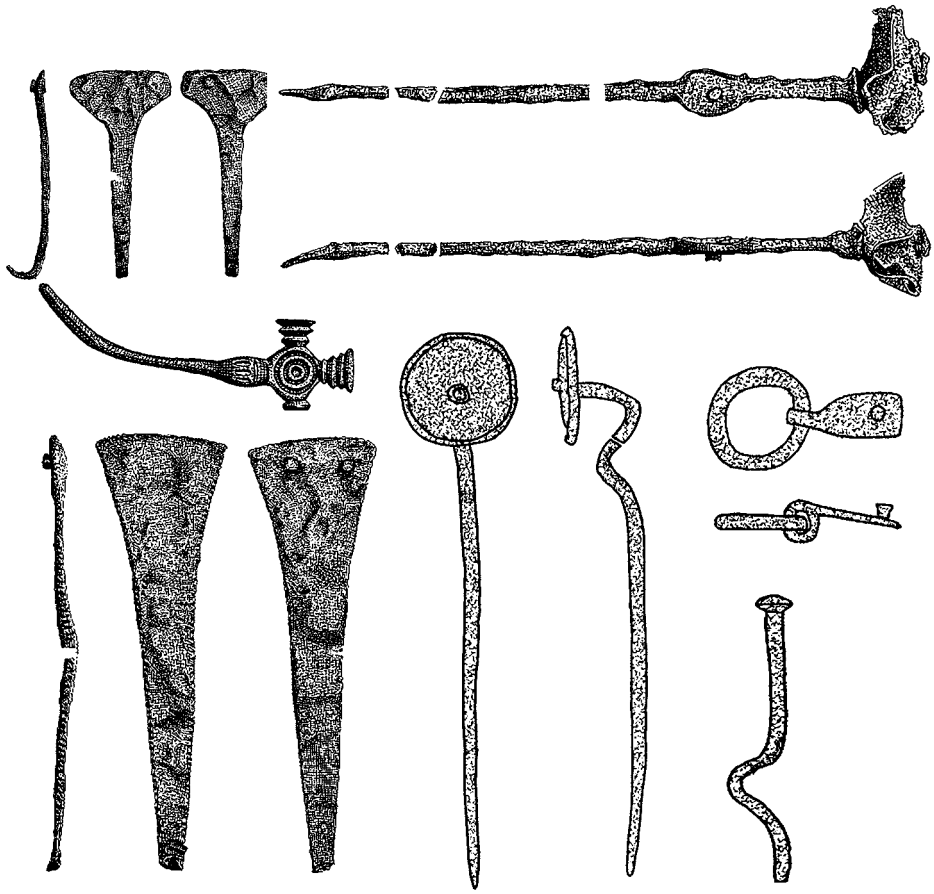


Fig. 6. Selection of burial goods from Aarupgaard urnfield. Drawings are not to scale (© Museum Sønderjylland).

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zers of bronze or iron. There are no weapon finds, which corresponds to a general lack of weapons in graves from the Early Pre-Roman Iron Age (Jensen 2005, fig. 129).

The urnfield burials have been described as 'poor' or 'simple' because the majority contain limited if any artefacts, which has in turn led to descriptions of the Early Pre-Roman Iron Age society as being anonymous and marked by a collective identity (Jensen 2003, 55–56). Kamilla Terkildsen has attempted to challenge the apparent lack of social hierarchy and suggests the presence of more social strata based on the premise that rarity of artefacts is an indicator of social status (Terkildsen 2015, 58–67). Others have questioned this premise and suggested that the full range of objects included in the graves is a better indicator (Møller et al. 2020, 72). It has further been proposed that studies of Pre-Roman Iron Age status markers not only consider burials, but also wetland deposits, metal detector finds, and settlement material (Haue 2015, 181–182). Social stratification may have been present and expressed in ways that do not preserve archaeologically, or that have not been investigated yet. A recent study from the Lower-Rhine Basin in the Netherlands indeed suggests that the urnfields graves are the product of complex funerary practices and that the inclusion of even simple artefacts might have been used as metaphors in the creation of ancestral identities, inextricably linking the dead to the land (Louwen 2021, 235–238; this volume).

Relative and absolute dating

Jørgensen suggested Aarupgaard urnfield was in use for four centuries, *c.* 500–100 BC, based on relatively dated artefact typologies (Jørgensen 1975, 8–9). Claus Kjeld Jensen has studied the pottery, and even though he suggested the site be divided into three groups based on the results, he refrained from drawing any absolute boundaries between these (Jensen 1992; 1996). This is repeated in his later revision of the Pre-Roman Iron Age chronology of southern Scandinavia (Jensen 2005, 168–172).

The first author of this paper has radiocarbon-dated cremated bone from a large number of graves from Aarupgaard urnfield as part of a larger study of Early Iron Age material culture from southern Jutland, Denmark (Rose 2020). Investigations of this first large-scale radiocarbon dataset using Bayesian statistics reveal that burial activity at Aarupgaard lasted about four centuries, starting already in the late 7th to early 6th century BC and lasting until the late 3rd century BC. This is considerably earlier than the previously accepted chronological framework that was however largely unsupported by absolute dates. The new site chronology of Aarupgaard is supported by the duration of burial activity remaining the same as suggested by Jørgensen and by comparable early estimated starts of Søhale and Aarre urnfields (Rose/Meadows in review).

Up-to-date registrations and new approaches to digitalisation

All the archaeological documentation and material from Aarupgaard urnfield is today archived at Museum Sønderjylland in Haderslev. In 2018, a project aiming to publish the site in its entirety was initiated and the second author of this paper has since worked towards new and up-to-date registrations of the archival material. Around one third of the 1,200 excavated urns contained one or more artefacts, totaling over 3,000 artefacts, but none of these was registered digitally prior to 2018. The digitalisation is carried out in a database designed specifically for museum artefacts (SARA, managed by *Slots- og Kulturstyrelsen*). The handwritten lists, descriptions and excavation notes containing field observations have priority. Prior to the digitalisation, all available information had to be sorted and categorised, which turned out to be more time-consuming than anticipated. Many lists were incomplete, and some appeared in more versions with slightly different content, making it quite the detective work to ensure only the correct information ended up in the database. Another challenge was the naming of the digital posts. Today, all artefacts receive a unique number during excavation or post-excavation analysis. The materials from Aarupgaard had however been given the same number

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if they came from the same monument, including the barrow, urn, secondary vessel, cremated bones and metal artefacts. So, e.g. no. 1505 could be the number of a whole monument with barrow, urn and artefacts and bones together as one. To keep the original numbering, letters were added to the number to indicate which type of artefact was described.

To register any urn from Aarupgaard up to nine different folders with lists, measurements, descriptions, depictions and general excavation notes had to be consulted. This is a time-consuming process and new problems kept presenting themselves. The same urn could be listed with a miniature vessel on one list, but without any grave goods on another one. There could be lid fragments in one description and no such lid mentioned in the two folders describing all the lids. One description could mention only one metal dress pin, while a list in another folder mentioned two fragmented dress pins. So once again, detective work had to be carried out to make sure that only the correct information ended up in the database.

The next priority was the excavation site plans, which were large and difficult to handle and scan properly. Again, plans are present in different versions, both in large rolled up versions, smaller copies and the ones Erik Jørgensen used for publications, but unfortunately, they all differ slightly from one another.

The preferred approach to digitalise the many burial monuments would be to geo-reference the plans in a GIS-program using Erik Jørgensen's excavation coordinates from the 1970s. Unfortunately, this was not possible because some of the coordinates were incomplete, making the site appear distorted. The corners of the protected moorland were however unchanged and in an alternative approach orthophotos were combined with the old excavation plans, drone pictures and new precision GPS measurements of landmarks using the Agisoft Metashape software. This process provided new coordinates that were successfully melted together to form a new digital layout of the urnfield.

Drone flights at the burial site provided overview images, which enabled mapping using photogrammetry. A mosaic of pictures was taken from an altitude of 50 m and 100 m. With an overlap of 70 %, the images were 'sown' together (photogrammetry) using Agisoft Metashape software to create an orthomosaic. This was then georeferenced using the new GPS coordinates. The orthomosaic could then be used as a base for the old site plans, which were now easily fitted into place in the GIS-program Mapinfo.

During the photogrammetry process, the height values were also recorded. With this data, it was possible to create a Digital Elevation Model (DEM, Fig. 7). When colour was added to the DEM it became clear how the agriculturally disturbed part of the urnfield is completely flat today (uniform blue colour), but many of the mounds in the protected moorland are clearly distinguishable and stand out in light green colours. The DEM was produced by using a height map where contours were generated to form the shapes of the landscape at the burial site. The height values also provided the coordinates of the mounds in the moorland. These were used in addition to the new GPS coordinates in the creation of the digital map of the urnfield.

Final remarks

In collaboration with Kiel University, a geomagnetic survey of 16.75 ha on and around the urnfield was conducted in 2020, with the aim to identify possible cremation pyres or other activities connected to the urnfield. The geomagnetic survey detected a few anomalies that might be of interest, although most of these are likely natural phenomena. Other disturbances were clearly geological and not archaeological. The geomagnetic results are not conclusive, but they should nonetheless be consulted in the case of future archaeological surveys or excavations at the site.

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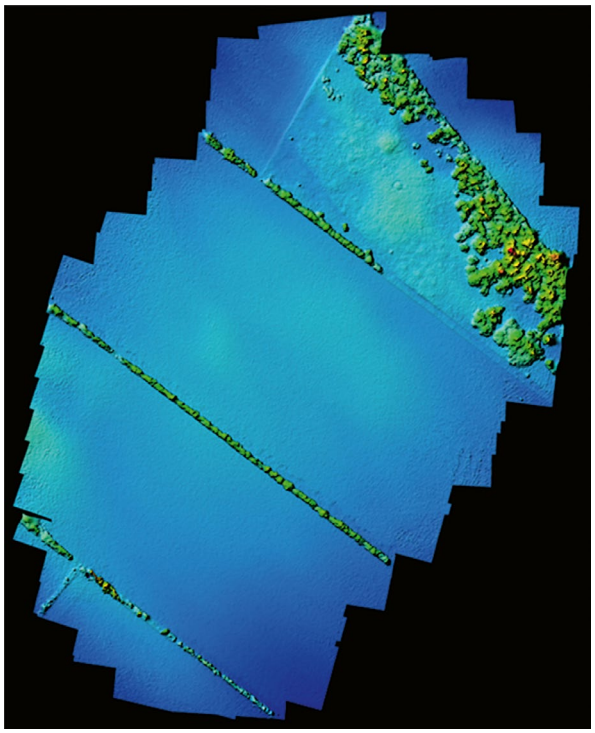


Fig. 7. Digital Elevation Model (DEM) of Aarupgaard urnfield. Uniform blue colour indicates flat areas, green colours indicate elevated areas (© Museum Sønderjylland).

75 years have now passed since Neumann carried out the first archaeological excavation of Aarupgaard urnfield, but the material retains a great research potential (cf. Poulsen/Rose 2022). Apart from the large collection of artefacts, the archives also hold cremated human remains from *c.* 1,000 graves, which is an exceptional number in a prehistoric Scandinavian context. An initial osteological analysis of part of the cremated human remains demonstrates that the material is well suited for further analysis (Harvig 2019). With recent methodological advances, it is now possible to radiocarbon date cremated bone, and with strontium isotope analysis it can be investigated whether individuals are local or non-local to the area where they were buried. In combination with further osteological and palaeodemographic analyses of the human remains and archaeological analyses of the burial practice and the artefact assemblages, Aarupgaard urnfield offers unique insights into the population of southern Jutland in the Pre-Roman Iron Age.

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This volume presents the results of an international network project on Late Bronze Age and Early Iron Age urnfields from northwest Europe.
Individual chapters present the archaeological material and its research history within a local, regional, or supra-regional context, demonstrating the wide range of nuances contained by the funerary phenomenon. The volume provides the first comprehensive overview of the urnfield funerary phenomenon in northwest Europe and forms the foundation for future research across national and disciplinary boundaries.
This volume successfully demonstrates that the inconspicuous urnfields of northwest Europe are not as anonymous as previously assumed but hold valuable information about life and death in the Late Bronze Age and Early Iron Age.

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